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Pennsylvania Intergovernmental Cooperation Authority

AN EFFICIENCY AND EFFECTIVENESS STUDY OF THE PHILADELPHIA FIRE DEPARTMENT

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PHILADELPHIA FIRE DEPARTMENT
AN EFFICIENCY AND EFFECTIVENESS STUDY

Table Of Contents

Chapter		Page
I	INTRODUCTION	
	Objectives And Scope	2
	Approach And Methodology	2
	Arrangement Of The Report	3
II	EXECUTIVE SUMMARY	
	A – Overview	2
	B – Service Offerings	4
	C – Organization	4
	D – Performance Measurement	6
	E – Funding Fire Department Services	6
	F – Management Systems	7
	G – Strengthening Operations	8
	H – Staffing And Deployment	16
	I – Policies	18
	J – Labor And Management Relations	19
	K – Alternative Service Delivery Approaches	19
	L - Implications	21
III	OVERVIEW	
	Current Performance	2
	Vision For The Department's Future	2
	Challenges In Achieving This Vision	3
	Approach To Addressing These Challenges	3
IV	SERVICE OFFERINGS	1
V	ORGANIZATION	
	Observations	2
	Recommendations	3
	Implications	6
VI	PERFORMANCE MEASUREMENT	
	Desired Performance Measure Characteristics	2
	Department Objectives	2
	Measures For Evaluating The Department's Overall Performance	3
	Measures For Evaluating The Performance Of Individual Units	5
	Allocating Fire And EMS Costs	5

Chapter		Page
VII	FUNDING FIRE DEPARTMENT SERVICES	
	Framework For Determining How Fire Department Services Should Be Funded	2
	Functions And Services For Which Fees And Fines Should Be Established	3
VIII	MANAGEMENT SYSTEMS	
	Need For Improved Management Systems	2
	Using Information Based Decision Making To Strengthen Race And Gender Relationships Within The Department	3
IX	STRENGTHENING OPERATIONS	
	A – Operations Division	2
	B – Technical Services Division	20
	C – Administrative Services Division	27
X	STAFFING AND DEPLOYMENT	
	A – Emergency Response Staffing	2
	B – EMS Supervision	18
XI	POLICIES	1
XII	LABOR AND MANAGEMENT RELATIONS	
	Improving Communications	2
	Modifying Practices	4
	Working Collaboratively To Address Selected Issues	5
XIII	ALTERNATIVE SERVICE DELIVERY APPROACHES	
	A – Privatization Analysis	2
	B – Shared Or Regional Services Analysis	4
XIV	IMPLICATIONS	
XV	IMPLEMENTATION PLAN	
	Framework For Change	2
	Key Implementation Activities	3
	Implementation Plan	5
	APPENDICES	
	Appendix A – Employee Survey Results	
	Appendix B – Comparisons With Other Departments	
	Appendix C – Best Practices Findings	
	Appendix D – Community Stakeholders	

I - INTRODUCTION

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This introductory chapter briefly reviews the objectives and scope of the study and the methodology used to conduct it. It also presents the organization of this report.

OBJECTIVES AND SCOPE

The goal of this engagement was to conduct a comprehensive study of the management and operations of the Philadelphia Fire Department with emphasis on its future design and direction and proper considerations for the organizational climate to ensure the department is meeting community fire service and medical needs and expectations, while recognizing opportunities for innovation, improved efficiency, and effective operations. The study included a review of all services provided, resources allocated to each service area, organizational structure, communications, human relations, budgeting, the managerial structure, and personnel.

Desired outcomes from the completion of the assessment include:

- Establishing a baseline of the department's current performance from which to measure the impact of the proposed changes
- Suggesting proposed mechanism to facilitate change within the department to bring about greater efficiency
- Determining if adequate controls are in place in critical areas
- Making realistic and practical recommendations for increasing organizational effectiveness and efficiency

APPROACH AND METHODOLOGY

A range of quantitative and qualitative analytic methods was used to conduct this study. Individual interviews, briefings, and focus groups were held with the city's managing director, the deputy mayor, the public health commissioner, the planning director and several planning representatives, the city risk manager and selected staff, and city council members who indicated they wanted to be interviewed. Extensive interviewing was conducted within the Fire Department. The Fire Commissioner, his key managers, and more than 175 employees from throughout the Fire Department were interviewed and site visits were made to more than 15 fire stations. In addition interviews were held with representatives of Local 22, with representatives of a committee representing Local 22's paramedics, with representatives of the Valiants (African-American firefighters and paramedics), Hispanic American Firefighters, and the Concerned American Firefighter Association (an organization that generally represents the views of Caucasian firefighters). To ensure all department employees had the opportunity to provide input to the study a survey was made available online to all employees and 1,810 employees (82.0 percent) responded.

In addition, focus groups were held with community representatives, information from benchmark fire departments was collected and analyzed, and best practices information was gathered in a number of areas. Lastly, the study team requested and thoroughly

reviewed a range of documents and data covering all areas of the Fire Department's operations.

ARRANGEMENT OF THE REPORT

This report is arranged into fifteen chapters and four appendices.

I – Introduction (this chapter)

II – Executive Summary

III – Overview

IV – Service Offerings

V – Organization

VI - Performance Measurement

VII – Funding Fire Department Services

VIII – Management Systems

IX – Strengthening Operations

X – Staffing And Deployment

XI – Policies

XII – Labor Management Relations

XIII – Alternative Service Delivery Approaches

XIV – Implications

XV - Implementation

Appendix A: Employee Survey Results

Appendix B: Benchmarking Results

Appendix C: Best Practice Findings

Appendix D: Community Focus Group Results

II – EXECUTIVE SUMMARY

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This executive summary, which summarizes key study recommendations, is divided into 12 sections: overview; service offerings; organization; performance measurement; funding Fire Department services; management systems; strengthening operations; staffing and deployment; policies; labor and management relations; alternative service delivery approaches; and implications.

A – OVERVIEW

This section discusses the department's overall performance, its vision for the future, challenges in achieving that vision, and a recommended approach to addressing these challenges.

Current Performance

The Philadelphia Fire Department does a reasonably good job of serving Philadelphia residents, visitors, and businesses. The department's performance in responding to fire emergencies falls only slightly short of the standard established by the National Fire Protection Association (NFPA). The department's performance regarding response to medical emergencies is less good, however. In particular, the response of the first unit (typically fire engines) to medical incidents falls far short of NFPA recommendations. While the NFPA suggests that "first responders" arrive at medical incidents within five minutes (including one minute turnout time) 90 percent of the time, in Philadelphia this standard is achieved only 44.8 percent of the time.

Vision For The Future

The department's leaders believe the department should achieve more than providing reasonably effective response to fire and medical emergencies. They have established an ambitious vision for the department that emphasizes fire prevention; the use of information to drive management decisions; and core values such as professionalism, dedication, diversity, unity, and courage that define the Fire Department's approach to doing business. This vision, if it is achieved, has the potential to transform the Philadelphia Fire Department.

Challenges In Achieving This Vision

The gap between the current reality and the department's aspirations for itself is wide. Fissures exist within the department that must be addressed if it is to continue to maintain good services, much less meet the ambitious goals it has set for itself. Fault lines, lying just below the surface of department operations, are currently debilitating but have the potential to be much more destructive:

- The relationship between management and labor is poor
- Issues of racial and gender equity loom constantly in the background
- Large and important segments of the Fire Department (paramedics, in particular) do not feel valued and supported by the department

These issues, which sap employee morale and divert the attention of managers and employees from improving service to residents, cannot be allowed to continue to fester. To date, the dedication of managers and employees has limited (but not completely eliminated) the affect these internal issues have had on service to residents, visitors and businesses. In the future, however, unless they are addressed service quality may suffer.

Addressing these issues would be difficult in any organization but they are especially difficult to address in the Philadelphia Fire Department for a number of reasons:

- Fire department cultures are extremely strong and resistant to change and the culture of the Philadelphia Fire Department is no different
- Paramedic morale is extremely low – many feel "exhausted and defeated" – and restoring the belief that the Fire Department values their work will not be easy
- Management systems are weak which complicates managers' efforts to drive change
- Some of the management systems and processes that do exist contribute to the core problems that need to be addressed
- The current organizational structure tends to reinforce the *status quo*
- Resources are limited – not only is money not available to reduce pressure, but in some areas the lack of resources increases tension and pressure within the department

In addition to addressing these difficult management issues, department leaders must also work to make more effective use of resources. The current fiscal environment demands that resources be reallocated and redeployed to better address the needs of the Philadelphia community. At the same time, opportunities to improve operational efficiency must be addressed.

Approach To Addressing These Challenges

Addressing these difficult issues will require department leaders to lead bold new initiatives while at the same time working to bring about incremental improvement on other initiatives. Bold action is needed to communicate that the department is shifting to a new organizational and operational paradigm. To achieve its ambitious goals the department must signal a break with the past and communicate to all stakeholders a new way of doing business characterized by:

- Unity of purpose – all units within the Philadelphia Fire Department must share accountability for fulfilling the department's mission at the same time the department and the union work collaboratively to address issues of common concern
- Information based approach to management and decision making
- Services focused on addressing community needs that redefine the department's relationships with the communities it serves

- Cost-effective operations

The department should take aggressive action to signal its commitment to these issues by changing the organizational structure, restructuring roles and responsibilities, developing needed management systems, making strategic investments in training, and developing and implementing detailed plans for making more effective use of resources.

At the same time the Fire Department takes bold action to reflect its impatience for change it must also recognize that change takes time and that consistent effort over the long term is needed to heal some rifts within the department. Addressing these issues will require recognizing that the problems exist, understanding the basis for the problems, identifying opportunities to make incremental improvements in the short term, developing plans, ensuring constant and consistent communication, and displaying a long-term commitment to the improvement effort. In addition, resources will be needed to support improvement efforts. Consequently, a portion of the savings created by department efforts to improve operational efficiency should be reinvested in these improvement efforts.

B – SERVICE OFFERINGS

The Fire Department's mission is to "respond to emergencies that threaten life or property and provide prevention education to reduce the risk of future emergencies for Philadelphia citizens and visitors." That the department is responsible for both prevention and emergency response is, therefore, nothing new. Nonetheless, establishing the clear expectation that all firefighters and paramedics are accountable for prevention, providing effective response to emergencies, and limiting non-emergency responses has the potential to change how they view their work, how they spend their time, and their relationships with the communities they serve.

At present, the effort firefighters devote to prevention related activities is not consistent and paramedics are expected to devote little attention to prevention activities. Moreover, neither firefighters nor paramedics are currently expected to work proactively to limit the number of non-emergency calls to which they respond. Focusing consistent attention on prevention activities and efforts to reduce unnecessary responses should, therefore, result in significant changes in the work life of firefighters and paramedics. In particular, the relationships of firefighters and paramedics to the communities they serve will be characterized by proactive outreach and efforts to reduce unnecessary responses. In addition, how firefighters and paramedics spend their time will change. While response to emergencies will, of course, always take precedence over proactive efforts, firefighters and paramedics will be expected to devote a high percentage of their time to education and outreach activities. Moreover, how firefighters view their jobs will change. The prevailing mindset in which firefighters and paramedics view emergency response as their primary function will need to be broadened to include prevention.

C – ORGANIZATION

The current organizational structure creates significant barriers to improving department performance. In particular, the current structure complicates efforts to create a unity of purpose within the department because the structure isolates paramedics from "main stream" firefighting operations. In addition to making it difficult to create a unity of purpose within the Fire Department, the separation of responsibility for similar functions

between emergency medical services (EMS) and fire suppression increases costs and complicates efforts to ensure consistency. In addition, key functions – crucial to the department's efforts to achieve its vision for the future – do not exist within the current organizational structure.

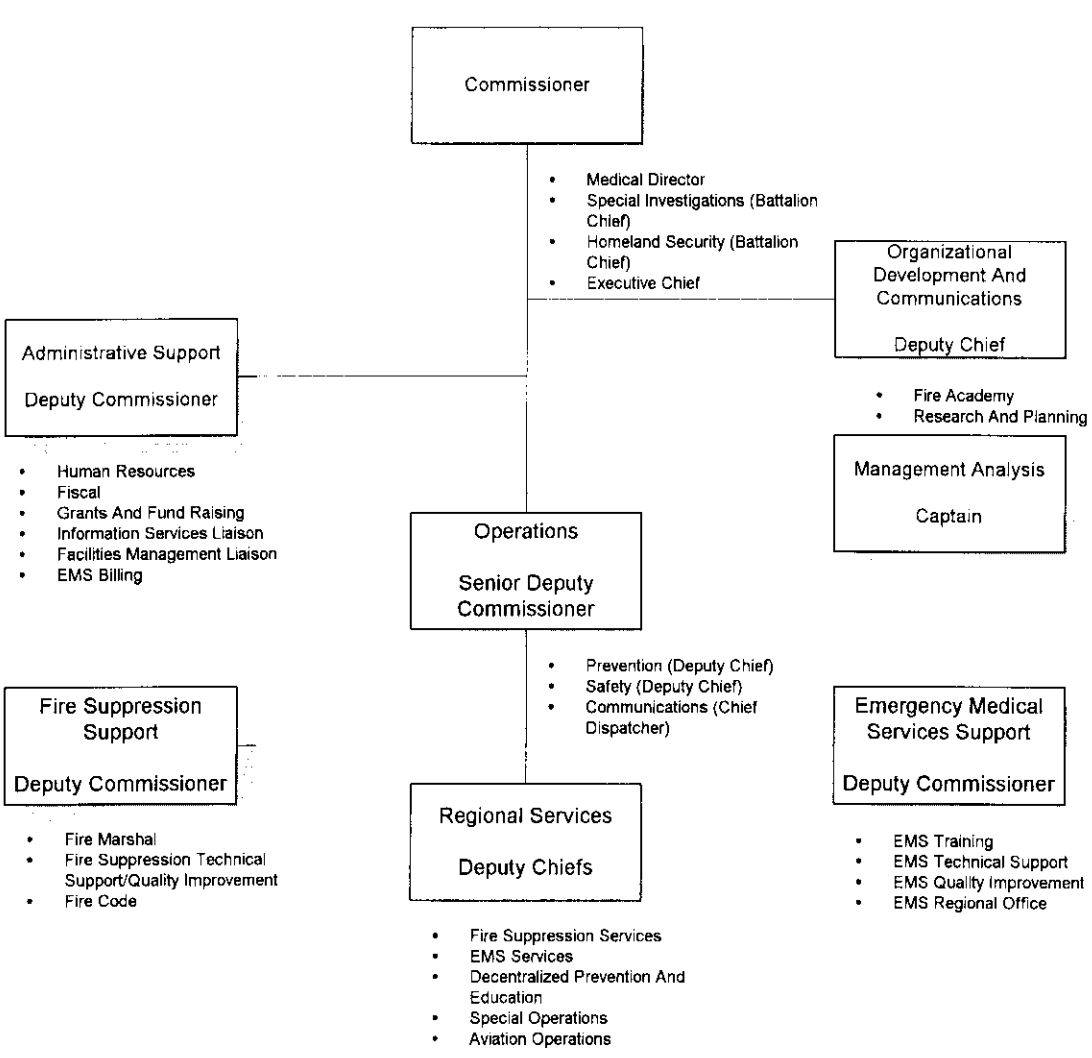
- Despite the fact that the Fire Commissioner is committed to using data and analysis to drive decision making very little analytic capacity exists within the department
- Although the department is beset with racial strife no one in the current structure is responsible for directly addressing these issues
- Not only does the prevention unit focus exclusively on fire prevention, it is not organizationally positioned to provide support for broader efforts that are focused on both the fire and medical response prevention needs of individual communities
- Ensuring the safety of employees is a key organizational objective yet responsibility for the health, safety, and the emotional well-being of employees is spread across the department
- Resources are scarce but no entity has been charged with obtaining grants and other outside resources to supplement department expenditures

In addition to features that create barriers to improving department performance the current organizational structure has a number of additional shortcomings: the three deputy commissioners have vastly different levels of responsibility, inadequate supervision is provided to paramedics, and paramedics have only a limited career path.

Unless substantial changes are made to the department's current organizational structure it is unlikely the department will be able to make progress in addressing the challenges facing it, much less achieve its ambitious long-term goals. By making significant modifications to the organizational structure the department will signal – to both internal and external stakeholders – its commitment to change. The recommended structure (presented in Exhibit II-1) has a number of key features.

- Key functions that are crucial to the department's ability to achieve its long-term goals while addressing its current challenges report directly to the Fire Commissioner
- Management roles are redefined to establish geographic accountability for the quality and integration of fire suppression and EMS services
- A senior deputy commissioner position is created and given overall responsibility for ensuring the quality and integration of fire suppression and EMS services
- A grants and fund raising manager position is established
- The number of EMS supervisory and management positions is substantially increased

RECOMMENDED ORGANIZATIONAL STRUCTURE



D – PERFORMANCE MEASUREMENT

Suggested performance measures to evaluate the department's overall performance and the performance of individual units (in the existing organizational structure) are presented in Chapter VI. In determining what measures should be used to evaluate the performance of the Fire Department as a whole as well as the performance of individual units a number of desired characteristics were established:

- The performance measures should be linked to overall objectives
- The measures should encompass as many aspects of the department's operations as possible
- Only a limited number of measures should be used
- The measures should reinforce the department's desire to emphasize prevention and to use information to manage operations
- The measures should evaluate performance from a number of perspectives: service, cost, employee, and resident

Please note that the recommended approach to evaluating performance will likely take considerable time to implement. The information needed to evaluate performance using these measures is not consistently collected nor is it currently available in a format that facilitates analysis. Over time, however, the recommended measures can be used to evaluate the performance and cost-effectiveness of the department as a whole and of individual departmental units.

E – FUNDING FIRE DEPARTMENT SERVICES

In general, the Fire Department should charge for three types of services:

- Services the department provides that are not core services (even if these services are an extension of a core service such as emergency response)
- Services for which the actions of an individual or entity impose a disproportionate cost on the service delivery system
- Services provided to individuals or entities that receive enhanced services greater than those received by the population as a whole

Whether the charge is characterized as a "fee" or a "fine" will depend on the policy objective of establishing the charge. From a policy perspective "fees" should be imposed where individuals or businesses through their actions impose disproportionate cost on the community for which the community should be reimbursed. The purpose of these fees is to ensure equity by requiring individuals and businesses to pay an appropriate share of the costs of services for which they benefit disproportionately as compared to other members of the community. Fines, by contrast, should be charged if the purpose of the charge is not only to ensure individuals and businesses pay their "fair share" of the cost of the service they receive but also to dissuade undesirable behaviors or activities.

Functions and services for which fees should be charged include the following:

- Auto accident
- Hazardous activity
- Hazardous materials availability
- Hazardous materials spill
- Hazardous materials inspection
- Emergency medical response
- Special event planning
- Special event support
- Plan review
- Code variance request
- EMS service at private facilities (or events for which the event sponsor has obtained private contractors to provide service)

Fines should be charged for false alarms and non-emergency medical response.

F – MANAGEMENT SYSTEMS

Of the ambitious goals that the department has set for itself, perhaps the most challenging will be to develop and implement an analytic approach to decision making. While such an approach to decision making is not completely foreign to the department, for the most part the management culture in the department is reactive and does not proactively use information to address current needs and to anticipate future requirements.

Given that data driven decision making is new to most of the department there should be no expectation that needed systems and, more importantly, the management sensibilities needed to make use of them, can be developed quickly. On the contrary, the department and its stakeholders should recognize that such systems and management capabilities must be developed over time. A number of steps should be followed to first build the demand for management information and then to design the systems needed to collect this information.

- Step 1: Establish the expectation that information should drive decision making
- Step 2: Develop the ability to monitor and track performance in a systematic way
- Step 3: Monitor the impact decisions have on desired results

- Step 4: Develop management systems

The department's commitment to data based decision making should be exemplified in how it addresses the contentious issue of race relations within the department. The issue of race relations (and to a lesser extent gender equity) looms over most aspects of department operations. Taking a data driven approach may help to remove some of the emotion engendered and to identify practical steps to addressing this issue.

G – STRENGTHENING OPERATIONS

The operational issues discussed in this section generally fall into one of two categories: opportunities to make more effective use of resources and operational practices that complicate efforts for the department to achieve its overall objectives. This discussion is organized by existing Fire Department unit: operations issues (issues affecting both firefighters and paramedics, EMS issues, fire suppression issues, training issues, and EMS regional office issues); technical services issues (fire marshal, fire prevention, fire communications, and fire code); and administrative services issues (information systems, fiscal management, and human resource management).

OPERATIONS DIVISION

Opportunities to strengthen the current operations division are divided into five parts: issues affecting both firefighters and paramedics; EMS issues; fire suppression issues; training issues; and EMS regional office issues.

Issues Affecting Both Firefighters And Paramedics

Response to medical emergencies. Effective response to serious medical emergencies requires a fast and effective basic life support response. Fire engines and ladders provide this initial response to most incidents in Philadelphia (as in most other cities across the nation). Despite the importance of providing fast and effective first responder service to the overall effectiveness of EMS services, interview findings indicate that many firefighters do not place the same importance on these calls as on fire calls. The fact that the percentage of first responder calls that are responded to in five minutes is lower than for fire calls also supports the contention that first responder calls receive less emphasis than emergency medical calls.

Interview findings suggest the primary reason response by fire apparatus to medical emergencies is not faster is that emergency medical response is viewed by many firefighters as a service that is less important than fire suppression responses. In addition to culture, another factor that may contribute to firefighters placing less priority on responding to emergency medical calls than fire calls is the fact that a portion of the calls are "nuisance" calls where the person requesting assistance is not facing a legitimate medical emergency. Another contributing factor to the lack of priority that firefighters place on emergency medical response is that current dispatch procedures do not adequately discriminate among calls for which the speed of response is important and others which are legitimate emergencies, but for which the speed of response does not affect the outcome.

The attitude that EMS calls are less important than fire calls is unacceptable (especially given that this attitude appears to affect the speed and quality of response) and the

department should take aggressive action to address this issue. First, the department should clearly communicate to all managers and supervisors that viewing EMS calls as less important than fire calls is unacceptable. Second, the department should monitor response to fire and medical emergency calls and hold specific engine and ladder companies responsible if turnout and/or response times materially differ for fire and first responder calls. Third, consequences for failing to respond to first responder calls as promptly as fire calls should be clearly established and communicated. In particular, while remediation and support should be provided to help improve performance, if station personnel resist these efforts department leaders should make clear that it may become necessary for the company to be disbanded and the company crews and officers transferred.

Cross-training paramedics to serve as firefighters. While paramedic and BLS ambulance crews currently do not have the time to support fire suppression operations, if ambulance crew staffing is increased to the levels needed to ensure response expectations are met sufficient ALS and BLS crews will be deployed to provide fire suppression response to structure fires, high rise fires, and other significant incidents without compromising the department's ability to respond to medical calls quickly. Using ALS and BLS crews as fire suppression "flying squads" is cost-effective because doing so will reduce the total emergency response resources that need to be deployed. In addition, cross-training paramedics as firefighters will encourage bonds of mutual dependence to be formed. Paramedics who are cross-trained as firefighters should work the same schedule as firefighters.

Quality assurance. Quality assurance efforts – when integrated with training and operations – can provide the basis for driving performance improvement throughout the department. A comprehensive quality assurance program can be used to ensure understanding and correct application of protocols, to evaluate the level and quality of pre-hospital care, and to design and implement crew member professional development plans. Indeed, an effective quality assurance system can provide the information-based engine for supporting ongoing improvement efforts throughout the department.

At present, however, the department invests few resources in quality assurance efforts. Not surprisingly given this level of investment, quality assurance appears to have little impact on the quality of work performed by paramedics and EMTs. A substantial investment in quality assurance will be needed if quality assurance results are to be used to drive improvement throughout the department. Quality assurance capacity should be established or increased for EMS, fire suppression, and communications.

Other issues. Several other steps relating to both firefighters and paramedics should be taken. In particular, former paramedics who have switched to fire suppression should be encouraged to maintain their paramedic certification and to work overtime as paramedics. Doing so will increase the number of paramedics that can be deployed immediately while the department works to increase the number of ambulances deployed (as recommended in the staffing and deployment section of this Executive Summary). In addition, civilian EMTs should be deployed to support ALS and BLS units that are not needed to support fire suppression efforts. Taking this step will reduce overtime costs and ensure consistency in the level of support provided to paramedics. Until this recommendation is implemented, however, the department should not allow firefighters to opt out of the BLS rotation. Allowing firefighters who have served for ten years not to serve on BLS apparatus – while innocuous on the surface – communicates

that EMS response is somehow less core to a firefighter's responsibilities than fire suppression. In addition, the process for handling complaints should be modified to reflect recommended changes to the overall organizational structure and mid-managers should be granted authority for coordinating the full range of department services in a geographic area and should be held accountable for the results achieved. Finally, firefighters and paramedics who are assigned to special events should be replaced.

EMS Issues

Deployment. The current practice of staffing ALS units with two paramedics is unnecessary. State standards only require that one paramedic and one EMT be assigned to an ALS unit. In addition, in interviews paramedics indicated that there are few calls at which two paramedics are needed and a number of paramedics indicated that one paramedic is sufficient at almost all incidents.

Non-emergency medical response. Using emergency apparatus to respond to non-emergency medical calls increases costs because retaining the capacity to provide immediate response to emergencies is much more expensive than providing non-emergency medical support. Moreover, unnecessarily transporting individuals to hospitals further increases costs because the unit's out of service time (and unavailability to handle additional calls) is increased. At present, however, the lack of alternative ways to serve individuals who may need medical attention contribute to the tendency of the department to unnecessarily transport some individuals.

The department should take a range of approaches to reduce the number of individuals transported unnecessarily. For example, as discussed, individuals who unnecessarily request emergency medical services should be fined (although the first offense may be forgiven). In addition, the immediate transport of these individuals should be declined. If policy considerations require that some free transportation be provided the department should provide transportation (but not on an emergency basis nor with a fully equipped medical apparatus).

Other issues. In addition, several other steps relating to EMS operations should be taken. First, the department should work closely with hospital to reduce the time EMS staff must wait when delivering a patient. In addition, the deployment of the Advanced Quick Response (AQR) unit should be discontinued when the number of EMS apparatus deployed is increased (and the AQR is not needed to enhance response times). Paramedic work schedules should also be modestly adjusted to ensure consistent services can be provided during shift changes. Moreover, the department should explore entering into relationships with hospitals to replace supplies.

Fire Suppression Issues

24-hour work schedule. A 24-hour work schedule has been and continues to be the dominant schedule for full-time paid firefighters in most parts of the country. There are administrative, practical, and management reasons that few departments that implement a 24-hour schedule ever change to a different schedule.

- **Administrative benefits**. From an administrative perspective, the 24-hour schedule facilitates the implementation of the longer workweek for firefighters allowed by the

FLSA. Many fire departments use the 24-hour schedule to implement a 53-hour workweek although some employ a 48-hour workweek.

- **Practical benefits**. From a practical perspective, firefighters like the schedule. Depending on the hours worked per week firefighters report to work only nine or ten days a month. In addition, the schedule accommodates the expectation that firefighters sleep on the job. There is little justification for allowing firefighters who work 42-hours per week on a 10-14 schedule to sleep when other city employees (who work a 40-hour week) are not allowed to sleep during their shifts.

- **Management benefits**. From a management perspective, a 24-hour schedule reduces sick time usage and reduces the number of transitions between shifts (and the time spent on such activities as checking equipment).

To capture these benefits the department should establish a 24-hour work schedule under which firefighters would work an average of 48-hours per week. (Please note that if the current schedule is maintained there is little reason to allow firefighters to continue to sleep on the night shift as they will only work 42 hours a week.)

Station "brown outs." When faced with budget limitations, managers are often faced with choosing among a number of untenable options. In the Philadelphia Fire Department rather than eliminating capacity in the city in any one area on a full-time basis, companies are shut down on a rotating basis. At recommended staffing and deployment levels the department will be able to ensure a consistent level of protection throughout the city and the current practice of "browning out" stations can be discontinued.

Chief's aides. At present, aide positions are assigned to each deputy chief and battalion chief. In the past, before the advent of modern wireless communications, these chief's aides played an important communications role at fire scenes serving as "runners" who relayed orders from incident commanders. While these positions continue to create some value they do not justify the cost of retaining them. Most fire departments find they can effectively fight fires without chief's aide positions.

Training Issues

Level of training. Training is one of the lynchpins on which the department's ability to achieve its overall objectives will depend. Two factors make training especially critical to the Philadelphia Fire Department at this point in time. First, the department is facing a "generational" turnover of staff. Reportedly by the end of 2013 every deputy chief and half of the current battalion chiefs will have retired. This turnover creates a unique opportunity to change the culture of the department. Second, when the recommendations presented in this report are implemented a number of new EMS supervisory and management positions will be established. These managers and supervisors should, to the extent possible, be selected based on their commitment (and ability) to support the reforms recommended by this study. Effective training, however, must support this commitment.

The resources needed to enhance training efforts are difficult to estimate until improved training systems have been developed and begin to be implemented. In the immediate term though, two positions should be established to develop the department's overall

approach to training and to begin to develop the systems needed to address training needs.

Fitness training. Because firefighting requires intense physical exertion under conditions of extreme stress there are few professions where the importance of being physically fit is more important. Indeed, research suggests that heart attacks pose a significant risk to firefighter safety. A commitment to the department objective of ensuring employee safety requires taking steps to ensure its firefighters are fit. As a first step, a mandatory physical training program should be established and all firefighters should be required to participate in this program on each shift.

Providing training to other jurisdictions. The investment the department makes in developing and delivering training is scalable – that is, the number of individuals benefiting from these efforts can be increased while only modestly increasing costs. Just as airlines increase revenues by ensuring all seats on their planes are filled, the Fire Department could generate revenues by allowing firefighters from other area jurisdictions to fill empty seats in training classes. In addition, specialized training programs that are developed to address department-specific needs might be licensed for use by other jurisdictions.

EMS Regional Office Issues

While serving as the EMS regional office for the Pennsylvania Department of Health creates modest benefits for the Fire Department, these benefits do not justify the cost the department incurs from filling this role. In essence, at present by serving as the EMS regional office the City of Philadelphia is subsidizing a function for which the state is responsible. To address this issue the city should seek full reimbursement from the state for the service it is providing on the state's behalf or discontinue providing this function.

TECHNICAL SERVICES DIVISION

Opportunities to strengthen the current technical services division are divided into four parts: fire marshal issues, fire prevention issues, fire communications issues, and fire code issues.

Fire Marshal Issues

Determining the cause and origin of fires. At present, assistant fire marshals respond to and investigate most fire incidents to determine the cause and origin of the fire. In many other jurisdictions fire officers (captains for smaller fires and battalion chiefs for larger fires) have sufficient training to determine the cause and origin of most fires and only call in assistant fire marshals when arson is suspected. Using assistant fire marshals to investigate fires that can effectively be investigated by line fire officers increases costs without creating significant value. To address this issue the department should employ the practice currently in place in many fire departments – captains and battalion chiefs should be responsible for determining the cause and origin of fires unless they lack the technical competency to do so and fire marshal staffing should be reduced by two positions.

Other issues. The department should invest in additional training for the remaining assistant firefighters to enhance their credibility when serving as expert witnesses and to enhance their performance when investigating fires. In addition, the department should explore having arson investigators certified as law enforcement officers with arrest powers.

Fire Prevention Issues

The primary responsibility for EMS and fire prevention efforts will be decentralized when the recommended organizational structure has been implemented. In this structure the prevention unit will be charged with supporting citywide prevention initiatives, serving as a resource to decentralized staff, and performing activities that require specialized expertise. Refocusing prevention activities will enable the department to reassign or discontinue five positions. In addition, the prevention unit should contract out graphics and photographic support. Because the priority the department places on prevention efforts is relatively small, the savings that are generated from implementing these recommendations should be reinvested in developing a plan for cost-effectively strengthening prevention efforts over the long term.

Fire Communications Issues

Dispatch policies. Current dispatch practices may not ensure the best service to Philadelphia residents. To address this issue, dispatch policies should be modified to ensure that the closest available apparatus is dispatched to all ALS calls regardless of how close an available ALS unit is to the incident. In addition the closest available apparatus should be dispatched to any trauma calls where the speed of response is important. On the other hand, dispatch policies should be adjusted to limit the response of ALS units to BLS calls that are not urgent (unless no BLS unit is assigned to the area).

Call prioritization. With the exception of alarms calls, firefighters and paramedics respond with lights and sirens to all calls. While a speedy response is important to many fire and emergency medical calls, for some types of calls – for example, minor medical calls – the speed of the response will not affect the response outcome. Responding with lights and sirens to these calls increases the risks to firefighters, paramedics, and the public but do not materially benefit the person being served. The department is working to address this problem by acquiring software that will allow it to set priorities and vary response time based on need. Even before this software has been acquired and implemented however, the department should review dispatch protocols and with the collaboration of the Medical Director identify calls that do not require a response with lights and sirens.

Fire Code Issues

Three recommendations relating to the fire code unit follow: First, the fire code unit should be staffed with civilians. (For the most part the work performed by the fire code unit – reviewing variance requests to the fire code, reviewing plans to ensure compliance with the fire code, and determining requirements for events – are technical in nature and have to be learned by new employees whether they are civilians or firefighters.) Second, when the current deputy chief retires the position should be discontinued and a captain should lead the unit. This captain should be able to effectively manage the unit

and perform functions that require firefighter expertise. In addition, fees for conducting variance investigations should be increased. At present, individuals requesting a variance are charged $100, however, the cost to the department of conducting these investigations likely exceeds $575.

ADMINISTRATIVE SERVICES DIVISION

Opportunities to strengthen the current administrative services division are divided into three parts: information systems issues, fiscal management issues, and human resource practices issues.

Information Systems Issues

The department's information systems pose a significant barrier to achieving its overall objectives. To achieve its goal of using data to drive decision making the department will need information systems that provide timely and accurate information on performance and how employees use their time. In addition, information systems shortcomings complicate existing operations.

Addressing these issues, which will require time and resources, should proceed in six steps:

- Address needs that can addressed quickly and at little cost
- Upgrade time and attendance systems[1]
- Outline overall information systems needs
- Begin to develop demand for management information
- Establish priorities and develop plan
- Implement plan

Please note that the development of this plan should be accompanied by effective communication to Fire Department stakeholders. Many department employees are frustrated by existing systems and are impatient for improvement. Demonstrating that the department is working to address system shortcomings – and has prioritized improvements that are most important to employees, supervisors, and managers – may reduce, if not eliminate employee frustrations.

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[1] Interview findings indicate these systems – which touch all employees – require excessive administrative time to manage. If these findings are confirmed, addressing these system shortcomings would create a tangible benefit to all employees, supervisors, and managers – receiving accurate payments of overtime in a timely manner by itself would signal to employees that the department is moving in an improved direction.

Fiscal Management Issues

Apparatus replacement. Much of the department's apparatus is old and needs to be replaced. Unlike many other fire departments the Philadelphia Fire Department does not have a standing replacement schedule for its apparatus although it plans over the next five years to replace apparatus as per NFPA Standard 1901 – Annex D. Establishing such a replacement schedule and committing resources to it will facilitate planning while also ensuring that the department does not continue repairing apparatus when it is not an economically sound practice to do so.

Human Resource Practices Issues

Diversity recruiting. For the Philadelphia Fire Department, having a diverse workforce is not just an abstract value but is an important means to the end of providing more effective service. Given the nature of paramedic services in particular (in which individuals are invited into residents' homes and need their cooperation), diversity can be helpful in delivering effective service. However, even in firefighting (where a case can be made that diversity has historically been less important to effectively delivering service) as the Fire Department works to expand prevention efforts (and the implementation of education and other strategies to reduce unnecessary calls) having a diverse work force to interact with the diverse communities within the City of Philadelphia will become increasingly important.

Sustained effort and investment will be needed if the department is to be able to maintain and, as appropriate, expand its diversity without relying on the consent decree. To achieve this goal one "diversity coordinator" position should be established and charged with developing program options. Based on the experience in other jurisdictions, this position should be charged with developing a range of program options and estimating the expected results. Once program options and costs have been specified the department and city policy makers should determine which programs they are willing to fund and sustain over multiple years (assuming the programs are effective). Only after the desired programs and level of funding have been selected should the department decide how to staff the overall diversity recruiting initiative.

Promotional process. The department's success in leading the change effort outlined in this study report will depend on selecting (and training) supervisors and officers who are both committed to the recommended changes and have the capabilities needed to support the change effort. Understandably, the current promotional process is not designed to identify officers with this commitment and these skills. Even, however, if the department were not faced with the imperative of modifying the promotional process to support its vision for the future, changing the promotional process would be indicated because employees have lost confidence in the process. Indeed, interview findings and survey results indicate that the promotional process is a key source of racial tension in the department.

While the effort and cost required to revise promotional processes are not inconsiderable, unless these investments are made efforts to make fundamental change to department operations will be compromised and a key source of racial tension in the department will persist. In addition to revising the promotional process the department should ensure unsuccessful promotional candidate receive feedback on how they can improve their performance.

Performance management. The performance appraisal process in the Philadelphia Fire Department has the same shortcomings as similar processes in the preponderance of local governments the consultants have studied – the process does not effectively discriminate levels of employee performance. In addition, compliance with the process tends to be *pro forma* in part because the consequences associated with performance appraisals are minimal.

Given that these challenges will be very difficult to address it seems prudent to refocus the performance appraisal process on functions that will increase its value to the department. To this end, the process should be revamped to focus on two objectives. First, employees whose performance is substandard should be identified (efforts to discriminate among employees whose performance meets or exceeds expectations should no longer be an objective). Second, the process should be used to help employees improve their performance.

Employee assistance. The employee assistance unit is staffed with firefighters and a paramedic who have received some training as counselors. There is, however, no requirement that the staff assigned to the unit have a degree in counseling. Perceptions vary with regard to whether the lack of professional counselors (that is, individuals with counseling degrees and, as appropriate, certifications) and other factors affect the quality of service. Indeed, reportedly, many firefighters and paramedics are more comfortable sharing their issues with another uniformed officer than with a civilian. Given these issues staffing the EAP unit with a mix of uniformed and degreed civilian counselors seems appropriate.

H – STAFFING AND DEPLOYMENT

This section describes the approach the consultants took to assessing firefighter and paramedic staffing and deployment needs, the three scenarios under which staffing and deployment needs were evaluated, and the results of the staffing and deployment assessments.

APPROACH TO ASSESSING FIREFIGHTER AND PARAMEDIC STAFFING AND DEPLOYMENT NEEDS

The analysis of operations deployment and staffing proceeded in a number of steps:

- Step 1: Establish response expectations for emergency medical and fire suppression apparatus
- Step 2: Assess the geographic deployment of fire engines
- Step 3: Assess the geographic deployment of ladders
- Step 4: Assess the geographic deployment of ALS units
- Step 5: Determine the number of ALS and BLS units that need to be deployed to meet response time expectations

- Step 6: Assess the extent to which ALS or BLS units can be used to support fire suppression calls

- Step 7: Determine the probability that fire suppression units will be available when needed

- Step 8: Calculate the number of fire suppression staff available to respond to fire suppression calls

- Step 9: Reallocate apparatus to address shortages or excess capacity

- Step 10: Assess ALS and BLS scheduling options

- Step 11: Calculate staffing needs by shift

- Step 12: Calculate staffing needs after adjusting for expected absences

SCENARIOS

Staffing and deployment of firefighters and paramedics were evaluated under three alternative scenarios.

- **Current scenario**. Under this scenario station locations remain unchanged (although stations are assumed to be able to be retrofitted to accommodate additional apparatus), no change is made to ALS and BLS staffing, and ALS and BLS crews are not assumed to be available to support fire suppression efforts (as recommended). The analysis does assume, however, that ALS ambulances are staffed with one paramedic and one civilian EMT and that BLS ambulances are staffed with two civilian EMTs. Please note that the consultants do not recommend that the current scenario be implemented (as the need to increase ambulance response is compelling). The purpose of presenting this scenario is to provide an analysis of fire suppression deployment needs (independent of EMS deployment) and to demonstrate (when this scenario is compared with the base recommended scenario) the benefits for fire suppression of increasing EMS capacity.

- **Base recommended scenario**. Under this scenario station locations remain unchanged (although stations are assumed to be able to be retrofitted as needed to accommodate additional apparatus), ALS and BLS ambulance deployment is increased to ensure response time expectations are met, and ALS and BLS crews provide fire suppression support (in areas where fire suppression support is needed). The analysis also assumes that ALS ambulances will be staffed with one paramedic and one EMT and that BLS ambulances will be staffed with two EMTs (whether or not these staff are uniformed or civilian will depend on whether the staff are needed to support fire suppression in the area in which they are deployed).

- **Recommended scenario with modified station locations**. This scenario is the same as the "base recommended scenario" with one exception – unlike the base recommended scenario in which station locations are taken as given, this scenario assumes that station locations can be modified.

STAFFING AND DEPLOYMENT NEEDS

The number of recommended apparatus that should be deployed under the three scenarios varies somewhat.

Scenario	Total Apparatus Deployed Over All Shifts			
	Engine	Ladder	ALS	BLS
Current Scenario	96	74	50	35
Base Recommended Scenario	96	40	96	14
Recommended Scenario With Modified Station Locations	92	40	96	14

A comparison of the staffing implications for the three scenarios evaluated in this chapter yields a number of interesting conclusions.

Scenario	Fire Suppression Staffing	EMS Staffing	Total Staffing
Current Scenario	1,764	404	2,168
Base Recommended Scenario	1,368	506	1,874
Recommended Scenario With Modified Station Locations	1,336	506	1,842

First, the analysis suggests that as currently configured the Philadelphia Fire Department lacks the capacity to meet response needs in all areas of the city. (The analysis for the current scenario indicates that meeting response expectations in all areas of the city will require increasing fire suppression resources.) The analysis also suggests, however, that this problem does not result from the lack of resources (a significant reduction in operations staffing is possible) or from the fact that resources are poorly deployed (only modest savings result from modifying station locations) but rather from the fact that as currently configured EMS resources cannot be used to address fire suppression needs. Indeed, increasing spending on EMS resources to the level needed to ensure EMS response expectations can be met not only addresses EMS needs but also creates sufficient additional capacity to allow EMS resources to be used to address fire suppression needs.

These results make sense when one considers that the number of fire calls received in any community is small and the probability of fires is low. Nonetheless, significant fire suppression capacity is needed to ensure an effective response when a fire call is received. At present, EMS staffs are too busy to offset fire suppression needs (even when one considers that the likelihood of a fire suppression call is low). However, when EMS staffing is increased to the level needed to ensure EMS response expectations are met sufficient excess capacity is created for EMS resources to also provide the availability to support fire suppression response. Consequently, by increasing EMS staffing overall staffing needs can be reduced because, at recommended staffing levels, sufficient EMS staff will be deployed to offset fire suppression needs.

I – POLICIES

This section discusses three areas where changing Fire Department policies would be beneficial. Two policies relate to ensuring firefighter safety by requiring them to be

physically fit and the third policy relates to compensation for EMS supervisors and managers.

Firefighter Fitness

As previously discussed, the safety of firefighters and paramedics is adversely affected if they are not physically fit. Taking seriously the department's commitment to employee safety requires that the fitness level of firefighters be addressed. To this end, the department should require firefighters to complete an annual fitness test. In addition, newly hired firefighters should be required to meet fitness requirements before their probationary period has ended.

EMS Supervisor And Manager Compensation

At present, there are only modest incentives for paramedics to become supervisors. Under current policies paramedic supervisors lose the 10 percent stipend for being a paramedic when they are promoted to supervisor. Given that first-line supervisors receive 14 percent more than their line counterparts, the effective salary increase for paramedic managers and supervisors is four percent. In addition, because supervisors are not allowed to work overtime, new supervisors who previously worked a lot of overtime could actually have their pay reduced when they are promoted. To address this issue EMS supervisors and managers should therefore retain their paramedic stipend when they are promoted.

J – LABOR AND MANAGEMENT RELATIONS

The fact that labor and management are at odds in the Philadelphia Fire Department is hardly surprising given the city's financial challenges and the difficulty the two sides have had in reaching accord on a new collective bargaining agreement. However, the rancor that appears to exist between management and labor may be greater than the contract negotiations by themselves would suggest. While eliminating the rift between management and labor is not a reasonable goal, it may be possible to reduce the level of management and labor strife. Improved communication between management and labor on issues important to employees (e.g., disciplinary and transfer practices) would be extremely beneficial. To this end, the department should establish guidelines to govern the transfer of employees among stations and should communicate the discipline that is imposed for various infractions (to counteract perceptions of inconsistency and favoritism). In addition, creating alternative less adversarial approaches to handling some disciplinary issues would likely be beneficial. Moreover, in some areas engaging Local 22 as a partner in determining the best way to achieve management goals would be beneficial. Two areas where seeking opportunities to work collaboratively with Local 22 (without ceding meaningful management authority) would potentially be beneficial include the transfer of paramedics and the handling of injuries.

K – ALTERNATIVE SERVICE DELIVERY APPROACHES

This section evaluates opportunities to reduce costs and/or improve service by implementing alternative service delivery approaches. The section begins by identifying functions and services for which the department should consider privatization. Next, areas for which entering into shared or regional service arrangements with other city departments (or other area governments) might be beneficial are identified.

PRIVATIZATION ANALYSIS

A two-step process was used to assess the functions and services performed by the Fire Department that are candidates for privatization. First, each function and service performed by the department was evaluated to determine whether privatization would be potentially beneficial. Next, the costs and risks associated with privatization were evaluated against these benefits to identify functions or services that should be put out to bid. The results of this analysis suggests that 13 services should be put out to bid:

- Provide non-emergency medical services to Philadelphia residents
- Provide EMS services at events (both large and small)
- Provide public education services focused on reducing deaths and injuries resulting from fire
- Provide public education services focused on reducing the need for EMS services
- Provide curator services at the museum
- Conduct residency investigations
- Serve as the department's legislative liaison
- Provide graphics and photographic support for the department
- Maintain equipment that is needed in the field
- Bill and collect for EMS services (already privatized)
- Provide professional counseling and assistance to employees in need
- Provide internal mail services
- Maintain warehouse

SHARED OR REGIONAL SERVICES ANALYSIS

To identify the functions or services for which shared services within the city (or on a regional basis with other local governments) might be beneficial the potential benefits of shared or regional service delivery were systematically evaluated for each function and service performed by the department. This analysis suggests that shared or regional service delivery should be considered for the following 16 functions:

- Serve as the department's public information officer
- Provide curator services at the fire museum
- Review building plans
- Conduct residency investigations

- Investigate EEO complaints
- Provide recruit and in-service training to firefighters (if provided on a regional basis)
- Provide EMS training (if provided on a regional basis)
- Serve as the department's legislative liaison
- Provide graphics and photographic support for the department
- Maintain equipment that is needed in the field
- Bill and collect for EMS services (if provided on a regional basis)
- Maintain employee records
- Provide professional counseling and assistance to employees in need
- Provide internal mail services
- Provide purchasing services and support for the acquisition of goods and services
- Maintain warehouse

L – IMPLICATIONS

Implementing the study recommendations will position the Philadelphia Fire Department to achieve its ambitious goals in the long term, to begin to take meaningful steps to address the significant problems that beset the organization, and to substantially improve services to Philadelphia residents. In particular, fire and emergency medical response will improve and the department will be able to cease the practice of "browning out" stations on a rotating basis.

The department will be able to both improve services and make the investments needed to position itself to achieve its ambitious goals without increasing costs. Indeed, as the following table shows, by reallocating resources the department will not only be able to improve services and make needed investments but will also be able to modestly reduce staffing. If no changes are made to station locations the department can discontinue 69 positions, which will result in estimated savings of $11,657,000.[2]

[2] These savings include an estimated reduction in overtime expenditures of $4,602,000 associated with employing enough staff to use full-time employees to staff all ambulances. At present, the firefighters who rotate onto BLS ambulances are "backfilled" with staff working overtime. These overtime expenditures would be eliminated if staffing recommendations are implemented. In addition, overtime expenditures associated with assigning firefighters to ALS ambulances would be eliminated but are not included in these calculations.

	Addition/(Reduction)				
Position	Office Of The Commissioner	Operations	Technical Services	Administrative Services	Total
Commissioner	0	0	0	0	0
Senior Deputy Commissioner	0	1	0	0	1
Deputy Commissioner	0	0	0	0	0
Deputy Chief	1	3	(1)	0	3
Battallon Chief	0	0	(1)	0	(1)
Fire Captain	1	(17)	0	0	(16)
Fire Lieutenant	0	(43)	(5)	0	(48)
Firefighter/(EMT)	0	(80)	(7)	0	(87)
Firefighter/(Paramedic)	0	144	0	0	144
Paramedic Captain	0	(2)	0	0	(2)
Paramedic Lieutenant	0	25	0	0	25
Paramedic	0	(200)	0	(1)	(201)
Civilian EMT	0	98	0	0	98
Fire Boat Engineer	0	0	0	0	0
Fire Boat Pilot	0	0	0	0	0
Civilian	5	9	(1)	2	15
Total	7	(62)	(15)	1	(69)

If two stations are closed in combination with moving the locations of two additional stations additional savings can be achieved. The department will be able to discontinue 101 positions, which will result in estimated savings of $14,196,000.[3]

[3] These savings include savings associated with reducing overtime expenditures.

Position	Addition/(Reduction) Office Of The Commissioner	Operations	Technical Services	Administrative Services	Total
Commissioner	0	0	0	0	0
Senior Deputy Commissioner	0	1	0	0	1
Deputy Commissioner	0	0	0	0	0
Deputy Chief	1	3	(1)	0	3
Battalion Chief	0	0	(1)	0	(1)
Fire Captain	1	(19)	0	0	(18)
Fire Lieutenant	0	(49)	(5)	0	(54)
Firefighter/(EMT)	0	(104)	(7)	0	(111)
Firefighter/(Paramedic)	0	144	0	0	144
Paramedic Captain	0	(2)	0	0	(2)
Paramedic Lieutenant	0	25	0	0	25
Paramedic	0	(200)	0	(1)	(201)
Civilian EMT	0	98	0	0	98
Fire Boat Engineer	0	0	0	0	0
Fire Boat Pilot	0	0	0	0	0
Civilian	5	9	(1)	2	15
Total	7	(94)	(15)	1	(101)

The Fire Department should explore with the city ways to ensure a portion of the savings and revenues resulting from implementing study recommendations will be reinvested in department operations. Doing so will be helpful from two perspectives. First, resources will be necessary to implement many of the study recommendations. Doing so will also help to build support for the study recommendations among department employees. For this reason, reinvestments that provide tangible benefits to employees should be given a high priority.

III – OVERVIEW

III – OVERVIEW

While the Philadelphia Fire Department does a reasonably good job of serving Philadelphia residents and businesses, department leaders expect more of the department and are committed to improving and expanding the level and quality of services provided. This overview provides a brief summary of the department's current performance, describes leadership's vision for the department's future, discusses the challenges the department will face in realizing that vision, and outlines an overall approach to making the vision of department leaders a reality.

CURRENT PERFORMANCE

The Philadelphia Fire Department does a reasonably good job of serving Philadelphia residents and businesses. The department's performance in responding to fire emergencies falls only slightly short of the standards established by the National Fire Protection Association (NFPA). While the NFPA suggests that an engine company arrive at a fire suppression incident within five minutes (including a one minute "turnout" time) 90 percent of the time, the department responds to 78.3 percent of fire suppression emergencies within five minutes. (The department responds to 89.2 percent of fire suppression incidents within six minutes.) Moreover, in most, but not all areas of the city the full complement of staff needed for an initial response to fire incidents is available within nine minutes (as suggested by the NFPA). In only 14 of the 60 station areas served by the city (23.3 percent) is the full complement of staff not available within nine minutes.[1] (The NFPA suggests that the standard be achieved 90 percent of the time.)

The department's performance regarding response to medical emergencies is less good. While the NFPA suggests that an advanced life support (ALS) equipped apparatus be available within nine minutes (including one minute turnout time) 90 percent of the time, this standard is achieved by the Philadelphia Fire Department 71.4 percent of the time. The response of the first unit (typically fire engines) to medical incidents, however, falls far short of NFPA recommendations. While the NFPA suggests that "first responders" arrive at medical incidents within five minutes (including one minute turnout time) 90 percent of the time, this standard is achieved only 44.8 percent of the time. (Response to ALS medical calls is only slightly better. Such calls are responded to within five minutes only 49.8 percent of the time.)

VISION FOR THE DEPARTMENT'S FUTURE

The department's leaders believe the department should achieve more than providing reasonably effective response to fire and medical emergencies. They have established an ambitious vision for the department that emphasizes fire prevention; the use of information to drive management decisions; and core values such as professionalism, dedication, diversity, unity, and courage that define the Fire Department's approach to doing business. This vision, if it is achieved, has the potential to transform the Philadelphia Fire Department.

[1] This analysis excludes the airport station.

CHALLENGES IN ACHIEVING THIS VISION

The gap between the current reality and the department's aspirations for itself is wide. Fissures exist within the department that must be addressed if it is to continue to maintain good services, much less meet the ambitious goals it has set for itself. Fault lines, lying just below the surface of department operations, are currently debilitating but have the potential to be much more destructive:

- The relationship between management and labor is poor
- Issues of racial and gender equity loom constantly in the background
- Large and important segments of the Fire Department (paramedics, in particular) do not feel valued and supported by the department

These issues, which sap employee morale and divert the attention of managers and employees from improving service to residents, cannot be allowed to continue to fester. To date, the dedication of managers and employees has limited (but not completely eliminated) the affect these internal issues have had on service to residents. In the future, however, unless they are addressed service quality may suffer.

Addressing these issues would be difficult in any organization but they are especially difficult to address in the Philadelphia Fire Department for a number of reasons:

- Fire department cultures are extremely strong and resistant to change and the culture of the Philadelphia Fire Department is no different
- Paramedic morale is extremely low – many feel "exhausted and defeated" – and restoring the belief that the Fire Department values their work will not be easy
- Management systems are weak which complicates managers' efforts to drive change
- Some of the management systems and processes that do exist contribute to the core problems that need to be addressed
- The current organizational structure tends to reinforce the *status quo*
- Resources are limited – not only is money not available to reduce pressure, but in some areas the lack of resources increases tension and pressure within the department

In addition to addressing these difficult management issues, department leaders must also work to make more effective use of resources. The current fiscal environment demands that resources be reallocated and redeployed to better address the needs of the Philadelphia community. At the same time, opportunities to improve operational efficiency must be addressed.

APPROACH TO ADDRESSING THESE CHALLENGES

Addressing these difficult issues will require department leaders to lead bold new initiatives while at the same time working to bring about incremental improvement on

other initiatives. Bold action is needed to communicate that the department is shifting to a new organizational and operational paradigm. To achieve its ambitious goals the department must signal a break with the past and communicate to all stakeholders a new way of doing business characterized by:

- Unity of purpose – all units within the Philadelphia Fire Department must share accountability for fulfilling the department's mission at the same time the department and the union work collaboratively to address issues of common concern

- Information based approach to management and decision making

- Services focused on addressing community needs that redefine the department's relationship with the communities it serves

- Cost-effective operations

The department should take aggressive action to signal its commitment to these issues by changing the organizational structure, restructuring roles and responsibilities, developing needed management systems, making strategic investments in training, and developing and implementing detailed plans for making more effective use of resources.

At the same time the Fire Department takes bold action to reflect its impatience for change it must also recognize that change takes time and that consistent effort over the long term is needed to heal some rifts within the department. Addressing these issues will require recognizing that the problems exist, understanding the basis for the problems, identifying opportunities to make incremental improvements in the short term, developing plans, ensuring constant and consistent communication, and displaying a long-term commitment to the improvement effort.

In addition, resources will be needed to support improvement efforts. Consequently, a portion of the savings created by department efforts to improve operational efficiency should be reinvested in these improvement efforts. Likewise, a portion of the funds generated by additional fines and fees should be used to support ongoing improvement efforts within the department.

IV – SERVICE OFFERINGS

IV – SERVICE OFFERINGS

The Fire Department's mission is to "respond to emergencies that threaten life or property and provide prevention education to reduce the risk of future emergencies for Philadelphia citizens and visitors." That the department is responsible for both prevention and emergency response is, therefore, nothing new. Nonetheless, establishing the clear expectation that all firefighters and paramedics are accountable for prevention, providing effective response to emergencies, and limiting non-emergency responses has the potential to change how they view their work, how they spend their time, and their relationships with the communities they serve.

The Effort Firefighters Devote To Prevention Related Activities Is Not Consistent

Firefighters currently participate in a range of prevention activities including: conducting fire hydrant inspections, conducting apartment inspections, inspecting commercial occupancies, conducting block inspections, installing smoke alarms, and working with volunteers (Fire Safety Representatives) to support prevention efforts in individual communities. However, a review of activity logs suggests significant variability in the time firefighters devote to prevention. For example, in a sample of 49 engine company activity logs only slightly more than half (25) reported any time devoted to prevention. While the average time devoted to prevention by these companies was high (slightly more than two hours) some companies devoted significantly more time to prevention than others – the amount of time devoted to prevention activities on the shift ranged from a high of 420 minutes to a low of 22 minutes. Likewise, in a sample of 22 ladder company activity logs less than a quarter (5) reported any time devoted to prevention. The average amount of time devoted to prevention by these companies was 88 minutes and ranged from a high of 120 minutes to a low of 60 minutes.[1]

The finding that prevention is not a consistent priority among firefighters is also supported by interview results. Some interviewees report that some inspections are "pencil whipped" or "chair" inspections where information from prior inspection reports is transferred to new forms. In addition, many interviewees suggest that the attention devoted to prevention varies across stations.

Paramedics Focus Little Attention On Prevention Activities

Unlike fire prevention, the bulk of emergency medical services (EMS) calls likely cannot be affected by Fire Department prevention efforts. Nevertheless, while calls related to heart attacks and strokes cannot be materially affected by prevention efforts other types of calls might be prevented. For example, calls related to slips and falls, drownings, burns, poisonings, and asphyxia might be affected through prevention efforts. In addition, while responding to EMS calls paramedics might identify fire risks. At present, however, paramedics are generally not expected to support prevention activities.

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[1] Please note that the engine and ladder companies included in this sample respond to somewhat more calls than the average engine and ladder companies. Where as the average company (excluding the airport) responds to 4,520 calls a year, the engine companies included in this sample responded to 5,740 calls and the ladder companies responded to 4,520 calls.

Neither Firefighters Nor Paramedics Are Currently Expected To Work Proactively To Limit The Number Of Non-Emergency Calls To Which They Respond

In interviews firefighters and paramedics expressed considerable frustration with the time spent responding to calls when there is little or no need to respond. In addition to frustrating staff, unnecessary responses increase department costs and reduce the availability of firefighters and paramedics to respond to valid emergencies.

At present, however, processes and practices tend to encourage transporting patients to hospitals even when there is no medical need to do so. Although processes have been established to call doctors and receive approval to not transport patients[2], in interviews paramedics indicate that rather than use this process they will typically just transport the patient. Indeed, interview results clearly indicate that the institutional bias of the Philadelphia Fire Department is to transport patients (even when the on-scene staff do not think transportation is necessary or that alternative modes of transportation might be used).

At present, neither firefighters nor paramedics are charged with actively supporting efforts to limit the number of non-emergency calls to which they respond. In the future, however, firefighters and paramedics may be expected to issue fines and/or refuse service to residents who request emergency service when it is not needed. (Recommendations to levy fines on individuals who create an inappropriate burden on the emergency response system in Philadelphia are presented in Chapter IX).

Focusing Consistent Attention On Prevention Activities And Efforts To Reduce Unnecessary Responses Should Result In Significant Changes In The Work Life Of Firefighters And Paramedics

Relationship of firefighters and paramedics and Philadelphia communities. The relationship between firefighters and paramedics and the communities they serve will change substantially as the department's vision of its role in the city begins to be implemented. In particular, firefighters and paramedics will be charged with understanding the needs of their communities (as it relates to fire and preventable EMS risks) and developing strategies to address those needs. Instead of focusing primarily on response to community requests for assistance, firefighters and paramedics will also focus on proactive outreach. At the same time, however, firefighters and paramedics will be charged with working with their communities to reduce the number of unnecessary responses – which will require a combination of education and enforcement activities.

It should be noted that in discussions with community representatives the role of the fire station as a central node for interaction with the community was noted. In many areas of the city, therefore, the department will be able to build on relationships that have already been established as it works to improve and expand prevention and outreach efforts.

How firefighters and paramedics spend their time. How firefighters and paramedics spend their time will also change when the department's vision has been implemented. Response to emergencies will, of course, always take precedence over proactive efforts.

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[2] Five medical command centers have been established that firefighters and paramedics can call to obtain approval not to transport patients.

However, when not responding to calls (and participating in training activities), firefighters and paramedics will be expected to devote a high percentage of their time to education and outreach activities.

How firefighters and paramedics view their jobs. How firefighters and paramedics view their jobs will also change. Interview findings suggest that at present both firefighters and paramedics view emergency response as their primary function. This mindset will need to change if incident prevention and reducing unnecessary responses are also to be department priorities. In addition to being effective emergency responders, firefighters and paramedics will have to develop other needed skills and capabilities including community engagement, analysis of community needs, enforcement, and cultural recognition and awareness. Moreover, when responding to calls firefighters and paramedics will be expected to remain alert to identifying potential fire and health risks that can be addressed (either immediately or as part of a follow-up visit).

V – ORGANIZATION

V – ORGANIZATION

This chapter presents recommendations for modifying the Fire Department's organizational structure. The chapter is divided into three parts: observations; recommendations; and implications.

OBSERVATIONS

The Current Organizational Structure Creates Significant Barriers To Improving Department Performance

The primary shortcoming with the current organizational structure is that it complicates efforts to create a unity of purpose within the department. Indeed, the isolation of department paramedics from its "main stream" firefighting operations tends to be reinforced by the current structure. For example, while in the current structure both firefighters and paramedics report to the Deputy Commissioner – Operations, within the operations division, emergency medical services (EMS) and fire suppression operations report in separate lines. Consequently, no position below the level of the Deputy Commissioner – Operations is responsible for delivering integrated emergency response services (despite the fact that the quality of EMS services depends greatly on the quality of the first responder). Moreover, for the most part, the technical services division focuses on providing fire related support with EMS support activities provided, for the most part, by EMS command staff.

In addition to making it difficult to create a unity of purpose within the Fire Department, the separation of responsibility for similar functions between EMS and fire suppression increases costs and complicates efforts to ensure consistency. For example, an EMS chief position is primarily responsible for ensuring positions are filled while deputy chiefs on the "fire side" perform this same function. Moreover, the fact that a captain is responsible for investigating EMS complaints and deputy chiefs or the Special Investigations Officer is responsible for investigating fire related complaints contributes to the strong perception among paramedics that they are held to different standards than fire suppression staff.

In addition, key functions – crucial to the department's efforts to achieve its vision for the future – do not exist within the current organizational structure.

- Despite the fact that the Commissioner is committed to using data and analysis to drive decision making very little analytic capacity exists within the department
- Although the department is beset with racial strife no one in the current structure is responsible for directly addressing these issues
- Not only does the prevention unit focus exclusively on fire prevention, it is not organizationally positioned to provide support for broader efforts that are focused on both the fire and medical response prevention needs of individual communities
- Ensuring the safety of employees is a key organizational objective yet responsibility for the health, safety, and the emotional well-being of employees is spread across the department

- Resources are scarce but no entity has been charged with obtaining grants and other outside resources to supplement department expenditures

The Current Organizational Structure Has A Number Of Additional Shortcomings

In addition to features that create barriers to improving department performance the current organizational structure has a number of additional shortcomings:

- **The three deputy commissioners have vastly different levels of responsibility**. The Deputy Commissioner – Operations directly oversees the bulk of department staff. By comparison, the Deputy Commissioner – Technical Services has a relatively small span of control and the Deputy Commissioner – Administrative Services has an extremely narrow span of control.

- **Inadequate supervision is provided to paramedics**. At present, the spans of control of the EMS lieutenants and captains who provide first-line supervision to paramedics are extremely broad. In interviews, an EMS lieutenant documented that he was overseeing 26 units (52 staff) during the shift and a captain documented that he was overseeing 18 units (36 staff). At these staffing levels EMS supervisors can barely perform required duties (e.g., handling complaints, assisting with equipment problems, addressing problems at incident scenes, responding to selected incidents, processing paperwork, and reporting to the fire communications center when the number of available medic units drops to zero) much less provide support, supervision, and guidance to the paramedics they supervise. Not surprisingly, in interviews some paramedics indicated that when they are in the field they feel like they are "on their own."

- **Paramedics have only a limited career path**. Obviously, the limited number of paramedic supervisors limits career opportunities for paramedics. However, even above this level paramedic career opportunities are limited. At present, the highest level paramedics can achieve within the Philadelphia Fire Department is a position equivalent to a battalion chief (whereas firefighters can be promoted to deputy chief and deputy commissioner positions).

RECOMMENDATIONS

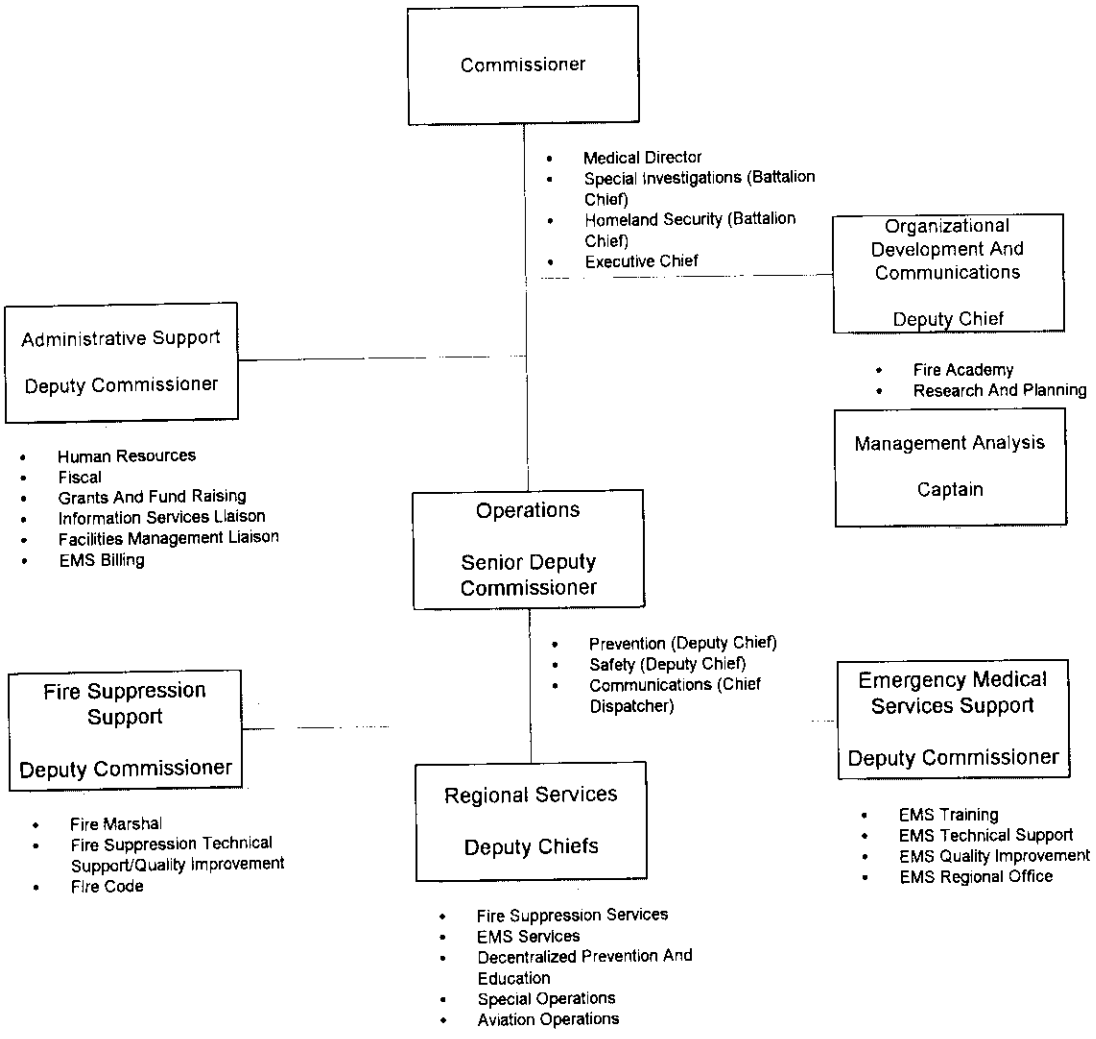
The Department's Organizational Structure Should Be Substantially Revised

Unless substantial changes are made to the department's current organizational structure it is unlikely the department will be able to make progress in addressing the challenges facing it, much less achieve its ambitious long-term goals. By making significant modifications to the organizational structure the department will signal – to both internal and external stakeholders – its commitment to change.

The recommended structure (presented in Exhibit V-1) has a number of key features.

Key functions that are crucial to the department's ability to achieve its long-term goals while addressing its current challenges report directly to the Fire Commissioner. In the recommended structure two new functions will be established and report directly to the Fire Commissioner.

RECOMMENDED ORGANIZATIONAL STRUCTURE



- A management analysis unit is established that would be responsible for supporting department efforts to use data and information to drive decision making.

- An organizational development and communications unit is established that would have four key functions. First, it would be responsible for understanding and then developing initiatives to heal the fissures within the department relating to race, gender, and function (and for monitoring the success of these efforts on an ongoing basis). Second, the unit would be responsible for managing internal communications within the department and for using information, whenever possible, to counteract faulty employee perceptions. Third, the unit would coordinate the overall change effort associated with implementing this study's recommendations. Finally, the unit would oversee the fire academy and would ensure training is used as a key lever for driving change within the Fire Department.

Special investigations, the Medical Director, and an executive chief would continue to report to the Office of the Commissioner in the recommended structure. In addition, the Deputy Commissioner – Administrative Support would report to the Commissioner.

Management roles are redefined to establish geographic accountability for the quality and integration of fire suppression and EMS services. In the recommended structure, managers and supervisors will support specific operational services (e.g., fire suppression and EMS response) but will also be responsible and accountable for the full range of services the department provides in a geographic area. In particular, captain positions will be responsible and accountable for all service offerings (e.g., prevention, fire suppression, and EMS response) in a geographic area. (Both captains who lead fire companies and EMS captains who oversee paramedic supervisors should be assigned responsibility for selected areas.) The size of the areas overseen by captains will vary based on geography, population density, and the intensity of need of the population being served. Generally, however, each captain should be responsible for the area served by a fire station.

Please note that not all captains will have a geographic responsibility in this structure (the number of captains currently exceeds the number of station areas). In the short term, the commissioner should select the EMS and fire suppression captains who are best suited to fulfill this role (although a mix of EMS and fire suppression captains should be selected). These captains should receive a stipend for coordinating area responsibilities. In the future the department should consider whether a new position should be established for officers who also serve as "area service managers." These officers would be selected based on a promotional process.

The captains responsible for geographic areas will report to deputy chiefs (who will serve as regional managers) on issues relating to the delivery of services in a specific area. One deputy chief will be responsible for an area currently overseen by a battalion chief. To provide regional oversight over each of the 11 battalion areas three EMS deputy chiefs will supplement the eight fire suppression deputy chiefs. In addition to their geographic responsibilities fire suppression deputy chiefs will continue to serve as shift leaders. EMS deputy chiefs, by contrast, will be assigned administrative responsibilities that support EMS operations (e.g., quality improvement, training, and equipment, supplies, and support).

The role of fire suppression battalion chiefs will not change in the recommended organizational structure. Likewise, EMS battalion chief positions will lead each EMS shift. The role of fire suppression lieutenants, however, would expand to include coordinating prevention efforts in a station area in addition to overseeing an apparatus company. Likewise, EMS lieutenants would encourage ALS and BLS crews to support prevention efforts when possible.

A senior deputy commissioner position is created and given overall responsibility for ensuring the quality and integration of fire suppression and EMS services. In addition to the deputy chiefs responsible for regional service delivery, the Senior Deputy Commissioner – Operations should have three support positions reporting to him or her:

- A deputy chief responsible for supporting outreach and education efforts in the field and coordinating citywide prevention efforts
- A deputy chief responsible for all safety related activities – procedures and practices, infection control, employee assistance, and fitness
- The chief dispatcher who oversees the Fire Communications Center that supports all operations

Deputy commissioner positions – also reporting to the Senior Deputy Commissioner – Operations should be established to oversee the EMS support and fire suppression support functions.

A grants and fund raising manager position is established. This position, which should report to the Deputy Commissioner – Administrative Support, would be responsible for obtaining grant funding to support department initiatives and for other fund raising efforts.

Functions currently performed by the technical services division will be reassigned. For the most part, the technical support unit focuses on supporting fire suppression operations with relatively little attention being focused on emergency medical needs. In the recommended structure two new divisions – EMS support and fire suppression support – will be established to ensure that both EMS and fire suppression service areas are effectively supported. Each of these units will have a position responsible for technical support. In the EMS support unit this function will be performed by a deputy chief who will also have geographic responsibility for coordinating service delivery in a region of the city. In the fire suppression support unit this function will be performed by a deputy chief who will oversee the same functions performed by the current technical support unit but will also assume responsibility for fire suppression quality improvement.

The research and planning function that currently reports in the technical support unit will be reassigned to the organizational development and communications unit reporting to the Commissioner in the recommended structure. The fire marshal and fire code functions will also report to the fire suppression support unit in the recommended structure.

The Number Of EMS Supervisory And Management Positions Should Be Substantially Increased

Three deputy chief positions should be established and the number of battalion chief, captain, and lieutenant positions should be increased.

Deputy chief. As discussed, three EMS deputy chief positions should be established. These deputy chiefs will be responsible for the full range of services offered in a geographic area served by a fire suppression battalion. In addition, these EMS deputy chiefs should be assigned administrative responsibilities that support EMS operations (e.g., quality improvement, training, and equipment, supplies, and support).

Battalion chief. One battalion chief level position should be assigned to each shift and should be responsible for managing and coordinating EMS operations on that shift.

Captain. One EMS captain should also be assigned to each shift. In addition to directly supervising three ambulance crews, selected captains should also serve as area managers and be accountable for the full range of Fire Department services provided in an area of the city. The captains who do not serve as area managers should oversee five ambulance crews.

Lieutenant. On each shift, one EMS lieutenant should be expected to supervise seven ambulance crews. In terms of the number of personnel supervised (14) this span of control is broad; however, EMS lieutenants work primarily with ambulance crews when in the field. From a crew perspective, this span of control is reasonable.

IMPLICATIONS

Implementing These Recommendations Will Increase Costs As Compared To The Current Structure

The primary increase in costs is associated with establishing needed functions that do not exist in the current structure and with providing EMS with needed management and support:

- A Senior Deputy Commissioner – Operations should replace the current Deputy Commissioner – Operations
- A captain will support management analysis and be assisted by two analysts (who might be either civilian or uniformed staff)
- A deputy chief will coordinate organizational development and communications and will be supported by one civilian clerical position and two support positions (who might be either civilian or uniformed staff)[1], the battalion chief who oversees the training academy, and the captain who oversees research and planning
- A civilian grants and fund raising position is established to coordinate grants and fund raising initiatives

[1] In addition, the captain who supports research and planning will be assigned to this unit.

- A deputy commissioner position is established to lead the Emergency Medical Support division

- Three deputy chief positions are established to lead key EMS support areas (training, technical support, and quality improvement) and to also coordinate services in a region

- Two battalion chief level positions are established to ensure that one battalion chief level position is available to oversee EMS operations on all four shifts

These additions will be offset by the elimination of the current training battalion chief who coordinates EMS training (this function will be assigned to one of the three EMS deputy chiefs in the current structure) and the current administrative battalion chief (staffing for both EMS and fire suppression should be coordinated by deputy chiefs when the recommended structure is implemented).

VI – PERFORMANCE MEASUREMENT

VI – PERFORMANCE MEASUREMENT

This chapter presents a recommended approach to evaluating the overall performance of the Philadelphia Fire Department and the performance of existing units. The chapter is divided into five parts. The first part defines the desired characteristics of performance measures. The next two parts define overall objectives against which overall department performance should be evaluated and describe an approach to measuring performance against those objectives. The fourth part presents performance measures for individual department units. The final part then discusses a process for allocating costs between fire suppression and EMS purposes.

Please note that the recommended approach to evaluating performance will likely take considerable time to implement. The information needed to evaluate performance using these measures is not consistently collected nor is it currently available in a format that facilitates analysis. As discussed in Chapter VIII, the department should to the extent possible use existing systems to capture the information needed to manage performance and, over time develop the management systems needed to support reporting performance using the recommended performance measures.

DESIRED PERFORMANCE MEASURE CHARACTERISTICS

In determining what measures should be used to evaluate the performance of the Fire Department as a whole as well as the performance of individual units a number of desired characteristics were established:

- The performance measures should be linked to overall objectives
- The measures should encompass as many aspects of the department's operations as possible
- Only a limited number of measures should be used
- The measures should reinforce the department's desire to emphasize prevention and to use information to manage operations
- The measures should evaluate performance from a number of perspectives: service, costs, employee, and resident

DEPARTMENT OBJECTIVES

The stated mission of the Philadelphia Fire Department is "to respond to emergencies that threaten life or property and provide prevention education to reduce the risk of future emergencies for Philadelphia's citizens and visitors." This mission statement, and discussions with department leaders, union representatives, and employees suggest that four overall objectives should be defined for the Philadelphia Fire Department.

- **Reduce the risks to life and property from fire loss in a manner that appropriately balances the risks and costs of reducing risks**. This is a useful objective because it incorporates in one objective a range of Fire Department activities. For example, risks can be reduced both by responding quickly and

effectively to incident scenes and by providing effective prevention activities. In addition, establishing and enforcing regulations (e.g., fire and building codes) also reduces risks to life and property if fires are started.[1] Moreover, incorporating the cost of these risk reduction efforts into the objective ensures that efforts to reduce risk considers how to do so as efficiently as possible and that efforts to generate revenues to offset costs will be a departmental focus.

- **Provide emergency medical services that cost effectively address the clinical needs of Philadelphia residents requesting emergency medical assistance**. A key feature of this objective is that it focuses attention on providing care that meets the clinical needs of residents. Providing more care than a patient needs (or providing emergency response to incidents that are not emergencies) does not create value while providing care that does not meet resident need clearly reduces value. Moreover, as with the objective focused on managing fire related risks, incorporating costs into the objective ensures that as managers work to meet the clinical needs of patients they will strive to do so in a manner that is cost effective. In addition, to the extent the department is able to offset these costs by collecting revenues performance against the objective is enhanced.

- **Ensure the safety of employees who provide service**. The safety of employees must always be of paramount importance to the Philadelphia Fire Department. As the department strives to achieve its other objectives a vigilant eye must always be focused on ensuring these efforts do not create undue risk for employees.

- **Enhance the perception of safety among Philadelphia residents**. One of the key outputs of any fire department is the perception among residents that they are safe in their homes and at their places of work and that if they need emergency assistance it will be available quickly and competently. Even if the level of service the department provides is high, if residents do not feel safe the department is not doing its job. A key department objective therefore is to ensure Philadelphia residents feel safe.

MEASURES FOR EVALUATING THE DEPARTMENT'S OVERALL PERFORMANCE

Overall performance measures have been established that are linked to each of the overall objectives that have been identified.

Reduce The Risks To Life And Property From Fire Loss In A Manner That Appropriately Balances The Risks And Costs Of Reducing Risks

Three measures have been established to assess the department's performance in reducing risks.

Loss Of Life

The first measure is simply the average number of individuals who die in fires over a three-year period. Using the average number of individuals who die over a three-year period rather than the number who die in any one year is reasonable given that there

[1] It should be noted, however, that in Philadelphia the Department of Licenses and Inspections is primarily charged with enforcing code violations that increase fire risks.

may be variability (unrelated to Fire Department activities) in any one year that affects the number of individuals who die in fires.

Expected Property Loss As A Percentage Of Total Value Of Property Protected

The second measure – which assesses the effectiveness of fire prevention and fire suppression efforts – calculates "expected loss" as a percentage of the total assessed value of property protected. Calculation of the expected loss has two components: the potential loss from fires that occur (PL) and the average expected loss from any individual fire (EL). Potential loss (PL) is calculated by multiplying the probability of a fire (calculated by dividing the number of structure fires reported by the number of structures) times the assessed value of all the structures. Expected loss (EL) is calculated by dividing actual loss for all structure fires by the sum of the assessed values of all structures with reported fires.

The primary benefit of using this measure is that it considers fire prevention and fire suppression efforts in a single measure. Department leaders will be able to determine where resources should be allocated to achieve the greatest improvement in overall performance. The measure can be used to assess performance in a given area of the city or for the city as a whole.

Fire Suppression Costs Per Dollar Of Property Value Protected

The third measure – which assesses the cost effectiveness of department operations – can be likened to an insurance premium. Fire protection costs per dollar of property value protected reflects the premium the city is paying for fire protection.

Provide Emergency Medical Services That Cost Effectively Address The Clinical Needs Of Philadelphia Residents Requesting Emergency Medical Assistance

The suggested performance measure calculates cost per "successful" incident weighted to reflect the consequence of the incident:

(Cost Net Of Reimbursement)/
(Number Of Incidents)*(Average Success Factor)*(Average Consequence Index)

To calculate the denominator 1 times the incident success factor times the consequence index would be calculated and summed for all incidents. The success factor will be zero or one depending on (for example) if the patient survives[2]. The consequence index will vary between zero and one depending on the relative impact of the transport (e.g., life threatening emergencies would have a consequence score of 1 while unnecessary transports would have a consequence score of zero).[3]

The primary benefit of this measure is that it captures cost, success, and the impact of care in a single measure. Success on incidents that are the most consequential (that is, incidents where lives are at stake) would have the greatest value. In addition, the

[2] The department will need to develop standard measures of success.

[3] The department will need to develop this consequence index.

measure encourages a focus on providing appropriate care – providing excessive care serves only to increase costs and transports that are unnecessary are given no value.

Ensure The Safety Of Employees Who Provide Service

Three measures would be used to evaluate the safety of employees:

- Number of duty related deaths
- Costs associated with "Regulation 32" injuries resulting in employees receiving a permanent disability[4]
- Costs associated with "heart and lung" injuries resulting in employees being temporarily disabled[5]

Enhance The Perception Of Safety Among Philadelphia Residents

Two measures would be used to evaluate perceptions of safety:

- Percent of residents who express high confidence in the department's ability to respond to fire related incidents
- Percent of residents who express high confidence in the department's ability to respond to emergency medical incidents

A statistically valid survey of residents would be required to capture the information needed for these measures.

MEASURES FOR EVALUATING THE PERFORMANCE OF INDIVIDUAL UNITS

Measures for evaluating the performance of individual units are linked to each major function performed by each unit and key performance attributes for each function. In general, these performance attributes relate to both the quality and the cost of services. Performance measures for each unit in the current organizational structure[6] are presented in Exhibit VI-1.

ALLOCATING FIRE AND EMS COSTS

To use the recommended performance measures the department will need to develop an approach to allocating costs among fire suppression and emergency medical

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[4] Please note that costs are a better measure than just the number of claims as all costs associated with the claim are considered in this measure.

[5] Please note that costs are a better measure than just the number of claims or days lost as all costs (including treatment costs) are considered in this measure.

[6] The performance measures will need to be adjusted to reflect the functions and services performed by units in the recommended organizational structure.

PERFORMANCE MEASURES BY UNIT

Service	Performance Attribute	Performance Measure
SPECIAL INVESTIGATIONS		
■ Manage and enforce the department's drug, alcohol, and DUI policies	■ Adherence to policy ■ Cost	■ Percent of reported incidents in which department policies were followed ■ Enforcement costs per employee (Note: if the number of violations is reduced complaints per employee will decline)
■ Support the grievance and arbitration processes	■ Adherence to protocols agreed to by the department and the union ■ Cost	■ Percent of discipline cases in which protocols agreed to by the department and the union were adhered to ■ Average costs per case
■ Conduct residency investigations	■ Adherence to policy ■ Cost	■ Percent of employees who reside in the City of Philadelphia ■ Enforcement costs per employee
■ Investigate complaints from the public	■ Timeliness of investigation ■ Cost	■ Percent of time investigation is initiated within desired timeframes for complaints referred to special investigations ■ Percent of time investigation is completed within desired timeframes for complaints referred to special investigations ■ Total cost to support complaint investigations (Note: If the number of complaints is reduced total costs will decline) ■ Average cost per complaint investigation
■ Investigate EEO complaints	■ Timeliness of investigation ■ Cost	■ Percent of complaints for which investigation is initiated within desired timeframes

PERFORMANCE MEASURES BY UNIT

Service	Performance Attribute	Performance Measure
		■ Percent of complaints for which investigation is completed within desired timeframes ■ Total cost to support complaint investigations (Note: If the number of complaints is reduced total costs will decline) ■ Average cost per complaint investigation
OPERATIONS **Fire Suppression**		
■ Provide fire suppression services and effective response to other emergencies (e.g., hazardous materials spills)	■ Response time expectation for first responding apparatus to emergency ■ Response time expectations for response of full complement needed to respond as part of a first alarm ■ Fire loss ■ Fire related deaths ■ Cost ■ Firefighter safety	■ Fire engine response to emergency within five minutes of dispatch (assuming one minute turnout time) at least 90 percent of the time (NFPA 1710 standard) ■ Response of full first alarm complement within nine minutes of dispatch (assuming one minute turnout time) at least 90 percent of the time (NFPA 1710 standard) ■ Initial response index structured to reflect how close the department came to meeting five minute response time expectations ➢ Each response is given a maximum score of 1 (if the five minute response expectation is achieved) ➢ If the five minute response expectation is not met the index score for the incident is calculated by multiplying the potential score (1) times one minus the percentage in minutes the target response expectation was exceeded

PERFORMANCE MEASURES BY UNIT

Service	Performance Attribute	Performance Measure
		▪ For example, if the target response was exceeded by 30 seconds the index would be .9 (1 – (.5/5) = .9) ▪ If the target response was exceeded by five minutes or more the index would be 0 (1 – (5/5) = 0) ➢ The response index would be calculated by dividing the total number of responses by the sum of the response index calculations for all incidents ■ Full complement response index (calculated in the same manner as the initial response index) ■ Average fire loss over the past three years ■ Average number of fire related deaths over the past three years ■ Average costs associated with "Regulation 32" injuries resulting in employees receiving a permanent disability over the past three years ■ Average costs associated with "heart and lung" injuries resulting in employees being temporarily disabled over the past three years

PERFORMANCE MEASURES BY UNIT

Service	Performance Attribute	Performance Measure
Emergency Medical Response		
■ Provide effective and appropriate emergency medical services to Philadelphia residents	■ Response time expectations for first responders to life threatening medical emergencies ■ Response time expectations for BLS service providers to medical incidents requiring BLS capabilities ■ Response time expectations for ALS service providers to medical incidents requiring ALS capabilities ■ Response time expectations for BLS transport to medical incidents requiring BLS transport ■ Response time expectations for ALS transport to medical incidents requiring ALS transport ■ Appropriateness of care ■ Impact of EMS response on fire suppression capabilities ■ Success rates ■ Cost	■ Initial response to BLS medical emergency within 14.5 minutes (including one minute turnout time) at least 90 percent of the time ■ ALS response to ALS medical emergency within nine minutes of dispatch (assuming one minute turnout time) at least 90 percent of the time (NFPA 1710 standard) ■ Initial BLS response index structured to reflect how close the department came to meeting 14.5 minute response time expectation (calculated as for fire suppression) ■ Initial ALS response index (calculated in the same way) ■ Percent of incidents at which the level of care provided (BLS, ALS) matched patient needs ■ Percent of incidents at which the level of care provided (BLS, ALS) exceeded patient needs ■ Percent of incidents at which the level of care provided (BLS, ALS) fell short of patient needs ■ Success index (Number of incidents with successful results * consequence index)/(Number of incidents * Consequence index) ■ Cost/Success Index For EMS transport

PERFORMANCE MEASURES BY UNIT

Service	Performance Attribute	Performance Measure
EMS Administrative Staff		
■ Respond to EMS complaints	■ Timeliness of response ■ Cost	■ Investigation is initiated within desired timeframes for 100 percent of complaints referred to special investigations ■ Investigation is completed within desired timeframes for 100 percent of complaints referred to special investigations ■ Total cost to support complaint investigations (Note: If the number of complaints is reduced total costs will decline) ■ Average cost per complaint investigation
■ Provide EMS staff support	■ None	
Special Operations		
■ Coordinate hazardous materials cleanups	■ Timeliness of initial response ■ Timeliness of cleanup ■ Cost	■ Response of haz mat unit to hazardous materials incidents within the target dispatch time (including turnout time) at least 90 percent of the time ■ Hazardous materials response index structured to reflect how close the department came to meeting the target response time expectations ■ Percent of cleanups completed within expected timeframes (standard should vary for different categories of cleanups)

PERFORMANCE MEASURES BY UNIT

Service	Performance Attribute	Performance Measure
		➢ Expectations should be based on the time typically required to complete cleanups in the past ■ Average cost per incident over the past three years adjusted to reflect suppression support provided ➢ Calculate the time spent responding to hazardous materials incidents as a percentage of all time spent responding to incidents (including non-hazardous materials incidents) ➢ Multiply the percentage of time spent responding to hazardous materials incidents times total cost of hazardous materials units ■ Cost per hazardous material incident (adjusted to reflect suppression support provided)
■ Inspect facilities that store and use hazardous materials	■ Success of inspection efforts in preventing violations ■ Cost	■ Number of violations identified during inspections of randomly selected facilities that house hazardous materials ■ Average cost of inspections over the past three years
■ Conduct hazardous materials sweeps for special events	■ None	■ None
■ Provide effective response to marine emergencies	■ Response time expectation for first response to marine emergency ■ Cost	■ Response of marine unit to marine incidents within targeted minutes of dispatch (including turnout time) at least 90 percent of the time

PERFORMANCE MEASURES BY UNIT

Service	Performance Attribute	Performance Measure
		■ Marine response index structured to reflect how close the department came to meeting the targeted response time expectations ■ Cost per marine response
Fire Academy		
■ Provide recruit and in-service training to firefighters	■ Problems that could be addressed through training efforts ■ Reduction in problems identified in prior years ■ Compliance with required training ■ Management and staff perceptions of training ■ Cost	■ Problems identified during post-fire critique times magnitude of problem ■ Percent reduction in problems identified as compared to the average over the past three years weighted to reflect the magnitude of the problem ■ Percent of firefighters who receive required training ■ Results of a survey of managers on the adequacy of training ■ Results of a survey of supervisors on the adequacy of in-service and recruit training ■ Results of a survey of line staff on the adequacy of in-service and recruit training ■ Cost per employee hour of in-service and recruit training (number of employees participating in training times number of hours of training)
■ Provide EMS training	■ Errors that could be addressed through training efforts ■ Compliance with training requirements	■ Number of errors identified through quality assurance process times magnitude of error

PERFORMANCE MEASURES BY UNIT

Service	Performance Attribute	Performance Measure
	■ Management and staff perceptions of training ■ Cost	■ Percent reduction in errors over the average over the past three years weighted to reflect the magnitude of the error ■ Percent of EMS staff who receive required training ■ Results of a survey of managers on the adequacy of training ■ Results of a survey of supervisors on the adequacy of training ■ Results of a survey of line staff on the adequacy of training ■ Cost per employee hour of training (number of employees participating in training times number of hours of training)
■ Provide miscellaneous support (e.g., coordinate funerals, support the "thrill" show, host monthly staff meetings, coordinate smoke detector giveaways, coordinate graduations and promotions, attend regional meetings)	■ None	
Safety Office		
■ Acquire, distribute, and test protective equipment	■ Number of injuries that could have been prevented by better protective equipment ■ Cost	■ Number of injuries that could have been prevented by better protective equipment as a percentage of average number of such injuries over the past three years ■ Cost per employee supported
■ Prepare data and statistics on safety related issues	■ None	

PERFORMANCE MEASURES BY UNIT

Service	Performance Attribute	Performance Measure
■ Respond to major incidents involving accidents	■ None	
■ Use simulators to support driver training	■ Number of traffic accidents ■ Losses associated with traffic accidents	■ Number of traffic accidents as a percentage of the average number of traffic accidents over the past three years ■ Cost per officer trained
■ Serve as the department's legislative liaison	■ None	
Aviation		
■ Provide fire suppression and effective response to other emergencies at the airport	■ None – the FAA sets requirements and the airport pays for fire suppression services	
EMS Regional Office		
■ Provide regulatory services that support effective EMS operations in the regions (e.g., license ambulance companies, certify staff, register continuing education classes, certify schools that train paramedics, and certify medical command facilities)	■ Cost to the city (most, but not all costs associated with the function are reimbursed by the State Department of Health)	■ Cost to the city net of reimbursements
TECHNICAL SERVICES **Fire Prevention**		
■ Provide public education services focused on reducing deaths and injuries resulting from fires	■ Fire related injures resulting from behaviors that public education programs might have prevented ■ Fire related deaths resulting from behaviors that public education programs might have prevented	■ Reduction of fire related injuries resulting from behaviors that public education programs might have prevented over the average of such injuries over the past three years

PERFORMANCE MEASURES BY UNIT

Service	Performance Attribute	Performance Measure
	■ Contacts ■ Contacts who change behavior ■ Cost	■ Reduction of fire related deaths resulting from behaviors that public education programs might have prevented over the average deaths over the past three years ■ Total number of persons contacted through education or outreach efforts ■ Total number of "at risk" persons contacted through education or outreach efforts (where "at risk" individuals are those that research suggests are the most likely to cause fires) ■ Total number and number of "at risk" individuals who in follow-up survey indicate that they changed their behaviors as a result of outreach efforts ■ Cost of public education services as compared to the average cost over the past three years ■ Cost per number of injuries and deaths reduced as compared to the three year average ■ Cost per overall contact ■ Cost per "at risk" contact ■ Cost per "at risk" contact indicating behaviors have changed
■ Serve as the department's public information officer	■ None	

PERFORMANCE MEASURES BY UNIT

Service	Performance Attribute	Performance Measure
■ Review fire related plans at high rises	■ Assessment of community response at high rise fires ■ Cost	■ Number of problems identified at high rise fires that could have been avoided with more appropriate planning/public education ■ Cost per high rise
■ Provide graphics and photographic support for the department	■ Cost	■ Total cost ■ Cost of graphics and photographic support per document (including allocation of downtime)
■ Provide curator services at the fire museum	■ Museum visitors ■ Cost	■ Number of museum visitors ■ Total cost ■ Cost per visitor
Fire Marshal		
■ Determine cause and origin at fires	■ Accuracy ■ Cost	■ Percentage of findings confirmed in a review of a random sample of incidents ■ Cost per cause and origin investigation (these costs should not include investigations done by fire operations staff)
■ Investigate suspected arsons	■ Case clearances ■ Cases accepted for prosecution ■ Cost	■ Percent of arson cases cleared by arrest or exception ■ Percent of arson cases accepted for prosecution ■ Cost per case cleared by arrest or exception ■ Cost per case accepted for prosecution

PERFORMANCE MEASURES BY UNIT

Service	Performance Attribute	Performance Measure
■ Coordinate with the city to address inspection needs	■ None	■ None
■ Handle document requests from stakeholders (FOIA requests, insurance company requests, investigator requests)	■ Timeliness ■ Cost	■ Percent of document requests by type completed within established response time frames ■ Cost per document request
Technical Services		
■ Support the purchase of equipment that is needed in the field by determining need and developing specifications	■ Adequacy of equipment ■ Cost	■ Employee and manager perspectives with regard to the adequacy of equipment based on survey results ■ Equipment shortcomings as identified in post-incident critiques ■ Cost of developing specifications
■ Support the purchase of apparatus that is needed in the field	■ Adequacy of apparatus ■ Cost	■ Employee and manager perspectives with regard to the adequacy of apparatus based on survey results ■ Apparatus shortcomings as identified in post-incident critiques ■ Cost of developing specifications
■ Maintain equipment that is needed in the field	■ Adequacy of equipment maintenance ■ Impact on operations ■ Cost	■ Employee and manager perspectives with regard to the adequacy of equipment maintenance based on survey results ■ Number of days needed equipment is unavailable due to maintenance needs ■ Annualized operating costs for equipment

PERFORMANCE MEASURES BY UNIT

Service	Performance Attribute	Performance Measure
■ Review directives and operating procedures	■ Extent to which operating procedures reflect current practice ■ Cost	■ Percent of operating procedures that reflect current practice based on a review of a random sample of procedures ■ Cost per procedure/directive ■ Cost per update of procedure/directive
■ Coordinate with the city to address facility needs	■ None – the city is primarily responsible for addressing facility needs	
■ Ensure the water needed to fight fires is available	■ Availability of water when needed ■ Cost	■ Number of fires for which lack of water presented an operational constraint at the incident scene (where water should have been available) based on post-fire critiques ■ Percent of hydrants inspected per year
Fire Communications		
■ Provide call-taking and dispatch services that support fire and EMS operations	■ Speed of response ■ Accuracy of information communicated to line staff ■ Cost	■ Percent of calls answered within response expectations ■ Call-taking response index structured to reflect how close the department came to meeting target response time expectations ■ Percent of calls dispatched within time expectation from call receipt to call dispatched ■ Dispatch response index structured to reflect how close the department came to meeting target response time ■ Percent of fire calls for which information provided by dispatch was accurate

PERFORMANCE MEASURES BY UNIT

Service	Performance Attribute	Performance Measure
		■ Percent of EMS calls for which information provided by dispatch was accurate ■ Cost per call dispatched
■ Replace portable radios	■ Availability of working portable radios ■ Cost	■ Percent of operations staff with working portable radios based on a survey of a random sample of employees ■ Cost per portable radio
■ Provide training for communications staff	■ Errors that could be addressed through training efforts ■ Reduction in errors from prior years ■ Management and staff perceptions of training ■ Cost	■ Number of errors identified through quality assurance process times error magnitude ■ Percent reduction in errors over the average over the past three years weighted to reflect the magnitude of the error ■ Results of a survey of managers on the adequacy of training ■ Results of a survey of supervisors on the adequacy of training ■ Result of a survey of line staff on the adequacy of training ■ Cost per employee hour of training (number of employees participating in training times number of hours of training)
■ Ensure communications related regulatory requirements are met	■ Compliance ■ Cost	■ Number of compliance problems identified during audit of records for a randomly selected sample of employees ■ Cost per employee ■ Overall costs to ensure compliance

PERFORMANCE MEASURES BY UNIT

Service	Performance Attribute	Performance Measure
■ Maintain databases	■ Cost	■ Overall cost to maintain databases
Fire Code		
■ Change and update the fire code as necessary	■ None	
■ Investigate requests for variances	■ Completion of investigations within required timeframes ■ Quality of investigation ■ Cost	■ Percent of investigations completed within required timeframes ■ Assessment of investigation quality based on a review of a random sample of investigations ■ Cost per investigation
■ Review building plans to ensure compliance with fire code	■ Timeliness ■ Cost	■ Percent of plan reviews completed within required timeframes ■ Cost per plan review
■ Review fire related plans for special events (e.g., fireworks displays)	■ Timeliness ■ Cost	■ Percent of event plan reviews completed within required timeframes ■ Cost per plan review
ADMINISTRATIVE SERVICES **Bill And Collect For EMS Services (this function is currently outsourced)**		
■ Bill and collect for EMS services	■ Collection rate ■ Revenues ■ Timeliness of collections ■ Cost of collections	■ Percent of billings collected ■ Collections per transport ■ Percent of billings collected within one month, two months, three months, etc. of service

PERFORMANCE MEASURES BY UNIT

Service	Performance Attribute	Performance Measure
		■ Cost per patient ■ Cost as a percentage of collections
Human Resources		
■ Accurately input information into the payroll system	■ Accuracy ■ Timeliness ■ Cost	■ Error rate (based on a review of a sample of randomly selected errors) ■ Percent of payroll records completed within timeframes required for issuing payroll ■ Cost per employee
■ Maintain employee records	■ Accuracy ■ Cost	■ Error rate (based on a review of a sample of randomly selected errors) ■ Cost per employee
■ Provide professional counseling and assistance to employees in need	■ Quality of counseling and care ■ Cost	■ Assessment of quality based on external review ■ Cost per participant
■ Limit risks to employee safety from infection	■ Employees who are infected ■ Cost	■ Number of days employees miss work due to work related infections as a percentage of total work days ■ Cost per employee
■ Support the grievance and arbitration processes	■ Adherence to protocols agreed to by the department and the union ■ Cost	■ Percent of discipline cases in which protocols agreed to by the department and the union were adhered to ■ Average cost per case

PERFORMANCE MEASURES BY UNIT

Service	Performance Attribute	Performance Measure
■ Investigate EEO complaints	■ Length of time between a complaint being made and an investigation being initiated ■ Length of time between a complaint being made and an investigation being concluded ■ Cost	■ Percent of complaints for which investigation is initiated within desired timeframes ■ Percent of complaints for which investigation is concluded within desired timeframes ■ Investigation is completed within desired timeframes for 100 percent of the complaints referred to special investigations ■ Total cost to support complaint investigations (Note: If the number of complaints is reduced total costs will decline) ■ Average cost per complaint investigation
Fiscal		
■ Manage and execute the annual budget process	■ Accuracy ■ Compliance with city procedures	■ Actual expenditures and revenues as a percentage of budget ■ Number and magnitude of budget adjustments made ■ Percent of errors found in audit of budget procedures
■ Pay department obligations	■ Timeliness ■ Accuracy ■ Cost	■ Percent of city obligations paid within timeframe city has established for prompt payment ■ Number of payment errors per 1,000 transactions

PERFORMANCE MEASURES BY UNIT

Service	Performance Attribute	Performance Measure
		■ Cost per payable transaction
■ Provide internal mail service	■ Timeliness ■ User satisfaction ■ Cost	■ Percent of deliveries completed within timeframes provided for deliveries ■ User satisfaction with timeliness of delivery ■ Cost per item of mail delivered
■ Provide purchasing services and support for the acquisition of goods and services	■ Timeliness of purchase ■ Quality of purchased items ■ Timeliness of purchase ■ User satisfaction ■ Cost	■ Percent of items purchased within prescribed timeframes ■ User satisfaction with quality of goods and services purchased ■ User satisfaction with the timeliness of goods and services purchased ■ Administrative cost per item purchased
■ Manage and account for fixed assets	■ Accuracy ■ Cost	■ Accuracy of fixed asset records based on number of errors identified during spot checks of fixed assets ■ Cost per item
■ Provide financial management for grants	■ Compliance ■ Cost	■ Number of instances non-compliance with grant requirements identified during audit of a random sample of grants ■ Cost per grant ■ Cost as a percentage of grant dollars
■ Maintain warehouse	■ Availability ■ Satisfaction	■ Percentage of items available when requested

PERFORMANCE MEASURES BY UNIT

Service	Performance Attribute	Performance Measure
	■ Cost	■ Employee satisfaction with the availability of items ■ Storage costs per item stored (including costs associated with delivery)
OTHER		
■ Ensure the department has the capability to respond effectively to major emergencies	■ Assessment of adequacy of emergency plan by outside experts	■ Emergency plan rated a minimum of a "B" (on an A to F scale) by outside experts

response purposes. A "capacity cost rate[7]" should be established for each resource (in this case, fire suppression firefighters, EMTs assigned to BLS/ALS apparatus, and paramedics) using the following formula:

$$\text{Capacity Cost Rate For Resource} = \frac{\text{Expense Attributable To Resource}}{\text{Available Capacity Of Resource}}$$

In this equation expenses attributable to resource includes all costs associated with putting those resources in service (e.g., total compensation, supervisory costs, space costs, technology support costs, apparatus costs). The available capacity of the resource reflects the hours the resource is available for work (after adjusting for days off, training, etc.).

Once the "capacity cost" for each resource was determined allocation between fire and EMS uses could be calculated using the following steps:

- The total cost for each apparatus for the shift could be calculated by summing the capacity cost for each resource and multiplying by the number of hours in a shift
- The number of hours spent responding to fire and/or EMS incidents on that shift could then be calculated
- The percent of response hours devoted to fire versus EMS responses could then be calculated
- The percentage for fire and EMS response could be multiplied by the total shift cost to determine how costs should be allocated among each use

In practice, this approach to allocating costs would be less cumbersome than it would first appear. Standard costs for each response apparatus could be calculated (with standard adjustments made to reflect whether staff assigned are working straight time or overtime). Information on how much time on each shift is devoted to different types of calls could be calculated.

[7] This approach to allocating costs borrows from a September 2011 Harvard Business Review article on allocating health care costs (*How To Solve The Cost Crisis In Health Care*, Robert S. Kaplan and Michael E. Porter, pages 47 to 64).

VII – FUNDING FIRE DEPARTMENT SERVICES

VII – FUNDING FIRE DEPARTMENT SERVICES

This chapter begins by outlining a framework for determining how Fire Department services should be funded – in particular, which services should be paid for using general fund revenues and which services should be paid for through fees or fines. This framework is then applied to the range of services provided by the department to determine for which functions and services fees and fines should be charged.

FRAMEWORK FOR DETERMINING HOW FIRE DEPARTMENT SERVICES SHOULD BE FUNDED

Even more than other City of Philadelphia functions, a rational and consistent approach needs to be taken to determine how Fire Department services should be funded given that at present some services (such as EMS services involving patient transport) are substantially, if not completely, funded through fees while other services (such as response to fire emergencies) are funded by the general fund. From a public policy perspective, a consistent approach is needed to ensure equity in how services are funded. From a practical perspective, a compelling rationale is needed to impose fees on individuals or entities that have not been charged for services in the past.

As a general rule, core or "basic" city services should be supported by the general fund. Each community defines what constitutes a core city service differently. What may be considered a core city service in one community (for example, refuse collection) and supported by the general fund, might be considered non-core in another community and supported by user fees. In most communities core services have the following characteristics:

- They address a "public good" rather than an individual benefit
- A high percentage of the residents benefit from the service
- The nature of the service is non-exclusive (that is, one resident's use of the service does not materially reduce the ability of other residents to benefit from the service)

Care must be taken in defining "core" Fire Department services to ensure current approaches to charging for selected services can be justified.

For the purposes of this discussion, core Fire Department services are those for which all Philadelphia residents and businesses benefit equally. Core department services, which are linked to the main department objectives discussed in Chapter VI, include:

- Reducing the risk of fire loss (through either prevention or effective suppression activities)
- Providing emergency response to medical and fire incidents
- Enhancing perceptions of public safety

This approach to defining core Fire Department services is consistent with the department's current approach to charging fees. With regard to emergency medical

services, the core service the department provides is fast and effective emergency response. Since the actual medical services provided at the scene vary by individual it is appropriate to charge individual service recipients. By contrast, it is not appropriate to charge for fire suppression services. While fire suppression services are seemingly similar to emergency medical services a key difference is that at fire suppression scenes the risks of the fire spreading affects all residents. Since all residents benefit from the services provided at the scene, charging individuals for these services is not appropriate. Likewise, because all residents benefit from fire prevention efforts there is no rationale to charge for these services.

In general, the department should charge for three types of services:

- Services the department provides that are not core services (even if these services are an extension of a core service such as emergency response)
- Services for which the actions of an individual or entity impose a disproportionate cost on the service delivery system
- Services provided to individuals or entities that receive enhanced services greater than those received by the population as a whole

Whether the charge is characterized as a "fee" or a "fine" will depend on the policy objective of establishing the charge. From a policy perspective "fees" should be imposed where individuals or businesses through their actions impose disproportionate cost on the community for which the community should be reimbursed. The purpose of these fees is to ensure equity by requiring individuals and businesses to pay an appropriate share of the costs of services for which they benefit disproportionately as compared to other members of the community. (In general fees should be set at the "average cost" of providing the service or based on the hourly "capacity cost" of providing the service.[1]) Fines, by contrast, should be charged if the purpose of the charge is not only to ensure individuals and businesses pay their "fair share" of the cost of the service they receive but also to dissuade undesirable behaviors or activities. (Fines should be set at the level needed to dissuade the undesirable behavior – but at a minimum should be set at the average cost or "capacity cost" of providing the service. Unlike fees, however, fines might increase as the level of undesirable activity increases.)

FUNCTIONS AND SERVICES FOR WHICH FEES AND FINES SHOULD BE ESTABLISHED

Exhibit VII-1 presents an analysis of the Fire Department functions and services for which fees and fines should be established. Functions and services for which fees should be charged include the following:

- Auto accident

[1] While setting fees based on the average cost is administratively easier, setting fees based on the "capacity cost" of providing the service is generally more appropriate. As discussed in Chapter VI the capacity cost of the service captures the actual cost to the department of providing the service.

ASSESSMENT OF FUNCTIONS/SERVICES FOR WHICH FEES SHOULD BE CHARGED

Function/Service	Non-Core Service	Actions Impose Disproportionate Cost On Service Delivery System	Enhanced Service	Comment
Fire Suppression Response				Core service; fees not appropriate.
Rubbish Fire				Core service; fees not appropriate.
Car Fire				Core service; fees not appropriate.
Down Wires				Emergency response is core service; services provided at scene should be charged to responsible individual.
Auto Accident	X	X		Core service; fees not appropriate.
Box Car Fire				Core service; fees not appropriate.
Dwelling Fire				Core service; fees not appropriate.
Subway Fire				Core service; fees not appropriate.
Haz Mat Fire				Core service; fees not appropriate.
Fire Suppression Availability				A fee might be imposed on hazardous activities performed by entities that result in a need for increased firefighting resources.
Hazardous Activity		X		Cost of response capabilities might be imposed on all entities that use hazardous materials.
Hazardous Materials Availability		X		Services provided should be charged to responsible entity.
Hazardous Materials Spill		X		Emergency response is core service; services provided at scene should be charged to individual receiving service even if transport is not involved.
Emergency Medical Response	X			Fine could be imposed if no medical service is provided; medical services should be billed at higher rate to reflect "house call" not funded by government.
Non-Emergency Medical Response	X		X	Fine should be imposed for excessive false alarms.
False Alarm		X		
Hazardous Materials Inspection		X		
Special Event Planning	X	X	X	
Special Event Support	X	X	X	
Fire Prevention Outreach				Core service; fees not appropriate.
Plan Review	X			Core service; fees not appropriate.
High Rise Plan Review			X	
Code Variance			X	
EMS Services At Private Facilities				

- Hazardous activity
- Hazardous materials availability
- Hazardous materials spill
- Hazardous materials inspection
- Emergency medical response
- Special event planning
- Special event support
- Plan review
- Code variance request
- EMS service at private facilities (or events for which the event sponsor has obtained private contractors to provide service)

Fines should be charged for false alarms and non-emergency medical response.

VIII – MANAGEMENT SYSTEMS

VIII – MANAGEMENT SYSTEMS

This chapter discusses the need for the Fire Department to develop the management systems necessary to support its commitment to data based decision making and then outlines an approach to using these systems to deal with one of the most difficult issues the department must address – strengthening race relations and gender equity within the department.

NEED FOR IMPROVED MANAGEMENT SYSTEMS

Of the ambitious goals that the department has set for itself, perhaps the most challenging will be to develop and implement an analytic approach to decision making. Such an approach to decision making is not completely foreign to the department. On the contrary, the Safety Office provides an outstanding example of how data, when used effectively, can support sound decision making. At present, the safety office not only collects and gathers department information on safety related issues but also reaches out to the private sector and other departments to gather needed information and determine how best to use it to ensure firefighter safety. For the most part, however, the management culture in the department is reactive and does not proactively use information to address current needs and to anticipate future requirements.

Given that data driven decision making is new to most of the department there should be no expectation that needed systems and, more importantly, the management sensibilities needed to make use of them, can be developed quickly. On the contrary, the department and its stakeholders should recognize that such systems and management capabilities must be developed over time. A number of steps should be followed to first build the demand for management information and then to design the systems needed to collect this information.

Step 1: Establish the expectation that information should drive decision making. The first, and most important, step in the process of developing management systems and capabilities is establishing the expectation that information should drive decision making. To this end, the Commissioner and each of his key subordinates should, to the extent possible, require data to support all key decisions. If the data needed to support a sound decision is not available then the decision should, whenever possible, be delayed. Once managers learn that the Commissioner expects cogent, data based analysis to support proposed actions they will begin to demand the data needed to develop such analyses.[1]

Step 2: Develop the ability to monitor and track performance in a systematic way. The department's management systems should support efforts to improve performance. Therefore it is imperative that the department develop the ability to monitor and track performance in a systematic way. The recommended approach to performance monitoring discussed in Chapter VI can be used to evaluate the department's overall performance and the performance of individual units. In addition, tools developed as

[1] Please note that this is not to say that experience is irrelevant to the decision-making process; on the contrary, how data is used to make decisions should be informed by experience.

part of this engagement – most notably the employee survey that was organized around management principles that research suggests drive effective organizations – should also be used to assess department progress. Likewise, the department should begin to track information on how fire and medic crews use their time and to assess whether these allocations reflect department priorities. The approaches used to provide information on station activity for this engagement can serve as a starting point for this effort.

Step 3: Monitor the impact decisions have on desired results. Once systems for monitoring and tracking performance have been developed the department can begin to systematically assess decisions to see if they yield desired results. Because seemingly sound decisions do not always yield desired results the department needs a way to determine when decisions have not proved to be effective and should be changed.

Step 4: Develop management systems. Once the department has developed a demand for management information (by requiring information to be used to support decisions) and has developed preliminary ways to track the impact of decisions on desired results, investments should be made to develop the systems needed to support the department's vision of data based decision making. Systems developed in advance of need may not be used or may not precisely meet department needs. To the extent possible, therefore, a "just in time" approach to developing management systems should be established. That is, the timing of the development of systems should be set so that systems come on-line at the same time the capacity of managers to make effective use of these systems has been developed.

USING INFORMATION BASED DECISION MAKING TO STRENGTHEN RACE AND GENDER RELATIONSHIPS WITHIN THE DEPARTMENT

The department's commitment to data based decision making should be exemplified in how it addresses the contentious issue of race relations within the department. The issue of race relations (and to a lesser extent gender equity) looms over most aspects of department operations. Taking a data driven approach may help to remove some of the emotion engendered and identify some practical steps to address this issue.

Step 1: Develop a thorough understanding of how race and gender issues affect the department. The first step in this process is to develop a better understanding of how race and gender issues affect the department. To develop this understanding the fact-finding conducted as part of this study should be supplemented by focus groups and surveys that focus exclusively on understanding the source of racial strife within the department and identifying key touch points. As part of this effort, measurement tools – such as surveys – should be developed to evaluate the level of racial (and gender) unrest within the department.

Step 2: Establish realistic goals for improving race and gender relationships. Goals should be established that can be used to gauge progress in improving race and gender relationships within the department. While eliminating perceptions of racial and gender bias is an unrealistic goal, reducing the level of tension in the department can, and should, be a goal. The tools used to develop an understanding of how race and gender issues affect the department should be used to assess progress in meeting these goals.

Step 3: Develop and implement strategies for eliminating or reducing sources of racial and gender tension. Strategies for eliminating or reducing sources of racial and gender tension should be developed based on the analysis of the source of tension developed during the data gathering phase. Please note that the recommendations presented in other chapters of this report to aggressively recruit a quality pool of minority employment candidates, to modify the promotional process, to communicate the basis for transfer decisions, to evaluate the consistency of disciplinary actions, and to train staff on issues relating to race relations all were developed using information gathered during this engagement on the source of racial tensions within the department. This engagement, of course, has a much broader focus than just addressing race and gender relations and a data gathering effort focused exclusively on understanding issues of race in the Philadelphia Fire Department would likely yield a better understanding of these issues which would, in turn, likely result in the development of additional strategies.

Step 4: Communicate progress. When addressing issues of racial and gender equity perceptions are extremely important. Consequently, as strategies to address these issues are implemented and progress in achieving goals is accomplished, this information needs to be communicated to internal and external stakeholders. Please note that consistent with the department's desired approach to use information to improve performance, the effectiveness of communications efforts should be evaluated to determine what communications approaches are best for different audiences and what messages best communicate department efforts to address these issues.

Step 5: Monitor progress in achieving goals and adjust strategies, as appropriate. Progress in meeting goals relating to improving race and gender relationships should be evaluated at regular intervals. These reviews, supplemented by additional data collection efforts, should be used to modify and strengthen the initial strategies (as necessary) over time.

IX – STRENGTHENING OPERATIONS

IX – STRENGTHENING OPERATIONS

The operational issues discussed in this chapter generally fall into one of two categories: opportunities to make more effective use of resources and operational practices that complicate efforts for the department to achieve its overall objectives. This discussion is organized by Fire Department unit: operations (issues affecting both firefighters and paramedics; emergency medical services (EMS) issues; fire suppression issues; training issues; EMS regional office issues; and safety office issues); technical services (fire marshal issues; fire prevention issues; fire communications issues; and fire code issues); and administration (information systems; fiscal management; and human resource practices).

A – OPERATIONS DIVISION

Opportunities to strengthen the current operations division are divided into six parts: issues affecting both firefighters and paramedics; EMS issues; fire suppression issues; training issues; EMS regional office issues; and safety office issues.

ISSUES AFFECTING BOTH FIREFIGHTERS AND PARAMEDICS

The Department Should Take Aggressive Action To Ensure Firefighters Place The Same Priority On Responding To Medical Emergencies As Fire Emergencies

Effective response to serious medical emergencies requires a fast and effective basic life support response. Fire engines and ladders provide this initial response to most incidents in Philadelphia (as in most other cities across the nation).

Despite the importance of providing fast and effective first responder services to the overall effectiveness of EMS services, interview findings indicate that many firefighters do not place the same importance on these calls as fire calls. A number of interviewees reported that many firefighters feel inconvenienced by having to respond to "shoe runs" (that is, emergency medical response runs for which full fire protective gear, including boots, does not need to be worn). In addition, reportedly some firefighters use derogatory terms to describe ambulances. Even more problematic, in interviews paramedics reported that if they request a fire apparatus to respond to an incident scene the responding officers will often have a "bad attitude" when the ambulance arrives at the scene because the firefighters would have preferred not to have responded.

The fact that the percentage of first responder calls that are responded to in five minutes is lower than for fire calls also supports the contention that first responder calls receive less emphasis than emergency medical calls. From dispatch to arrival on scene, 78.3 percent of fire incidents are responded to within five minutes. By contrast, 44.8 percent of responses to emergency medical calls are responded to within five minutes (from dispatch to arrival on scene). Moreover, in interviews paramedics reported that it is not uncommon for them to arrive at incident scenes before first responder crews despite the fact that the first responder crew had much less distance to travel.

While it is somewhat understandable that long tenured firefighters who began working for the department before it began providing emergency medical response services might view emergency medical response as a secondary (and less important) service,

very few firefighters have this reason for not placing the same importance on medical calls as fire calls (and even for these firefighters such an attitude is not acceptable). The Fire Department has been providing emergency medical response for more than 30 years. For any firefighter who began working for the department prior to 1982 providing emergency medical response has been part of the services the department offers for their entire tenure. Consequently, the attitude that emergency medical response is viewed by many as a service of secondary importance appears to prevail less from the experience of individual firefighters and more from a culture that reinforces these attitudes.[1]

In addition to culture, another factor that may contribute to firefighters placing less priority on responding to emergency medical calls than fire calls is the fact that a portion of the calls are "nuisance" calls where the person requesting assistance is not facing a legitimate medical emergency.[2] Even if the number of such calls is relatively small they influence the perception of firefighters as to the need to respond to emergency medical calls quickly. Another contributing factor to the lack of priority that firefighters place on emergency medical response is that current dispatch procedures do not adequately discriminate among calls for which the speed of response is important and others, which are legitimate emergencies, but for which the speed of response does not affect the outcome.

The attitude that EMS calls are less important than fire calls is unacceptable (especially given that this attitude appears to affect the speed and quality of response) and the department should take aggressive action to address this issue. First, the department should clearly communicate to all managers and supervisors that viewing EMS calls as less important than fire calls is unacceptable. Second, the department should monitor response to fire and medical emergency calls and hold specific engine and ladder companies responsible if turnout and/or response times materially differ for fire and first responder calls. (Software is available from a number of firms that can be used to track response time protocols to targeted incident types.) Third, consequences for failing to respond to first responder calls as promptly as fire calls should be clearly established and communicated. While remediation and support should be provided to help improve

[1] The need for the department to place additional emphasis on reducing the number of unnecessary calls is discussed in Chapter IV. Recommendations to modify dispatch procedures to distinguish calls for which the speed of response is important from those calls where it is not are presented later in this chapter.

[2] In interviews a number of examples of "nuisance" calls were identified. These include a call in which the dispatcher was told a "four year old was in cardiac arrest" but the four year old turned out to be a pet; a call where the "patient" requested that his air conditioner be turned down; a call where the patient indicated to the dispatcher he had pain in his chest when in fact the pain was in his shoulder (the responding crew was told "the shoulder is close to the chest"); and a request for transport to a doctor's appointment.

performance if station personnel resist these efforts department leaders should make clear that it may become necessary for the company to be disbanded and the company crews and officers transferred.[3]

Over Time, Paramedics Should Be Cross-Trained To Serve As Firefighters

While paramedic and BLS ambulance crews currently do not have the time to support fire suppression operations, if ambulance crew staffing is increased to the levels needed to ensure response expectations are met (as discussed in Chapter X) sufficient ALS and BLS crews will be deployed to provide fire suppression response to structure fires, high rise fires, and other significant incidents without compromising the department's ability to respond to medical calls quickly. Using ALS and BLS crews as fire suppression "flying squads" is cost-effective because doing so will reduce the total emergency response resources that need to be deployed. The staff would be fully trained as firefighters. When responding to fire suppression incidents they would be directed by the incident commander to perform whatever fire suppression duties are needed.

In addition, cross-training paramedics as firefighters will encourage bonds of mutual dependence to be formed. At present, while paramedics rely on firefighters to provide effective first responder services at incident scenes, with the exception of providing medical support at selected fire incidents firefighters do not rely on paramedics. After paramedics are cross-trained as firefighters, engine and ladder crews will depend on ALS and BLS crews to provide fire support.

Implementing this recommendation will be facilitated by the fact that in interviews many paramedics and firefighters indicated their willingness to be cross-trained. Some interviewees estimated that between 50 and 75 percent of existing paramedics would be willing to serve as firefighters and 25 percent of firefighters would be willing to be cross-trained as paramedics.

Paramedics Who Are Cross-Trained As Firefighters Should Work The Same Schedule As Firefighters

At present, firefighters (who are not subject to the same Fair Labor Standards Act (FLSA) overtime regulations as paramedics) work a 10-14 schedule in which they work two 10-hour shifts, followed by two 14-hour shifts, followed by four days off. (This results in firefighters working an average of 42 hours per week.[4]) By contrast, paramedics work five 12-hour shifts one week and two 12-hour shifts the second week but the shifts are staggered so that the average hours worked per week is 40 hours. The fact that firefighters and paramedics work different schedules complicates efforts to establish strong relationships between these staff. An ancillary benefit of cross-training

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[3] If prevailing attitudes in a particular station result in slower response to EMS calls than fire calls, the culture of that station must be disrupted. Transferring firefighters, which is well within the authority of managers, will change the culture within that station. In addition, because in interviews it was repeatedly reported that firefighters do not want to be transferred, the possibility of transfer will likely give firefighters a strong incentive to improve their performance in responding to emergency medical calls.

[4] Under FLSA firefighters can work up to an average of 53 hours per week without earning overtime.

paramedics as firefighters is that paramedics would be subject to the same FLSA overtime regulations as firefighters and could work the same schedule (without incurring overtime costs).

Former Paramedics Who Have Switched To Fire Suppression Should Be Encouraged To Maintain Their Paramedic Certification And To Work Overtime As Paramedics

The department does not currently deploy enough paramedics to meet response time expectations. (The department responds to ALS incidents within nine minutes 71.4 percent of the time whereas the NFPA 1710 standard suggests that ALS incidents be responded to within nine minutes 90 percent of the time.) Increasing the number of paramedics deployed (as recommended in Chapter X) will take time. To address the need for more paramedics in the short term the department should encourage former paramedics who have become firefighters to maintain their paramedic certification. An estimated 20 to 30 paramedics have become firefighters over the last six years and immediately would be available to support efforts to increase the number of paramedics deployed.

At present, however, paramedics who become firefighters can no longer serve the department as paramedics (although they will staff BLS ambulances as EMTs on the same rotation as other firefighters). Using these former paramedics to work overtime as paramedics will reduce the pressure on existing paramedics to work overtime to fill vacant positions and will support efforts to increase the number of ALS ambulances deployed. Reportedly, many of these former paramedics maintain their certifications so they can work on a part-time basis with other agencies.

Civilian EMTs Should Be Deployed To Support ALS And BLS Units That Are Not Needed To Support Fire Suppression Efforts

At present, firefighters who are certified as EMTs are assigned to BLS units and support ALS units when insufficient paramedics are available to staff each ALS unit with two paramedics. Firefighters assigned to ALS units are typically working overtime (although firefighters working their regular shifts may be detailed to ALS units). Firefighters assigned to BLS units, on the other hand, do so during their regular shift hours on a rotating basis. Since firefighters on overtime are typically used to replace firefighters who are assigned to BLS units, the cost to the city is the same as if firefighters assigned to the BLS unit were directly paid overtime. Reportedly, however, it is much easier to get firefighters to work overtime in a fire suppression capacity than as an EMT assigned to a BLS unit.

Assigning civilian EMTs to support ALS and BLS units that are not needed to support fire suppression efforts will be less costly than assigning firefighters (especially because overtime is used to replace firefighters who are on a BLS rotation). Aside from cost, however, there are other reasons civilian EMTs should be employed. First, firefighter commitment to supporting EMS operations varies. While some firefighters do an excellent job supporting EMS operations, others reportedly limit their activities to driving the ambulance and do not provide a lot of support at incident scenes. Depending on the personalities involved, this can create friction between EMTs and paramedics. Firefighters who are not fully committed to providing emergency medical services are less likely to provide excellent care to Philadelphia residents. In addition, because

firefighters are detailed to BLS units infrequently they have less of an incentive to ensure BLS ambulances are kept in good operating condition than they would if they were assigned to these apparatus on a daily basis. Moreover, assigning firefighters to staff BLS units makes providing consistent training to these staff more difficult. Paramedics in interviews voiced concerns about EMT training. Examples of such concerns include EMTs not knowing how to deploy a stair chair properly, how to properly load a cot in the ambulance, and how to operate suction equipment.

While over time the department must change the culture in which firefighters are less committed to their EMS responsibilities than their fire suppression responsibilities, it is both more expedient and cost-effective in the short term to employ civilian EMTs (if medical crews are not cross-trained as firefighters). In addition, employing dedicated civilian EMTs will facilitate efforts to establish paramedic/EMT teams that over time can develop strong and effective working relationships.

In General, The Department Should Not Allow Firefighters To Opt Out Of The BLS Rotation

At present, after 10 years firefighters can choose to opt out of the rotation for being assigned to BLS units. They are given three options:

- Opt out of the EMT program entirely and allow their EMT certification to expire
- Retain their EMT status but opt out of the BLS squad rotation
- Retain their EMT status and continue to rotate through the BLS rotation (and be eligible for overtime assignments on ALS units)

This practice – while innocuous on the surface – communicates that EMS response is somehow less core to a firefighter's responsibilities than fire suppression. In fact, of course, firefighters, when functioning as first responders, play a crucial role in the level and quality of medical care individuals receive.

If the department chooses not to employ civilian EMTs, the policy that allows firefighters to opt out of the BLS rotation should be changed to eliminate this option. However, if the recommendation to use BLS crews to support firefighting is implemented, rather than rotating firefighters to BLS ambulances a better solution would be to assign firefighters to BLS crews on a full-time basis.[5]

The one exception to the general recommendation that firefighters not be allowed to opt out of the BLS rotation relates to hazardous materials crews. Because the department has only a *limited* number of members who have received the specialized training needed to support haz mat responses, it should not reduce these scarce resources by assigning them to BLS crews. Taking this step will help to ensure that adequate

[5] Please note that even if civilian EMTs are employed to staff BLS apparatus, firefighters should be expected to retain their EMT certification so they can serve effectively as part of first responders to medical calls.

resources are available to support hazardous materials responses when they are needed.

The Department Should Increase Its Investment In Quality Assurance And Use The Results Of These Efforts To Drive Improvement Throughout The Organization

Quality assurance efforts – when integrated with training and operations – can provide the basis for driving performance improvement throughout the department. A comprehensive quality assurance program can be used to ensure understanding and correct application of protocols, to evaluate the level and quality of pre-hospital care, and to design and implement crew member professional development plans. Specific quality assurance activities include:

- Reviewing a random sampling of call reports to ensure correct diagnoses were made and to help analyze performance
- Reviewing all critical care reports to ensure appropriate protocols were followed
- Soliciting feedback from local hospitals to monitor patient outcomes
- Developing individualized training plans to address specific crew member deficiencies
- Identifying and monitoring trends and maintaining quality assurance databases

At present, the department invests few resources in quality assurance efforts. A captain is responsible for continuous quality improvement for EMS. A "loaned" paramedic and a lieutenant (who also serves as the department's HIPAA officer and handles requests for medical records) also support the function. Moreover, while post-fire critiques at major fire incidents are performed no formal quality assurance function exists to support fire suppression operations.

Not surprisingly given this level of investment, quality assurance appears to have little impact on the quality of work performed by paramedics and EMTs. The perception of many is that "you only hear from quality assurance if you did a great job or you really screw up" – in other words, the process let's staff know if they did anything wrong but is not used to help improve performance. Moreover, little, if any, training is provided to address problems identified by quality assurance efforts.

An effective quality assurance system, however, can provide the information-based engine for supporting ongoing improvement efforts through the department. An effective quality assurance system uses information from incidents to:

- Assess whether protocols and procedures were followed
- Evaluate the adequacy of existing protocols and procedures and determine whether modifications are warranted (even though EMS protocols are established by the state modifications of these protocols can be proposed)
- Identify performance shortcomings for individual employees and develop remediation plans

- Identify systemic performance shortcomings and develop training plans to support these shortcomings

- Support improved training for firefighter/EMTs when serving as first responders

Quality assurance, combined with effective supervision, can also be used to weed out probationary paramedics and firefighters who do not meet department expectations.

A substantial investment in quality assurance will be needed if quality assurance results are to be used to drive improvement throughout the department. Quality assurance capacity should be established or increased for EMS, fire suppression, and communications. An EMS deputy chief position should lead EMS quality assurance efforts. In addition, one registered nurse and one lieutenant should be assigned to each of four platoons. Two clerical staff should also support this function. For fire suppression, a battalion chief assisted by a captain should support quality assurance efforts. In addition, one quality assurance position should continue to support fire communications.

From an organizational perspective, the deputy chief responsible for overseeing organizational development should coordinate department level quality assurance efforts. The deputy chief will ensure that consistent approaches to quality assurance are used throughout the department. In addition, he or she will ensure quality assurance findings are used to support the development of individual staff as well as to address systemic improvement needs. The EMS deputy chief, the fire suppression battalion chief, and the fire communications quality assurance position who support quality assurance efforts for their individual functions should have a "dotted line" reporting relationship to this deputy chief.

The Process For Handling Complaints Should Be Modified To Reflect Changes In The Overall Organizational Structure

At present, the process for handling complaints relating to fire suppression and EMS are somewhat different. An EMS captain, using a process specified in EMS Procedure Number 4, handles EMS complaints. A deputy chief or the Special Investigations Officer handles fire suppression complaints (although no formal written procedure defines this process).

Differences in the complaint handling process appears to contribute to concerns expressed by paramedics that they are subject to harsher discipline than their firefighter counterparts. These concerns were voiced repeatedly in interviews. In addition, perceptions reflected in the employee survey also indicate this concern. Overall, only 8.9 percent of paramedic survey respondents expressing an opinion agree or strongly agree that "discipline is consistently administered across the department" while 85.2 percent disagree or strongly disagree. Detailed discussions with paramedics, however, indicated that their concerns about discipline relate less to formal disciplinary actions (where they have the benefit of the same process as firefighters) and more with regard to how complaints are handled.

Concerns about disparate treatment can be eliminated when the recommended organizational structure is implemented. When the recommended structure is in place, the captain overseeing a service area will handle all complaints from residents in the

area he or she is responsible for (regardless of whether the complaint is directed at an employee he or she supervises). After conducting an initial investigation of the complaint, the suggested resolution will be submitted to the deputy chief who oversees the geographic area.[6] The deputy chief will then determine whether the situation justifies a formal investigation by the Special Investigations Officer. (The Special Investigations Officer will also review the resolution of all complaints to ensure appropriate consistency across the department.)

Mid-Managers Should Be Granted Significant New Authority

At present, the authority granted mid-managers in the Philadelphia Fire Department is limited. For example, current processes require the company officer, the battalion chief, the deputy chief, and the deputy commissioner to approve overtime expenditures (which in most cases have already been incurred). Likewise, at present, authority for issuing discipline resides primarily with the Commissioner.

The success of the recommended organizational structure depends on granting mid-managers authority for coordinating the full range of department services in a geographic area and holding them accountable for the results achieved. If mid-managers are to be trusted with these significant responsibilities they should also be trusted with approving overtime and issuing discipline (consistent with department policy) in selected areas. The Commissioner need only become involved in the disciplinary process if the manager wants to impose discipline (either more or less lenient) than discipline guidelines dictate. Indeed, a key benefit of this recommendation is that delegating these authorities will allow senior managers to focus on more substantive issues.

To implement this recommendation department policies and practices should be adjusted to grant mid-managers this authority. In particular, guidelines for issuing discipline should be reviewed.

Firefighters And Paramedics Who Are Assigned To Special Events Should Be Replaced

At present, emergency response apparatus that are assigned to special events are not consistently replaced by in-service apparatus. This does not pose a significant problem if the apparatus is deployed near its traditional location and if the crews are available to respond to incidents. However, the support of special events should not be allowed to reduce capacity needed elsewhere in the city. Consequently, apparatus taken out of service to support special events should be replaced by crews working overtime (or otherwise available). The cost required to "back fill" for these vacant positions should be charged to the event.

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[6] Please note that complaints relating to the medical care provided should be referred to the EMS Deputy Chief for quality assurance who will work with the Medical Director and the EMS Deputy Commissioner to address the issue.

EMS ISSUES

ALS Units Should Be Staffed With One Paramedic And One EMT

The current practice of staffing ALS units with two paramedics is unnecessary. State standards only require that one paramedic and one EMT be assigned to an ALS unit. In addition, in interviews paramedics indicated that there are few calls at which two paramedics are needed and a number of paramedics indicated that one paramedic is sufficient at almost all incidents.[7] In general, two paramedics are needed only when two ALS protocols need to be implemented simultaneously. In such rare circumstances a second ALS unit could be dispatched to the scene.[8] In the future, therefore, ALS units should be staffed with one paramedic and one EMT.

The Department Should Work With Hospitals To Reduce The Time EMS Staff Must Wait When Delivering A Patient

The number of ambulances that need to be deployed is a function of the number of calls received, when and where calls are received, and the amount of time needed to handle a call. At present, the time spent handling calls (and the number of ambulances that need to be deployed) can be significantly increased when ambulance crews must wait for an excessive amount of time after arriving at hospitals waiting to release patients. Interviews with paramedics suggest that the time required to release patients can be lengthy. EMS lieutenants reinforced this finding by indicating that it is not uncommon for them to have to contact or visit hospitals to encourage them to accept patients in a timely manner.

The department should take a number of steps to address this issue. First, the department should work with hospitals on an ongoing basis to minimize the time required to release patients. The recommended EMS Deputy Commissioner should meet with hospital administrators on a quarterly basis to ensure that the hospitals are aware of this issue. Second, the department should track the time ambulance crews spend waiting at hospitals and should communicate this information to city leaders, hospital administrators, and other relevant stakeholders. Third, the EMS chiefs assigned to each shift should be charged with identifying patterns and should meet with emergency room managers on at least a monthly basis to discuss problems that increase wait times and to develop strategies to address these problems. More frequent meetings may be warranted in hospitals where release times are a particular problem. Finally, the department should explore opportunities to establish mechanisms for having hospitals internalize the cost of not releasing ambulance crews promptly. One potential

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[7] One non-service related rationale for assigning two paramedics to an ALS unit is that one paramedic can provide respite for the second paramedic when call volumes are high. Increasing paramedic staffing levels as recommended in Chapter X will substantially address this issue.

[8] At such an incident a second unit would need to be dispatched even if two paramedics were assigned to the unit because someone would be needed to drive the ambulance. Alternatively, a first responding fire engine could be taken out of service so one crew member could drive the ambulance.

approach would be to establish a fee that hospitals would be charged if release times exceeded a pre-established standard (for example, 30 minutes). (The rationale for such a fee would be that delays in releasing patients impose a cost on all Philadelphia taxpayers.)

The Department Should Explore Establishing A Non-Emergency Medical Response Capacity

Using emergency apparatus to respond to non-emergency medical calls increases costs because retaining the capacity to provide immediate response to emergencies is much more expensive than providing non-emergency medical support. Moreover, unnecessarily transporting individuals to hospitals further increases costs because the unit's out of service time (and unavailability to handle additional calls) is increased. At present, however, the lack of alternative ways to serve individuals who may need medical attention (and, as discussed, management systems that tend to encourage transport) contribute to the tendency of the department to unnecessarily transport some individuals.

The department should take a range of approaches to reduce the number of individuals transported unnecessarily. For example, as discussed in Chapter VII, individuals who unnecessarily request emergency medical services should be fined (although the first offense may be forgiven). In addition, the immediate transport of these individuals should be declined.

If policy considerations require that some free transportation be provided the department should provide transportation (but not on an emergency basis nor with a fully equipped medical apparatus). Two approaches to providing non-emergency medical transport should be considered. First, taxi vouchers might be provided (although the experience of other jurisdictions in getting individuals to accept such vouchers is mixed.[9]). Second, non-emergency scheduled transportation could be provided. Under this scenario, transport services would be provided on a first-come first-served basis.

The Deployment Of The Advanced Quick Response Unit (AQR) Will Not Be Needed When The Number Of EMS Apparatus Deployed Reflects Need

The deployment of an advanced quick response unit has reportedly reduced response time in some areas of the city. The benefits of establishing this unit appears to be primarily due to the fact that the unit creates additional capacity to respond to ALS emergencies. These benefits, of course, will also be achieved if the department increases the number of traditional ALS ambulances deployed as recommended.

While the intention of the AQR initiative addressed the compelling need for more ALS response capacity in the city, costs of response may actually be increased by the initiative. If an ALS ambulance responds to an emergency and transports a patient one apparatus with two personnel will be needed. On the other hand, if the AQR responds to

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[9] The fact that individuals may not accept taxi vouchers should not necessarily be viewed as a problem by the department. Providing non-emergency transportation services does not further department goals and, based on the analysis presented in Chapter VII, is not a service that needs to be supported by general fund revenue.

the incident and transport is needed four personnel will be required – the two personnel assigned to the AQR and the two personnel assigned to the responding transport vehicle.[10] Moreover, because transportation is required for almost all ALS responses, when the AQR responds transport may be delayed while a transport apparatus is dispatched to the scene. Interviewees suggest that such delays can be lengthy – as much as 30 minutes.

The deployment of the AQR should therefore be discontinued when the number of EMS apparatus deployed is increased (and the AQR is not needed to enhance response times).

Paramedic Work Schedules Should Be Adjusted To Ensure Consistent Services Can Be Provided During Shift Changes

Because paramedic workload is high relative to the number of paramedics being deployed it is sometimes difficult to manage shift changes without disrupting the level of service provided. In an effort to ensure that service is maintained during shift change hours outgoing crews may sometimes be assigned additional calls, which results in overtime costs to the city and, at times, great inconvenience to paramedics. In addition, if the shift change process is rushed there may not be adequate time to check vehicles and ensure they are adequately stocked.

While increasing the number of ambulance crews deployed (as recommended in Chapter X) will do much to address this problem, the department should also stagger ambulance shift changes over a two-hour period. Instead of having all paramedics report to work at the same time, they would report to work at half hour increments over the two-hour shift change period. Doing so will minimize the service disruptions associated with shift changes, ensure incoming crews have vehicles that are adequately stocked, and will reduce overtime costs associated with holding crews over to handle calls received during shift changes.

The Department Should Explore Entering Into Relationships With Hospitals To Replace Supplies

At present paramedics have difficulty replenishing supplies on the night shift when the warehouse is closed. Despite the fact that the department has established eight storage areas stocked with critical supplies, paramedics report they nonetheless have difficulty replenishing stores. One approach to addressing this issue is to establish relationships with local hospitals to swap out supplies on a one for one basis after a transport. This both ensures ambulances are fully stocked and reduces the downtime associated with stocking ambulances. If such an approach proves effective on the night shift the department should consider using the same approach to replenishing supplies on the day shift.

Alternatively, when the number of supervisors is increased supervisors could be charged with ensuring ambulances are stocked with supplies and functioning equipment.

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[10] If a first responder engine or ladder also responds to the incident three apparatus and eight personnel will be needed. It should be noted, however, that the first responder will respond regardless of whether an AQR or a traditional ambulance responds.

Assigning this responsibility to supervisors ensures they interact with all the ambulance crews reporting to them on a daily basis.

FIRE SUPPRESSION ISSUES

The Department Should Establish A 24-Hour Work Schedule For Firefighters

A 24-hour work schedule has been and continues to be the dominant schedule for full-time paid firefighters in most parts of the country. Indeed, of the seven benchmark departments providing information only one (New York City) does not employ a 24-hour shift schedule.

There are administrative, practical, and management reasons that few departments that implement a 24-hour schedule ever change to a different schedule.

- **Administrative benefits**. From an administrative perspective, the 24-hour schedule facilitates the implementation of the longer workweek for firefighters allowed by the FLSA. Many fire departments use the 24-hour schedule to implement a 53-hour workweek although some employ a 48-hour workweek.

- **Practical benefits**. From a practical perspective, firefighters like the schedule. Depending on the hours worked per week firefighters report to work only nine or ten days a month. In addition, the schedule accommodates the expectation that firefighters sleep on the job. There is little justification for allowing firefighters who work 42-hours per week on a 10-14 schedule to sleep when other city employees (who work a 40-hour week) are not allowed to sleep during their shifts.

- **Management benefits**. From a management perspective, a 24-hour schedule reduces sick time usage and reduces the number of transitions between shifts (and the time spent on such activities as checking equipment).

To capture these benefits the department should establish a 24-hour work schedule under which firefighters would work an average of 48-hours per week. The nature of firefighter work – the time spent responding to calls is low – and the fact that firefighters are allowed to sleep while being paid makes a longer workweek reasonable for firefighters (while it would not be reasonable for other employees). Please note that FLSA allows firefighters to work a longer week without working overtime and many fire departments find this schedule to be reasonable. Indeed, of the benchmark departments, Long Beach, CA (56 hours), Cincinnati, OH (48 hours), Milwaukee, WI (48.9 hours), and Cleveland, OH (45.23 hours) have workweeks longer than 42 hours. However, given that Philadelphia firefighters currently work a 42-hour workweek establishing a workweek that is longer than 48 hours may be impractical.

In exchange for increasing the firefighter workweek by 14 percent (from 42 hours a week to 48 hours a week) firefighters will receive a number of benefits. First, the number of days they will have to report to work will be reduced from 14 per 28-day cycle to 9 or 10. In addition, during each 28-day cycle firefighters will receive 32 additional Kelly hours off.[11] Moreover, if the department implements a 48-hours on 96-hours off work schedule

[11] "Kelly hours" is additional time firefighters receive off to reduce their workweek from the 56 hours resulting from a 24-hours on 48-hours off schedule to the recommended 48-hour work schedule.

that is becoming increasing popular with fire departments and also creates management benefits, firefighters will continue to have four days off in a row. Furthermore, firefighters will continue to be able to sleep during the night shift. (If the current schedule is maintained firefighters should be expected to be as productive as is feasible during the night shift supporting prevention activities, conducting classroom training, participating in physical fitness programs, and planning effective fire response and prevention efforts.[12])

To facilitate training paramedics who are firefighters should also be assigned to this schedule. Given the higher call workload for paramedics, however, it may be necessary to rotate staff from busy to less busy stations during a shift. An administratively easier, albeit somewhat more expensive, alternative is to have paramedics within a station rotate from an ambulance to a fire suppression apparatus during a shift.

The Department Should Cease The Practice Of "Browning Out" Stations On A Rotating Basis

When faced with budget limitations, managers are often faced with choosing among a number of untenable options. In the Philadelphia Fire Department rather than eliminating capacity in the city in any one area on a full-time basis, companies are shut down on a rotating basis.

This approach to reducing department costs, however, has a number of shortcomings. First, for the period the station is "browned out" initial response to incidents in the area served by the station are much longer than in other areas of the city. While this does not mean the area is unprotected the level of response is materially longer than in other areas. While the probability that these longer response times will result in consequential loss are not great (the likelihood of a working fire during any shift in any area of the city is not high) at other times these risks are deemed unacceptable by the city. Second, the rotating approach to browning out apparatus, while appearing equitable, actually imposes disproportionate risks in areas of the city where the probability of fire or loss is greater than in other areas. Finally, browning out apparatus reduces the number of additional apparatus that can be taken out of service to support training efforts.

A better way to reduce fire suppression costs in response to budgetary cutbacks is to either reduce resources where capacity currently exceeds need or to adjust service expectations and resources throughout the city so all areas of the city receive the same level of protection.[13]

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[12] One rationale for allowing firefighters to sleep during the night shift under the current 10-14 schedule is that it allows firefighters' circadian rhythms to adjust to shift changes. If the 24-hour work schedule is not adopted an alternative schedule that would address this problem (for example, firefighters could be assigned to permanent day and night 12-hour shifts) should be adopted. Regardless of the schedule that is selected, if firefighters only work 42 hours a week there is little rationale to pay them for sleeping while other city employees working the night shift are expected to be productive for the entire shift.

[13] Please note that the analysis presented in Chapter X suggests if existing fire suppression resources alone are considered the department does not currently have the capacity to meet service needs throughout the city with existing resources. If no change is made to EMS staffing and EMS staff are not cross-trained to serve as firefighters the department should adjust service

Employing Chief's Aides Is A Luxury The Department Can No Longer Afford

At present, aide positions are assigned to each deputy chief and battalion chief. In the past, before the advent of modern wireless communications, these chief's aides played an important communications role at fire scenes serving as "runners" who relayed orders from incident commanders.

These positions continue to create some value. For example, driving battalion chiefs and deputy chiefs to fire scenes allows these commanders to develop preliminary firefighting strategies on the way to the scene. In addition, while at the fire scene the aides facilitate communications with the communications center, monitor three radio bands, monitor mobile computers, and pull maps. (At major incidents, the first battalion chief's aide focuses on communication, the second battalion chief's aide serves as the staging manager, and the deputy chief's aide handles the station board.) Moreover, if aides are not needed at the fire scene they will return to their home location with an acting battalion chief who will replace the battalion chief working at the incident scene. The aide positions also provide administrative support to battalion chiefs and officers including: supporting the system for reporting runs; supporting outreach efforts; handling the mail; reviewing reports; ensuring the chief's vehicle and equipment are maintained; and providing general paperwork support.

While these benefits are not inconsequential they do not justify the cost of retaining these positions. Most fire departments find they can effectively fight fires without chief aide positions. Indeed, of the benchmark fire departments only New York City and Cleveland currently employ aide positions and Cleveland is in the process of phasing the position out.

With training and support battalion chiefs and deputy chiefs should be able to adjust to the fact that the chief aides positions are no longer available. One important part of the retraining process should be to facilitate discussions with other departments that do not have the aide positions. Interviewees indicate that in the past when eliminating the aide position was considered, specialized communications companies were recommended that would play the same role as aides at fire scenes. Rather than eliminate the aides and then backfilling these vacancies with other firefighters, fire scene procedures and tactics should be modified to reflect the fact that the aide positions no longer exist.

Discussions with other fire departments will prove invaluable in revising these tactics and procedures. In the consultants' experience, departments that do not have aide positions rarely advocate for establishing these positions (while it is common for staff in these departments to advocate for additional resources in other areas).

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expectations and redeploy staff to reflect those service expectations rather than to "brown out" stations on a rotating basis.

TRAINING ISSUES

Training Is Critical To Department Efforts To Achieve Its Objectives And Additional Investments In Training Capacity Are Needed

At present, the department provides much more training to firefighters than to paramedics. Firefighters received approximately 175 contact hours in 2010 and EMTs received an additional 24 hours of continuing education (although training activities may have been reduced in 2011 due to station brown outs that limit the number of fire suppression apparatus that can be taken out of service). Paramedics, by contrast, are provided the continuing education training they need to stay certified (an average of about 20.1 hours per year) but little else.

While there is a clear need to increase paramedic training[14] increased firefighter training is needed as well. Indeed, training is one of the lynchpins on which the department's ability to achieve its overall objectives will depend. Areas where additional tactical and practical training is needed should be identified. Some areas where additional training is warranted include the following:

- The department should consider providing paramedics with continuing education based on American Heart Association standards for maintaining Advanced Cardiac Life Support (ACLS) certification

- All staff should receive ongoing training on how to deal with race and gender issues productively (some EEO training is currently mandated)

- Firefighters and paramedics should receive training to develop the skills needed to support outreach and prevention efforts

- Effective training of first-line supervisors will be especially important because first-line supervisors will be charged with supporting the training firefighters and paramedics receive on a daily basis, for evaluating performance, for implementing efforts to reduce racial tensions, and for managing service delivery on a day-to-day basis[15]

- The recommended investment in quality assurance will yield few dividends unless it is supported by both individual remediation and systemic training focused on improving performance

- Mid- and senior-level managers need to be trained on how information can be used to support decision making, how to manage the full range of services the department offers (in particular, prevention) in a geographic area, how to support efforts to reduce the number of non-emergency requests for assistance, and how to address racial tensions within the department in a productive way

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[14] In interviews, paramedics consistently expressed the desire for more training. In particular, paramedics indicate that they have not received training from the department on lifting techniques or difficult patient management.

[15] While officer training was provided in the past this training has been eliminated due to budget reductions.

- Mid- and senior-level managers should also receive training related to FLSA compliance; how to serve as a fire instructor; how to conduct company level training; building construction; problem solving; report writing; smoke reading; ethics; values; attitudes; customer service; discipline and documentation; human resources issues; legal issues; motivation; resource management; and strategic planning

Two factors make training especially critical to the Philadelphia Fire Department at this point in time. First, the department is facing a "generational" turnover of staff. Reportedly by the end of 2013 every deputy chief and half of the current battalion chiefs will have retired. This turnover creates a unique opportunity to change the culture of the department.[16] Second, when the recommendations presented in this report are implemented a number of new EMS supervisory and management positions will be established. These managers and supervisors should, to the extent possible, be selected based on their commitment (and ability) to support the reforms recommended by this study. Effective training, however, must support this commitment.

The department's focus when addressing these needs should be to implement a systemic approach to training that has the following key elements:

- The quality assurance process should be used to identify both systemic and individual training needs

- Training objectives should be established to reflect these needs

- Programs that include a mix of initial training and ongoing support (provided both by trainers and supervisors) should be established

- An assessment should be made to determine whether programs should be delivered by training staff, field personnel, outside providers, or a mix of these resources

- Evaluation tools should be used to assess whether training objectives have been met

- Evaluation results should be used to modify training strategies and practices

The resources needed to enhance training efforts are difficult to estimate until improved training systems have been developed and begin to be implemented. In the immediate term though, two positions should be established to develop the department's overall approach to training and to begin to develop the systems needed to address training needs. These positions should also work with the deputy chief who leads the fire academy to develop a comprehensive two-year training plan designed to support the

[16] In most organizations behaviors and attitudes are learned and in few types of organizations is this more true than in a fire department where staff both live and work in close quarters and, at times, do so under extreme pressure. Seasoned firefighters understandably have long established views about their role as firefighters and changing this self-perception would be extremely difficult. With an influx of new firefighters and paramedics, however, the opportunity exists to establish new performance expectations. This opportunity will be lost if the department does not employ effective training (backed up by daily supervision) to push back against cultural traditions.

implementation of the study recommendations. Additional resource needs (including overtime to replace field staff temporarily assigned to support training efforts, full-time trainers, and outside resources) should be specified in this plan.[17] The plan should also specify what additional equipment and facilities will be needed over time to support the training efforts.[18] Likewise, ways to use technology to support training efforts should also be reflected in the plan. (For example, the department has been exploring acquiring the technology needed to support web-training options that can be implemented at individual fire stations.) The additional resources needed to support specialized training should also be identified.

Mandatory Fitness Training Should Be Incorporated Into The Work Schedule Of All Firefighters

Because firefighting requires intense physical exertion under conditions of extreme stress there are few professions where the importance of being physically fit is more important. Indeed, research suggests that heart attacks pose a significant risk to firefighter safety. In 2009 there were 90 on-duty firefighter deaths nationwide of which 43 percent were due to sudden cardiac arrest. Likewise, in 2010 there were 87 on-duty firefighter deaths of which 49 percent were due to sudden cardiac arrest. Moreover, because firefighters work as members of a team, a firefighter who is not physically fit jeopardizes not only his or her own well being but also that of the team.

Ensuring employee safety is one of the overall objectives of the Philadelphia Fire Department (see Chapter VI). A commitment to this objective requires taking steps to ensure its firefighters are fit. As a first step, a mandatory physical training program should be established and all firefighters should be required to participate in this program on each shift. Battalion chiefs should be held accountable for ensuring these programs are adhered to.

The Department Should Explore Opportunities To Provide Training To Other Area Jurisdictions

The investment the department makes in developing and delivering training is scalable – that is, the number of individuals benefiting from these efforts can be increased while only modestly increasing costs. Just as airlines increase revenues by ensuring all seats on their planes are filled, the Fire Department could generate revenues by allowing firefighters from other area jurisdictions to fill empty seats in training classes. In addition, specialized training programs that are developed to address department-specific needs might be licensed for use by other jurisdictions.

Please note that as long as these services are priced to ensure department costs are covered, such opportunities represent "wins" for both the department and the participating jurisdiction. From the department's perspective the fees paid by the

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[17] For example, in interviews it was noted that haz mat members have difficulty taking advantage of free training provided by the federal government because the overtime needed to fill in for these positions while they are being trained is not available.

[18] For example, in interviews, it was suggested that a burn pit area be established at the academy so that pit fire training exercises can be performed.

neighboring jurisdiction represents "found money" – the department's costs will be essentially the same regardless of the number of program participants (until, of course, outside participation requires establishing new classes). From the participating jurisdiction's perspective the fee charged by the department for participation will be significantly less than what it would cost the jurisdiction to develop and execute the program on its own.

EMS REGIONAL OFFICE ISSUES

The Department Should Seek Full Reimbursement For Serving As The EMS Regional Office For The State

The EMS regional office, which reports to the Pennsylvania Department of Health, performs a number of responsibilities:

- Licensing all ambulance companies in the region (the City of Philadelphia)
- Certifying all EMTs, paramedics, pre-hospital nurses, and pre-hospital physicians in the region
- Registering continuing education classes
- Certifying schools that train paramedics
- Certifying hospitals that want to be medical command facilities

The Fire Department benefits modestly from serving as the state's EMS regional office. Reportedly, for example, serving as the regional office has facilitated the department receiving exemptions from some state requirements (for example, the requirement that paramedics attend a class to review protocols). In addition, serving as the regional office gives the department the authority to distribute EMS operating funds that are given to 911 providers. It is not clear, however, that the department would not receive the same share of EMS operating funds and would not have been granted the same exemptions if it did not serve as the regional office.

The costs to the city of the Fire Department serving as the EMS regional office are not small. While many of the costs of serving as the regional office are reimbursed through a state grant – two positions (including the battalion chief who leads the unit) – are not reimbursed. The estimated cost of these two positions exceeds $200,000 each year. In essence then, by serving as the EMS regional office the City of Philadelphia is subsidizing a function for which the state is responsible. To address this issue the city should seek full reimbursement from the state for the service it is providing on the state's behalf or discontinue providing this function.[19]

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[19] Please note that no fees are currently charged for any of the certifications provided by the EMS regional office. If the state charged for these services it could generate the revenue needed to fully compensate the city for the cost of serving as the EMS regional office. This, of course, would require state action and is not a recommendation that the city can implement unilaterally.

SAFETY OFFICE ISSUES

The Department Should Reconfigure The Staffing Of The Safety Office

At present, the safety office is led by a battalion chief who has three lieutenants reporting to him: one lieutenant focuses primarily on maintaining records relating to accidents and injuries; one lieutenant focuses primarily on driver training; and one lieutenant is responsible for personal protective equipment.

Staffing of this function should be substantially reconfigured. While a battalion chief should continue to oversee the office unit staffing should be modified. A civilian should replace the lieutenant who maintains records and supports the battalion chief. The lieutenant who focuses on driver training should be reassigned to the fire academy. The lieutenant responsible for personal protective equipment should be assigned to the fire suppression support unit. Additional staff assigned to the safety office should be transferred from the existing employee assistance program (EAP) and infection control functions (which, as discussed in Chapter V, should be assigned to the unit.)

B – TECHNICAL SERVICES DIVISION

Opportunities to strengthen the current technical services division are divided into four parts: fire marshal issues; fire prevention issues; fire communications issues; and fire code issues.

FIRE MARSHAL ISSUES

The Department Should Make More Extensive Use Of Battalion Chiefs And Captains To Determine The Cause And Origin Of Fires

At present, assistant fire marshals respond to and investigate most fire incidents to determine the cause and origin of the fire. In particular, they respond to:

- Fires lasting more than 30 minutes
- All two engine and two ladder fires
- Any fires with suspects or witnesses
- Fires involving incendiary devices

In total, unit staff estimate that they respond to 80 to 90 percent of all fires.

In many other jurisdictions fire officers (captains for smaller fires and battalion chiefs for larger fires) have sufficient training to determine the cause and origin of most fires and only call in assistant fire marshals when arson is suspected (in Philadelphia arson was suspected and investigated in 786 of the 2,669 fires to which fire marshal staff responded to in 2010). This practice is used in four of the benchmark cities (Chicago, Cincinnati, Cleveland, and Long Beach).

Using assistant fire marshals to investigate fires that can effectively be investigated by line fire officers increases costs without creating significant value. To address this issue

the department should employ the practice currently in place in many fire departments – captains and battalion chiefs should be responsible for determining the cause and origin of fires unless they lack the technical competency to do so. Implementing this recommendation may require providing some supplemental training to these officers.

Fire Marshal Staffing Should Be Reduced

Currently nine assistant fire marshals are deployed to respond to fires, determine their cause and origin, and conduct investigations if arson is suspected. One assistant fire marshal is assigned to each of the four primary fire suppression shifts while five assistant fire marshals are assigned to the day shift and work from 8:00 a.m. to 4:30 p.m. on Monday through Friday.

Reducing the number of fires to which assistant fire marshals conduct cause and origin investigations will free up resources from investigation and reduce overall staffing needs. Two assistant fire marshal positions should be discontinued initially (although workload should be evaluated to determine whether additional positions might be discontinued in the future).

The Department Should Invest In Additional Training For The Remaining Assistant Fire Marshals

Assistant fire marshals serve as expert witnesses in court. Being certified by the National Association of Fire Investigators would enhance their credibility when working as expert witnesses and would also enhance their performance when investigating fires.

Assistant fire marshals should, therefore, receive the training necessary to be certified by the National Association of Fire Investigators. The cost of obtaining this certification is relatively modest. The training itself costs approximately $700 plus associated expenses. In addition, costs for on-call assistant fire marshals to replace assistant fire marshals who are being trained may be incurred.

The Department Should Explore Having Arson Investigators Certified As Law Enforcement Officers With Arrest Powers

Because assistant fire marshals do not have arrest powers they hand their cases over to the police department once a suspect is identified. In interviews, assistant fire marshals expressed frustration that often the police department decides to drop these cases. However, it is not clear whether these cases are dropped because the police lack the resources to provide needed follow-up or because the prosecutor will not accept them for prosecution.

If prosecutors are willing to accept sound arson cases for prosecution the Fire Department should explore having assistant fire marshals certified as law enforcement officers with arrest powers. The lack of resources from the police department would then not preclude cases from being pursued. The fact that close to half (46.6 percent) of the arrests made from 2008 to 2010 resulted in convictions suggests that prosecutors are willing to accept and prosecute sound arson cases. The department should, however, confirm this fact with prosecutors before investing in this certification.

FIRE PREVENTION ISSUES

The Prevention Unit Should Focus On Prevention Activities That Cannot Be Effectively Performed On A Decentralized Basis

As discussed in Chapter V, the primary responsibility for EMS and fire prevention efforts will be decentralized in the recommended organizational structure. Under the direction of deputy chiefs and captains, line firefighters and paramedics will be charged with understanding prevention needs in specific geographic areas, developing strategies to address those needs, and implementing those strategies. In this structure the prevention unit will be charged with supporting citywide prevention initiatives, serving as a resource to decentralized staff, and performing activities that require specialized expertise. When the recommended structure is implemented the following activities should continue to be the responsibility of the centralized prevention unit:

- Obtaining and administering grants (in coordination with the recommended grants and development unit)
- Tracking overall information on the cause of fires, the reasons for fire deaths, and preventable EMS calls
- Developing prevention programs that might be implemented on a decentralized basis
- Conducting specialized inspections (e.g., inspections of high rises, group homes, nursing homes, and the jail)
- Supporting the Freedom From Fire initiative (although the focus of this effort should be broadened)
- Taking the smoke trailer to local schools (although area firefighters should be involved in this effort)
- Coordinating with the Citizens for Fire Prevention Committee (although efforts should be made for the committee to support decentralized fire prevention activities)
- Serving as the department's public information office

In addition, the centralized prevention unit should be responsible for forging relationships with other city departments to support prevention efforts. For example, recreation programs could be used to communicate a prevention message to youth and police department block watch programs could be leveraged to support prevention efforts.

Functions currently performed by prevention staff that should be decentralized when the recommended structure is implemented include:

- Installing smoke alarms
- Working with local businesses and residents to identify hazards and develop evacuation plans
- Reaching out to youth in the community

Refocusing prevention activities will enable the department to reassign or discontinue five positions. The lieutenant and three firefighters who support youth outreach efforts should be reassigned or discontinued. In addition, the battalion chief position that currently reports to the deputy chief that leads the unit should be reassigned or discontinued. Two positions – the deputy chief and the battalion chief – will not be needed to lead this unit once its staffing has been reduced.

The Prevention Unit Should Contract Out Graphics And Photographic Support

Four firefighters are currently assigned to the prevention unit to provide graphics support and take photographs at fire scenes. One of these staff is assigned to each of the four fire suppression shifts to ensure a photographer is on duty at all times.

This type of support – which is both intermittent and specialized – can typically be provided most cost-effectively by contractors (or in coordination with another city department). On-call photographers need to be paid only when their services are used. Likewise, the need for graphic support services is intermittent so retaining full-time graphic support is expensive. In addition, the quality of service may be enhanced by hiring contractors who are experts in the area of support being provided (as opposed to firefighters who may be talented but whose primary profession is firefighting).

Relying on contractors to provide photography and graphics support services will also help to ensure that these services are provided only when needed. When full-time staff are employed to perform such functions they are typically viewed as "free goods" that can be utilized at no cost. By contrast, when the service has to be paid for there is a tendency to only request the service when the benefits justify the cost.

The four firefighters who provide photographic and graphic support should be reassigned or discontinued. Please note, however, that the savings associated with eliminating these positions will be partly offset by the cost of obtaining contracted services.

The Resources Saved By Implementing These Recommendations Should Be Reinvested In Efforts To Strengthen Prevention

Despite the priority the department places on prevention efforts, the resources currently dedicated to prevention are relatively small. The budget for the prevention unit is currently $1.63 million, or .83 percent of the department's total budget.[20]

Rather than using the savings that will be generated by implementing the recommendations presented in this section to reduce the rather modest expenditures the department currently devotes to prevention efforts, the department would be better served by reinvesting these resources to develop a plan for cost-effectively strengthening prevention efforts over the long term. In the short term the department should reinvest these resources in developing a plan for supporting prevention, education, and outreach throughout the city. This plan should specify the types of information needed to make data based decisions on how to structure prevention efforts

[20] This budget, of course, does not include the support currently provided by line fire crews.

and how such information should be obtained. The types of data collection systems that will be needed to support these efforts should also be specified. In addition, based on preliminary data, the plan should outline strategies that should be developed to support prevention efforts. For the most part, these strategies should be designed so that they can be implemented on a decentralized basis using line staff that will also respond to emergencies. Unless a compelling case can be made, initiatives that require centralized staff to manage prevention efforts on a citywide basis should be avoided.

Once this plan has been developed the resources needed to support plan implementation should be identified. The costs should include investments in training and materials needed to support implementation efforts.

FIRE COMMUNICATIONS ISSUES

Dispatch Policies Should Be Modified

Current dispatch practices may not ensure the best service to Philadelphia residents. The Fire Communications Center currently employs different dispatch practices depending on whether the location of an ALS unit is unknown – a "static" deployment – or whether the location of the unit is known from its automatic vehicle locator (AVL). Under the static dispatch protocols, the ALS unit from the closest station will be sent if it is available. If the first due ALS unit is not available the closest BLS or first responder fire company will be dispatched as well as the second due ALS unit. This practice ensures that the closest available apparatus will be sent immediately and can begin providing care until the ALS unit arrives.

By contrast, under the AVL dispatch protocols a BLS unit or first responder fire company will be sent only if an ALS unit is more than two miles away. If the ALS unit is within two miles of the call the closest fire company or BLS unit will not be sent even if it could arrive at the scene sooner and begin providing care before the ALS unit arrives. Likewise a fire company will not be dispatched to trauma calls if a medic unit is within two miles (even if the fire company would arrive at the scene sooner). Please note that while the department will send the closest apparatus – regardless of type – to "code blue" calls that are recognized as high priority emergencies (e.g., cardiac arrest calls and respiratory arrest calls), some calls for which the speed of the response is important may not be categorized as code blue. From the perspective of the resident needing medical care this difference in response time may be critical.[21]

In addition, under current dispatch protocols an ALS unit will be dispatched to a BLS call if a BLS unit is not available within two miles. If, however, the response to the BLS call is not urgent it would make more sense to dispatch the BLS unit and ensure the ALS unit is available should a more serious call be received. If, of course, the BLS call requires a fast response the closest available unit (whether a first responding fire company, an ALS unit, or a BLS unit) should be dispatched.

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[21] Please also note that even if an ALS unit is within two miles that does not mean the time required to travel to the incident will be short. On the contrary, given traffic conditions and the city's narrow streets, even small distances can take much longer than expected to traverse. Moreover, because the AVL system tracks distances "as the crow flies," an ALS unit that from an AVL perspective is two miles away may in fact have to travel a longer distance in street miles.

To address this issue, dispatch policies should be modified to ensure that the closest available apparatus is dispatched to all ALS calls regardless of how close an available ALS unit is to the incident. In addition the closest available apparatus should be dispatched to any trauma calls where the speed of response may be important. On the other hand, dispatch policies should be adjusted to limit the response of ALS units to BLS calls that are not urgent (unless no BLS units is assigned to the area).[22]

Dispatch Practices Should Be Modified To Prioritize Calls When Appropriate

With the exception of alarms calls, firefighters and paramedics respond with lights and sirens to all calls. While a speedy response is important to many fire and emergency medical calls, for some types of calls – for example, minor medical calls – the speed of the response will not affect the response outcome. Responding with lights and sirens to these calls increases the risks to firefighters, paramedics, and the public but do not materially benefit the resident being served. The department is working to address this problem by acquiring software that will allow it to set priorities and vary response time based on need. A Request For Proposals for priority dispatch software has been let.

Even before this software has been acquired and implemented however, the department should review dispatch protocols and with the collaboration of the Medical Director identify calls that do not require a response with lights and sirens. The Medical Director, operations managers, and a fire communications representative should systematically review all types of calls and determine to which calls a "hot" response is warranted. (These are also the calls to which first responding fire apparatus should respond if the fire apparatus is closest.) Dispatchers should then be trained on how to implement these new dispatch practices.

The Department Should Ensure That Fire Communications Center Employees Receive Ample Training

Training is no less important for call-takers and dispatchers than it is for firefighters and paramedics. With regard to communications, training should be focused on two areas in particular. First, training will be crucial to efforts to implement modified dispatch policies. Although training will be included as part of the implementation of the new priority dispatch system, in the interim, as the department works to limit the number of calls responded to with lights and sirens, dispatchers will need to be trained in how to exercise this discretion.

In addition, training would be useful in addressing some of the concerns about dispatch quality that were identified during the course of the study. In interviews, paramedics and firefighters indicated that the quality of dispatch services vary significantly. These findings are supported by the employee perceptions captured in the employee survey. Roughly the same percentage of survey respondents expressing an opinion (38.7 percent) agree or strongly agree that "communications center staff are professional in

[22] As discussed in Chapter X in some areas of the city it is more cost effective to assign ALS units responsibility for responding to BLS calls (rather than deploying separate ALS and BLS units in the area).

their interactions with firefighters and paramedics" as disagree or strongly disagree (35.2 percent).

To address these training needs, communications center dispatchers and call-takers should therefore be expected to participate in 16 hours of training per year (8 hours of dispatch training and 8 hours of call-taker training).

FIRE CODE ISSUES

The Fire Code Unit Should Be Staffed With Civilians

For the most part the work performed by the fire code unit – reviewing variance requests to the fire code, reviewing plans to ensure compliance with the fire code, and determining requirements for events – are technical in nature and have to be learned by new employees whether they are civilians or firefighters. Once they have learned the job, civilians will be able to perform it just as well as firefighters (and at less cost). Moreover, unlike firefighters, if civilians staff the unit there is no risk that the department will lose this expertise when a firefighter returns to the field.[23] The fire code unit should, therefore, be staffed with civilians.

A Captain Should Lead The Fire Code Unit

At present, a deputy chief and a captain lead the fire code unit (each of whom devote an estimated half of their time to supervision). The equivalent of one full-time position is not needed to supervise the unit that, other than the captain and the deputy chief, consists of three lieutenants and a secretary. A captain should be able to effectively manage this unit and perform functions that require firefighter expertise[24] (for example, inspecting buildings when dignitaries come to ensure they are safe). When the incumbent retires, the deputy chief position should be discontinued.

Fees For Conducting Variance Investigations Should Be Increased

At present, individuals requesting a variance are charged $100. If, as reported, it takes an average of 12 hours to conduct an investigation, however, the cost to the department of conducting these investigations likely exceeds $575. Fees for conducting variance investigations should therefore be substantially increase.

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[23] Please note that at present the risk of losing expertise when firefighters assigned to the fire code unit return to the field is low. Generally, firefighters who are assigned to the unit stay in the unit until retirement.

[24] As discussed, civilian technicians can be trained to perform other inspections related functions currently performed by firefighters.

C – ADMINISTRATIVE SERVICES DIVISION

Opportunities to strengthen the current administrative services division are divided into three parts: information systems issues; fiscal management issues; and human resource practices issues.

INFORMATION SYSTEMS ISSUES

Substantial Upgrades To The Department's Information Systems Are Needed

The department's information systems pose a significant barrier to achieving its overall objectives. To achieve its goal of using data to drive decision making the department will need information systems that provide timely and accurate information on performance and how employees use their time. The difficulty the department has had obtaining some of the information needed to support the analysis for this study testifies to the fact that existing information systems do not provide ready access to needed management information.[25] In addition, information systems shortcomings complicate operations in a number of ways:

- Manual time and attendance reporting systems require significant administrative time to manage and monitor
- "Bandwidth" problems increase the time required to complete reports in the field
- Most pre-fire plans are on paper (although some are in an electronic format)
- T1 lines that would facilitate communications between and among stations have not been established
- Fire prevention staff lack adequate access to PowerPoint projectors and laptop computers
- Voicemail is not available on some unit phones
- City e-mail addresses are not provided to all employees
- Modern smart phone technology is not used to facilitate communications

Interview findings suggest that the city's department of technology has limited resources and capabilities with which to support the Fire Department; consequently, from a practical perspective requests for system upgrades must be appropriately sequenced. Efforts to strengthen information systems should proceed in six steps:

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[25] While the department's assistance in obtaining information was appreciated, the time required to gather this information was longer than what would have been necessary if integrated management information systems were in place.

- **Step 1: Address needs that can be addressed quickly and at little cost**. Some information systems issues can be addressed quickly and at little cost. For example, ensuring that all department employees have city e-mail addresses will not be expensive and will improve communications.

- **Step 2: Upgrade time and attendance systems**. Interview findings suggest these systems – which touch all employees – require excessive administrative time to manage. While conducting a systematic review of these systems was not possible within the scope of this study, if follow-up analysis confirms problems exist addressing these system shortcomings would create a tangible benefit to all employees, supervisors, and managers. Receiving accurate payments of overtime in a timely manner by itself would signal to employees that the department is moving in an improved direction.

- **Step 3: Outline overall information systems needs**. The department should work with the department of technology to sketch out in broad terms the various types of systems and applications it needs. Establishing this overall schema will ensure that as the Fire Department incrementally works to strengthen information systems that the various elements are compatible and can be effectively integrated.

- **Step 4: Begin to develop demand for management information**. The department should identify the types of information needed to support its vision of data based decision making and should begin gathering this information using existing systems. As part of this effort the department should identify what data is needed to support effective management and how that data will be used before systems are acquired to meet those needs. While collecting this data using existing systems and technologies may be cumbersome, taking this step will ensure resources are not wasted providing "real time" data and information access to managers that they do not use. The return on the department's investment in information systems will be much higher if a demand for this information is created before systems are established to supply it.

- **Step 5: Establish priorities and develop plan**. Information systems priorities should be established and reflected in an incremental systems improvement plan that reflects the availability of resources to support the plan.

- **Step 6: Implement plan**. The department should work with the department of technology to implement this plan.

Please note that the development of this plan should be accompanied by effective communication to Fire Department stakeholders. Many department employees are frustrated by existing systems and are impatient for improvement. Demonstrating that the department is working to address system shortcomings – and has prioritized improvements that are most important to employees, supervisors, and managers – may reduce, if not eliminate employee frustrations.

FISCAL MANAGEMENT ISSUES

The Department Should Commit To Implementing Its 5-Year Apparatus Replacement Policy

Much of the department's apparatus is old and needs to be replaced. As a rule of thumb in urban areas it becomes more expensive to repair than replace fire apparatus somewhere between 10 and 15 years of use. Many of the department's front line apparatus are reaching or have reached the age at which replacement should be considered. For example, of the department's 57 front line pumpers 27 (48 percent) are 15 years old or older. The situation with ladders is only somewhat better – 11 of the 27 front line ladders (40 percent) have been in service for 11 years or more. In addition, many ambulances are old (during interviews and visits to stations a number of units that were over 10 years old and with more than 150,000 miles were observed). Delaying the replacement of apparatus that are no longer economic to repair saves the department from making a big expenditure in the short term but increases costs over the long term.

Unlike many other fire departments the Philadelphia Fire Department does not have a standing replacement schedule for its apparatus although it plans over the next five years to replace apparatus as per NFPA Standard 1901 – Annex D. Of the other urban departments benchmarked for this engagement all but one has established vehicle replacement cycles. The length of the replacement schedules varies from 8 to 15 years for engines and from 12 to 15 years for ladder trucks. Establishing such a replacement schedule will facilitate planning while also ensuring that the department does not continue repairing apparatus when it is not an economically sound practice to do so.

The Fire Department Should Explore With The City Ways To Ensure A Portion Of The Savings And Revenues Resulting From Implementing Study Recommendations Will Be Reinvested In Department Operations

One of the key challenges associated with implementing study recommendations will be how to engage employees in the improvement process. Implementing the recommendations presented in this report asks a lot of the employees of the Philadelphia Fire Department. Not only will many employees be expected to expand their scope of responsibilities considerably the success of many initiatives will depend, in large part, on employee willingness to support these initiatives. For example, employees will be expected to issue fines to individuals who unnecessarily request emergency services. However, the extent to which these fines are actually imposed will depend in large part on the willingness of employees to levy the fines. Just as some police officers are more or less aggressive about issuing traffic citations, firefighters and paramedics may be more or less aggressive about issuing fines for unnecessary service calls.

Asking more of employees at the same time firefighting resources are being reallocated and, in some cases, reduced is difficult. While many department employees will embrace the study recommendations once they are convinced the changes will benefit the department and the city, others may resist implementation if they see no personal benefit (to themselves or their units).

To help build support for implementation, it is important therefore that the city demonstrate a commitment to reinvesting a portion of the savings and revenues generated from implementing study recommendations into the departmental

improvement efforts. Reinvestments that will provide tangible benefits to employees should be given a high priority. For example, investments in improved training and time and attendance systems (to improve the accuracy and timeliness with which employees are paid) should be given a high priority.

HUMAN RESOURCE PRACTICES ISSUES

The Department's Commitment To Diversity Must Be Reflected In An Ongoing, Consistent Investment In Recruiting

For the Philadelphia Fire Department, having a diverse workforce is not just an abstract value but is an important means to the end of providing more effective service. Given the nature of paramedic services in particular (in which individuals are invited into residents' homes and need their cooperation), diversity can be helpful in delivering effective service. However, even in firefighting (where a case can be made that diversity has historically been less important to effectively delivering service) as the Fire Department works to expand prevention efforts (and the implementation of education and other strategies to reduce unnecessary calls) having a diverse work force to interact with the diverse communities within the City of Philadelphia will become increasingly important.

In the past, a federal consent decree helped to ensure a more diverse work force by mandating the hiring of African-American firefighters but at the cost of increasing racial strife within the department. The consent decree was successful in increasing the diversity of the Fire Department – the percentage of African-American firefighters increased from 8 percent when the decree was issued to 28 percent today. However, the consent decree's requirements also fed the perception among some that newly hired African-American employees were less qualified than other new employees. This perception, of course, is especially unfair to African-American hires who would have been hired regardless of consent decree requirements.

Sustained effort and investment will be needed, however, if the department is to be able to maintain and, as appropriate, expand its diversity without relying on the consent decree.[26] The key to the success of these efforts will of course be to ensure a high quality cadre of diverse candidates seek employment with the Fire Department on an ongoing basis. Best practice findings from other organizations suggest two themes for guiding the department's diversity recruiting efforts.

- The broader the range of recruiting strategies that are used the more likely recruiting efforts will be successful[27]

[26] The consent decree was suspended on October 27, 2011.

[27] Strategies employed by other jurisdictions include: incorporating testimonials from female and minority employees about their personal experiences on the department's website; establishing a dedicated team of recruitment officers focused on reaching out to targeted groups; outreach to community groups to encourage them to support recruitment efforts; and using referral incentives. It is worth noting that because firefighters and paramedics are required to live within the City of Philadelphia establishing long-term relationships with local high schools to identify prospective candidates early would likely be beneficial. The department has already established a program at the Randolph Career Academy's Fire and EMS Center and should seek to expand such programs.

- Sustained investment is needed to support diversity recruiting efforts

The willingness and ability of the department to fund diversity recruiting efforts will determine the type of programs that can implemented. To begin with one "diversity coordinator" position should be established to develop program options. Based on the experience in other jurisdictions, this position should be charged with developing a range of program options and estimating the expected results. Goals for the numbers of recruits needed in different categories to meet diversity objectives within the department should be established.[28] The effectiveness of the program would be set based on the number of "highly qualified" candidates identified that apply for employment with the department. A "highly qualified" candidate is one who exceeds minimum qualifications (based on test scores) by a specified percentage.[29] The costs associated with each program should then be identified.

Once program options and costs have been specified the department and city policy makers should determine which programs they are willing to fund and sustain over multiple years (as long as program performance targets are adhered to). Only after the desired programs and level of funding have been selected should the department decide how to staff the overall diversity recruiting initiative. This determination should be based on an assessment of the experience, skills, and capabilities needed to implement each program. A mix of civilian experts in recruiting, contractors with selected expertise, part-time community resources, and part-time firefighters and paramedics will likely be needed to support these efforts.

The Department Should Revamp Its Promotional Process

As discussed, the department's success in leading the change effort outlined in this study report will be depend on selecting (and training) supervisors and officers who are both committed to the recommended changes and have the capabilities needed to support the change effort. Understandably, the current promotional process is not designed to identify officers with this commitment and these skills.

Even if the department were not faced with the imperative of modifying the promotional process to support its vision for the future, changing the promotional process would be indicated because employees have lost confidence in the process. In interviews some employees expressed concern that the best candidates for promotion are not selected. These findings were supported by the employee perceptions captured in the employee survey. Of the survey respondents expressing an opinion 75.3 percent disagree or strongly disagree that "the best candidates for promotion are selected" and only 10.1 percent agree or strongly agree with this statement. In addition, the current promotional process contributes to racial tensions within the department. In interviews, some

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[28] These goals should reflect the fact that it will take some time to develop effective programs that will yield high quality minority and female candidates on a sustained basis.

[29] Ensuring program success is measured by the number of "highly qualified" candidates identified is important because best practice findings suggest that lowering hiring standards to satisfy recruiting goals is not beneficial to the department and adversely affects perceptions of minority candidates.

employees expressed concern that race has an undue influence on who is promoted. Moreover, despite the fact that in most cases the most highly rated candidates are selected for promotion, the perspective of some is that the promotion process is skewed to favor minority candidates. Needless to say, other members of the department strongly disagree with this perception. Indeed, while 88.7 percent of the Caucasian respondents expressing an opinion on the employee survey disagree or strongly disagree that "the best candidates for promotion are selected" and 61.1 percent of Hispanic respondents disagree or strongly disagree, only 33.9 percent of African-American respondents disagree or strrongly disagree.

	Caucasian	African-American	Hispanic
Strongly Agree	0.3%	7.2%	5.2%
Agree	2.6%	23.9%	18.2%
Neutral	8.4%	35.0%	15.6%
Disagree	20.0%	19.5%	32.5%
Strongly Disagree	68.7%	14.4%	28.5%

Disagreement about the fairness of the promotion process is also reflected in the results of the employee survey. Overall, more than two-thirds of the survey respondents expressing an opinion (68.9 percent) disagree or strongly disagree that "the promotional process is fair" with only 15.3 percent agreeing or strongly agreeing with this statement. However, when the results are broken out by the race of the respondents the findings suggest that perceptions of fairness vary along racial lines. As the following table shows, 85.7 percent of Caucasian respondents expressing an opinion disagree or strongly disagree that "the promotional process is fair," 51.3 percent of Hispanic respondents disagree or strongly disagree, and 18.4 percent of African-American respondents disagree or strongly disagree.

	Caucasian	African-American	Hispanic
Strongly Agree	0.3%	9.1%	6.4%
Agree	4.1%	38.5%	21.8%
Neutral	9.8%	33.9%	20.5%
Disagree	19.9%	9.9%	29.5%
Strongly Disagree	65.8%	8.5%	21.8%

While the effort and cost required to revise promotional processes are not inconsiderable, unless these investments are made efforts to make fundamental change to department operations will be compromised and a key source of racial tension in the department will persist. Please note that the "generational turnover" the department faces combined with the recommendations to increase the number of EMS managers and supervisors represents an opportunity to push back against cultural aspects of department operations that need to change. Without the active support and engagement of managers and supervisors it is unlikely that change efforts will be successful.

It is worth noting that the results of a process that is perceived as fair may be viewed as acceptable by all interested parties. In interviews with representatives of the Valiants (African-American firefighters and paramedics), Hispanic American Firefighters, and the Concerned American Firefighter Association (CAFA – an organization that generally represents the views of Caucasian firefighters) opinions about the fairness of the current promotional process varied considerably. There was agreement, however, that fair and

unbiased competition was welcome and a confidence that the employees each group represents would prosper under such a system.

The department should therefore revise the promotional process to both ensure individuals who are promoted have the capabilities needed to support its vision and to restore confidence in the process.

Unsuccessful Promotional Candidates Should Receive Feedback On How They Can Improve Their Performance

In addition to identifying the best candidates for promotion, if appropriately structured promotional processes can be used as professional development opportunities. To this end, unsuccessful candidates for promotion should be provided feedback on why their candidacy was not successful. For example, feedback on the texts the candidate should focus more attention on in the future to pass the written examination might be provided. In addition, as part of their evaluation of each candidate oral boards should provide written comments on the shortcomings they identified in the candidate's performance. (Even successful candidates would benefit from this type of feedback.)

Providing feedback to candidates on their performance in the promotional process may also be useful to address concerns that the candidate was not selected merely because of their race or gender. With the absence of any information to the contrary it is easy to conclude the process was biased. By contrast, if unsuccessful candidates are told where their performance needs to improve in the future, they may focus less on process explanations for why they were not selected and more on personal improvement.

The Performance Management Process Should Refocus On Identifying Ways For Individual Firefighters And Paramedics To Improve Their Performance

The performance appraisal process in the Philadelphia Fire Department has the same shortcomings as similar processes in the preponderance of local governments the consultants have studied – the process does not effectively discriminate levels of employee performance. Reportedly, even after receiving discipline some employees are given outstanding ratings. In addition, employees lack confidence in the ratings process. In interviews some employees expressed the view that the performance rating tends to reflect whether the employee and the officer performing the rating are friends. The employee survey results support the perception that ratings are not a reliable indicator of performance. Only slightly more than a quarter of the employee survey respondents expressing an opinion (27.2 percent) agree or strongly agree that "annual performance ratings accurately reflect the performance of individuals being evaluated" while about half (49.4 percent) disagree or strongly disagree with this statement.

Compliance with the process tends to be *pro forma* in part because the consequences associated with performance appraisals are minimal. In addition, supervisors are not required to substantiate an outstanding rating. Addressing these shortcomings, however, would by no means be easy. Indeed, reportedly, efforts to increase the consequences of the performance appraisal process by linking the ratings with who would be laid off resulted in managers and supervisors making fewer discriminations among employees. In other words, improving the process by creating more consequences resulted in the process regressing in terms of its effectiveness in comparing performance among workers.

Given that these challenges will be very difficult to address it seems prudent to refocus the performance appraisal process on functions that will increase its value to the department. To this end, the process should be revamped to focus on two objectives. First, employees whose performance is substandard should be identified (efforts to discriminate among employees whose performance meets or exceeds expectations should no longer be an objective). Second, the process should be used to help employees improve their performance.

Only slight modifications to the current process will be needed to achieve these objectives (although significantly more management and supervisory effort will be required). The current forms used to evaluate performance should be retained but used solely to identify individuals whose performance does not meet expectations. Once these employees have been identified the supervisor, quality assurance staff, and training staff should work together to develop and implement a remediation plan. If the employee's performance does not improve he or she should be dismissed.

In addition, the forms should be supplemented so that supervisors (in collaboration with the employee they supervise) identify two to three improvement areas for the employee. Once these improvement areas are identified the employee should identify steps he or she will take to improve performance.[30] These improvement plans should then be reviewed and modified based on discussions with the supervisor. On a quarterly basis the supervisor and employee should meet to review progress. At the end of the year, both the supervisor and the employee should discuss which improvements have been made and what new improvement areas should be focused on in the subsequent year.

The Employee Assistance Unit (EAP) Should Be Staffed With A Mix Of Male And Female Professional Counselors, Firefighters, And Paramedics

The employee assistance unit is staffed with firefighters and a paramedic who have received some training as counselors. There is, however, no requirement that the staff assigned to the unit have a degree in counseling. Perceptions vary with regard to whether the lack of professional counselors (that is, individuals with counseling degrees and, as appropriate, certifications) and other factors affect the quality of service. Roughly two in five employee survey respondents expressing an opinion (38.8 percent) agree or strongly agree that "the Fire Department does an excellent job of providing employee assistance services" while about one third (31.6 percent) disagree or strongly disagree.[31]

Reportedly, however, many firefighters and paramedics are more comfortable sharing their issues with another uniformed officer. Word of mouth referrals with regard to the competence of care received also reportedly affect the willingness of firefighters and paramedics to seek assistance. Presumably, a civilian counselor with a proven track

[30] Please note that these improvement plans need not be overly detailed or time consuming to develop and monitor – rather the focus should be on encouraging all employees to strengthen their performance and to develop a structure that facilitates this process.

[31] It should be noted that if EAP unit staff feel they do not have the capabilities to serve an individual's needs they will refer the person to someone with the appropriate training.

record of helping firefighters and paramedics with their needs would also be in demand. Even more importantly some female employees expressed the view in interviews that having female counselors available to provide needed support was more important than whether the counselor was a firefighter, paramedic, or civilian.

Given these issues staffing the EAP unit with a mix of uniformed and degreed civilian counselors seems appropriate. The EAP Director, one firefighter, one paramedic, and one civilian counselor should staff the unit. At a minimum one of these staff should be female. With this staffing the perceived professionalism of the unit will be enhanced and firefighters and paramedics who are reticent to discuss issues with non-uniformed personnel would continue to have the option to do so. Likewise, female employees who are reticent to discuss issues with male counselors would have ready access to a female counselor to provide support.

Over Time The Department Should Reassess The Need For The Mail Clerk Position

At present, the department employs a full-time mail clerk who devotes approximately three-fourths of his time to sorting and delivering interoffice mail. While retaining this position is necessary in the short term, the department should work to reduce the number of hard copy forms that must be distributed (and should consider the time required to scan and send these forms electronically).[32] As efforts to transmit documents electronically proceed the department should assess the need to retain the mail clerk position.

[32] Reportedly, for example, pay statements are currently distributed by battalion chiefs to each employee by hand. This is not an effective use of a battalion chief's time. Many other organizations distribute such statements by e-mail or make them available through the web.

X – STAFFING AND DEPLOYMENT

X – STAFFING AND DEPLOYMENT

This chapter is divided into three parts: emergency response staffing; EMS supervision; and communications staffing.

A – EMERGENCY RESPONSE STAFFING

This section is divided into three parts. The first part outlines the overall approach that was taken to assess firefighter and paramedic staffing and deployment needs. This approach is then used to assess staffing and deployment needs under three scenarios. A final section summarizes and compares the implications of each scenario.

APPROACH TO ASSESSING FIREFIGHTER AND PARAMEDIC STAFFING AND DEPLOYMENT NEEDS

The analysis of operations deployment and staffing proceeded in a number of steps:

- Step 1: Establish response expectations for emergency medical and fire suppression apparatus
- Step 2: Assess the geographic deployment of fire engines
- Step 3: Assess the geographic deployment of ladders
- Step 4: Assess the geographic deployment of ALS units
- Step 5: Determine the number of ALS and BLS units that need to be deployed to meet response time expectations
- Step 6: Assess the extent to which ALS or BLS units can be used to support fire suppression calls
- Step 7: Determine the probability that fire suppression units will be available when needed
- Step 8: Calculate the number of fire suppression staff available to respond to fire suppression calls
- Step 9: Reallocate apparatus to address shortages or excess capacity
- Step 10: Assess ALS and BLS scheduling options
- Step 11: Calculate staffing needs by shift
- Step 12: Calculate staffing needs after adjusting for expected absences

ASSESSING FIREFIGHTER AND PARAMEDIC STAFFING AND DEPLOYMENT NEEDS

Staffing and deployment of firefighters and paramedics were developed under three alternative scenarios.

- **Current scenario**. Under this scenario station locations remain unchanged (although stations are assumed to be able to be retrofitted to accommodate additional apparatus), no change is made to ALS and BLS staffing, and ALS and BLS crews are not assumed to be available to support fire suppression efforts (as recommended in Chapter IX). The analysis does assume, however, that (as recommended in Chapter IX) ALS ambulances are staffed with one paramedic and one civilian EMT and that BLS ambulances are staffed with two civilian EMTs). Please note that the consultants do not recommend that the current scenario be implemented (as the need to increase ambulance staffing is compelling). The purpose of presenting this scenario is to provide an analysis of fire suppression deployment needs (independent of EMS deployment) and to demonstrate (when this scenario is compared with the base recommended scenario) the benefits for fire suppression of increasing EMS capacity.

- **Base recommended scenario**. Under this scenario station locations remain unchanged (although stations are assumed to be able to be retrofitted as needed to accommodate additional apparatus), ALS and BLS ambulance deployment is increased to ensure response time expectations are met, and ALS and BLS crews provide fire suppression support (in areas where fire suppression support is needed).[1] The analysis also assumes that ALS ambulances will be staffed with one paramedic and one EMT and that BLS ambulances will be staffed with two EMTs (whether or not these staff are uniformed or civilian will depend on whether the staff are needed to support fire suppression in the area in which they are deployed).

- **Recommended scenario with modified station locations**. This scenario is the same as the "base recommended scenario" with one exception – unlike the base recommended scenario in which station locations are taken as given, this scenario assumes that station locations can be modified.

Current Scenario

Because the current scenario assumes that the deployment of ALS and BLS units is unchanged some steps in the approach to assessing firefighter and paramedic deployment and staffing needs are not needed. The following steps were used to assess firefighter deployment and staffing needs under this scenario:

- Step 1: Establish response expectations for fire suppression apparatus

- Step 2: Assess the geographic deployment of fire engines

- Step 3: Assess the geographic deployment of ladders

- Step 4: Determine the probability that fire suppression units will be available when needed

[1] Please note that the analysis presented for this scenario confirms that ALS and BLS ambulance crews have time to support fire suppression responses and to provide emergency medical call response and transport services.

- Step 5: Calculate the number of fire suppression staff available to respond to fire suppression calls
- Step 6: Reallocate apparatus to address shortages and/or excess capacity
- Step 7: Calculate total staffing needs by shift
- Step 8: Calculate staffing needs after adjusting for expected absences

Step 1: Establish response expectations for fire suppression apparatus. The standards set forth in NFPA 1710 were used to establish response service expectations for fire engines and ladder trucks.[2] NFPA 1710 sets the expectation that fire engines respond to fire suppression incidents within four minutes travel time 90 percent of the time, that the full first alarm assignment at a fire incident (including ladder trucks) arrive within eight minutes travel time 90 percent of the time, and that an apparatus with first responder (or higher) medical capabilities arrive at emergency medical incidents within four minutes travel time 90 percent of the time.

Step 2: Assess the geographic deployment of fire engines. A two-step process was used to assess the geographic deployment of fire engines and ladders. First, mapping software was used to assess the areas of the city that can be reached within required response times assuming normal traffic and speed limits. Next, these projected response times were adjusted to reflect traffic and driving conditions. (Actual response times were slower than projected response times for all but 24 station areas.)

Exhibit X-1 shows the current locations of engine companies in Philadelphia. As Exhibit X-2 shows most, but not all areas of the city can be reached by a fire engine within four minutes travel time (the NFPA 1710 standard for both fire engine response to fire suppression emergencies and for first responder response to medical emergencies). In the areas that cannot be reached by an engine within four minutes, however, the volume of calls is quite low. Indeed, the average number of calls in these areas ranges from .2 to 1.13 calls per day.[3] Given that the NFPA 1710 standard sets the expectation that 90 percent of calls (not all calls) be responded to within four minutes the current geographic deployment of fire engines is adequate to meet this standard.

Step 3: Assess the geographic deployment of ladders. Exhibit X-3 shows the current locations of ladder companies in Philadelphia. As Exhibit X-4 shows a ladder company can reach almost all areas of the city within eight minutes. This analysis clearly shows that ladder coverage in the City of Philadelphia is more than adequate.

Step 4: Determine the probability that fire suppression units will be available when needed. For each battalion area queuing analysis was used to determine the probability that a fire suppression crew will be out of service during each shift. The estimated

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[2] Please note that NFPA 1710 represents a high level of service. Many communities have established service standards that are slower than those suggested by NFPA 1710.

[3] Please note that some of these areas can be responded to by neighboring jurisdictions with which the city has mutual aid agreements.

Exhibit X-1

CURRENT LOCATIONS OF ENGINES

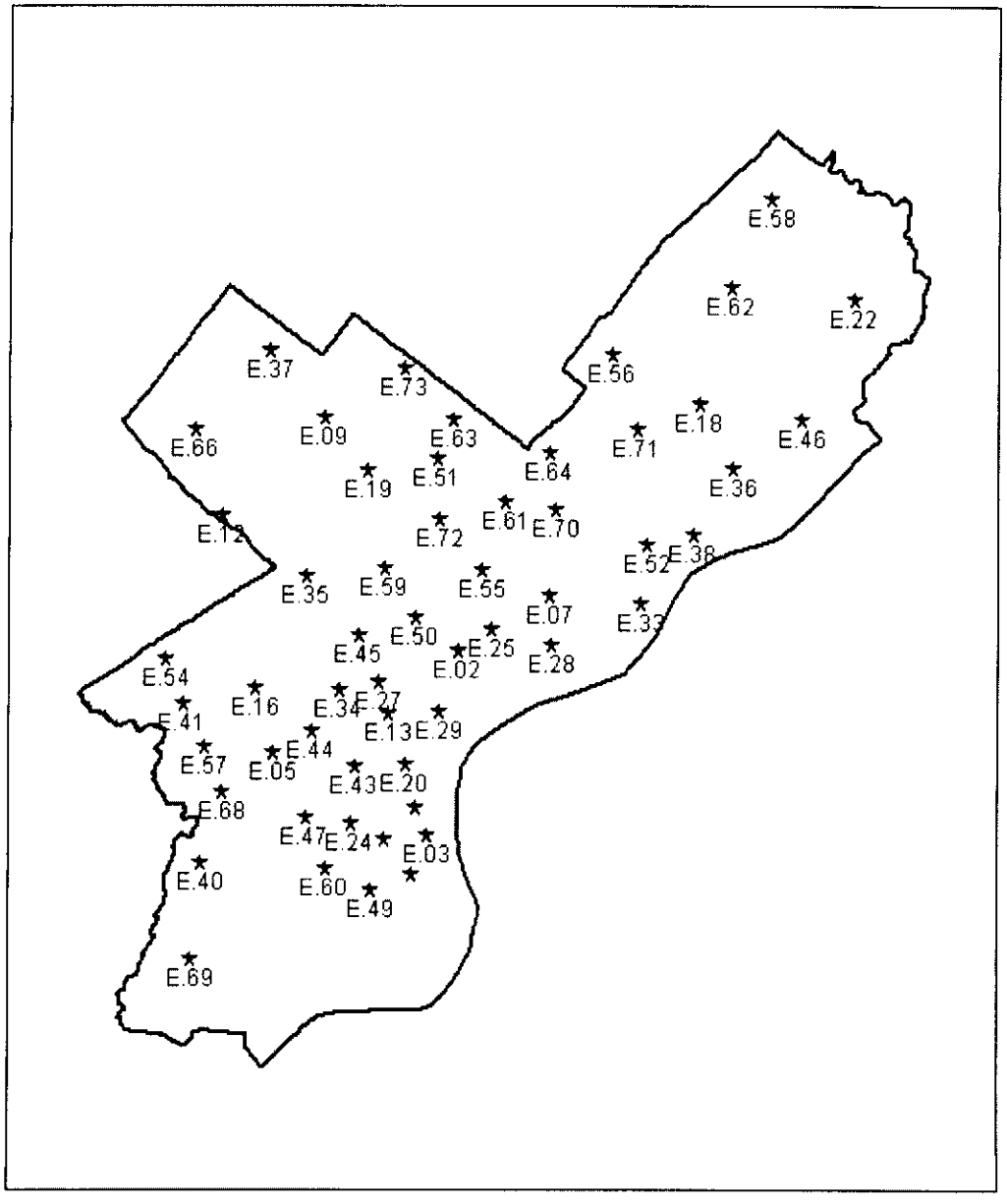
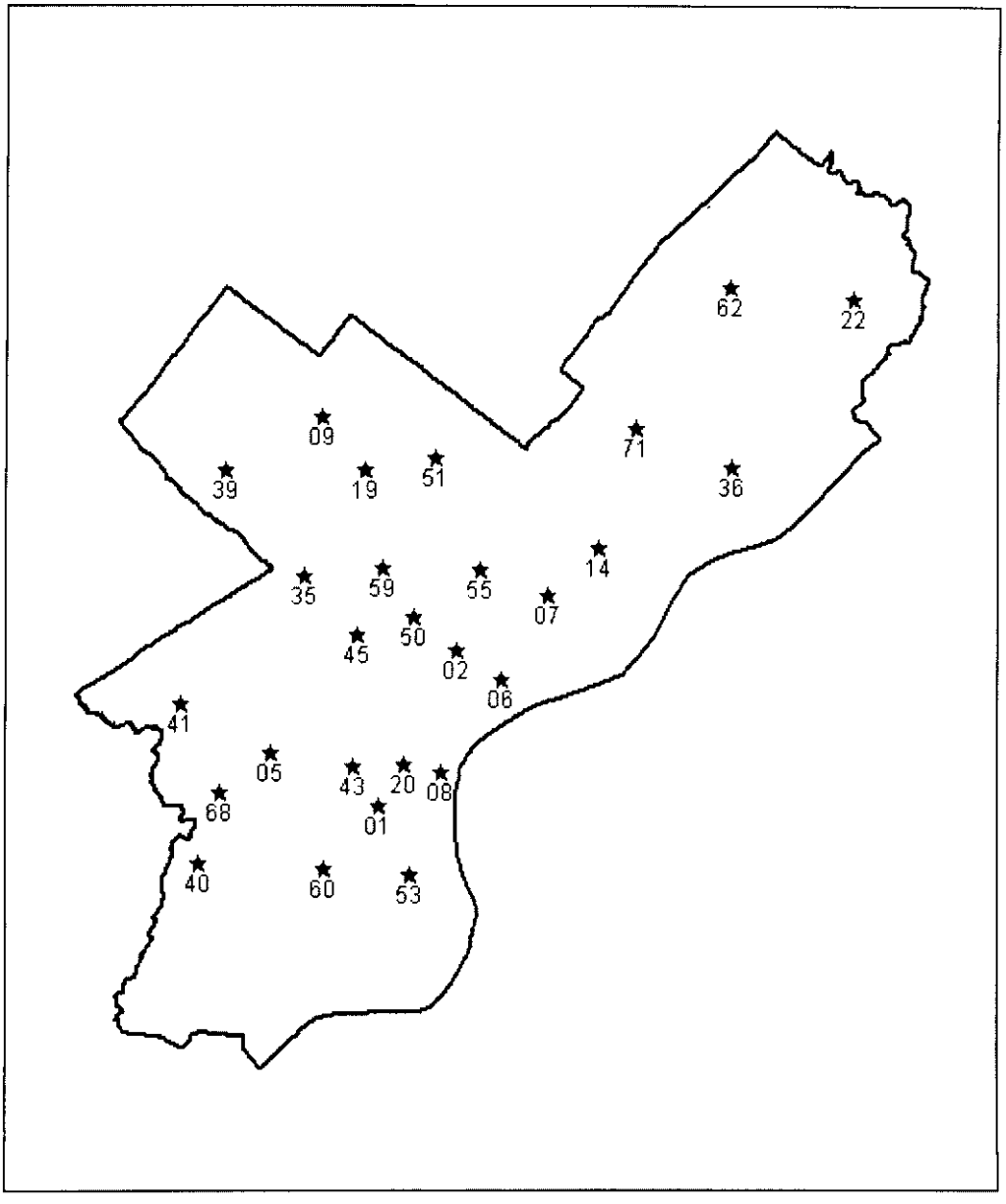


Exhibit X-2

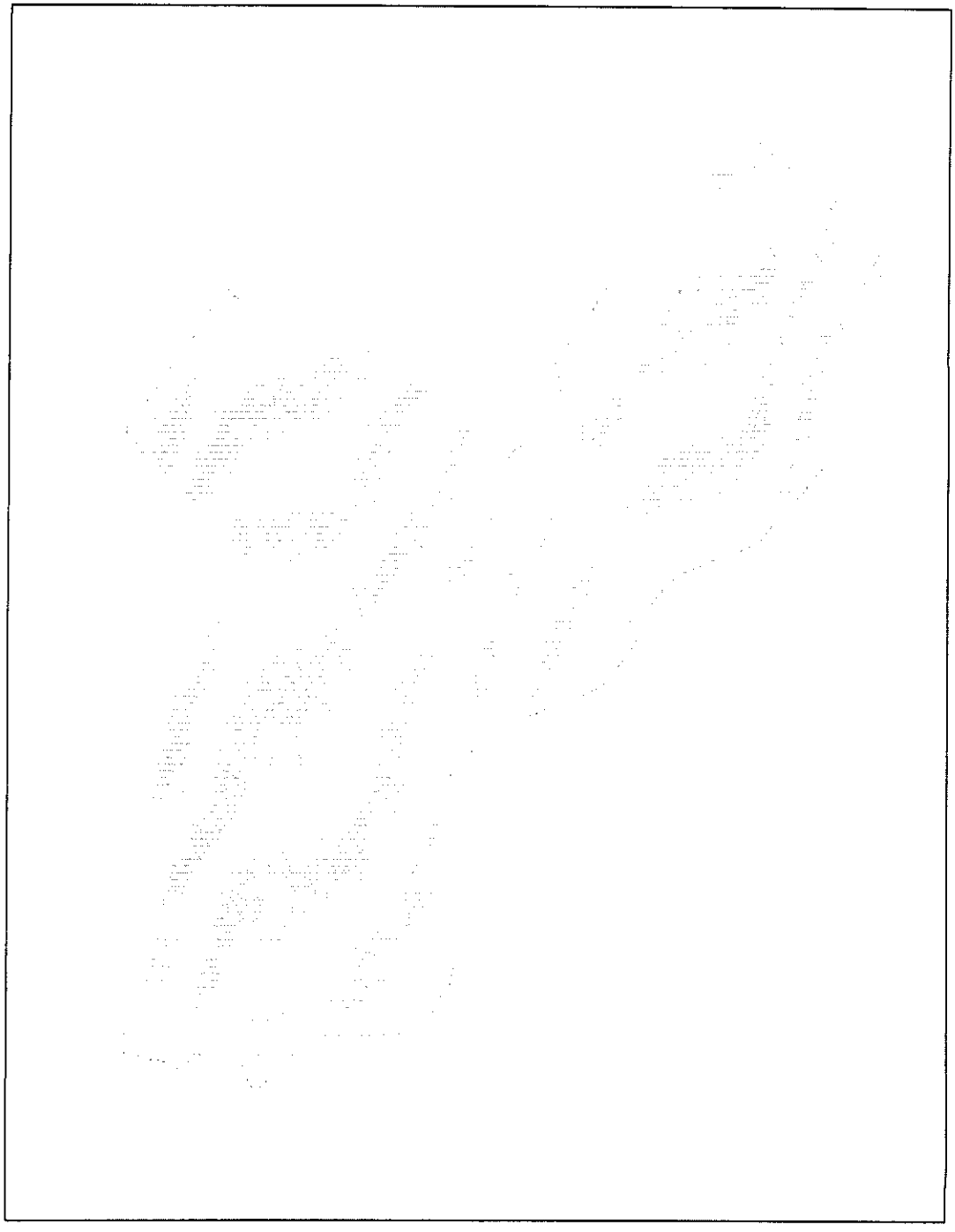
AREAS OF THE CITY THAT CAN BE REACHED BY AN ENGINE WITHIN FOUR MINUTES TRAVEL TIME

Exhibit X-3

CURRENT LOCATIONS OF LADDERS



AREAS OF THE CITY THAT CAN BE REACHED BY A LADDER WITHIN EIGHT MINUTES TRAVEL TIME



number of fire suppression apparatus that will be out of service in each battalion during any hour on the day shift is summarized in the following table.

Battalion	Estimated Units Out Of Service
Battalion 1	0.90
Battalion 2	0.82
Battalion 3	0.81
Battalion 4	0.90
Battalion 7	0.58
Battalion 8	0.66
Battalion 9	1.03
Battalion 10	0.88
Battalion 11	1.02
Battalion 12	1.02
Battalion 13	1.02

Step 5: Calculate the number of fire suppression staff available to respond to fire suppression calls. In determining the number of suppression staff assigned to engines and ladder companies[4] that are needed to respond to fire suppression emergencies in various areas of the city, the number the current policy suggests are needed to respond to structure fires and/or high rise fires within eight minutes travel time was used to determine response needs.[5]

As Exhibit X-5 shows the number of fire suppression staff available to respond to structure fires and/or high rise fires within eight minutes exceeds what is needed to comply with NFPA 1710 in 46 station areas but falls short of what is needed in 14 station

[4] A heavy rescue squad is also deployed as part of the initial response to a high rise fire but in most areas of the city the squad will not arrive to the incident scene within eight minutes travel time.

[5] A number of other factors including type of structure, age of structure, population density, and community demographics were also considered when assessing the need for fire suppression resources. After analysis, the type of structure was not considered to be an important factor in discriminating need by area as a range of building types (e.g., commercial and residential) are found throughout the city. Age of structure was also not considered because city planning officials report that 70 percent of all city structures were built before 1939. The age of buildings, therefore, should not be used to identify areas of the city with higher fire suppression needs than others because all areas of the city have relatively old buildings. Population density and the socio-economic characteristics of the community were also evaluated to determine whether the need for fire suppression resources were greater in areas with higher population density or lower socio-economic characteristics. While the number of calls received in such areas might be greater than in other areas the queuing analysis conducted as part of the analysis takes into account these differences. Moreover, the hypotheses that the intensity of fires in these areas (as measured by the number of fire deaths) might be higher than in other areas of the city was not borne out by analysis. Indeed, when the correlation between fire deaths since 1999 and population density is calculated, the results suggest a weak relationship (the correlation co-efficient is .33 where the closer the correlation is to 1.0 or-1.0 the great the correlation. Likewise, there is not a strong correlation between fire deaths and the density of individuals with incomes below the poverty line in an area (the correlation coefficient is .53).

STAFF CURRENTLY AVAILABLE TO RESPOND WITHIN EIGHT MINUTES TRAVEL TIME

Station	Desired Coverage	Current Coverage	Excess/ (Shortage)
1	31	53	22
2	31	49	18
3	18	27	9
5	31	47	16
6	18	31	13
7	18	42	24
8	18	47	29
9	18	21	3
10	18	43	25
11	31	59	28
12	18	20	2
13	31	50	19
14	31	29	(2)
16	18	40	22
18	18	20	2
19	31	30	(1)
20	31	69	38
22	18	12	(6)
24	18	50	32
25	18	46	28
27	18	36	18
28	18	30	12
29	31	38	7
33	18	26	8
34	18	37	19
35	18	31	13
36	18	23	5
37	18	13	(5)
38	18	30	12
39	18	14	(4)
40	18	23	5
41	18	29	11
43	31	72	41
44	31	39	8
45	18	46	28
46	18	12	(6)
47	31	48	17
49	31	38	7
50	31	57	26
51	18	29	11
52	18	33	15
53	31	33	2
54	18	20	2
55	31	44	13
56	18	13	(5)
57	18	39	21
58	18	13	(5)
59	31	52	21
60	31	32	1
61	31	30	(1)
62	18	14	(4)
63	31	24	(7)
64	18	15	(3)
66	18	11	(7)
68	18	33	15
69	18	7	(11)
70	18	32	14
71	18	26	8
72	31	45	14
73	18	22	4

areas.[6] Please note that this analysis only considers the number of firefighters that are needed at an incident scene not the types of apparatus that are needed.[7]

Step 6: Reallocate apparatus to address shortages and/or excess capacity. During this step the deployment of engine and ladder companies was evaluated to determine how the shortages in response capacity (identified in Exhibit X-5) could be eliminated while reducing the level of excess capacity in various station areas. The results of this analysis (which is presented in Exhibit X-6) show that addressing these shortages and excesses will require reducing 7 engine companies and closing two stations (Stations 25 and 27). Establishing 10 additional ladder companies, however, will offset these reductions. (Please note that the overall geographic coverage of ladder and engine companies will not be affected by these recommendations.) As Exhibit X-7 shows, after these changes are made coverage expectations will be met in all but six station areas (two stations will have one fewer staff than the number desired available within eight minutes and four stations will have two fewer staff than the number desired available within eight minutes). In addition, at least two engines and one ladder will be available for response within eight minutes in all but three station areas. (These areas experience very few calls – .2 percent, .4 percent, and .7 percent of the structure and high rise calls.)

The recommended locations of engine and ladder companies under this scenario are presented in Exhibit X-8 and X-9 respectively. Reallocating apparatus in the manner suggested will have no material affect on the ability of apparatus to respond to emergencies within the response expectations established by NFPA 1710. (The areas of the city that can be reached by an engine within four minutes travel time after these reallocations are made is presented in Exhibit X-10. The areas of the city that can be reached by a ladder within eight minutes travel time after these reallocations are made is presented in Exhibit X-11.

One way to assess the relative efficiency of these recommendations (as compared to the current deployment) is to sum the absolute values of the excess capacity and shortages under each alternative.[8] Under the current deployment the sum of the absolute values of the differences between the desired and actual capacity is 775 employees. The fact that the recommended deployment is substantially more effective than the current deployment is reflected in the fact that under the recommended deployment the sum of the absolute values of the differences between the desired and

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[6] Please note that in areas with two or fewer high rises this analysis assumes that only the capacity needed to respond to structure fires needs to be available within eight minutes. This is consistent with NFPA 1710 that suggests the standard be achieved 90 percent of the time.

[7] The geographic analysis previously presented addresses the issue of whether engines and ladders companies will be available for response in various areas of the city.

[8] Under the best configuration the resources available in each station area would precisely match available capacity with capacity needs. Under this scenario the sums of the absolute values of the differences between desired and available capacity would be zero. Consequently, in this analysis the lower the sum of the absolute value of the difference between desired and availability capacity the more efficient the deployment.

RECOMMENDED REDEPLOYMENT OF APPARATUS - CURRENT

	Current		Recommended		Increase/(Decrease)	
Station	Engines	Ladders	Engines	Ladders	Engines	Ladders
1	0	1	0	1	0	0
2	1	1	1	1	0	0
3	1	0	0	1	(1)	1
5	1	1	0	1	(1)	0
6	0	1	0	1	0	0
7	1	1	1	0	0	(1)
8	0	1	0	1	0	0
9	1	1	1	2	0	1
10	1	0	1	0	0	0
11	1	0	1	0	0	0
12	1	0	1	1	0	1
13	1	0	0	1	(1)	1
14	0	1	0	1	0	0
16	1	0	1	0	0	0
18	1	0	1	1	0	1
19	1	1	1	0	0	(1)
20	1	1	1	0	0	(1)
22	1	1	1	2	0	1
24	1	0	0	1	(1)	1
25	1	0	0	0	(1)	0
27	1	0	0	0	(1)	0
28	1	0	1	0	0	0
29	1	0	1	0	0	0
33	1	0	1	0	0	0
34	1	0	1	0	0	0
35	1	1	1	1	0	0
36	1	1	1	0	0	(1)
37	1	0	1	0	0	0
38	1	0	1	1	0	1
39	0	1	0	1	0	0
40	1	1	1	1	0	0
41	1	1	0	1	(1)	0
43	1	1	1	1	0	0
44	1	0	1	1	0	1
45	1	1	1	0	0	(1)
46	1	0	1	1	0	1
47	1	0	1	0	0	0
49	1	0	1	1	0	1
50	1	1	1	0	0	(1)
51	1	1	1	1	0	0
52	1	0	1	0	0	0
53	1	1	1	0	0	(1)
54	1	0	1	0	0	0
55	1	1	1	0	0	(1)
56	1	0	1	1	0	1
57	1	0	1	0	0	0
58	1	0	1	1	0	1
59	1	1	1	0	0	(1)
60	1	1	1	0	0	(1)
61	1	0	1	1	0	1
62	1	1	1	1	0	0
63	1	0	1	1	0	1
64	1	0	1	1	0	1
66	1	0	1	1	0	1
68	1	1	1	0	0	(1)
69	1	0	1	3	0	3
70	1	0	1	1	0	1
71	1	1	1	1	0	0
72	1	0	1	0	0	0
73	1	0	1	0	0	0
	55	27	48	37	(7)	10

STAFF AVAILABLE TO RESPOND WITHIN EIGHT MINUTES TRAVEL TIME - CURRENT DEPLOYMENT

Station	Desired Coverage	Reconfigured Coverage	Excess/ (Shortage)
1	31	49	18
2	31	33	2
3	18	24	6
5	31	40	9
6	18	26	8
7	18	32	14
8	18	42	24
9	18	21	3
10	18	39	21
11	31	55	24
12	18	28	10
13	31	38	7
14	31	32	1
16	18	33	15
18	18	27	9
19	31	30	(1)
20	31	59	28
22	18	21	3
24	18	48	30
25	18	29	11
27	18	28	10
28	18	22	4
29	31	32	1
33	18	21	3
34	18	31	13
35	18	26	8
36	18	26	8
37	18	18	0
38	18	35	17
39	18	19	1
40	18	26	8
41	18	21	3
43	31	65	34
44	31	38	7
45	18	30	12
46	18	16	(2)
47	31	43	12
49	31	34	3
50	31	34	3
51	18	31	13
52	18	35	17
53	31	32	1
54	18	16	(2)
55	31	29	(2)
56	18	20	2
57	18	28	10
58	18	18	0
59	31	35	4
60	31	31	(1)
61	31	38	7
62	18	20	2
63	31	29	(2)
64	18	30	12
66	18	19	1
68	18	25	7
69	18	22	4
70	18	41	23
71	18	36	18
72	31	42	11
73	18	28	10

Exhibit X-8

LOCATIONS OF ENGINES – CURRENT SCENARIO

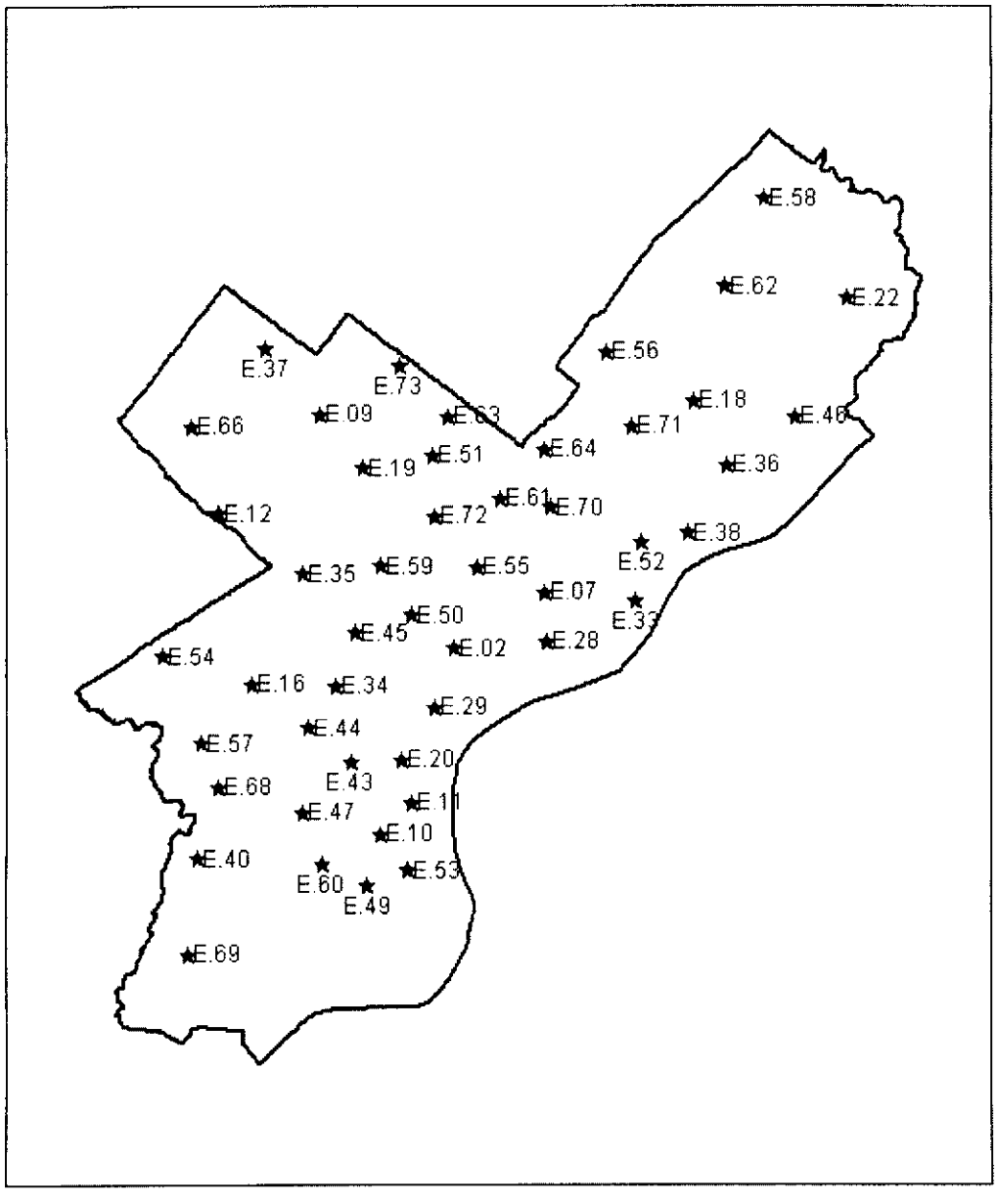
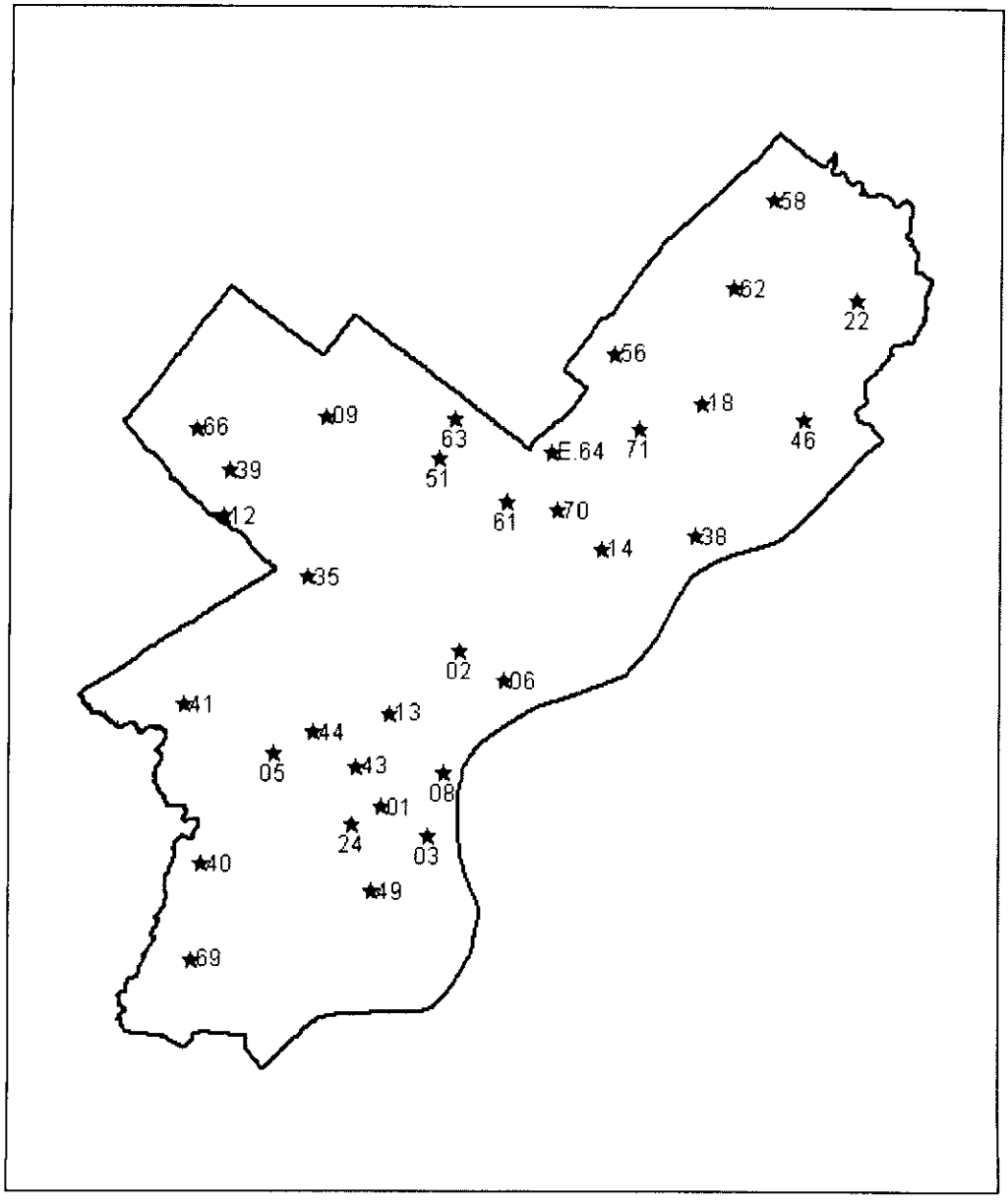


Exhibit X-9

LOCATIONS OF LADDERS – CURRENT SCENARIO



AREAS OF THE CITY THAT CAN BE REACHED BY AN ENGINE WITHIN FOUR MINUTES TRAVEL TIME – CURRENT SCENARIO

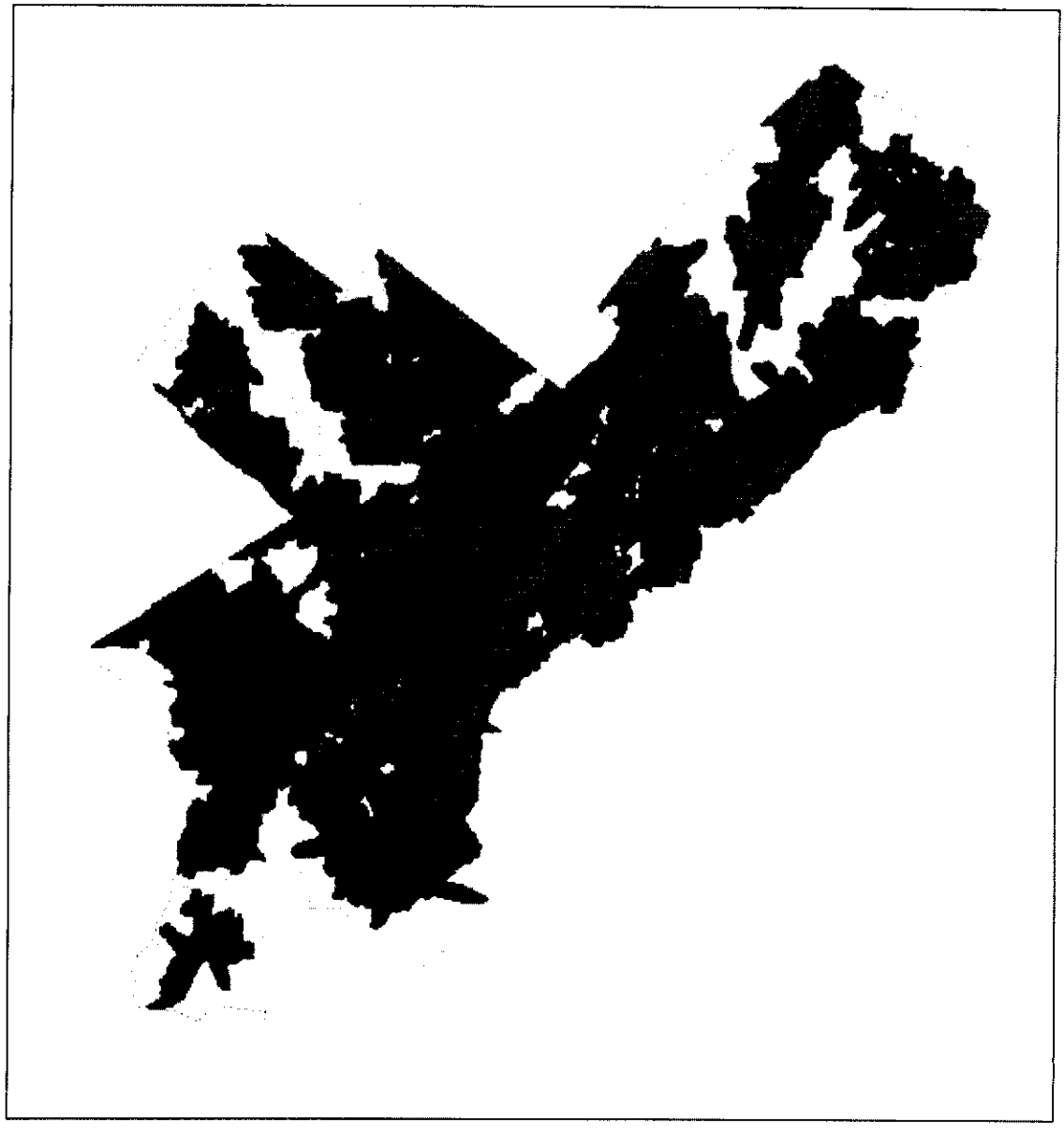
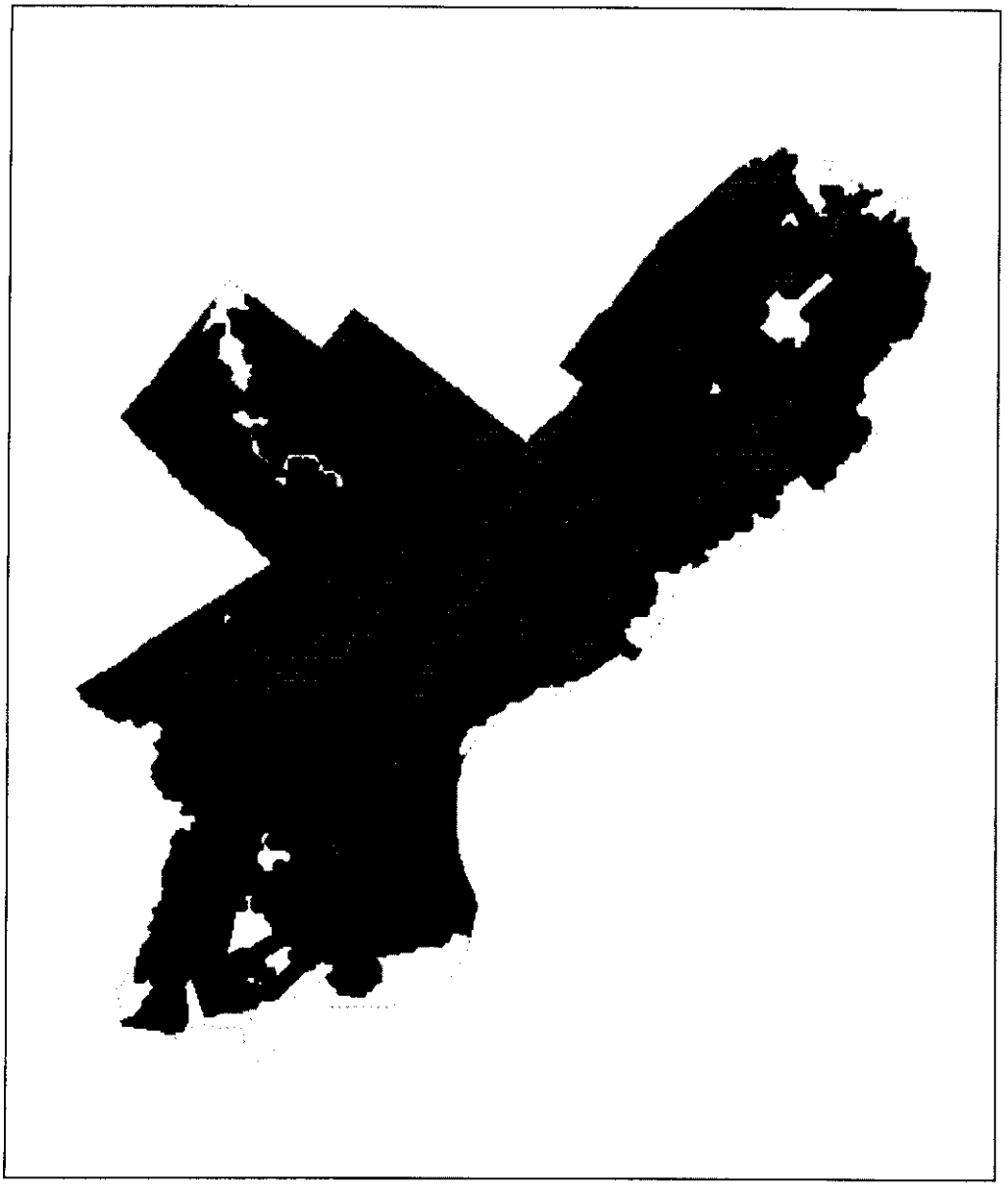


Exhibit X-11

AREAS OF THE CITY THAT CAN BE REACHED BY A LADDER WITHIN EIGHT MINUTES TRAVEL TIME – CURRENT SCENARIO



actual capacity is 542. The average excess/shortage per station declines from a current average of 12.9 from the desired capacity to an average of 9.0 from the desired capacity.

Step 7: Calculate total staffing needs by shift. As Exhibit X-12 shows, 22 additional firefighters need to be deployed on each shift under this scenario if risks in all areas are to be addressed. (Please note that these numbers do not include the six staff assigned to the heavy rescue on each shift.) In addition, 170 ALS and BLS staff need to be deployed (based on the number of units currently deployed).

	Units Needed	Staffing Per Unit	Total Staffing
Day-Shift ALS Units*	37	2	74
Night-Shift ALS Units*	13	2	26
Day-Shift BLS Units	24	2	48
Night-Shift BLS Units	11	2	22
Total			170

*ALS staffing includes AQR1 unit

Step 8: Calculate staffing needs after adjusting for expected absences. Total paramedic and firefighter staffing needed under this scenario is 2,168. To calculate total suppression staffing needs per shift, the firefighter relief factor[9] (1.15) was multiplied by the number of firefighters needed per shift (383 including six firefighters assigned to the heavy rescue unit). A total of 441 firefighters need to be assigned to each shift. Total fire suppression staffing needs per shift (441 firefighters) was multiplied by four shifts to

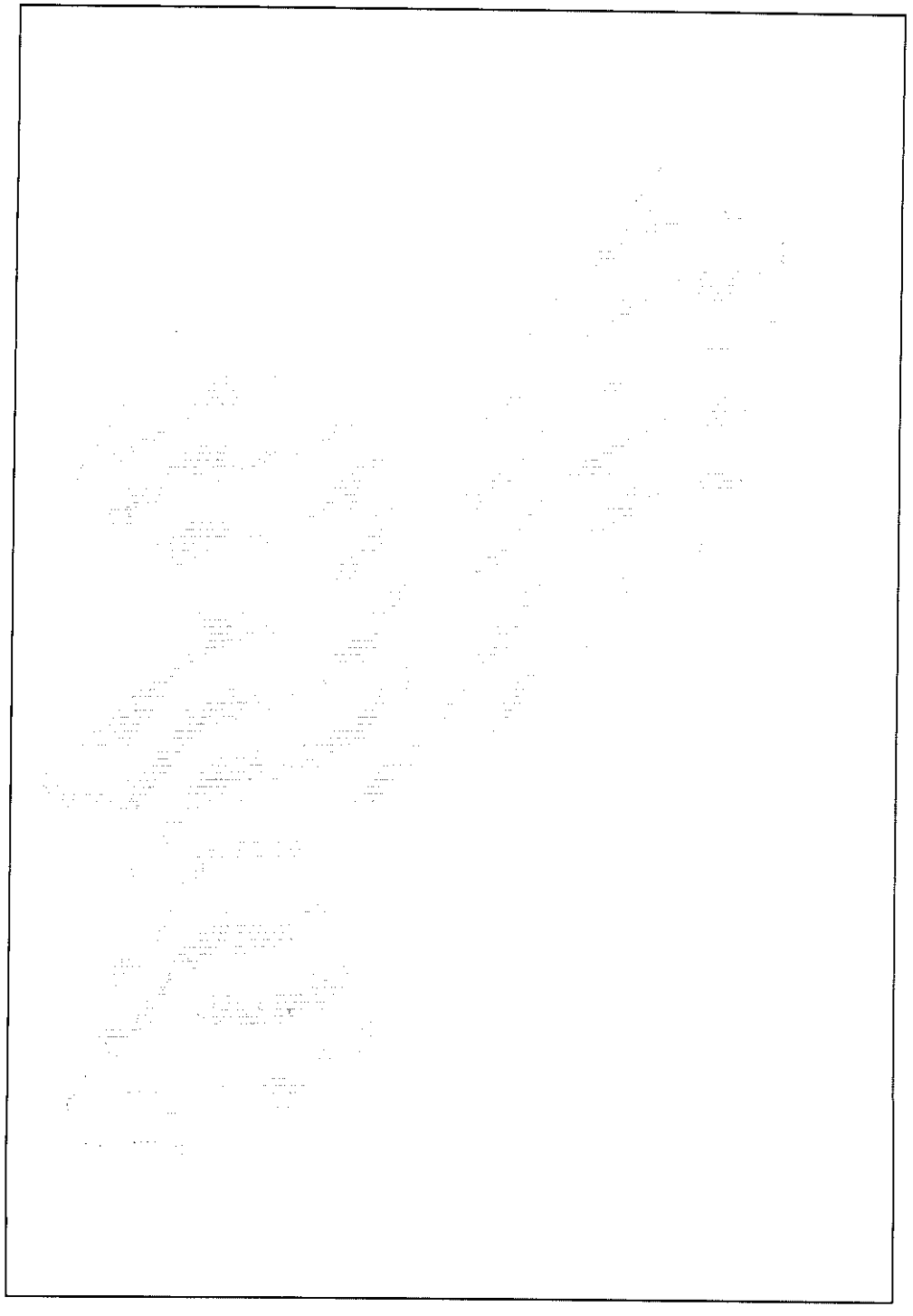
[9] Relief factors have been calculated that reflect actual absences experienced by firefighters and paramedics. The relief factor for firefighters (1.15) assumes that firefighters will participate in 40 hours of training a year (or roughly double the current out of station training they receive), the relief factor for paramedics serving as firefighters (1.16) assumes that these staff will participate in 64 hours of training a year, the relief factor for paramedics (1.16) assumes that these staff will participate in 40 hours of training a year, and the relief factor for civilian EMTs (1.20) assumes that these staff will participate in 40 hours of training a year. (To estimate the relief factor for EMTs the relief factor for civilian dispatchers was modified to reflect 40 hours of training.)

When calculating these relief factors absences for individuals who are absent for extended periods of time were not included. Relief factors assume absences occur evenly over the course of the year. Individuals who are absent for extended periods of time, however, create vacancy patterns that are significantly higher during some times of the year than at other times of the year. Given that the difference in cost between full-time employees (who cost the city approximately 43 percent of salary in benefits) and employees working overtime at "time and half" is small, it makes sense to be conservative in the calculation of a relief factor. Vacancies not covered by staff scheduled to work (that is, those not covered by the relief factor) should be covered by using overtime.

CURRENT AND RECOMMENDED APPARATUS DEPLOYMENT AND STAFFING PER SHIFT

	Current Deployment			Recommended Deployment			Addition/(Reduction)		
	Apparatus Needed	Staffing Per Apparatus	Total Staffing	Apparatus Needed	Staffing Per Apparatus	Total Staffing	Apparatus Needed	Staffing Per Apparatus	Total Staffing
Engines	55	4	220	48	4	192	(7)	4	(28)
Ladders	27	5	135	37	5	185	10	5	50
Total			355			377			22

AREAS OF THE CITY THAT CAN BE REACHED BY AN ALS AMBULANCE WITHIN EIGHT MINUTES TRAVEL TIME



calculate overall firefighter staffing needs (1,764 firefighters). EMS staffing was calculated by the number of staff needed per shift and multiplying by the appropriate relief factor.

Staff	Number Needed	Relief Factor	Total Needed	Number Needed After Rounding
Day Shift Paramedics	37	1.16	42.9	43
Day Shift EMTs	85	1.20	102.0	102
Night Shift Paramedics	13	1.16	15.1	15
Night Shift EMTs	35	1.20	42.0	42
Total				202

Total EMS staffing is then calculated by multiplying by two (for the two shifts), for a total of 404 EMS staff.

Base Recommended Scenario

Each of the steps listed in this Section A (Approach To Assessing Firefighter And Paramedic Staffing And Deployment Needs) is used to evaluate deployment and staffing needs under this scenario. However, steps 2 and 3 – assess the geographic deployment of fire engines and assess the geographic deployment of ladders – are not presented in this section as the analysis is identical to the analysis presented previously for the current scenario.

Step 1: Establish response expectations for emergency medical and fire suppression apparatus. As with the current scenario, the standards set forth in NFPA 1710 were used to establish response service expectations for fire engines, ladder trucks, and ALS medical response. As discussed, NFPA 1710 sets the expectation that fire engines respond to fire suppression incidents within four minutes travel time 90 percent of the time, that the full first alarm assignment at a fire incident (including ladder trucks) arrive within eight minutes travel time 90 percent of the time, and that an apparatus with first responder (or higher) medical capabilities arrive at emergency medical incidents within four minutes travel time 90 percent of the time. In addition, NFPA 1710 sets the expectation that advanced life support units be available to respond to emergency scenes within eight minutes travel time or less 90 percent of the time.

NFPA 1710 does not, however, set forth expectations for the response of ambulances to emergency medical calls that require basic life support (as opposed to advanced life support) services. Service expectations for the response of BLS ambulances have therefore been set to reflect the current level of service provided. Since BLS ambulances currently respond to 90 percent of BLS incidents within 14.5 minutes that level of service is incorporated in the current analysis.

Step 2: Assess the geographic deployment of fire engines. As presented in the analysis of the current scenario, fire engines can reach most areas of the city within four minutes and, in the areas that cannot be reached within four minutes, the call volume is quite low.

Step 3: Assess the geographic deployment of ladders. As presented in the analysis of the current scenario, ladders can reach almost all areas of the city within eight minutes travel time.

Step 4: Assess the geographic deployment of ALS units. As Exhibit X-13 shows an ALS ambulance can reach almost all areas of the city within eight minutes. This analysis clearly indicates that ALS coverage in the City of Philadelphia is more than adequate.

Step 5: Determine the number of ALS and BLS units that need to be deployed to meet response time expectations. A three-stage process was used to determine the number of ALS and BLS units that need to be deployed to meet response time expectations. First, queuing analysis was used to determine the number of ALS units that need to be deployed during each hour of the day to meet response time expectations. Second, queuing analysis was used to determine the number of BLS units that need to be deployed during each hour of the day to meet response time expectations. Lastly, an assessment of whether requiring ALS units to handle BLS calls in some areas reduces overall deployment needs was performed.

In eight battalion areas (Battalions 1, 2, 3, 4, 9, 11, 12, and 13) the number of BLS calls during some hours is low, yet as many as three BLS units must be deployed to meet response time expectations. (In most of these areas two BLS ambulances are deployed.) Increasing the number of recommended ALS ambulances deployed in these areas by, at most, one each shift[10] provides sufficient capacity to handle the BLS calls received and substantially reduces staffing needs.[11] In these areas it is assumed that the ALS ambulances will respond to BLS calls if a BLS ambulance is not available.[12]

Step 6: Assess the extent to which ALS or BLS units can be used to support fire suppression calls. In many jurisdictions, EMS crews also function as "flying squads" that respond to fire suppression calls (as firefighters) when not responding to EMS incidents. Whether or not it is cost-effective to deploy ALS or BLS crews to support fire suppression efforts depends on whether these calls can be added to ALS or BLS crew workload without requiring additional crews to be deployed to meet response time expectations. In other words, if at recommended staffing levels ALS or BLS crews have sufficient "excess capacity" to respond to fire suppression calls they should be expected to do so.

Analysis shows that in all battalion areas, deploying ALS and BLS crews as fire suppression flying squads is possible – ALS and BLS crews can support fire suppression without adding additional staffing. The average percentage of each shift

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[10] In some battalion areas the number of ALS units needed to meet ALS response expectations can also handle the BLS calls received in the area.

[11] 130 ambulances need to be deployed if ALS units do not respond to BLS calls whereas 110 ambulances need to be deployed if ALS units respond to BLS calls in areas where the number of BLS calls received is low.

[12] In these areas BLS calls can be responded to within eight minutes (the ALS response expectation). In the areas of the city where BLS ambulances are deployed to handle BLS calls the expectation for response to BLS calls is 14.5 minutes.

ALS and BLS crews will spend responding to emergency calls (medical calls and structure fires) at recommended staffing levels is shown in the following table.

	ALS		BLS	
Battalion	Day Shift	Night Shift	Day Shift	Night Shift
Battalion 1	44.9%	37.1%		
Battalion 2	50.6%	39.9%		
Battalion 3	49.6%	34.1%		
Battalion 4	37.5%	31.2%		
Battalion 7	44.7%	36.2%	29.2%	36.7%
Battalion 8	41.9%	36.9%	35.3%	30.2%
Battalion 9	42.1%	31.3%		
Battalion 10	40.0%	32.0%	32.9%	28.9%
Battalion 11	49.9%	49.9%	42.7%	
Battalion 12	44.5%	44.5%	35.9%	
Battalion 13	31.1%	31.1%	26.1%	

Step 7: Determine the probability that fire suppression units will be available when needed. As with the current scenario, for each battalion area queuing analysis was used to determine the probability that a fire suppression crew will be out of service during each shift. (The estimated number of fire suppression apparatus that will be out of service in each battalion during any hour on the day shift is summarized in the discussion of the current scenario.)

Step 8: Calculate the number of ALS and BLS units available to respond to fire suppression calls. The following table shows the number of units that will be available to respond to fire suppression emergencies after the number of ALS and BLS units is increased to recommended levels.[13]

Battalion	Type	8:00 a.m. to 6:00 p.m.	6:00 p.m. to 8:00 a.m.
Battalion 1	ALS	5	5
Battalion 2	ALS	5	5
Battalion 3	ALS	5	5
Battalion 4	ALS	5	4
Battalion 7	ALS	5	4
	BLS	3	3
Battalion 8	ALS	5	4
	BLS	2	2
Battalion 9	ALS	4	4
Battalion 10	ALS	4	3
	BLS	2	2
Battalion 11	ALS	5	5
Battalion 12	ALS	4	4
Battalion 13	ALS	5	4
Total		59	54

[13] This preliminary analysis assumes that ALS and BLS crews will be assigned to the same 10-14 work schedule as firefighters. This assumption will be refined in Step 10.

Step 9: Reallocate apparatus to address shortages or excess capacity. During this step the deployment of engine, ladder, and ambulance companies was evaluated to determine how the shortages in response capacity (identified in Exhibit X-5) could be eliminated while reducing the level of excess capacity in various station areas. The results of this analysis (which is presented in Exhibit X-14) indicate after fire suppression apparatus are reallocated and ambulance crews are deployed to support fire suppression needs seven fewer engine companies and seven fewer ladder companies will be needed. Exhibit X-15 shows how ambulance coverage will change when the recommended deployment plan is implemented.

As Exhibit X-16 shows, after these changes are made only seven stations will not meet coverage expectations (and three of these stations will only fall short of coverage expectations by one staff person and the other stations will only fall short by two staff persons). In addition, the absolute value of the excess or shortage in each area will decline from 775 employees currently to 520 employees. The average excess/shortage per station declines from a current average of 12.9 from the desired capacity to an average of 8.6 from the desired capacity. Moreover, at least two engines and one ladder will be available for response within eight minutes in all but three station areas. (These areas experience very few calls – .2 percent, .4 percent, and .7 percent of the structure and high rise calls.)

The recommended locations of ladder, engine, and ambulance companies under this scenario are presented in Exhibits X-17, X-18, and X-19 respectively. Reallocating apparatus in the manner suggested will have no material affect on the ability of apparatus to respond to emergencies within the response expectations established by NFPA 1710. (The areas of the city that can be reached by an engine within four minutes travel time after these reallocations are made is presented in Exhibit X-20. The areas of the city that can be reached by a ladder within eight minutes travel time after these reallocations are made is presented in Exhibit X-21. The areas of the city that can be reached within by an ALS ambulance within eight minutes after these reallocations are made is presented in Exhibit X-22.)

Implementing these recommendations will reduce the overall number of staff that needs to be deployed. As Exhibit X-23 shows, the number of staff needed on each shift to be assigned to engines and ladders will decline significantly. The reductions, however, will be substantially offset by increases in the number of EMS staff deployed (Exhibit X-24).

Step 10: Assess ALS and BLS scheduling options. The number of ALS and BLS crews that will be needed to support fire suppression after engine and ladder capacity has been reduced is summarized in the following table.

RECOMMENDED DEPLOYMENT OF APPARATUS FOR FIRE SUPPRESSION - BASE RECOMMENDED SCENARIO

Station	Current			Recommended for Fire Suppression			Increase/(Decrease)		
	Engines	Ladders	ALS/BLS	Engines	Ladders	ALS/BLS(a)	Engines	Ladders	ALS/BLS(b)
1	0	1	1	0	0	1	0	(1)	0
2	1	1	1	1	0	0	0	(1)	(1)
3	1	0	0	0	0	1	(1)	0	1
5	1	1	0	0	0	1	(1)	(1)	1
6	0	1	1	0	0	1	0	(1)	0
7	1	1	1	1	1	1	0	0	0
8	0	1	1	0	1	0	0	0	(1)
9	1	1	1	1	1	1	0	0	0
10	1	0	1	1	0	0	0	0	(1)
11	1	0	1	1	0	1	0	0	0
12	1	0	0	1	0	0	0	0	0
13	1	0	1	0	0	1	(1)	0	0
14	0	1	1	0	0	1	0	(1)	0
16	1	0	1	1	0	0	0	0	(1)
18	1	0	1	1	0	0	0	0	(1)
19	1	1	1	1	0	1	0	(1)	0
20	1	1	1	1	0	0	0	(1)	(1)
22	1	1	1	1	1	1	0	0	0
24	1	0	1	0	0	1	(1)	0	0
25	1	0	1	0	0	1	(1)	0	0
27	1	0	1	0	0	1	(1)	0	0
28	1	0	1	1	0	0	0	0	(1)
29	1	0	1	1	1	1	0	1	0
33	1	0	0	1	0	0	0	0	0
34	1	0	1	1	0	1	0	0	0
35	1	1	1	1	1	0	0	0	(1)
36	1	1	1	1	0	1	0	(1)	0
37	1	0	0	1	0	1	0	0	1
38	1	0	0	1	0	0	0	0	0
39	0	1	1	0	1	1	0	0	0
40	1	1	1	1	1	0	0	0	(1)
41	1	1	1	0	1	1	(1)	0	0
43	1	1	1	1	1	1	0	0	0
44	1	0	1	1	0	1	0	0	0
45	1	1	1	1	0	0	0	(1)	(1)
46	1	0	1	1	1	1	0	1	0
47	1	0	1	1	0	0	0	0	(1)
49	1	0	1	1	0	0	0	0	(1)
50	1	1	1	1	0	1	0	(1)	0
51	1	1	1	1	1	1	0	0	0
52	1	0	1	1	0	0	0	0	(1)
53	1	1	1	1	0	1	0	(1)	0
54	1	0	1	1	0	1	0	0	0
55	1	1	1	1	0	0	0	(1)	(1)
56	1	0	1	1	0	1	0	0	0
57	1	0	1	1	0	1	0	0	0
58	1	0	0	1	1	0	0	1	0
59	1	1	1	1	0	0	0	(1)	(1)
60	1	1	1	1	1	1	0	0	0
61	1	0	1	1	0	1	0	0	0
62	1	1	1	1	1	1	0	0	0
63	1	0	0	1	0	0	0	0	0
64	1	0	0	1	1	0	0	1	0
66	1	0	0	1	1	0	0	1	0
68	1	1	1	1	0	0	0	(1)	(1)
69	1	0	0	1	2	1	0	2	1
70	1	0	1	1	0	0	0	0	(1)
71	1	1	1	1	1	1	0	0	0
72	1	0	1	1	0	1	0	0	0
73	1	0	1	1	0	1	0	0	0
	55	27	49	48	20	36	(7)	(7)	(13)

(a) Recommended ALS/BLS only includes units needed for fire suppression.
(b) Decrease in ALS/BLS indicates apparatus currently housed in the station is not needed for fire suppression.

CURRENT AND RECOMMENDED AMBULANCE DEPLOYMENT

Station	Number of Ambulances Currently Housed at Station	Ambulance Needed for Fire Suppression?	Additional Ambulance Needed at Station for Fire Suppression?	Adjusted Number of Ambulances Housed at Station
1	1	Yes		1
2	1	No		1
3	0		Yes	1
5	0		Yes	1
6	1	Yes		1
7	1	Yes		1
8	1	No		1
9	1	Yes		1
10	1	No		1
11	1	Yes		1
12	0			0
13	1	Yes		1
14	1	Yes		1
16	1	No		1
18	1	No		1
19	1	Yes		1
20	1	No		1
22	1	Yes		1
24	1	Yes		1
25	1	Yes		1
27	1	Yes		1
28	1	No		1
29	1	Yes		1
33	0			0
34	1	Yes		1
35	1	No		1
36	1	Yes		1
37	0		Yes	1
38	0			0
39	1	Yes		1
40	1	No		1
41	1	Yes		1
43	1	Yes		1
44	1	Yes		1
45	1	No		1
46	1	Yes		1
47	1	No		1
49	1	No		1
50	1	Yes		1
51	1	Yes		1
52	1	No		1
53	1	Yes		1
54	1	Yes		1
55	1	No		1
56	1	Yes		1
57	1	Yes		1
58	0			0
59	1	No		1
60	1	Yes		1
61	1	Yes		1
62	1	Yes		1
63	0			0
64	0			0
66	0			0
68	1	No		1
69	0		Yes	1
70	1	No		1
71	1	Yes		1
72	1	Yes		1
73	1	Yes		1

STAFF AVAILABLE TO RESPOND WITHIN EIGHT MINUTES TRAVEL TIME - BASE RECOMMENDED SCENARIO

Station	Desired Coverage	Reconfigured Coverage	Excess/ (Shortage)
1	31	46	15
2	31	37	6
3	18	23	5
5	31	39	8
6	18	27	9
7	18	32	14
8	18	39	21
9	18	21	3
10	18	39	21
11	31	48	17
12	18	25	7
13	31	45	14
14	31	29	(2)
16	18	35	17
18	18	26	8
19	31	30	(1)
20	31	60	29
22	18	19	1
24	18	44	26
25	18	33	15
27	18	36	18
28	18	26	8
29	31	32	1
33	18	25	7
34	18	37	19
35	18	21	3
36	18	29	11
37	18	18	0
38	18	26	8
39	18	17	(1)
40	18	25	7
41	18	25	7
43	31	64	33
44	31	33	2
45	18	33	15
46	18	17	(1)
47	31	40	9
49	31	34	3
50	31	34	3
51	18	32	14
52	18	31	13
53	31	29	(2)
54	18	22	4
55	31	32	0
56	18	19	1
57	18	29	11
58	18	20	2
59	31	37	6
60	31	29	(2)
61	31	33	2
62	18	19	1
63	31	29	(2)
64	18	22	4
66	18	18	0
68	18	25	7
69	18	19	1
70	18	39	21
71	18	30	12
72	31	41	10
73	18	26	8

Exhibit X-17

LOCATIONS OF ENGINES – BASE RECOMMENDED SCENARIO

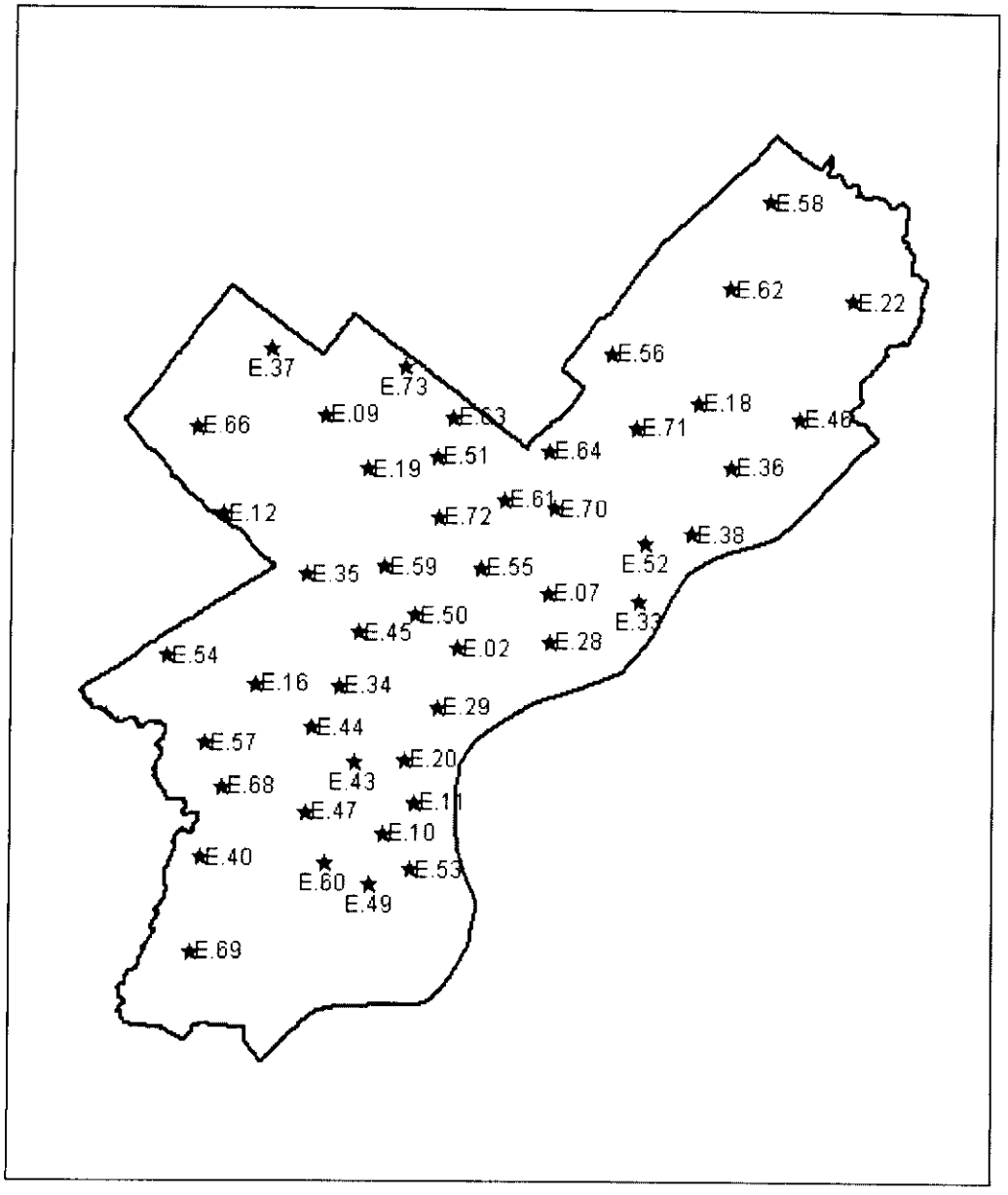


Exhibit X-18

LOCATIONS OF LADDERS – BASE RECOMMENDED SCENARIO

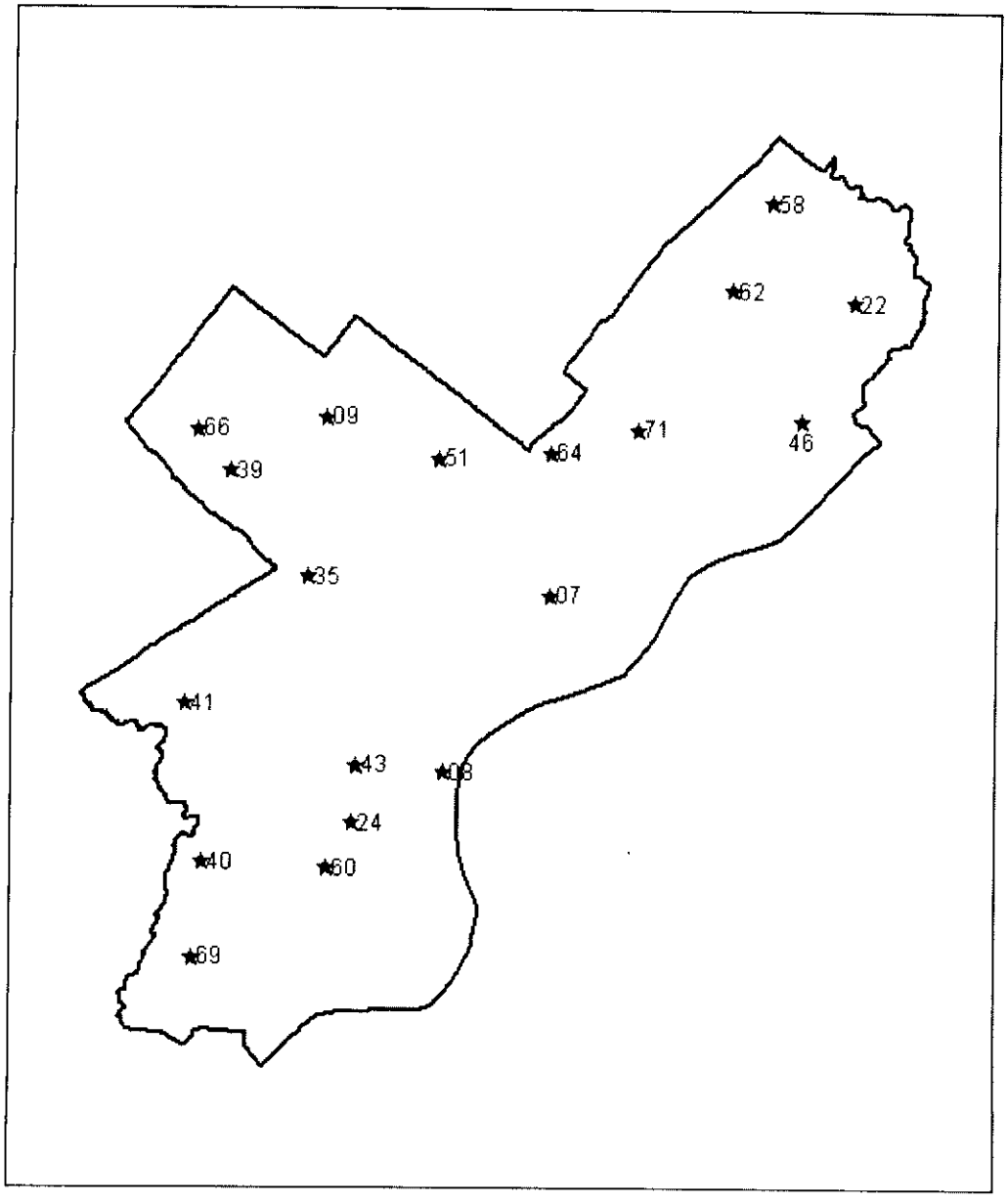


Exhibit X-19

LOCATIONS OF AMBULANCES NEEDED FOR FIRE SUPPRESSION - BASE RECOMMENDED SCENARIO

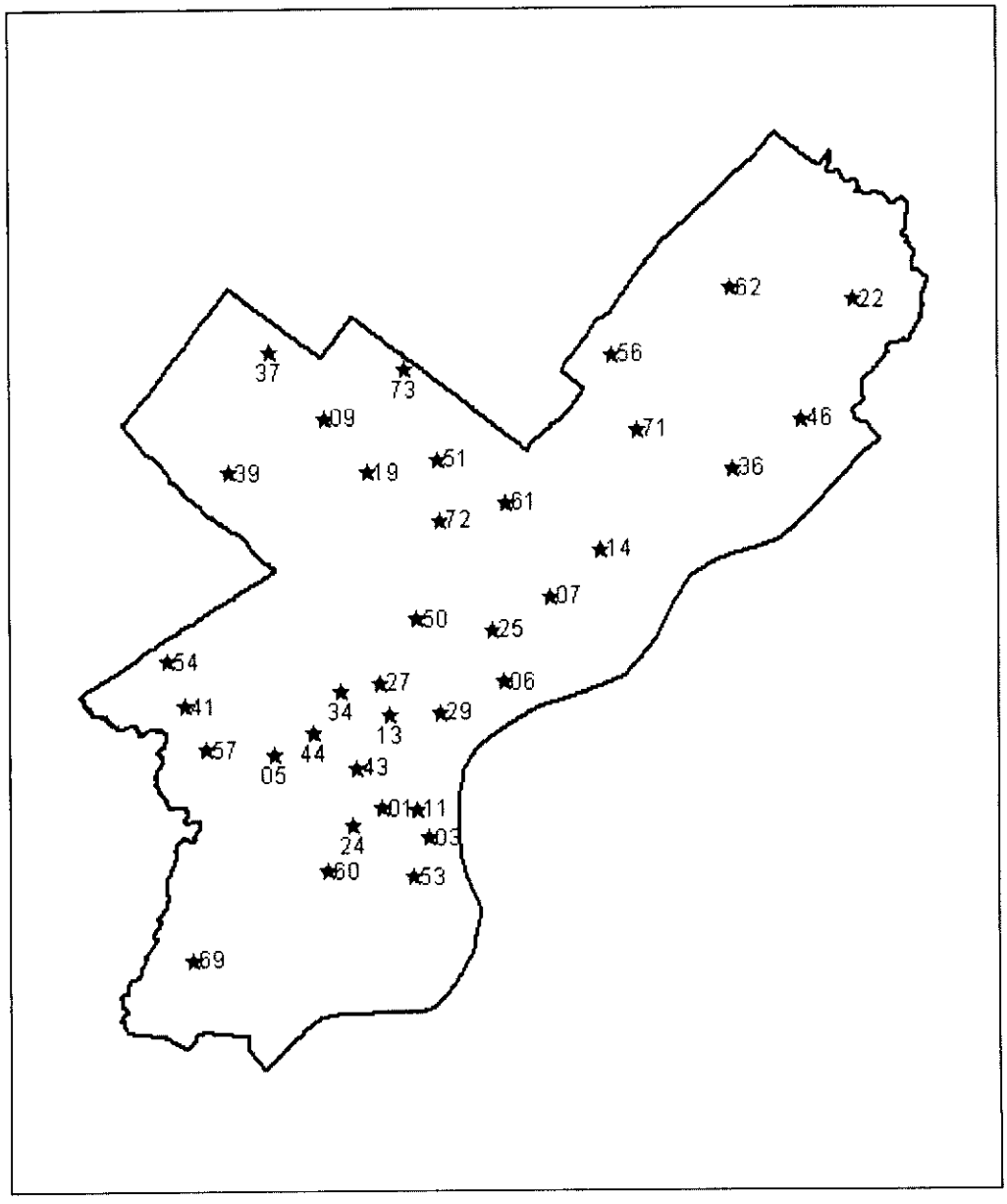
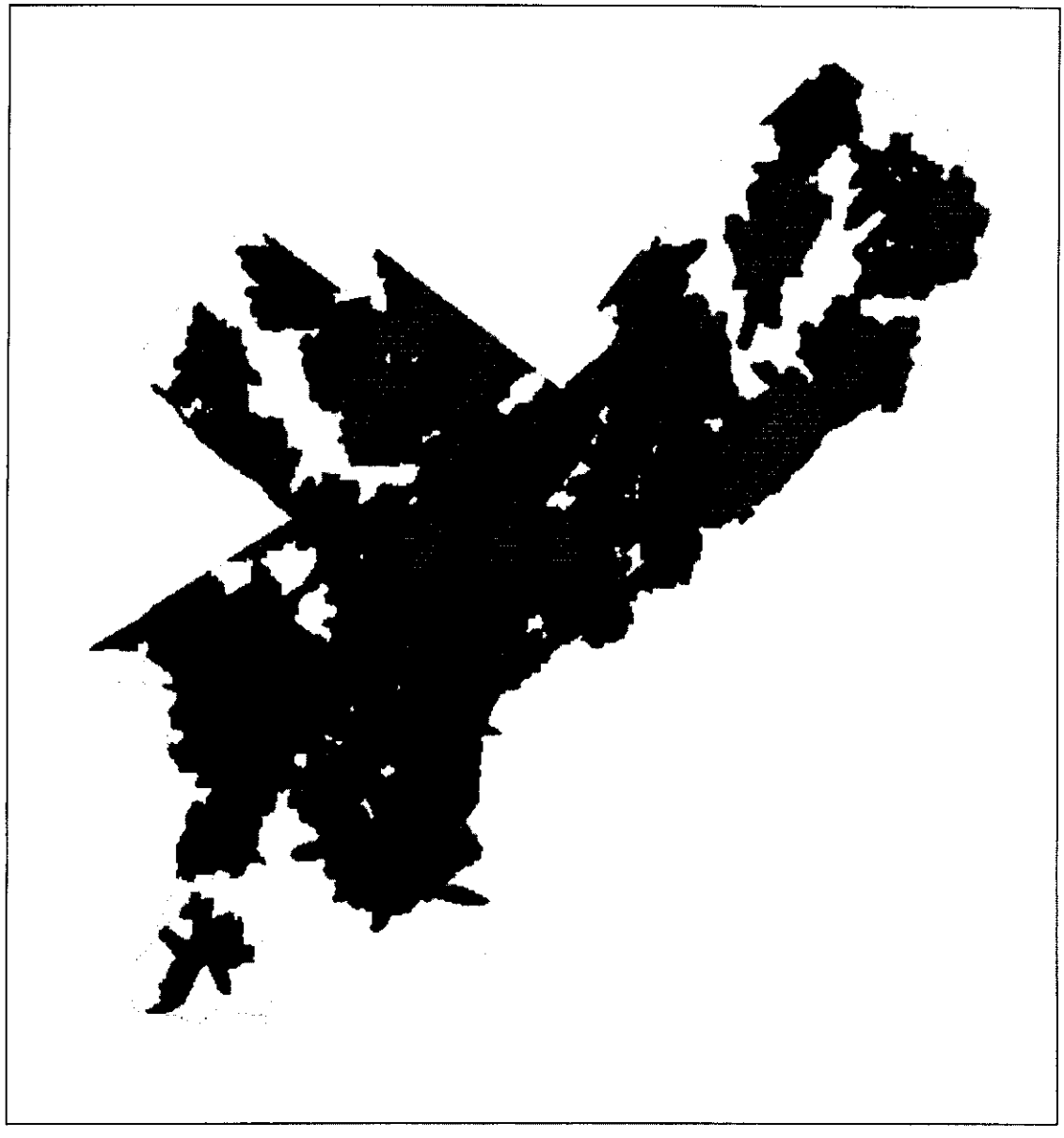


Exhibit X-20

AREAS OF THE CITY THAT CAN BE REACHED BY AN ENGINE WITHIN FOUR MINUTES TRAVEL TIME– BASE RECOMMENDED SCENARIO



AREAS OF THE CITY THAT CAN BE REACHED BY A LADDER WITHIN EIGHT MINUTES TRAVEL TIME – BASE RECOMMENDED SCENARIO

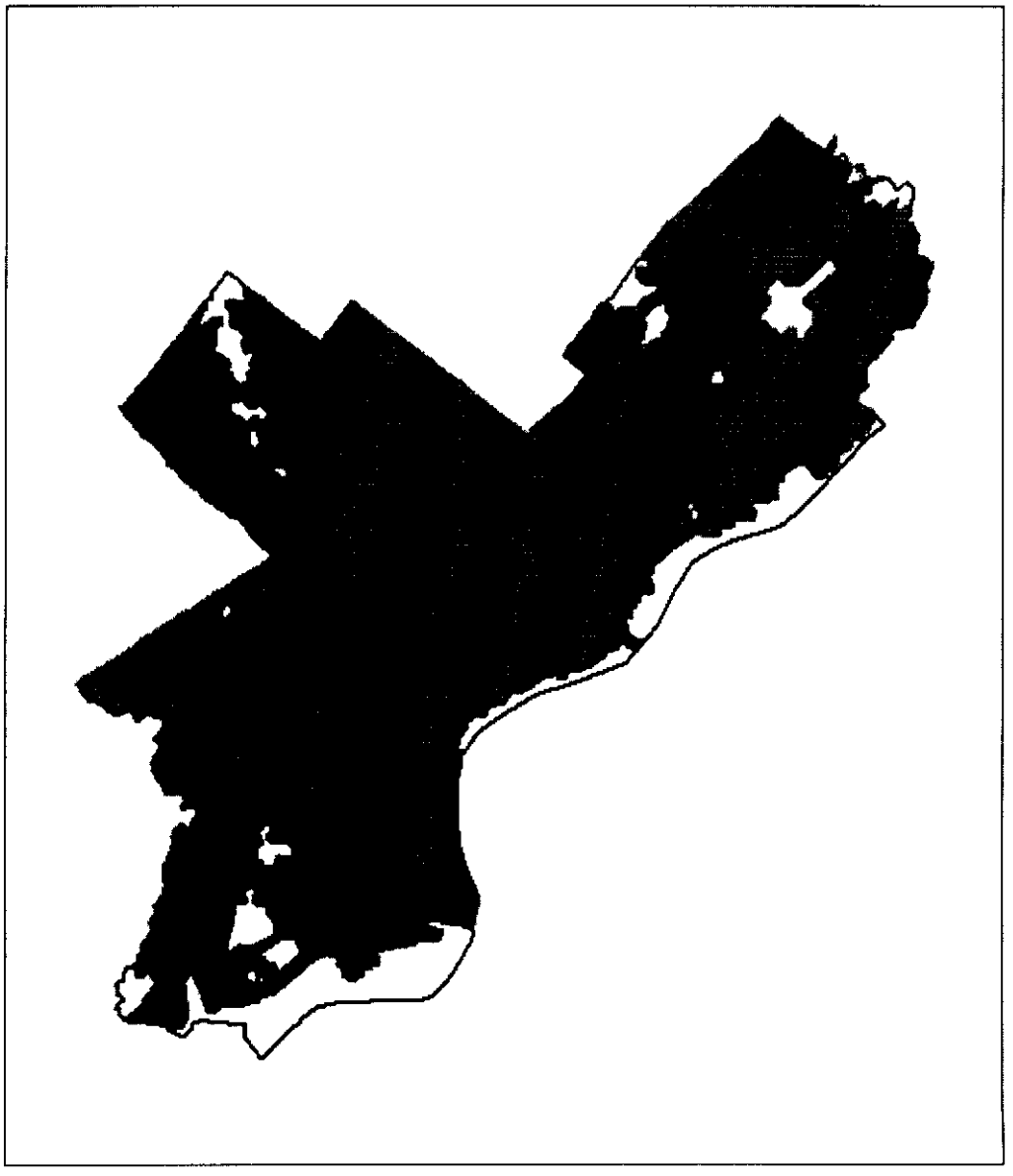


Exhibit X-22

AREAS OF THE CITY THAT CAN BE REACHED BY AN ALS AMBULANCE WITHIN EIGHT MINUTES TRAVEL TIME – BASE RECOMMENDED SCENARIO

RECOMMENDED FIRE SUPPRESSION STAFFING BY SHIFT - BASE RECOMMENDED SCENARIO

	Current Deployment			Recommended Deployment			Addition/(Reduction)		
	Apparatus Needed	Staffing Per Apparatus	Total Staffing	Apparatus Needed	Staffing Per Apparatus	Total Staffing	Apparatus Needed	Staffing Per Apparatus	Total Staffing
Engines	55	4	220	48	4	192	(7)	4	(28)
Ladders	27	5	135	20	5	100	(7)	5	(35)
Total			355			292			(63)

RECOMMENDED EMS STAFFING BY SHIFT - BASE RECOMMENDED SCENARIO

	Current Deployment			Recommended Deployment			Addition/(Reduction)		
	Units Needed	Staffing Per Unit	Total Staffing	Units Needed	Staffing Per Unit	Total Staffing	Units Needed	Staffing Per Unit	Total Staffing
Day-Shft ALS Units*	37	2	74	52	2	104	15	2	30
Night-Shft ALS Units*	13	2	26	39	2	78	26	2	52
Eight Hour Shift ALS Units				5	2	10	5	2	10
Day-Shift BLS Units	24	2	48	7	2	14	(17)	2	(34)
Night-Shift BLS Units	11	2	22	7	2	14	(4)	2	(8)
Total			170			220			50

*ALS staffing includes AQR1 unit

Battalion	ALS Units Needed To Support Fire Suppression	BLS Units Needed To Support Fire Suppression
Battalion 1	4	
Battalion 2	4	
Battalion 3	4	
Battalion 4	3	
Battalion 7	0	2
Battalion 8	0	1
Battalion 9	4	
Battalion 10	2	2
Battalion 11	4	
Battalion 12	3	
Battalion 13	3	
Total	31	5

These crews are needed 24-hours per day and, to facilitate training, should be deployed on the same 10-14 schedule as firefighters.

The remaining ALS and BLS staff (that are not needed to support fire suppression efforts) could be deployed on the same 10-14 schedule as firefighters[14] or using the 12-hour shifts that have been established for paramedics.[15] Analysis indicates that the 12-hour shift schedule is significantly more cost-effective than the 10-14 work schedule – excluding relief, 42 staff are needed per shift if the 10-14 schedule is used and 35 staff are needed per shift if a 12-hour shift schedule is used. Twenty-one ALS units should therefore be assigned to 12-hour day shifts, 9 ALS units should be assigned to 12-hour night shifts, and 5 ALS units should be assigned to an 8-hour shift. In addition, two BLS units are needed on both the day and the night shifts.

Step 11: Calculate staffing needs by shift. The following table presents the number of staff that needs to be deployed on each shift (including the heavy rescue unit).

	Number Needed On Day Shift	Number Needed On Night Shift
Firefighters (Assigned to Suppression Apparatus)	298	298
Firefighter/Paramedics (Assigned To ALS Units)	31	31
Firefighter/EMTs (Assigned To ALS Units)	31	31
Firefighter/EMTs (Assigned To BLS Units)	10	10
Paramedics (Assigned To ALS Units)	21	14
Civilian EMTs (Assigned To ALS Units)	21	14
Civilian EMTs (Assigned To BLS Units)	4	4
Total	416	402

[14] While from a management perspective deploying all ALS and BLS crews (those needed to support fire suppression and those that are not needed to support fire suppression) on the same shift schedule as firefighters would be beneficial it is only essential to do so for units that are needed to support fire suppression efforts.

[15] An eight-hour shift schedule was also evaluated but this alternative was determined not to be cost effective.

Step 12: Calculate staffing needs after adjusting for expected absences. The following table presents the number of staff that needs to be deployed on each day shift (including the heavy rescue unit) after accounting for expected absences.

	Number Needed On Day Shift	Relief Factor	Number Needed Before Rounding	Number Needed After Rounding
Firefighters (Assigned to Suppression Apparatus)	298	1.15	342.7	342
Firefighter/Paramedics (Assigned To ALS Units)	31	1.16	36.0	36
Firefighter/EMTs (Assigned To ALS Units)	31	1.15	35.7	35
Firefighter/EMTs (Assigned To BLS Units)	10	1.16	11.6	11
Paramedics (Assigned To ALS Units)	21	1.16	24.4	24
Civilian EMTs (Assigned To ALS Units)	21	1.20	25.2	25
Civilian EMTs (Assigned To BLS Units)	4	1.20	4.8	4
Total	416			477

The number of staff that needs to be deployed on each night shift (including the heavy rescue unit) after accounting for expected absences is presented in the following table.

	Number Needed On Night Shift	Relief Factor	Number Needed Before Rounding	Number Needed After Rounding
Firefighters (Assigned to Suppression Apparatus)	298	1.15	342.7	342
Firefighter/Paramedics (Assigned To ALS Units)	31	1.16	36.0	36
Firefighter/EMTs (Assigned To ALS Units)	31	1.15	35.7	35
Firefighter/EMTs (Assigned To BLS Units)	10	1.16	11.6	11
Paramedics (Assigned To ALS Units)	14	1.16	16.2	16
Civilian EMTs (Assigned To ALS Units)	14	1.20	16.8	16
Civilian EMTs (Assigned To BLS Units)	4	1.20	4.8	4
Total	402			460

Total staffing for each position can be calculated by multiplying the number of positions needed on each shift by two.

	Number Needed On Day And Night Shifts	Total Needed
Firefighters (Assigned to Suppression Apparatus)	684	1368
Firefighter/Paramedics (Assigned To ALS Units)	72	144
Firefighter/EMTs (Assigned To ALS Units)	70	140
Firefighter/EMTs (Assigned To BLS Units)	22	44
Paramedics (Assigned To ALS Units)	40	80
Civilian EMTs (Assigned To ALS Units)	41	82
Civilian EMTs (Assigned To BLS Units)	8	16
Total		1874

Recommended Scenario With Modified Station Locations

Each of the steps listed in Section A (Approach To Assessing Firefighter And Paramedic Staffing And Deployment Needs) is used to evaluate deployment and staffing needs under this scenario. However, steps 1 though 8 are identical to the recommended scenario where station locations are given. The analysis for this scenario, therefore, begins with Step 9.

Step 9: Reallocate apparatus and modify station locations to address shortages or excess capacity. Surprisingly, opportunities to make more effective use of resources by relocating and/or closing fire stations are limited. This is due primarily to the fact that due to traffic congestion and narrow streets stations that are geographically close together tend to have small coverage areas. Consequently, there is relatively little overlap in coverage area. Moreover, in areas where there is overlap in coverage area the overlap tends to be in areas where there is a concentration of high rise structures and extra protection is, therefore, needed. In addition, geography and road network makes some stations somewhat isolated. Relocating stations to better serve these isolated areas results in a reduction in apparatus that can reach other areas and is therefore not effective.

Modest opportunities to relocate and/or close stations have been identified.[16] The department can close Station 61 at 5334 Rising Sun Avenue while relocating Station 63 from 1224 Oak Lane to the southeast near the intersection of West Spencer and North Third. In addition, the department can close Station 18 at 8205 Roosevelt Boulevard while relocating Station 71 from 1900 Cottman Avenue to the east near the intersection of Large Street and Loney Street. (These modified station locations are shown in Exhibit X-25.)

Using these modified station locations the deployment of engine, ladder, and ambulance companies was evaluated to determine how the shortages in response capacity (identified in Exhibit X-5) could be eliminated while reducing the level of excess capacity in various station areas. The results of this analysis (which is presented in Exhibit X-26) indicates after fire suppression apparatus are reallocated and ambulance crews are deployed to support fire suppression needs nine fewer engine companies and seven fewer ladder companies will be needed.[17] (Deployment of ALS and BLS apparatus under this scenario will be the same as under the "base recommended" scenario.)

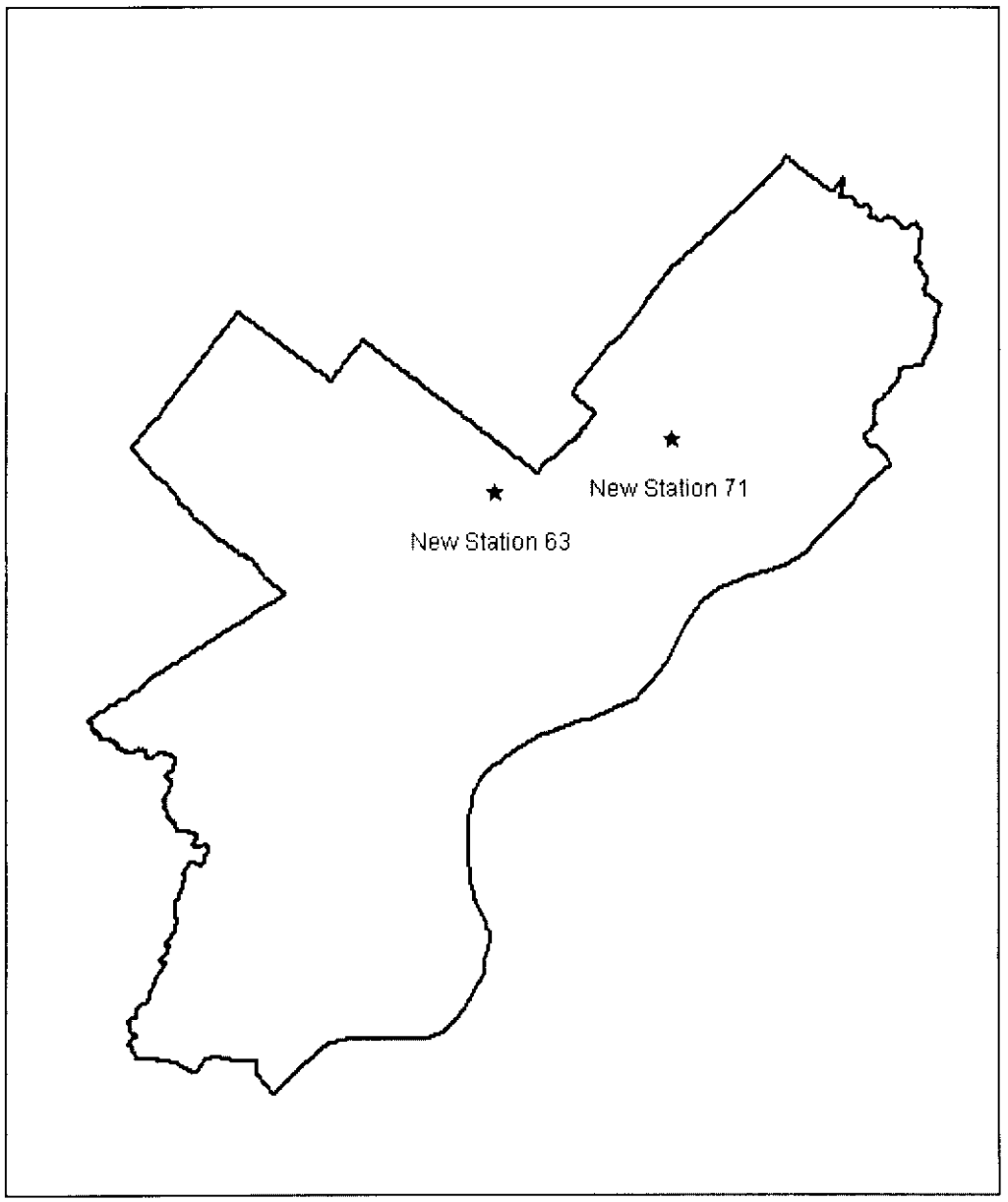
As Exhibit X-27 shows, after these changes are made only seven stations will not meet coverage expectations (and two of these stations will only fall short of coverage expectations by one staff person and the others fall short by two). In addition, the absolute value of the excess or shortage in each area will decline from 775 employees currently to 503 employees. The average excess/shortage per station declines from a current average of 12.9 from the desired capacity to an average of 8.4 from the desired capacity. Moreover, at least two engines and one ladder will be available for response within eight minutes in all but three station areas. (These areas experience very few calls – .2 percent, .4 percent. and .7 percent of structure and high rise calls.)

[16] In addition, one ALS ambulance is recommended to be deployed from Stations 1, 5, 24, 25 and 50. These ambulances could be deployed from other stations with little impact on coverage if the department decided to close stations.

[17] Relocating stations, therefore, allows the reduction of two additional engine companies as compared to the number that can be relocated if station locations are taken as given (i.e., the base recommended scenario).

Exhibit X-25

RECOMMENDED LOCATION OF TWO NEW STATIONS



RECOMMENDED DEPLOYMENT OF APPARATUS FOR FIRE SUPPRESSION - RECOMMENDED SCENARIO WITH MODIFIED STATION LOCATIONS

Station	Current Deployment			Recommended Deployment			Increase/(Decrease)		
	Engines	Ladders	ALS/BLS	Engines	Ladders	ALS/BLS(a)	Engines	Ladders	ALS/BLS(b)
1	0	1	1	0	0	1	0	(1)	0
2	1	1	1	1	0	0	0	(1)	(1)
3	1	0	0	0	1	0	(1)	1	0
5	1	1	0	0	0	1	(1)	(1)	1
6	0	1	1	0	0	1	0	(1)	0
7	1	1	1	1	1	1	0	0	0
8	0	1	1	0	0	1	0	(1)	0
9	1	1	1	1	1	1	0	0	0
10	1	0	1	1	0	0	0	0	(1)
11	1	0	1	1	0	1	0	0	0
12	1	0	0	1	0	0	0	0	0
13	1	0	1	0	0	0	(1)	0	(1)
14	0	1	1	0	0	1	0	(1)	0
16	1	0	1	1	0	0	0	0	(1)
18	1	0	1	0	0	0	(1)	0	(1)
19	1	1	1	1	0	1	0	(1)	0
20	1	1	1	1	0	0	0	(1)	(1)
22	1	1	1	1	1	1	0	0	0
24	1	0	1	0	0	1	(1)	0	0
25	1	0	1	0	0	1	(1)	0	0
27	1	0	1	0	0	1	(1)	0	0
28	1	0	1	1	0	0	0	0	(1)
29	1	0	1	1	1	1	0	1	0
33	1	0	0	1	0	0	0	0	0
34	1	0	1	1	0	1	0	0	0
35	1	1	1	1	1	0	0	0	(1)
36	1	1	1	1	0	1	0	(1)	0
37	1	0	0	1	0	1	0	0	1
38	1	0	0	1	0	0	0	0	0
39	0	1	1	0	1	1	0	0	0
40	1	1	1	1	1	0	0	0	(1)
41	1	1	1	0	1	1	(1)	0	0
43	1	1	1	1	1	1	0	0	0
44	1	0	1	1	0	1	0	0	0
45	1	1	1	1	0	1	0	(1)	0
46	1	0	1	1	1	1	0	1	0
47	1	0	1	1	0	0	0	0	(1)
49	1	0	1	1	0	0	0	0	(1)
50	1	1	1	1	0	1	0	(1)	0
51	1	1	1	1	1	1	0	0	0
52	1	0	1	1	0	0	0	0	(1)
53	1	1	1	1	0	1	0	(1)	0
54	1	0	1	1	0	1	0	0	0
55	1	1	1	1	0	0	0	(1)	(1)
56	1	0	1	1	0	1	0	0	0
57	1	0	1	1	0	1	0	0	0
58	1	0	0	1	1	0	0	1	0
59	1	1	1	1	0	0	0	(1)	(1)
60	1	1	1	1	1	1	0	0	0
61	1	0	1	0	0	0	(1)	0	(1)
62	1	1	1	1	1	1	0	0	0
63	1	0	0	1	0	1	0	0	1
64	1	0	0	1	1	0	0	1	0
66	1	0	0	1	1	0	0	1	0
68	1	1	1	1	0	0	0	(1)	(1)
69	1	0	0	1	2	1	0	2	1
70	1	0	1	1	0	0	0	0	(1)
71	1	1	1	1	1	1	0	0	0
72	1	0	1	1	0	1	0	0	0
73	1	0	1	1	0	1	0	0	0
	55	27	49	46	20	36	(9)	(7)	(13)

(a) Recommended ALS/BLS only includes units needed for fire suppression.
(b) Decrease in ALS/BLS indicates apparatus currently housed in the station that are not needed for fire suppression.

STAFF AVAILABLE TO RESPOND WITHIN EIGHT MINUTES TRAVEL TIME - RECOMMENDED SCENARIO WITH MODIFIED STATION LOCATIONS

Station	Desired Coverage	Reconfigured Coverage	Excess/ (Shortage)
1	31	48	17
2	31	37	6
3	18	24	6
5	31	39	8
6	18	27	9
7	18	32	14
8	18	39	21
9	18	21	3
10	18	42	24
11	31	48	17
12	18	25	7
13	31	43	12
14	31	29	(2)
16	18	35	17
18	18	22	4
19	31	31	0
20	31	57	26
22	18	19	1
24	18	47	29
25	18	33	15
27	18	36	18
28	18	26	8
29	31	31	0
33	18	25	7
34	18	37	19
35	18	21	3
36	18	29	11
37	18	17	(1)
38	18	26	8
39	18	16	(2)
40	18	25	7
41	18	25	7
43	31	64	33
44	31	33	2
45	18	33	15
46	18	17	(1)
47	31	41	10
49	31	35	4
50	31	34	3
51	18	33	15
52	18	31	13
53	31	32	1
54	18	22	4
55	31	32	1
56	18	19	1
57	18	29	11
58	18	20	2
59	31	36	5
60	31	31	0
61	31	29	(2)
62	18	16	(2)
63	31	31	0
64	18	16	(2)
66	18	18	0
68	18	25	7
69	18	19	1
70	18	33	15
71	18	28	10
72	31	35	4
73	18	28	10

The recommended locations of ladder and engine companies under this scenario are presented in Exhibit X-28 and X-29 respectively.[18] Reallocating apparatus in the manner suggested will have no material affect on the ability of apparatus to respond to emergencies within the response expectations established by NFPA 1710. (The areas of the city that can be reached by an engine within four minutes travel time after these reallocations are made is presented in Exhibit X-30. The areas of the city that can be reached by a ladder within eight minutes travel time after these reallocations are made is presented in Exhibit X-31.[19]

Implementing these recommendations will reduce the overall number of staff that needs to be deployed. As Exhibit X-32 shows, the number of staff needed on each shift to be assigned to engines and ladders will decline by 71 (or 8 more than under the recommended scenario where station locations are taken as given). As with the prior scenario these reductions will be substantially offset by increases in the number of EMS staff deployed (see Exhibit X-24[20]).

Step 10: Assess ALS and BLS scheduling options. The number of ALS and BLS crews that will be needed to support fire suppression after engine and ladder capacity has been reduced under this scenario is summarized in the following table.

Battalion	ALS Units Needed To Support Fire Suppression	BLS Units Needed To Support Fire Suppression
Battalion 1	4	
Battalion 2	4	
Battalion 3	4	
Battalion 4	3	
Battalion 7	0	2
Battalion 8	0	1
Battalion 9	4	
Battalion 10	2	2
Battalion 11	4	
Battalion 12	3	
Battalion 13	3	
Total	31	5

These crews are needed 24-hours per day and, to facilitate training, should be deployed on the same 10-14 schedule as firefighters.

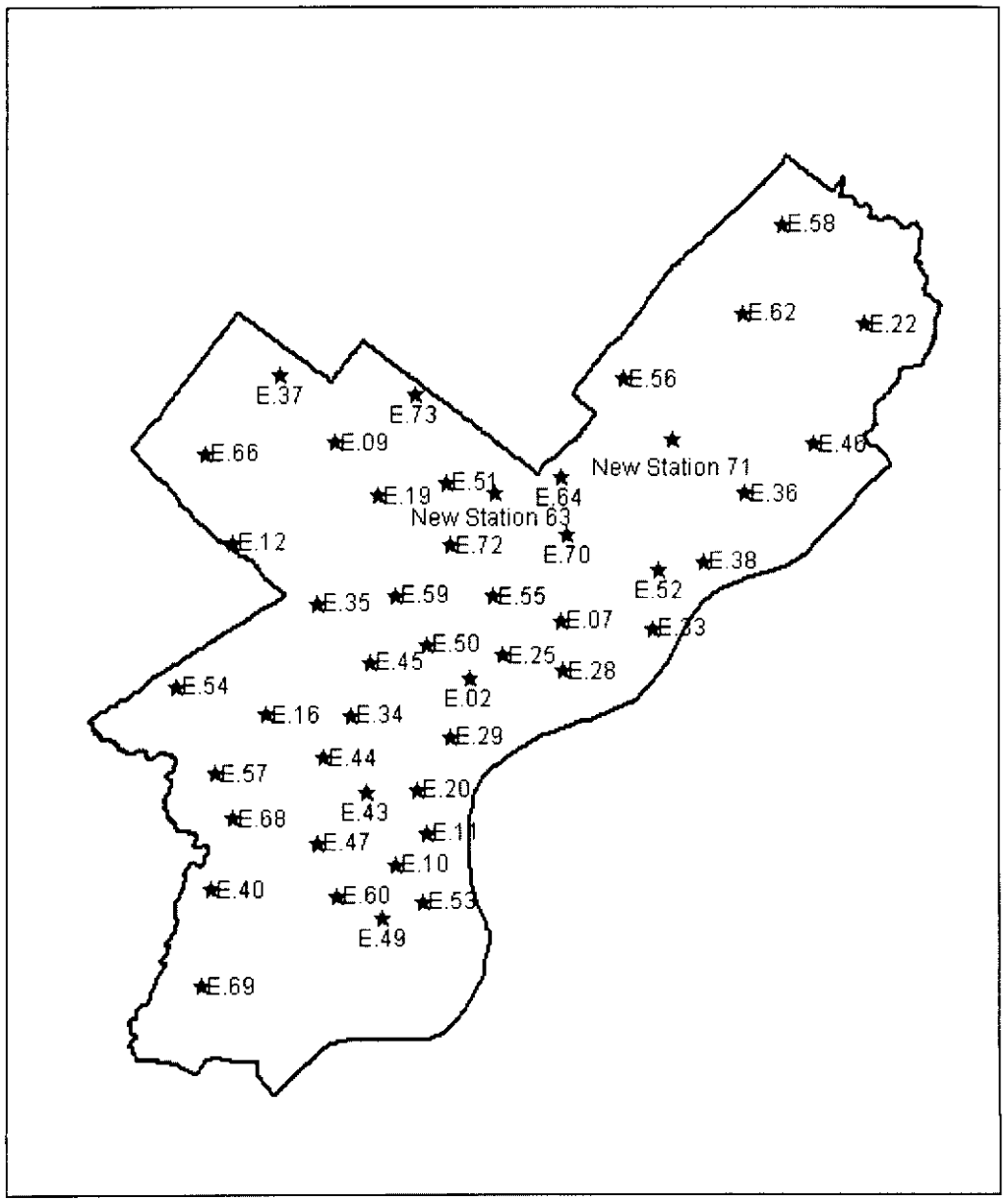
[18] As noted, the deployment of ambulances under this scenario is the same as under the "base recommended" scenario.

[19] Coverage areas for ALS ambulances under this scenario will be the same as for the "base recommended" scenario.

[20] The number of EMS ambulances that are deployed is unaffected by the location of stations because EMS staffing is primarily determined by the number of EMS calls received.

Exhibit X-28

LOCATION OF ENGINES – RECOMMENDED SCENARIO WITH MODIFIED STATION LOCATIONS



LOCATION OF LADDERS – RECOMMENDED SCENARIO WITH MODIFIED STATION LOCATIONS

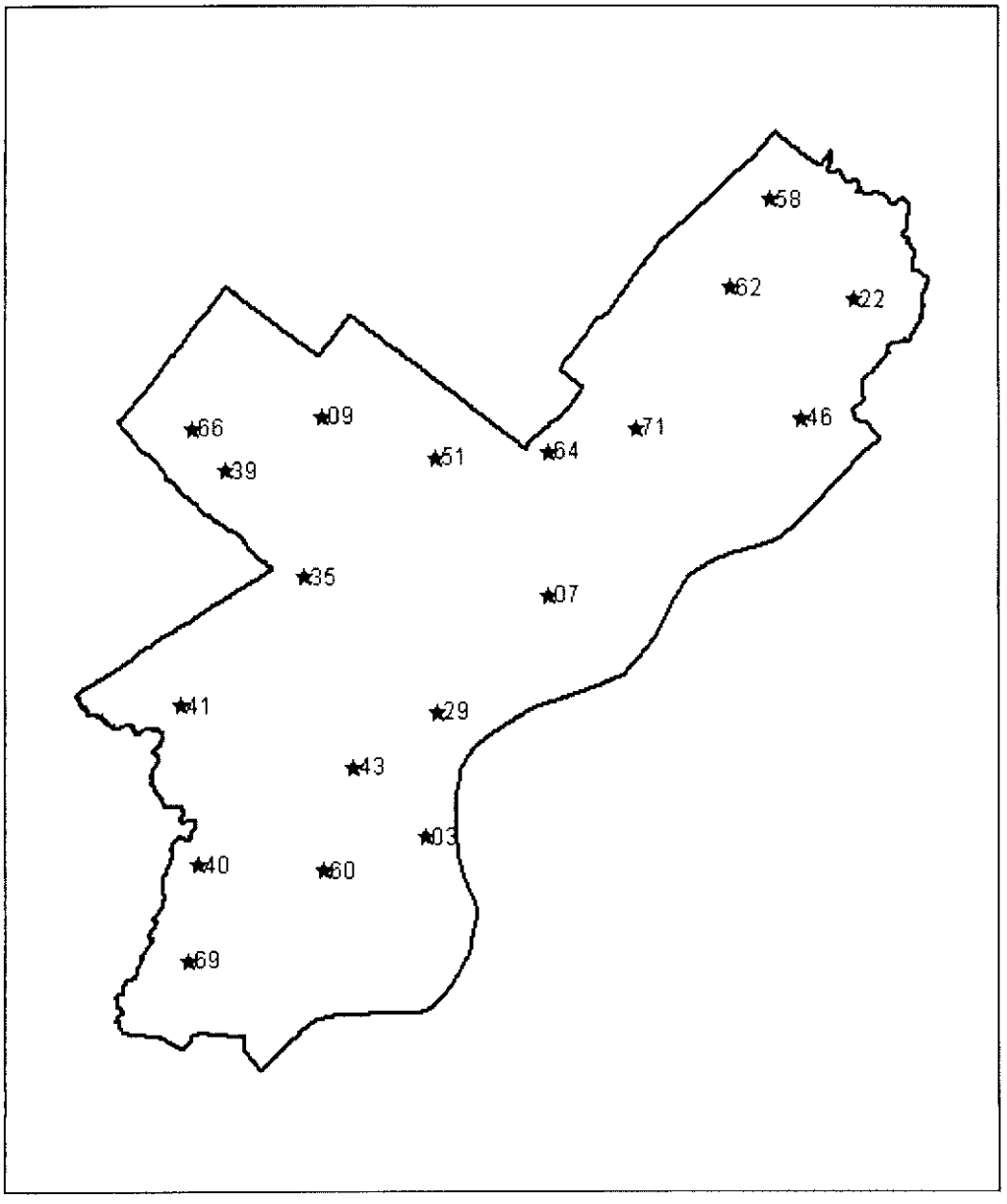


Exhibit X-30

AREAS THAT ENGINES CAN REACH WITHIN FOUR MINUTES TRAVEL TIME – RECOMMENDED SCENARIO WITH MODIFIED STATION LOCATIONS

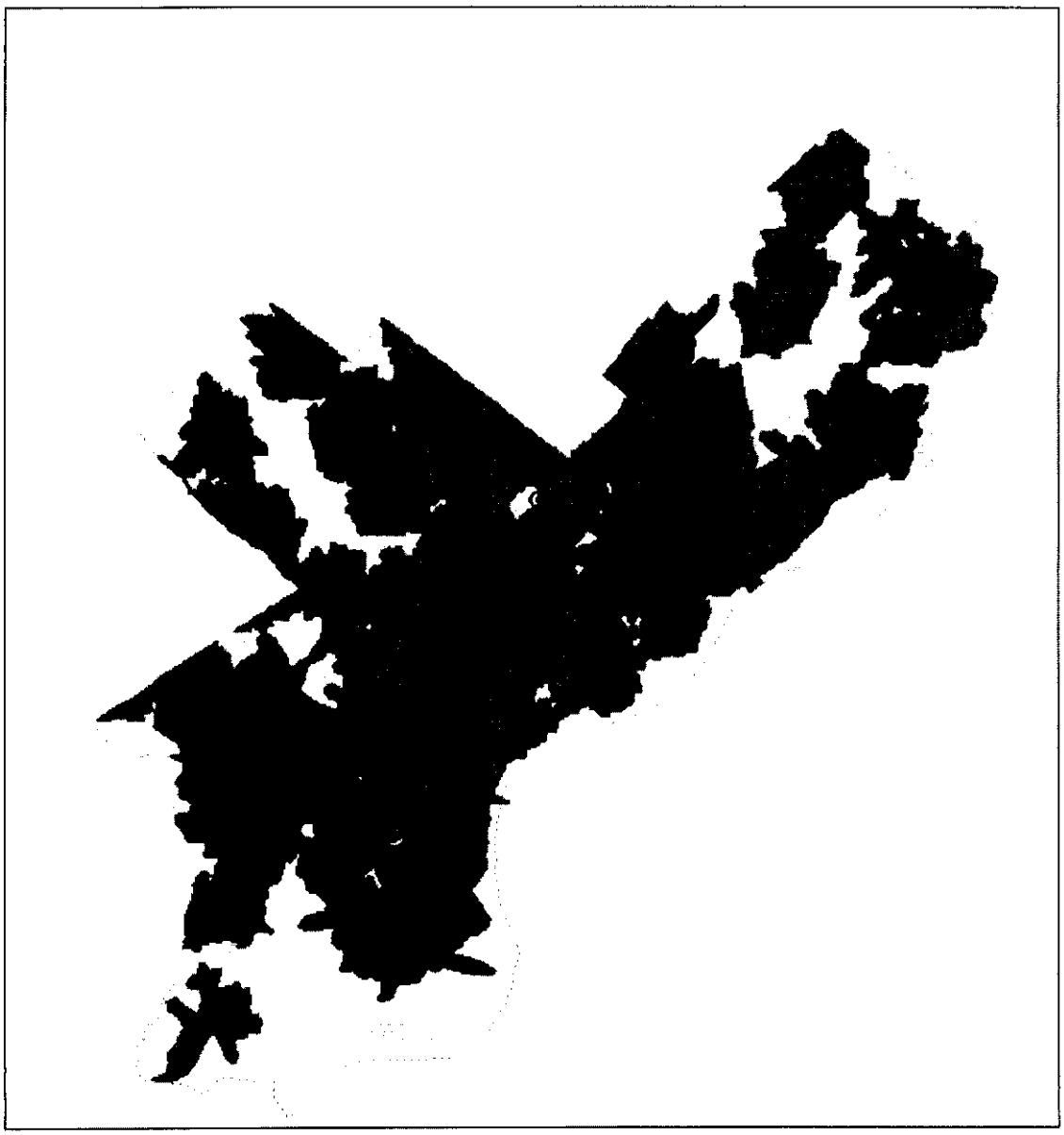


Exhibit X-31

AREAS THAT LADDERS CAN REACH WITHIN EIGHT MINUTES TRAVEL TIME – RECOMMENDED SCENARIO WITH MODIFIED STATION LOCATIONS

RECOMMENDED FIRE SUPPRESSION STAFFING BY SHIFT - RECOMMENDED SCENARIO WITH MODIFIED STATION LOCATIONS

	Current Deployment			Recommended Deployment			Addition/(Reduction)		
	Apparatus Needed	Staffing Per Apparatus	Total Staffing	Apparatus Needed	Staffing Per Apparatus	Total Staffing	Apparatus Needed	Staffing Per Apparatus	Total Staffing
Engines	55	4	220	46	4	184	(9)	4	(36)
Ladders	27	5	135	20	5	100	(7)	5	(35)
Total			355			284			(71)

The remaining ALS and BLS staff (that are not needed to support fire suppression efforts) could be deployed on the same 10-14 schedule as firefighters[21] or using the 12-hour shifts that have been established for paramedics.[22] Analysis indicates that the 12-hour shift schedule is significantly more cost-effective than the 10-14 work schedule – excluding relief, 46 staff are needed per shift if the 10-14 schedule is used and 39 staff are needed per shift if a 12-hour shift schedule is used. Twenty-one ALS units should therefore be assigned to 12-hour day shifts, 9 ALS units should be assigned to 12-hour night shifts, and 5 ALS units should be assigned to an 8-hour shift. In addition, two BLS units are needed on both the day and the night shifts.

Step 11: Calculate staffing needs by shift. The following table presents the number of staff that needs to be deployed on each shift (including the heavy rescue unit).

	Number Needed On Day Shift	Number Needed On Night Shift
Firefighters (Assigned to Suppression Apparatus)	290	290
Firefighter/Paramedics (Assigned To ALS Units)	31	31
Firefighter/EMTs (Assigned To ALS Units)	31	31
Firefighter/EMTs (Assigned To BLS Units)	10	10
Paramedics (Assigned To ALS Units)	21	14
Civilian EMTs (Assigned To ALS Units)	21	14
Civilian EMTs (Assigned To BLS Units)	4	4
Total	408	394

Step 12: Calculate staffing needs after adjusting for expected absences. The following table presents the number of staff that needs to be deployed on each day shift (including the heavy rescue unit) after accounting for expected absences.

	Number Needed On Night Shift	Relief Factor	Number Needed Before Rounding	Number Needed After Rounding
Firefighters (Assigned to Suppression Apparatus)	290	1.15	333.5	334
Firefighter/Paramedics (Assigned To ALS Units)	31	1.16	36.0	36
Firefighter/EMTs (Assigned To ALS Units)	31	1.15	35.7	35
Firefighter/EMTs (Assigned To BLS Units)	10	1.16	11.6	11
Paramedics (Assigned To ALS Units)	21	1.16	24.4	24
Civilian EMTs (Assigned To ALS Units)	21	1.20	25.2	25
Civilian EMTs (Assigned To BLS Units)	4	1.20	4.8	4
Total	408			469

[21] While from a management perspective deploying all ALS and BLS crews (those needed to support fire suppression and those that are not needed to support fire suppression) on the same shift schedule as firefighters would be beneficial it is only essential to do so for units that are needed to support fire suppression efforts.

[22] An eight-hour shift schedule was also evaluated but this alternative was determined not to be cost effective.

The number of staff that needs to be deployed on each night shift (including the heavy rescue unit) after accounting for expected absences is presented in the following table.

	Number Needed On Night Shift	Relief Factor	Number Needed Before Rounding	Number Needed After Rounding
Firefighters (Assigned to Suppression Apparatus)	290	1.15	335.5	334
Firefighter/Paramedics (Assigned To ALS Units)	31	1.16	36.0	36
Firefighter/EMTs (Assigned To ALS Units)	31	1.15	35.7	35
Firefighter/EMTs (Assigned To BLS Units)	10	1.16	11.6	11
Paramedics (Assigned To ALS Units)	14	1.16	16.2	16
Civilian EMTs (Assigned To ALS Units)	14	1.20	16.8	16
Civilian EMTs (Assigned To BLS Units)	4	1.20	4.8	4
Total	394			452

Total staffing for each position can be calculated by multiplying the number of positions needed on each shift by two.

	Number Needed On Day And Night Shifts	Total Needed
Firefighters (Assigned to Suppression Apparatus)	668	1,336
Firefighter/Paramedics (Assigned To ALS Units)	72	144
Firefighter/EMTs (Assigned To ALS Units)	70	140
Firefighter/EMTs (Assigned To BLS Units)	22	44
Paramedics (Assigned To ALS Units)	40	80
Civilian EMTs (Assigned To ALS Units)	41	82
Civilian EMTs (Assigned To BLS Units)	8	16
Total		1,842

Implications

A comparison of the staffing implications for the three scenarios evaluated in this chapter yields a number of interesting conclusions.

	Fire Suppression Staffing	EMS Staffing	Total Staffing
Current Scenario	1,764	404	2,168
Base Recommended Scenario	1,368	506	1,874
Recommended Scenario With Modified Station Locations	1,336	506	1,842

First, the analysis suggests that as currently configured the Philadelphia Fire Department lacks the capacity to meet response needs in all areas of the city. (The analysis for the current scenario indicates that meeting response expectations in all areas of the city will require increasing fire suppression resources.[23]) The analysis also suggests, however, that this problem does not result from the lack of resources (a significant reduction in operations staffing is possible) or from the fact that resources are poorly deployed (only modest savings results from modifying station location) but rather from the fact that as currently configured EMS resources cannot be used to address fire

[23] The analysis for this scenario suggests that 10 engine companies should be discontinued but 13 additional ladder companies should be established.

suppression needs. Indeed, increasing spending on EMS resources to the level needed to ensure EMS response expectations can be met not only addresses EMS needs but also creates sufficient additional capacity to allow EMS resources to be used to address fire suppression needs.

These results make sense when one considers that the number of fire calls received in any community is small and the probability of fires is low. Nonetheless, significant fire suppression capacity is needed to ensure an effective response when a fire call is received. At present, EMS staff are too busy to offset fire suppression needs (even when one considers that the likelihood of a fire suppression call is low). However, when EMS staffing is increased to the level needed to ensure EMS response expectations are met sufficient excess capacity is created for EMS resources to also provide the availability to support fire suppression response. Consequently, by increasing EMS staffing overall staffing needs can be reduced because, at recommended staffing levels, sufficient EMS staff will be deployed to offset fire suppression needs.

B – EMS SUPERVISION

As discussed in Chapter V spans of control for EMS supervisors should be greatly reduced. A reasonable span of control of one supervisor for every seven EMS crews should be established. Also, as discussed in Chapter V, in addition to overseeing shifts and/or coordinating services in a specified area of the city EMS captains should also oversee some EMS crews (the number of which will depend on their other workload). As the number of EMS crews deployed under the three staffing scenarios presented in the previous section varies, the number of EMS supervisors needed under each scenario will vary as well.

Current Scenario

Although no increase in ALS and BLS staffing is reflected in this scenario supervisory staffing will be needed to reduce spans of control to reasonable levels. One captain and ten lieutenants should be assigned to each of the two day shifts and one captain and four lieutenants should be assigned to each of the two night shifts.

Base Recommended Scenario

Under this scenario one captain and five lieutenants should be assigned to each 10-14 shift, six lieutenants should be assigned to the 12-hour day shift, and four lieutenants should be assigned to the 12-hour night shift.

Recommended Scenario With Modified Station Locations

Under this scenario one captain and five lieutenants should be assigned to each 10-14 shift, six lieutenants should be assigned to the 12-hour day shift, and four lieutenants should be assigned to the 12-hour night shift.

C – COMMUNICATIONS STAFFING

The analysis of communications staffing needs proceeded in a number of steps:

- Step 1: Establish service expectations
- Step 2: Use queuing analysis to determine the number of call-takers that are needed
- Step 3: Determine the number of dispatchers that are needed per shift
- Step 4: Assess scheduling alternatives
- Step 5: Apply relief factor to calculate overall staffing needs

Step 1: Establish Service Expectations

For the purpose of this analysis it was assumed that a call-taker should be available to handle a call when it is received 95 percent of the time. Observations made at the department's communications center suggest that currently calls are held on a much more frequent basis. Indeed, during intermittent visits to the center calls being held for 20 to 30 seconds were observed.

Step 2: Use Queuing Analysis To Determine The Number Of Call-Takers That Are Needed

Queuing analysis was used to determine the number of call-takers that are needed by hour of the day and day of the week assuming it takes two minutes to handle a call. Five call-takers are needed during the busiest hours of the week while three call-takers are sufficient to handle the call workload during other hours.

Step 3: Determine The Number Of Dispatchers That Are Needed Per Shift

Unlike call-takers the need for communications dispatchers does not vary significantly by hour of the day. Two dispatchers are needed to dispatch fire calls and two dispatchers are needed to dispatch EMS calls.

Step 4: Assess Scheduling Alternatives

The current 12-hour shift schedule was determined to be a cost-effective scheduling approach. Using this schedule a total of 17 dispatch positions are needed to meet service expectations:

- Five call-taker and four dispatcher positions are needed on the day shift
- Four call-taker and four dispatcher positions are needed on the night shift

Please note that the analysis suggests that shift hours should be slightly modified. Instead of beginning shifts at 8:00 a.m. and 8:00 p.m. shifts should begin at 9:00 a.m. and 9:00 p.m.

Step 5: Apply Relief Factor To Calculate Overall Staffing Needs

After accounting for expected absences a total of 19 line communications staff should be assigned to the day and the night shifts.[24]

Shift	Staff Needed	Relief Factor	Number Needed	Number Needed After Rounding
Day	9	1.18	10.62	10
Night	8	1.18	9.44	9
Total	17			19

The total number of staff needed on two day and two night shifts is 38 (excluding positions that are not assigned dispatch or call-taking responsibilities).

[24] The relief factor calculated based on expected absences (1.18) assumes communications center staff will participate in 16 hours of training per year.

XI – POLICIES

XI – POLICIES

This section discusses three areas where changing Fire Department policies would be beneficial. Two policies relate to ensuring firefighter safety by requiring them to be physically fit and the third policy relates to compensation for EMS supervisors and managers.

The Department Should Establish Two Policies That Reflect Its Commitment To Ensuring The Safety Of Firefighters And Paramedics By Requiring Them To Be Physically Fit

As previously discussed in Chapter IX, the safety of firefighters and paramedics is adversely affected if they are not physically fit. Taking seriously the department's commitment to employee safety – one of the overall objectives for the department discussed in the second steering committee meeting – requires that the fitness level of firefighters be addressed. To this end, the department should require firefighters to complete an annual fitness test.[1]

A remediation program should be developed for firefighters who do not pass this test. During recommended physical fitness training on each shift, these firefighters would be expected to adhere to program requirements. Progress in improving the fitness of these firefighters should be tracked on a quarterly basis. Company officers would be assigned responsibility for ensuring the recommended physical fitness program is followed.

The department should also require that employment candidates pass a fitness test before they are hired.[2] Hiring firefighters who pose a health and safety risk to themselves and their crews will increase costs in the short term (as the department will need to develop and implement a remediation program as soon as these firefighters are hired) and in the long term (as employees who are not physically fit will be more likely to become ill). The reasonableness of this requirement is reflected in the fact that all but one of the benchmark jurisdictions requires employment candidates to pass a physical capabilities assessment. In addition, newly hired firefighters should be required to meet fitness requirements before their probationary period has ended.

EMS Supervisors And Managers Should Retain The 10 Percent Stipend They Receive For Serving As Paramedics

At present, there are only modest incentives for paramedics to become supervisors. Under current policies paramedic supervisors lose the 10 percent stipend for being a paramedic when they are promoted to supervisor. Given that first-line supervisors receive 14 percent more than their line counterparts, the effective salary increase for paramedic managers and supervisors is four percent. In addition, because supervisors

[1] It should be noted that only one of the benchmark jurisdictions (New York City) requires members to pass a mandatory physical fitness exam. Nonetheless, not requiring Philadelphia members to pass a physical fitness exam would be inconsistent with the department's objective of ensuring the safety of firefighters.

[2] Of the benchmark departments providing information only one (Milwaukee) does not require employment candidates to pass a physical fitness test.

are not allowed to work overtime, new supervisors who previously worked a lot of overtime could actually have their pay reduced when they are promoted.

EMS supervisors and managers should therefore retain their paramedic stipend when they are promoted. This practice is consistent with the practice employed with regard to haz mat officers who retain the three percent stipend for haz mat duty when they are promoted.

XII – LABOR AND MANAGEMENT RELATIONS

XII – LABOR AND MANAGEMENT RELATIONS

The fact that labor and management are at odds in the Philadelphia Fire Department is hardly surprising given the city's financial challenges and the difficulty the two sides have had in reaching accord on a new collective bargaining agreement.[1] However, the rancor that appears to exist between management and labor may be greater than the contract negotiations by themselves would suggest. While eliminating the rift between management and labor is not a reasonable goal, it may be possible to reduce the level of management and labor strife. Improved communication between management and labor on issues important to employees (e.g., disciplinary and transfer practices) would be extremely beneficial. In addition, creating alternative less adversarial approaches to handling some disciplinary issues would likely be beneficial. Moreover, in some areas engaging Local 22 as a partner in determining the best way to achieve management goals would be beneficial. This chapter discusses a number of ways that relationships between labor and management might be strengthened. The discussion is divided into three parts: improving communications; modifying practices; and working collaboratively to address selected issues.

IMPROVING COMMUNICATIONS

The Department Should Establish Guidelines To Govern The Transfer Of Employees Among Stations

Management and employees have very different perspectives about transfer practices. On the one hand, employee concerns about transfer practices were reflected both in interviews and employee survey results. Almost four out of five survey respondents expressing an opinion disagree or strongly disagree that "the transfer process is fair," while only 7.4 percent of the survey respondents agree or strongly agree with this statement. Discussions with department leaders suggest, however, that while transfers may be used to enforce accountability, these actions represent management priorities and are not simply arbitrary punishment.

These differences in perspectives are reflected in the transfer of employees who are involved in traffic accidents. There is a widespread perception among employees that drivers who get into accidents are unfairly punished by being transferred. The not unreasonable perspective of department leaders however is that safety is a department priority and individuals who get into accidents should be transferred to stations where accidents are less likely to occur.

The ability to transfer employees is an important management right and this right should not be compromised. Indeed, as discussed in Chapter IX, using transfers to disrupt the culture of stations where response to medical calls is not a priority is recommended. However, the perception that transfers are punitive and arbitrary might be counteracted – at least somewhat – if general guidelines for transferring employees were established and used to communicate the reasons for transfers. While employees may not agree with these decisions, if the basis for decisions was communicated at least perceptions that transfers are arbitrary might be allayed.

[1] Contract negotiations are currently in arbitration.

Establishing guidelines that outline circumstances that will result in firefighters or paramedics being transferred would be beneficial in showing that such decisions are not arbitrary but represent a consistent approach to addressing management priorities. Please note, however, that department leaders should not be unduly restricted by these guidelines – they should be able to impose transfers that are not reflected in the guidelines if there is a compelling management need to do so. When guidelines are not followed however, the reasons for not doing so should be communicated (unless privacy or other considerations would make such communications inappropriate).

The Department Should Also Communicate The Discipline That Is Imposed For Various Infractions

Both interviews and employee survey results suggest considerable concern among employees that discipline is not consistently applied across the department. Whether or not these perceptions are accurate they are widespread. More than three-fourths of the survey respondents expressing an opinion (76.3 percent) disagree or strongly disagree that "the disciplinary process is fair" while only 6.3 percent of the survey respondents agree or strongly agree with this statement.

Concerns about these issues also contribute to racial tensions within the department. Some interviewees suggested that the level of discipline a person receives might be affected by his or her race. That these views are widely held is also supported by the results of the employee survey. More than three-fourths of the survey respondents expressing an opinion (75.5 percent) disagree or strongly disagree that "disciplinary decisions are made without regard to race or ethnic background" while only slightly more than one in ten respondents (11.1 percent) agree or strongly agree with this statement. When survey results are broken out by racial groups stark differences emerge – 87.2 percent of Caucasians expressing an opinion disagree or strongly disagree that "disciplinary decisions are made without regard to race or ethnic background," 64.2 percent of Hispanics disagree or strongly disagree with this statement, but only 29.0 percent of African-Americans disagree or strongly disagree.

	Caucasian	African-American	Hispanic
Strongly Agree	1.2%	7.1%	3.8%
Agree	5.4%	30.4%	15.4%
Neutral	6.2%	33.5%	16.7%
Disagree	16.1%	16.3%	24.4%
Strongly Disagree	71.1%	12.7%	39.8%

These concerns could be allayed – if not eliminated – if the department communicated what discipline has been historically imposed for various infractions. This information should also be tracked and communicated on a regular basis. Where the discipline imposed varies from what is typically imposed the department should, to the extent possible without providing personal information about individual employees, explain the rationale for varying from the standard. Please note that tracking the consistency of the level of discipline imposed would be an effective practice regardless of current skepticism that discipline is fairly administered. Indeed, most departments the consultants have evaluated – many of which are not as large and complex as the Philadelphia Fire Department – struggle to ensure consistency in how discipline is administered across units and shifts.

MODIFYING PRACTICES

The Department Should Work With The Union To Develop Alternative Approaches To Addressing Discipline Issues

The process for ensuring employees are not subject to unfair or unwarranted discipline in the Philadelphia Fire Department is expensive, time consuming, and cumbersome. Formal charges are filed as governed by department directive 25 for issues relating to conduct unbecoming, drug and alcohol violations, insubordination, neglect of duty, disobeying an order, or administrative violations (e.g., showing up late for work, not showing up for work, and being discourteous to the public). After a formal charge is filed the Special Investigations Officer interviews witnesses and prepares a report for the Commissioner to review to determine if disciplinary action should be taken.

After discipline is assigned an employee has three options:

- "Plead guilty" and waive his/her rights to a trial board and grievance (very few employees select this option)
- Refuse a trial board but don't waive the right to grieve the discipline
- Request a trial board[2]

Regardless of the trial board decision (if that option is selected) the Commissioner has the authority to impose the discipline he sees as being fit.

If the employee believes that the penalty is too severe or not consistent with prior discipline, he or she has the option of grieving the decision and taking the process to arbitration. The department has to respond within 10 days of receiving a grievance request. The Mayor's office of labor relations then facilitates the process (a city attorney is assigned to handle the case and witnesses have to be deposed). If the arbitration goes against the city the employee may receive back pay.

This process is both lengthy and expensive. In interviews employees indicated that the entire process can last one year or more. The process is expensive because the department must pay overtime or compensatory time to the persons who serve on the trial board. In addition, arbitrators are paid between $1,200 and $1,500 to hear a case and another $1,200 to $1,500 to issue a decision.

[2] The trial board consists of a deputy chief (who chairs the board), one person of an equal rank (or one rank above) who is selected by the department, and one person who is selected by the union. At this proceeding the Special Investigations Officer serves as the "prosecutor" while the employee can be represented by the union or his/her own lawyer. After evidence has been presented the trial board votes on whether the employee committed the action or not.

Another major problem with this process is that it treats most disciplinary infractions – the least serious to the most serious – in the same manner. While the normal disciplinary process is suspended for some types of charges[3] for all other disciplinary actions the same process is used. It is as if, to use a criminal analogy, the same process is used for handling a parking ticket as a capital crime. Moreover, at the end of this lengthy process the Commissioner retains the authority to impose whatever discipline he sees fit. In addition, some interviewees reported that because the process is so involved minor disciplinary problems might be overlooked and not addressed by managers and supervisors until they grow to the point that they can no longer be avoided. In other words, the process prevents problems from being addressed when they are relatively minor and the disciplinary consequences are relatively small.

This situation is beneficial to neither managers nor employees. Modifications to the current disciplinary process that would allow the process to vary based on the severity of the infraction would seem to be beneficial to all stakeholders – managers, union representatives, and individual employees. The department should therefore work with the union to develop alternative approaches to addressing discipline issues.

WORKING COLLABORATIVELY TO ADDRESS SELECTED ISSUES

The Department Should Seek Assistance From Local 22 On How Best To Implement Selected Policies

Just because labor and management may have conflicting interests on some issues – for example, issues relating to pay and benefits – does not mean there are not other issues on which they can collaborate. Indeed, on some issues management would not cede any significant authority by working collaboratively with labor to determine how best to implement selected policies. A discussion of two areas (transfers of paramedics and handling injuries) where seeking opportunities to work collaboratively with Local 22 (without ceding meaningful management authority) would potentially be beneficial follows.

Transfers of paramedics. The department made a commitment to paramedics that after three years any paramedic working the night shift who wished to change to the day shift would have the opportunity to do so (as would staff assigned to the night shift who wanted to work on the day shift). The department used the opportunity to make good on this commitment to establish a broader rotation for paramedics similar to what is a standard practice for fire suppression officers. While from management's perspective there are benefits to rotating staff this decision has created significant consternation among paramedics. Indeed, in interviews many paramedics discussed this issue with great emotion. More than one interviewee indicated that he or she would leave the department if required to rotate to a different shift.

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[3] Employees arrested on felony charges are automatically suspended for 30 days with an intent to dismiss, on-duty drug or alcohol abuse results in an automatic 20-day suspension, and DUI arrests result in an automatic 20-day suspension (a second infraction results in an automatic dismissal).

To their credit, department managers structured the rotation process in a manner that considers paramedic preferences. Indeed, 73 percent of the paramedics received their first or second choice. However, since reportedly most paramedics would have preferred not to have been rotated at all, the requirement that staff be rotated has created significant ill will.

Management has the authority to transfer staff and, over the long term, the benefits of rotation may offset the costs. At present, however, the unavoidable discontent with a policy that requires rotation across stations as well as across shifts is increased because the management rationale for the change has not been well articulated. While management has no obligation to share the rationale for its decision, articulating the benefits of rotating staff and working with Local 22 to develop an approach to achieve those benefits in a way that is the most palatable to staff would be beneficial. There is disagreement about the extent to which labor input was sought and provided in structuring the initial rotation. These disagreements should not, however, prevent collaborative input from being sought in the future.

Handling injuries. While taking steps to ensure accountability for avoidable injuries and accidents is a management prerogative that should not be ceded productive and open discussions between managers and labor about how to handle injuries and traffic accidents would also be beneficial. At present, battalion chiefs investigate accidents. Members who are injured at fire scenes are detailed to the fire training academy while an investigation is conducted. Once the investigation has been completed the injured member is detailed to the fire prevention unit to learn about fire safety procedures. The member is typically then transferred to another location.

While these practices in no way seem unreasonable, there is nonetheless widespread concern about how accidents and injuries are handled. In interviews, both firefighters and paramedics indicated that concerns about these procedures might lead to underreporting injuries and accidents. These findings were supported by the results of the employee survey. As the following table shows, 69.3 percent of the survey respondents expressing an opinion reported that they have failed to report a minor injury.

Number Of Times Minor Injury Is Not Reported	Percent
Once	9.0%
Two to five times	36.5%
Six to ten times	12.5%
More than ten times	11.3%
Never, I report every injury	30.7%

If accidents and injuries are not reported efforts to ensure employee safety are made much more difficult. It seems beneficial, therefore, for department managers and Local 22 representatives to work together to identify productive strategies (including sanctions) for reducing avoidable accidents and injuries. Modifications to the current discipline process might be agreed to as part of these discussions. Transferring employees to address injury related issues is viewed as excessive punishment by department employees yet transferring employees is the only alternative available to managers other than the time consuming and expensive discipline process.

XIII – ALTERNATIVE SERVICE DELIVERY APPROACHES

XIII – ALTERNATIVE SERVICE DELIVERY APPROACHES

This chapter evaluates opportunities to reduce costs and/or improve service by implementing alternative service delivery approaches. The chapter begins by identifying functions and services for which the department should consider privatization. (Please note that this analysis does not indicate which services should be privatized but only for which services to issue bids in order to better understand how the cost and quality of service private contractors might provide compares to current services.) Next, areas for which entering into shared or regional service arrangements with other city departments (or other area governments) might be beneficial are identified.

A – PRIVATIZATION ANALYSIS

A number of factors should be systematically evaluated when assessing whether privatization should be considered for a local government function:

- Contracting out non-core services allows managers to focus more attention on improving core service offerings
- Private firms have structural advantages that allow them to out-perform even the best managed governments (for example, private firms may be able to take advantage of economies of scale not available to a government)
- Outsourcing allows a government to manage random fluctuations in workload and seasonal workload peaks more effectively
- Government managers can use private contractors to overcome barriers to change
- Private firms have more flexibility in acquiring needed equipment and hiring needed staff in a timely manner than governments
- Risks associated with technological change can be shifted to the contractor

These factors were used to assess the potential benefits of privatizing each of the functions performed by the Philadelphia Fire Department using the following scale.

Symbol	Description
◖	Mostly Supports Privatization
O	Somewhat Supports Privatization
--	Does Not Support Privatization

The results of this analysis (presented in Exhibit XIII-1) suggests that the following 17 functions should be considered for privatization:

- Provide non-emergency medical services to Philadelphia residents
- Provide fire services at events (both large and small)
- Provide EMS services at events (both large and small)
- Inspect facilities that store and use hazardous materials

ASSESSMENT OF SERVICES FOR WHICH PRIVATIZATION SHOULD BE CONSIDERED

Service	Expertise/ Focus	Structural Advantages	Managing Fluctuations In Workload	Barriers To Change	Flexibility In Procurement And Human Resource Management	Technological Change	Candidate For Privatization?
External							
■ Provide fire suppression services and effective response to other emergencies (e.g., hazardous materials spills)	---	---	---	---	---	---	No
■ Provide effective and appropriate emergency medical services to Philadelphia residents	---	---	---	---	---	---	No
■ Provide non-emergency medical services to Philadelphia residents	◖	---	◖	---	---	---	Yes
■ Provide call taking and dispatch services	---	---	---	---	---	---	No
■ Provide fire services at events (both large and small)	◖	---	◖	---	---	---	Yes
■ Provide EMS services at events (both large and small)	◖	---	◖	---	---	---	Yes
■ Coordinate hazardous materials cleanups	---	---	---	---	---	---	No
■ Inspect facilities that store and use hazardous materials	○	---	○	---	---	---	Yes

ASSESSMENT OF SERVICES FOR WHICH PRIVATIZATION SHOULD BE CONSIDERED

Service	Expertise/ Focus	Structural Advantages	Managing Fluctuations In Workload	Barriers To Change	Flexibility In Procurement And Human Resource Management	Technological Change	Candidate For Privatization?
■ Conduct hazardous materials sweeps for special events	O	---	O	---	---	---	Yes
■ Provide effective response to marine emergencies	O	---	---	---	---	---	No
■ Provide fire suppression and effective response to other emergencies at the airport	---	---	---	---	---	---	No
■ Provide regulatory services that support effective EMS operations in the regions (e.g., license ambulance companies, certify staff, register continuing education classes, certify schools that train paramedics, certify medical command facilities)	O	---	---	---	---	---	No
■ Provide public education services focused on reducing deaths and injuries resulting from fire	O	O	---	---	---	O	Yes
■ Provide public education services focused on reducing the need for EMS services	O	O	---	---	---	O	Yes
■ Serve as the department's public information officer	O	---	---	---	---	---	No

ASSESSMENT OF SERVICES FOR WHICH PRIVATIZATION SHOULD BE CONSIDERED

Service	Expertise/ Focus	Structural Advantages	Managing Fluctuations In Workload	Barriers To Change	Flexibility In Procurement And Human Resource Management	Technological Change	Candidate For Privatization?
■ Review fire related plans at high rises	---	---	---	---	---	---	No
■ Provide curator services at the fire museum	◖	---	---	---	---	---	Yes
■ Investigate suspected arsons	---	---	---	---	---	---	No
■ Investigate requests for variances to the fire code	O	---	---	---	---	---	No
■ Review building plans	---	---	---	---	---	---	No
■ Handle complaints	---	---	---	---	---	---	No
Internal							
■ Manage and enforce the department's drug, alcohol, and DUI policies	---	---	---	---	---	---	No
■ Support the grievance and arbitration process	---	---	---	---	---	---	No
■ Conduct residency investigations	O	O	---	---	---	---	Yes
■ Investigate EEO complaints	---	---	---	---	---	---	No
■ Provide recruit and in-service training to firefighters	---	---	---	---	---	---	No

ASSESSMENT OF SERVICES FOR WHICH PRIVATIZATION SHOULD BE CONSIDERED

Service	Expertise/ Focus	Structural Advantages	Managing Fluctuations In Workload	Barriers To Change	Flexibility In Procurement And Human Resource Management	Technological Change	Candidate For Privatization?
■ Provide EMS training	---	---	---	---	---	---	No
■ Acquire, distribute, and test protective equipment	O	---	---	---	---	---	No
■ Prepare data and statistics on safety related issues	---	---	---	---	---	---	No
■ Serve as the department's legislative liaison	◖	◖	◖	---	---	---	Yes
■ Provide graphics and photographic support for the department	O	◖	◖	---	---	O	Yes
■ Determine cause and origin at fires	---	---	---	---	---	---	No
■ Handle document requests from stakeholders (FOIA requests, insurance company requests, investigator requests)	O	---	O	---	---	---	Yes
■ Support the purchase of equipment that is needed in the field by determining need and developing specifications	---	---	---	---	---	---	No
■ Support the purchase of apparatus that is needed in the field	---	---	---	---	---	---	No

ASSESSMENT OF SERVICES FOR WHICH PRIVATIZATION SHOULD BE CONSIDERED

Service	Expertise/ Focus	Structural Advantages	Managing Fluctuations In Workload	Barriers To Change	Flexibility In Procurement And Human Resource Management	Technological Change	Candidate For Privatization?
■ Maintain equipment that is needed in the field	O	O	O	---	---	---	Yes
■ Review directives and operating procedures	---	---	---	---	---	---	No
■ Ensure the water needed to fight fires is available	---	---	---	---	---	---	No
■ Replace portable radios	---	---	---	---	---	---	No
■ Ensure communications related regulatory requirements are met	---	---	---	---	---	---	No
■ Change and update the fire code as necessary	---	---	---	---	---	---	No
■ Bill and collect for EMS services	◖	◖	◖	---	---	◖	Yes, already privatized
■ Accurately input information into the payroll system	---	---	---	---	---	---	No
■ Maintain employee records	---	---	---	---	---	---	No
■ Provide professional counseling and assistance to employees in need	◖	---	◖	---	◖	---	Yes
■ Limit risks to employee safety from infection	---	---	---	---	---	---	No

ASSESSMENT OF SERVICES FOR WHICH PRIVATIZATION SHOULD BE CONSIDERED

Service	Expertise/ Focus	Structural Advantages	Managing Fluctuations In Workload	Barriers To Change	Flexibility In Procurement And Human Resource Management	Technological Change	Candidate For Privatization?
■ Manage and execute the annual budget process	---	---	---	---	---	---	No
■ Pay department obligations	---	---	---	---	---	---	No
■ Provide internal mail services	○	◖	○	---	---	---	Yes
■ Provide purchasing services and support for the acquisition of goods and services	---	---	---	---	---	---	No
■ Manage and account for fixed assets	---	---	---	---	---	---	No
■ Provide financial management for grants	---	---	---	---	---	---	No
■ Maintain warehouse	○	○	○	---	---	---	Yes

- Conduct hazardous materials sweeps for special events
- Provide public education services focused on reducing deaths and injuries resulting from fire
- Provide public education services focused on reducing the need for EMS services
- Provide curator services at the museum
- Conduct residency investigations
- Serve as the department's legislative liaison
- Provide graphics and photographic support for the department
- Handle stakeholder document requests (FOIA requests, insurance company requests, investigator requests)
- Maintain equipment that is needed in the field
- Bill and collect for EMS services (already privatized)
- Provide professional counseling and assistance to employees in need
- Provide internal mail services
- Maintain warehouse

After functions that are candidates for privatization were identified, the costs and risks associated with privatization were assessed. The costs associated with using private contractors may be grouped into a number of broad categories: transaction costs; costs associated with loss of synergy; and organizational costs. The risks associated with using private contractors may also be grouped into a number of categories: risks associated with loss of control; non-performance risks; lack of competition; and lack of information.

A comparison of the potential benefits of privatization to the associated costs and risks (presented in Exhibit XIII-2) suggests that 13 services should be put out to bid:

- Provide non-emergency medical services to Philadelphia residents
- Provide EMS services at events (both large and small)
- Provide public education services focused on reducing deaths and injuries resulting from fire
- Provide public education services focused on reducing the need for EMS services
- Provide curator services at the museum

ASSESSMENT OF SERVICES FOR WHICH BIDS FROM OUTSIDE FIRMS SHOULD BE SOLICITED

Service		Costs			Risks				
	Benefits	Transaction Costs	Loss Of Synergy	Organizational Costs	Loss Of Control	Non-Performance Risk	Lack Of Competition	Lack Of Information	Bid Services?
■ Provide non-emergency medical services to Philadelphia residents	◖	○	◖	---	---	---	---	---	Yes
■ Provide fire services at events (both large and small)	○	○	---	---	---	○	◖	---	No
■ Provide EMS services at events (both large and small)	○	○	---	---	---	○	---	---	Yes
■ Inspect facilities that store or use hazardous materials	○	○	○	---	◖	◖	○	---	No
■ Conduct hazardous materials sweeps for special events	○	○	○	---	◖	◖	○	---	No
■ Provide public education services focused on reducing deaths and injuries resulting from fire	○	○	---	---	---	---	---	---	Yes
■ Provide public education services focused on reducing the need for EMS services	○	○	---	---	---	---	---	---	Yes
■ Provide curator services at the museum	○	○	---	---	---	---	---	---	Yes
■ Conduct residency investigations	○	○	---	---	---	---	---	---	Yes
■ Serve as the department's legislative liaison	○	○	---	---	---	○	---	---	Yes
■ Provide graphics and photographic support for the department	○	○	---	---	---	---	---	---	Yes
■ Handle document requests from stakeholders (FOIA requests, insurance company requests, investigator requests)	○	○	---	---	○	○	---	---	No
■ Maintain equipment that is needed in the field	○	○	---	---	---	○	---	---	Yes

ASSESSMENT OF SERVICES FOR WHICH BIDS FROM OUTSIDE FIRMS SHOULD BE SOLICITED

Service		Costs			Risks				
	Benefits	Transaction Costs	Loss Of Synergy	Organizational Costs	Loss Of Control	Non-Performance Risk	Lack Of Competition	Lack Of Information	Bid Services?
■ Bill and collect for EMS services (already privatized)	◖	O	---	---	---	◖	---	---	Yes
■ Provide professional counseling and assistance to employees in need	◖	O	---	---	---	---	---	---	Yes
■ Provide internal mail services	◖	O	---	---	---	---	---	---	Yes
■ Maintain warehouse	◖	O	---	---	---	---	---	---	Yes

- Conduct residency investigations
- Serve as the department's legislative liaison
- Provide graphics and photographic support for the department
- Maintain equipment that is needed in the field
- Bill and collect for EMS services (already privatized)
- Provide professional counseling and assistance to employees in need
- Provide internal mail services
- Maintain warehouse

B – SHARED OR REGIONAL SERVICES ANALYSIS

A number of factors should be considered when determining whether services provided by one governmental department might be more cost-effectively provided on a shared or regional services basis. In particular, providing services on a shared or regional services basis may allow the government to:

- Take advantage of operational economies of scale
- Take advantage of purchasing economies
- Pool risks
- Leverage expertise
- Address intermittent and seasonal service needs

The above factors were used to assess the potential benefits of providing services on a shared or regional services basis for each of the functions performed by the Philadelphia Fire Department using the following scale.

Symbol	Description
◖	Mostly Supports Shared Services Delivery
O	Somewhat Supports Shared Services Delivery
--	Does Not Support Shared Services Delivery

The analysis presented in Exhibit XIII-3 suggests that shared or regional service delivery should be considered for the following 16 functions:

- Serve as the department's public information officer
- Provide curator services at the fire museum
- Review building plans

ANALYSIS OF SERVICES FOR WHICH SHARED SERVICES SHOULD BE CONSIDERED

Service	Economies Of Scale	Purchasing Economies	Risk Pooling	Leveraging Expertise	Intermittent And Seasonal Services Needs	Candidate For Shared Services?
External						
■ Provide fire suppression services and effective response to other emergencies (e.g., hazardous materials spills)	---	---	---	---	---	No
■ Provide effective and appropriate emergency medical services to Philadelphia residents	---	---	---	---	---	No
■ Provide non-emergency medical services to Philadelphia residents	---	---	---	---	---	No
■ Provide call taking and dispatch services	---	---	---	---	---	No
■ Provide fire services at events (both large and small)	---	---	---	---	---	No
■ Provide EMS services at events (both large and small)	---	---	---	---	---	No
■ Coordinate hazardous materials cleanups	---	---	---	---	---	No
■ Inspect facilities that store and use hazardous materials	---	---	---	---	---	No
■ Conduct hazardous materials sweeps for special events	---	---	---	---	---	No

ANALYSIS OF SERVICES FOR WHICH SHARED SERVICES SHOULD BE CONSIDERED

Service	Economies Of Scale	Purchasing Economies	Risk Pooling	Leveraging Expertise	Intermittent And Seasonal Services Needs	Candidate For Shared Services?
■ Provide effective response to marine emergencies	---	---	---	---	---	No
■ Provide fire suppression and effective response to other emergencies at the airport	---	---	---	---	---	No
■ Provide regulatory services that support effective EMS operations in the regions (e.g., license ambulance companies, certify staff, register continuing education classes, certify schools that train paramedics, and certify medical command facilities)	---	---	---	---	---	No
■ Provide public education services focused on reducing deaths and injuries resulting from fire	---	---	---	○	---	No
■ Provide public education services focused on reducing the need for EMS services	---	---	---	○	---	No
■ Serve as the department's public information officer	---	---	---	○	○	Yes
■ Review fire related plans at high rises	---	---	---	---	---	No
■ Provide curator services at the fire museum	---	---	---	◖	---	Yes, if other city departments operate museums

ANALYSIS OF SERVICES FOR WHICH SHARED SERVICES SHOULD BE CONSIDERED

Service	Economies Of Scale	Purchasing Economies	Risk Pooling	Leveraging Expertise	Intermittent And Seasonal Services Needs	Candidate For Shared Services?
■ Investigate suspected arsons	---	---	---	---	---	No
■ Investigate requests for variances to the fire code	---	---	---	---	---	No
■ Review building plans	O	---	---	O	O	Yes
■ Handle complaints	---	---	---	---	---	No
Internal						
■ Manage and enforce the department's drug, alcohol and DUI policies	---	---	---	---	---	No
■ Support the grievance and arbitration process	---	---	---	---	---	No
■ Conduct residency investigations	---	---	---	◖	---	Yes
■ Investigate EEO complaints	O	O	---	◖	O	Yes
■ Provide recruit and in-service training to firefighters	O	---	---	O	O	Yes, if provided on a regional basis
■ Provide EMS training	O	---	---	O	O	Yes, if provided on a regional basis
■ Acquire, distribute and test protective equipment	---	---	---	---	---	No

ANALYSIS OF SERVICES FOR WHICH SHARED SERVICES SHOULD BE CONSIDERED

Service	Economies Of Scale	Purchasing Economies	Risk Pooling	Leveraging Expertise	Intermittent And Seasonal Services Needs	Candidate For Shared Services?
■ Prepare data and statistics on safety related issues	---	---	---	---	---	No
■ Serve as the department's legislative liaison	◖	◖	---	---	◖	Yes
■ Provide graphics and photographic support for the department	○	○	---	○	○	Yes
■ Determine cause and origin at fires	---	---	---	---	---	No
■ Handle document requests from stakeholders (FOIA requests, insurance company requests, investigator requests)	---	---	---	---	○	No
■ Support the purchase of equipment that is needed in the field by determining need and developing specifications	---	---	---	---	---	No
■ Support the purchase of apparatus that is needed in the field	---	---	---	---	---	No
■ Maintain equipment that is needed in the field	○	---	---	○	---	Yes
■ Review directives and operating procedures	---	---	---	---	---	No
■ Ensure the water needed to fight fires is available	---	---	---	---	---	No

ANALYSIS OF SERVICES FOR WHICH SHARED SERVICES SHOULD BE CONSIDERED

Service	Economies Of Scale	Purchasing Economies	Risk Pooling	Leveraging Expertise	Intermittent And Seasonal Services Needs	Candidate For Shared Services?
■ Replace portable radios	---	---	---	---	---	No
■ Ensure communications related regulatory requirements are met	---	---	---	---	---	No
■ Change and update the fire code as necessary	---	---	---	---	---	No
■ Bill and collect for EMS services	◖	◖	---	◖	---	Yes, if provided on a regional basis
■ Accurately input information into the payroll system	---	---	---	---	---	No
■ Maintain employee records	---	---	---	○	○	Yes
■ Provide professional counseling and assistance to employees in need	---	○	---	◖	○	Yes
■ Limit risks to employee safety from infection	---	---	---	---	---	No
■ Manage and execute the annual budget process	---	---	---	---	---	No
■ Pay department obligations	---	---	---	---	---	No
■ Provide internal mail services	○	---	---	○	○	Yes

ANALYSIS OF SERVICES FOR WHICH SHARED SERVICES SHOULD BE CONSIDERED

Service	Economies Of Scale	Purchasing Economies	Risk Pooling	Leveraging Expertise	Intermittent And Seasonal Services Needs	Candidate For Shared Services?
■ Provide purchasing services and support for the acquisition of goods and services	---	◖	---	◖	O	Yes
■ Manage and account for fixed assets	---	---	---	---	---	No
■ Provide financial management for grants	---	---	---	---	---	No
■ Maintain warehouse	O	---	---	O	O	Yes

- Conduct residency investigations
- Investigate EEO complaints
- Provide recruit and in-service training to firefighters (if provided on a regional basis)
- Provide EMS training (if provided on a regional basis)
- Serve as the department's legislative liaison
- Provide graphics and photographic support for the department
- Maintain equipment that is needed in the field
- Bill and collect for EMS services (if provided on a regional basis)
- Maintain employee records
- Provide professional counseling and assistance to employees in need
- Provide internal mail services
- Provide purchasing services and support for the acquisition of goods and services
- Maintain warehouse

XIV – IMPLICATIONS

XIV – IMPLICATIONS

Implementing the study recommendations will position the Philadelphia Fire Department to achieve its ambitious goals in the long term, to begin to take meaningful steps to address the significant problems that beset the organization, and to substantially improve services to Philadelphia residents. In particular, fire and emergency medical response will improve and the department will be able to cease the practice of "browning out" stations on a rotating basis.

The department will be able to both improve services and make the investments needed to position itself to achieve its ambitious goals without increasing costs. Indeed, as the following table shows, by reallocating resources the department will not only be able to improve services and make needed investments but will also be able to modestly reduce staffing. If no changes are made to station locations the department can discontinue 69 positions, which will result in estimated savings of $11,657,000.[1] A portion of these savings should be reinvested to support department needs (for example, funding improved information systems and training.)

	Addition/(Reduction)				
Position	Office Of The Commissioner	Operations	Technical Services	Administrative Services	Total
Commissioner	0	0	0	0	0
Senior Deputy Commissioner	0	1	0	0	1
Deputy Commissioner	0	0	0	0	0
Deputy Chief	1	3	(1)	0	3
Battalion Chief	0	0	(1)	0	(1)
Fire Captain	1	(17)	0	0	(16)
Fire Lieutenant	0	(43)	(5)	0	(48)
Firefighter/(EMT)	0	(80)	(7)	0	(87)
Firefighter/(Paramedic)	0	144	0	0	144
Paramedic Captain	0	(2)	0	0	(2)
Paramedic Lieutenant	0	25	0	0	25
Paramedic	0	(200)	0	(1)	(201)
Civilian EMT	0	98	0	0	98
Fire Boat Engineer	0	0	0	0	0
Fire Boat Pilot	0	0	0	0	0
Civilian	5	9	(1)	2	15
Total	7	(62)	(15)	1	(69)

[1] These savings include an estimated reduction in overtime expenditures of $4,602,000 associated with employing enough staff to use full-time employees to staff all ambulances. At present, the firefighters who rotate onto BLS ambulances are "backfilled" with staff working overtime. These overtime expenditures would be eliminated if staffing recommendations are implemented. In addition, overtime expenditures associated with assigning firefighters to ALS ambulances would be eliminated but are not included in these calculations.

If two stations are closed in combination with moving the locations of two additional stations additional savings can be achieved. The department will be able to discontinue 101 positions, which will result in estimated savings of $14,196,000.[2]

	Addition/(Reduction)				
Position	Office Of The Commissioner	Operations	Technical Services	Administrative Services	Total
Commissioner	0	0	0	0	0
Senior Deputy Commissioner	0	1	0	0	1
Deputy Commissioner	0	0	0	0	0
Deputy Chief	1	3	(1)	0	3
Battalion Chief	0	0	(1)	0	(1)
Fire Captain	1	(19)	0	0	(18)
Fire Lieutenant	0	(49)	(5)	0	(54)
Firefighter/(EMT)	0	(104)	(7)	0	(111)
Firefighter/(Paramedic)	0	144	0	0	144
Paramedic Captain	0	(2)	0	0	(2)
Paramedic Lieutenant	0	25	0	0	25
Paramedic	0	(200)	0	(1)	(201)
Civilian EMT	0	98	0	0	98
Fire Boat Engineer	0	0	0	0	0
Fire Boat Pilot	0	0	0	0	0
Civilian	5	9	(1)	2	15
Total	7	(94)	(15)	1	(101)

[2] These savings include savings associated with reducing overtime expenditures.

XV – IMPLEMENTATION PLAN

XV – IMPLEMENTATION PLAN

This chapter is divided into three sections. The first section presents a framework for change that should guide the Fire Department's overall implementation efforts. The second section highlights the key features of the recommended implementation plan. The final section presents the recommended implementation plan.

FRAMEWORK FOR CHANGE

In addition to recommendations to streamline and improve the efficiency of the Philadelphia Fire Department, the study report includes recommendations that have the potential to change the way the department manages itself. Implementing change is difficult for any organization. Change efforts that have been successful typically include the following seven components:[1]

- Achieving an appropriate balance between the need for urgency and the need for quality and focus
- Forming a powerful guiding coalition
- Creating a vision
- Communicating the vision
- Removing obstacles to change
- Planning for and creating short-term wins
- Consolidating improvement and institutionalizing new approaches

Each of these components is briefly described in the following paragraphs.

Achieving an appropriate balance between the need for urgency and the need for quality and focus. Needed change will not take place in an organization unless staff at all levels recognize that change is needed. At the same time, however, the sense of urgency needed to bring about change cannot be allowed to get in the way of providing quality services that are focused on achieving the department's overall objectives. An appropriate balance, therefore, must be struck between the need to maintain a sense of urgency – without which the *status quo* will likely prevail – and the need to maintain a focus on the department's overall objectives.

Forming a powerful guiding coalition. Opposition to change in any organization can be considerable. The leadership team that guides the change effort, therefore, must be powerful and influential enough to withstand the forces supporting the *status quo*.

Creating a vision. One of the leadership team's first tasks should be to develop a picture of the future that is easy to understand and that communicates how performance

[1] The components are taken from Leading Change by John P. Kotter (Harvard University Press, 1996).

will be enhanced if the vision is realized. Without a sensible vision, an improvement effort can easily dissolve into a list of confusing and incompatible programs, plans, and directives that can take the organization in the wrong direction or nowhere at all.

Communicating the vision. To make an organization's vision a reality, managers and employees throughout the organization must understand the vision and believe that things will work better once the vision has been implemented. Without credible communication, and a lot of it, the hearts and minds of "the troops" will never be captured.

Removing obstacles to change. A variety of obstacles can stand in the way of change. The department's leadership must anticipate these obstacles and develop strategies to overcome them.

Planning for and creating short-term wins. Success breeds success. By creating opportunities for success, and effectively communicating those success stories throughout the organization, momentum for the improvement effort will begin to "snowball."

Consolidating improvement and institutionalizing new approaches. In addition to removing institutional obstacles to change, institutional incentives that reinforce the change effort must be established. What the department's leaders "say" is important must be consistent with how employees are held accountable for performance. In addition, management systems must provide managers with the tools they need to bring about needed change.

KEY IMPLEMENTATION ACTIVITIES

This section discusses the key steps the department should take to implement the study recommendations.

Adopt The Study Recommendations

The Mayor's commitment to implementing the study recommendations will be essential to the success of the implementation effort. Initially, the Mayor and city council should review the report and adopt its recommendations in principle. The report should then be referred to the Fire Department's Commissioner for implementation.

Establish Implementation Task Forces

The Fire Commissioner should establish a task force to guide the implementation of study recommendations. This task force should be charged by the Fire Commissioner with driving the implementation process. It should develop an overall implementation plan and should be held accountable by the Fire Commissioner for ensuring that plan timelines are met. The task force should meet approximately every two weeks during the implementation process.

In addition to guiding the implementation of the study recommendations, the task force should be specifically charged with identifying obstacles to change and creating strategies for overcoming them. As discussed, overcoming obstacles to change will be critical to the success of the implementation effort. Task force members, therefore, must

view one of their primary functions as being identification and elimination of these obstacles. The personal power, influence, and relationships of individual task force members should, as appropriate, be brought to bear on eliminating these obstacles.

In addition to the task force charged with implementing study recommendations on a department-wide basis, implementation task forces should also be established to drive the implementation of key aspects of the study recommendations. In particular, task forces should be established for each of the following areas:

- Community outreach and service offerings
- Data based decision making
- Management systems
- Staffing and deployment
- Strengthening operations
- Additional fees and fines
- Alternative service delivery
- Communication

Assign Responsibility For Coordinating The Implementation Effort

While the implementation task force should provide overall leadership for the implementation effort, it is not reasonable to expect task force members to oversee day-to-day implementation efforts. The Fire Commissioner should designate the battalion chief who will lead the recommended organizational development and communications unit to assume this responsibility. He or she should be responsible for coordinating the activities of the department level task force that should be formed to implement the proposed management framework. Likewise, this manager should work with the task forces charged with implementing specific recommendations. He or she should report progress to the Fire Commissioner at regular intervals on implementation progress. Most importantly, this manager should work proactively to identify barriers to change and work with the Fire Commissioner, the recommended Senior Deputy Commissioner – Operations, and the deputy commissioners to develop and implement strategies to eliminate them.

Clarify The Personnel And Labor Implications Of The Study Recommendations

Uncertainty is associated with any change of the magnitude outlined in this report. Of primary concern to many department employees will be how the change will affect them directly, especially if they are currently assigned to units where staffing reductions are indicated, recommendations to civilianize staff have been identified, or where organizational relationships will be redefined. Clarifying the status of these employees will remove much of the uncertainty associated with recommended organizational changes and will allow the department to move forward with the implementation process.

If employees are waiting for the "other shoe to drop" they will not be able to focus on supporting the recommended program for change.

Fire Department and city human resources managers should work with the implementation task force to develop a list of all positions that may be affected by the study recommendations. A plan for implementing these recommendations should then be developed.

IMPLEMENTATION PLAN

Implementing the type of systemic change recommended in this report would be a challenge for any organization. While fully implementing report recommendations will be an ongoing process, an aggressive timetable for institutionalizing the recommended changes should be established. Indeed, the implementation plan has been structured so that over the next three years the recommendations of this report should be substantially implemented and sufficient progress will have been made in institutionalizing these changes that reverting to old ways of doing business will be difficult, if not impossible.

A three-step process was used to develop implementation priorities and to incorporate them into an overall implementation plan. First, an assessment of each of the study recommendations was conducted to determine which recommendations would have the highest impact on department performance (after adjusting for the "degree of difficulty" associated with implementation). The priorities based on this "expected value" analysis were then adjusted to reflect other implementation considerations and the necessary sequencing of some recommendations (that is, implementation of some recommendations cannot proceed until other recommendations have been implemented). The resulting implementation priorities were then used to structure a plan for implementing study recommendations over the next three years.

Evaluate The Expected Impact Of Implementing Study Recommendations

A four-step process was used to assess the expected impact of implementing study recommendations.

Step 1: Perform organization capabilities assessment. The first step of this process was to identify the general areas where improving Fire Department performance would have the greatest impact on the department's ability to achieve its objectives. To make this assessment a number of desired organizational capabilities[2] were identified. The criticality of each capability was then evaluated (using a 1 to 5 scale where 1 indicates the capability is "not at all critical"[3] and 5 indicates the capability is "crucial" to the organization's overall success). In addition, the department's performance on each capability was evaluated (using a 1 to 5 scale where 1 indicates the department's

[2] Organization capabilities define the collective abilities a department needs to achieve its objectives.

[3] Please note that to say that a capability is not critical should not be taken to suggest the capability is unimportant – the department will still need to perform functions and services related to the capability competently. For more critical capabilities, however, the department's performance on the capability is more highly related to its ability to achieve its objectives than is its performance on other capabilities.

performance is "deficient" and 5 indicates the department's performance is "outstanding"). By comparing criticality assessments for a capability against the performance assessments, overall improvement priorities can be identified.[4] Exhibit XV-1 shows the initial assessment of performance and criticality for each organizational capability and the resulting performance-capability gap.

Step 2: Map study recommendations against organizational capabilities. During this step each of the study recommendations presented in this report was mapped against the organization capabilities.[5] As shown on Exhibit XV-2, which presents this analysis, a number of recommendations improve performance on more than one organization capability.

Step 3: Estimate the impact or "value" of study recommendations. During this step individual recommendations within each organization capability grouping were given a score (between 0 and 1) to reflect the impact implementing the recommendation would have on improving performance. Value scores were then calculated by multiplying the impact of the recommendation on improving performance (calculated by multiplying organizational capability scores times impact on organizational capability and summing for all organizational capabilities). Please note that the organization capability impact scores were adjusted to a seven-point scale to account for negative organizational capability impacts. Value scores for each recommendation are presented in Exhibit XV-3.

Step 4: Adjust "value" to reflect the difficulty of implementing study recommendations. During this step the value scores for each recommendation was adjusted to reflect the likelihood that implementaiton efforts will be successful. To make this assessment the value score for each recommendation was multiplied by an assessment of the "degree of difficulty" associated with implementing the recommendation to calculate the recommendation's expected value. The results of this assessment are presented in Exhibit XV-4.

Adjust Implementation Priorities

As previously discussed, the implementation process should be structured to build support for the overall implementation process by planning for and creating short-term wins. Some implementation activities should therefore be given a higher priority than their expected value score would indicate because these implementation activities will help to generate support for the overall implementation effort. In particular, a high priority should be placed on upgrading time and attendance systems (if further analysis suggests these investments are warranted). These systems – which touch all employees – require excessive administrative time to manage and, based on interview findings, generate significant employee frustration. Addressing these system

[4] In general, areas where the gap between the criticality score and the performance score are greatest are areas where improvement will yield the greatest benefit in the department's overall performance.

[5] Please note that there are four organizational capabilities that no study recommendations address. These organizational capabilities are not presented on Exhibit XV-2.

PRELIMINARY ASSESSMENT OF CRITICALITY AND PERFORMANCE FOR ORGANIZATIONAL CAPABILITIES

Capability	Criticality	Performance	Gap	Comments
Adjust Service Delivery Alternatives To Reflect Risk	5	1	4	Systems to measure and evaluate risk have not been established. Existing labor agreements limit flexibility in how staff are deployed.
Systematically Assess Risk	5	1	4	
Effectively Deliver Training	5	2	3	Perceptions with regard to training as reported in interviews are mixed. Concerns about the ability to bring apparatus and crews in for training are widespread.
Identify Factors Resulting In Fire Related Deaths And Injuries	5	2	3	
Identify And Implement More Cost-Effective Operational Practices	5	2	3	
Provide Effective Response To Emergency Medical Incidents	5	2	3	Reportedly, at times, no units are available for response. Supervision is limited.
Successfully Ascertain Resident Medical Needs Prior To Deploying Apparatus	5	2	3	Reportedly, ALS units are often sent to incidents which, upon arrival, a BLS unit could handle.
Understand Factors That Affect Resident Perceptions Of Safety	5	2	3	
Identify Approaches To Enhance Resident Perception Of Safety	5	2	3	
Encourage Innovation And Embrace New Ways Of Doing Business	4	1	3	
Develop Approaches To Reduce Employee Injuries And Health Risks	5	3	2	
Develop Cost Effective Approaches To Changing Resident Behaviors That Result In Fire Related Deaths And Injuries	5	3	2	
Ensure Compliance With Regulations Designed To Reduce Risk To Philadelphia Residents	5	3	2	
Identify Training Needs	5	3	2	
Provide Effective Call-Taking And Dispatch Services	5	3	2	Implementation of priority dispatch as proposed by the department will enhance performance.
Use Information To Support Efforts To Reduce Employee Injuries	5	3	2	Performance is exemplary in some areas (e.g., safety equipment) but appears not to be consistent throughout the department.
Collect Reimbursement For Services Provided	4	2	2	Fees might be charged for additional functions and services, however reimbursements go to the general fund which reduces collection incentives.
Use Information To Support Effective Operations	4	2	2	
Work Collaboratively Within The Department To Improve Performance	4	2	2	The two main department functions - EMS and suppression - are not integrated.
Work Collaboratively With The Community To Address Community Needs	4	2	2	
Establish And Communicate High Expectations For Performance	4	2	2	
Ensure All Department Employees Are Accountable For Their Performance	4	2	2	
Identify And Obtain Alternative Sources Of Revenue	3	1	2	
Create A Work Environment In Which Employees Are Respectful And Courteous To Each Other	4	2	2	In interviews examples of disrespect have been shared.
Establish Emergency Medical Protocols That Appropriately Reflect The Clinical Needs Of Residents	5	4	1	
Provide Effective Response To Fire Suppression And Other Emergencies	5	4	1	
Recruit And Retain Outstanding Workforce	4	3	1	
Plan For Major Emergencies	4	3	1	
Ensure Compliance With The Fire Code	4	3	1	
Maximize Revenue From Existing Funding Sources	3	2	1	

Capability	Criticality	Performance	Gap	Comments
Maintain Facilities	3	2	1	
Ensure Compliance With Department Policies And Procedures	3	3	0	
Investigate Arsons	3	3	0	
Create A Work Environment In Which Employees Are Respectful And Courteous To Philadelphia Residents And Visitors	3	3	0	
Effectively Manage Budgets	3	3	0	
Maintain Equipment	3	3	0	
Maintain Well Documented Directives And Operating Procedures	3	3	0	
Ensure Compliance With City Policies And Procedures	3	3	0	
Provide Effective Human Resource Support Services	2	2	0	Cumbersome systems complicate efforts to provide effective human resources support.
Accurately Determine The Cause And Origin Of Fires	3	4	(1)	
Ensure Operations Staff Have The Equipment They Need To Be Effective	3	4	(1)	
Prepare Materials That Support Effective Communications With Stakeholders	3	4	(1)	The department has considerable graphics capabilities.
Effectively Address Complaints From The Public	2	3	(1)	
Provide Accurate And Effective Public Information At Major Fire Scenes	2	3	(1)	
Support Employee Mental Health Needs	2	3	(1)	
Ensure Compliance With Labor Agreements	3	5	(2)	
Ensure Supplies Are Available When Needed	2	4	(2)	
Effectively Manage Department Finances	1	3	(2)	
Effectively Support Administrative Processes	1	3	(2)	
Ensure Compliance With State And Federal Regulations	1	3	(2)	
Provide Administrative Support Services	1	3	(2)	
Support Stakeholder Requests For Information	1	3	(2)	

RELATIONSHIP BETWEEN STUDY RECOMMENDATIONS AND ORGANIZATION CAPABILITIES

Capability	Gap	Recommendation
Adjust Service Delivery Alternatives To Reflect Risk	4	Develop management systems that support the department's commitment to data based decision making Refine performance measures and use them to monitor unit and department performance Establish fines that discourage residents and businesses from making non-emergency requests of the Fire Department Explore developing a non-emergency medical response capacity Increase investment in quality assurance and use the results to drive improvement efforts Limit the number of non-emergency calls to which the department responds
Systematically Assess Risk	4	Develop management systems that support the department's commitment to data based decision making Increase investment in quality assurance and use the results to drive improvement efforts Modify organizational structure Upgrade information systems Refine performance measures and use them to monitor unit and department performance
Effectively Deliver Training	3	Invest additional resources in training Provide promotional candidates feedback on how they can improve their performance
Encourage Innovation And Embrace New Ways Of Doing Business	3	Increase investment in quality assurance and use the results to drive improvement efforts Modify organizational structure Refine performance measures and use them to monitor unit and department performance
Identify And Implement More Cost-Effective Operational Practices	3	Contract out graphics and photographic support Cross-train paramedics to serve as firefighters Discontinue advanced quick response unit when ambulance capacity has increased Discontinue the chief's aides positions Employ civilian EMTs to support ALS and BLS units that are not needed to support fire suppression Explore developing a non-emergency medical response capacity Explore with the city ways to ensure a portion of the savings and revenues resulting from implementation efforts will be reinvested in department operations Increase investment in quality assurance and use the results to drive improvement efforts Make more extensive use of battalion chiefs and captains to determine the cause and origin of fires Modify apparatus deployment and emergency response staffing Reassess the need for the mail room position Reduce fire marshal unit staffing Reduce supervisory requirements within the fire code unit Staff ALS units with one paramedic and one EMT Staff the fire code unit with civilians Upgrade information systems Work to establish a 24-hour work schedule for firefighters Work with hospitals to reduce the time EMS staff must wait when delivering a patient Work with the union to develop alternative approaches to addressing discipline issues Refine performance measures and use them to monitor unit and department performance
Identify Approaches To Enhance Resident Perception Of Safety	3	Broaden prevention efforts to include preventable EMS calls and reducing the number of unnecessary emergency calls

Capability	Gap	Recommendation
		Establish clear expectation that all firefighters and paramedics are responsible for prevention education Invest additional resources to strengthen prevention efforts
Identify Factors Resulting In Fire Related Deaths And Injuries	3	Develop management systems that support the department's commitment to data based decision-making Explore with the city ways to ensure a portion of the savings and revenues resulting from implementation efforts will be reinvested in department operations Modify organizational structure Upgrade information systems
Provide Effective Response To Emergency Medical Incidents	3	Adjust EMS work schedules to ensure consistent service can be provided during shift change Allow paramedics who have switched to fire suppression to work overtime as paramedics Do not allow firefighters to opt out of the BLS rotation Employ civilian EMTs to support ALS and BLS units that are not needed to support fire suppression Ensure firefighters place the same priority on responding to first responder medical emergencies as fire emergencies Explore developing a non-emergency medical response capacity Explore entering into relationships with hospitals to replace supplies Increase EMS supervisory and management positions Increase investment in quality assurance and use the results to drive improvement efforts Invest additional resources in training Modify apparatus deployment and emergency response staffing Modify dispatch policies Replace firefighters and paramedics who are assigned to special events Work with hospitals to reduce the time EMS staff must wait when delivering a patient Refine performance measures and use them to monitor unit and department performance
Successfully Ascertain Resident Medical Needs Prior To Deploying Apparatus	3	Ensure that Fire Communications Center employees receive ample training Increase investment in quality assurance and use the results to drive improvement efforts Modify dispatch policies
Understand Factors That Affect Resident Perceptions Of Safety	3	Broaden prevention efforts to include preventable EMS calls and reducing the number of unnecessary emergency calls Develop management systems that support the department's commitment to data based decision-making Explore with the city ways to ensure a portion of the savings and revenues resulting from implementation efforts will be reinvested in department operations Have the prevention unit focus on prevention activities that cannot be effectively performed on a decentralized basis Invest additional resources to strengthen prevention efforts Modify organizational structure
Collect Reimbursement For Services Provided	2	Establish fees to ensure costs imposed on the emergency response system are internalized by residents and businesses Establish fines that discourage residents and businesses from making non-emergency requests of the Fire Department Explore with the city ways to ensure a portion of the savings and revenues resulting from implementation efforts will be reinvested in department operations

Capability	Gap	Recommendation
Create A Work Environment In Which Employees Are Respectful And Courteous To Each Other	2	Assign paramedics who are cross-trained to work the same schedule as firefighters Cross-train paramedics to serve as firefighters Develop and use management systems to strengthen race relations (and gender equality) within the department Do not allow firefighters to opt out of the BLS rotation Ensure firefighters place the same priority on responding to first responder medical emergencies as fire emergencies Increase EMS supervisory and management positions Invest additional resources in training Modify organizational structure Revamp promotional processes
Develop Approaches To Reduce Employee Injuries And Health Risks	2	Establish policies that require recruits and firefighters to be physically fit Incorporate fitness training into the work schedules of all firefighters Increase investment in quality assurance and use the results to drive improvement efforts Modify dispatch policies Reconfigure the staffing of the safety office Refine performance measures and use them to monitor unit and department performance
Develop Cost Effective Approaches To Changing Resident Behaviors That Result In Fire Related Deaths And Injuries	2	Establish clear expectation that all firefighters and paramedics are responsible for prevention education Explore with the city ways to ensure a portion of the savings and revenues resulting from implementation efforts will be reinvested in department operations Have the prevention unit focus on prevention activities that cannot be effectively performed on a decentralized basis Invest additional resources to strengthen prevention efforts Refine performance measures and use them to monitor unit and department performance
Ensure All Department Employees Are Accountable For Their Performance	2	Develop management systems that support the department's commitment to data based decision making Refine performance measures and use them to monitor unit and department performance Grant additional authority to mid-managers Increase EMS supervisory and management positions Increase investment in quality assurance and use the results to drive improvement efforts Refocus the performance management process on identifying ways for individual firefighters and paramedics to improve their performance Revamp promotional processes
Ensure Compliance With Regulations Designed To Reduce Risk To Philadelphia Residents	2	Establish clear expectation that all firefighters and paramedics are responsible for prevention education Have the prevention unit focus on prevention activities that cannot be effectively performed on a decentralized basis Invest additional resources to strengthen prevention efforts
Establish And Communicate High Expectations For Performance	2	Increase EMS supervisory and management positions Refine performance measures and use them to monitor unit and department performance

Capability	Gap	Recommendation
		Provide promotional candidates feedback on how they can improve their performance
		Refocus the performance management process on identifying ways for individual firefighters and paramedics to improve their performance
		Revamp promotional processes
Identify And Obtain Alternative Sources Of Revenue	2	Establish fees to ensure costs imposed on the emergency response system are internalized by residents and businesses
		Establish fines that discourage residents and businesses from making non-emergency requests of the Fire Department
		Explore opportunities to provide training to other area jurisdictions
		Explore with the city ways to ensure a portion of the savings and revenues resulting from implementation efforts will be reinvested in department operations
		Increase EMS supervisory and management positions
		Modify organizational structure
		Seek full reimbursement for serving as the EMS regional office for the state
Identify Training Needs	2	Develop management systems that support the department's commitment to data based decision making
		Explore with the city ways to ensure a portion of the savings and revenues resulting from implementation efforts will be reinvested in department operations
		Increase EMS supervisory and management positions
		Increase investment in quality assurance and use the results to drive improvement efforts
		Invest additional resources in training
		Refocus the performance management process on identifying ways for individual firefighters and paramedics to improve their performance
		Upgrade information systems
		Refine performance measures and use them to monitor unit and department performance
Provide Effective Call-Taking And Dispatch Services	2	Ensure that Fire Communications Center employees receive ample training
		Increase investment in quality assurance and use the results to drive improvement efforts
		Modify dispatch policies
Use Information To Support Effective Operations	2	Develop management systems that support the department's commitment to data based decision making
		Explore with the city ways to ensure a portion of the savings and revenues resulting from implementation efforts will be reinvested in department operations
		Increase investment in quality assurance and use the results to drive improvement efforts
		Modify organizational structure
		Upgrade information systems
Use Information To Support Efforts To Reduce Employee Injuries	2	Increase investment in quality assurance and use the results to drive improvement efforts
		Reconfigure the staffing of the safety office
		Upgrade information systems
Work Collaboratively With The Community To Address Community Needs	2	Broaden prevention efforts to include preventable EMS calls and reducing the number of unnecessary emergency calls
		Establish clear expectation that all firefighters and paramedics are responsible for prevention education
		Increase EMS supervisory and management positions
		Invest additional resources in training
		Invest additional resources to strengthen prevention efforts
Work Collaboratively Within The Department To Improve Performance	2	Communicate the discipline that is imposed for various infractions

Capability	Gap	Recommendation
		Develop and use management systems to strengthen race relations (and gender equality) within the department Establish guidelines to govern the transfer of employees among stations Increase EMS supervisory and management positions Increase investment in quality assurance and use the results to drive improvement efforts Modify organizational structure Provide promotional candidates feedback on how they can improve their performance Revamp promotional processes Work collaboratively with Local 22 on how to implement selected policies Refine performance measures and use them to monitor unit and department performance
Establish Emergency Medical Protocols That Appropriately Reflect The Clinical Needs Of Residents	1	Increase investment in quality assurance and use the results to drive improvement efforts
Maximize Revenue From Existing Funding Sources	1	Explore with the city ways to ensure a portion of the savings and revenues resulting from implementation efforts will be reinvested in department operations Increase fees for conducting variance investigations
Promote Well Qualified Supervisors And Managers	1	Allow EMS managers and supervisors to retain the 10 percent stipend for serving as paramedics Explore with the city ways to ensure a portion of the savings and revenues resulting from implementation efforts will be reinvested in department operations Provide promotional candidates feedback on how they can improve their performance Revamp promotional processes
Provide Effective Response To Fire Suppression And Other Emergencies	1	Assign paramedics who are cross-trained to work the same schedule as firefighters Cease the practice of "browning out" stations on a rotating basis Cross-train paramedics to serve as firefighters Do not include haz mat crews in the BLS rotation Explore with the city ways to ensure a portion of the savings and revenues resulting from implementation efforts will be reinvested in department operations Increase investment in quality assurance and use the results to drive improvement efforts Invest additional resources in training Modify apparatus deployment and emergency response staffing Modify dispatch policies Replace firefighters and paramedics who are assigned to special events
Recruit And Retain Outstanding Workforce	1	Establish policies that require recruits and firefighters to be physically fit Explore with the city ways to ensure a portion of the savings and revenues resulting from implementation efforts will be reinvested in department operations Provide ongoing, consistent investment in recruiting a diverse workforce Refocus the performance management process on identifying ways for individual firefighters and paramedics to improve their performance
Create A Work Environment In Which Employees Are Respectful And Courteous To Philadelphia Residents And Visitors	0	Develop and use management systems to strengthen race relations (and gender equality) within the department
Effectively Manage Budgets	0	Invest additional resources in training Upgrade information systems

Capability	Gap	Recommendation
Ensure Compliance With Department Policies And Procedures	0	Communicate the discipline that is imposed for various infractions
		Develop management systems that support the department's commitment to data based decision making
		Increase investment in quality assurance and use the results to drive improvement efforts
		Invest additional resources in training
		Work collaboratively with Local 22 on how to implement selected policies
Investigate Arsons	0	Explore having arson investigators certified as law enforcement officers with arrest powers
Maintain Equipment	0	Establish and adhere to replacement cycles for equipment
		Explore with the city ways to ensure a portion of the savings and revenues resulting from implementation efforts will be reinvested in department operations
Maintain Well Documented Directives And Operating Procedures	0	Increase investment in quality assurance and use the results to drive improvement efforts
Provide Effective Human Resource Support Services	0	Upgrade information systems
	0	Explore with the city ways to ensure a portion of the savings and revenues resulting from implementation efforts will be reinvested in department operations
Accurately Determine The Cause And Origin Of Fires	(1)	Invest in additional training for fire marshals
Effectively Address Complaints From The Public	(1)	Modify organizational structure
		Modify the process for handling complaints
Ensure Operations Staff Have The Equipment They Need To Be Effective	(1)	Explore with the city ways to ensure a portion of the savings and revenues resulting from implementation efforts will be reinvested in department operations
		Increase investment in quality assurance and use the results to drive improvement efforts
Support Employee Mental Health Needs	(1)	Staff the employees assistance unit with a mix of professional counselors, paramedics, firefighters, males and females
Effectively Manage Department Finances	(2)	Upgrade information systems
Effectively Support Administrative Processes	(2)	Upgrade information systems
Ensure Compliance With Labor Agreements	(2)	Communicate the discipline that is imposed for various infractions
		Grant additional authority to mid-managers
Provide Administrative Support Services	(2)	Upgrade information systems
Support Stakeholder Requests For Information	(2)	Upgrade information systems

"VALUE" OF STUDY RECOMMENDATIONS

Recommendation	Value
Increase investment in quality assurance and use the results to drive improvement efforts	62.7
Develop management systems that support the department's commitment to data based decision making	25.4
Modify organizational structure	20.9
Invest additional resources in training	18.3
Modify apparatus deployment and emergency response staffing	18.2
Explore with the city ways to ensure a portion of the savings and revenues resulting from implementation efforts will be reinvested in department operations	16.8
Upgrade information systems	15.9
Establish clear expectation that all firefighters and paramedics are responsible for prevention education	13.8
Cross-train paramedics to serve as firefighters	13.5
Invest additional resources to strengthen prevention efforts	13.5
Modify dispatch policies	12.4
Increase EMS supervisory and management positions	11.3
Establish fines that discourage residents and businesses from making non-emergency requests of the Fire Department	11.0
Refocus the performance management process on identifying ways for individual firefighters and paramedics to improve their performance	10.5
Revamp promotional processes	8.8
Ensure firefighters place the same priority on responding to first responder medical emergencies as fire emergencies	8.5
Refine performance measures and use them to monitor unit and department performance	8.1
Broaden prevention efforts to include preventable EMS calls and reducing the number of unnecessary emergency calls	7.9
Establish fees to ensure costs imposed on the emergency response system are internalized by residents and businesses	7.5
Provide promotional candidates feedback on how they can improve their performance	5.4
Employ civilian EMTs to support ALS and BLS units that are not needed to support fire suppression	5.4
Limit the number of non-emergency calls to which the department responds	4.9
Staff ALS units with one paramedic and one EMT	4.8
Work to establish a 24-hour work schedule for firefighters	4.8
Assign paramedics who are cross-trained to work the same schedule as firefighters	4.5
Work collaboratively with Local 22 on how to implement selected policies	4.3
Develop and use management systems to strengthen race relations (and gender equality) within the department	4.1
Communicate the discipline that is imposed for various infractions	4.0
Provide ongoing, consistent investment in recruiting a diverse workforce	4.0
Explore developing a non-emergency medical response capacity	3.8
Grant additional authority to mid-managers	3.3
Discontinue the chief's aides positions	3.0
Establish and adhere to replacement cycles for equipment	3.0
Have the prevention unit focus on prevention activities that cannot be effectively performed on a decentralized basis	2.8
Establish guidelines to govern the transfer of employees among stations	2.5
Work with hospitals to reduce the time EMS staff must wait when delivering a patient	2.4
Ensure that Fire Communications Center employees receive ample training	2.0
Establish policies that require recruits and firefighters to be physically fit	1.9

Make more extensive use of battalion chiefs and captains to determine the cause and origin of fires	1.8
Reduce fire marshal unit staffing	1.8
Cease the practice of "browning out" stations on a rotating basis	1.6
Replace firefighters and paramedics who are assigned to special events	1.6
Explore opportunities to provide training to other area jurisdictions	1.5
Incorporate fitness training into the work schedules of all firefighters	1.5
Reconfigure the staffing of the safety office	1.5
Seek full reimbursement for serving as the EMS regional office for the state	1.5
Adjust EMS work schedules to ensure consistent service can be provided during shift change	1.2
Work with the union to develop alternative approaches to addressing discipline issues	1.2
Do not allow firefighters to opt out of the BLS rotation	1.1
Modify the process for handling complaints	1.0
Staff the employees assistance unit with a mix of professional counselors, paramedics, firefighters, males, and females	1.0
Explore having arson investigators certified as law enforcement officers with arrest powers	0.9
Allow EMS managers and supervisors to retain the 10 percent stipend for serving as paramedics	0.8
Allow paramedics who have switched to fire suppression to work overtime as paramedics	0.6
Contract out graphics and photographic support	0.6
Discontinue advanced quick response unit when ambulance capacity has increased	0.6
Explore entering into relationships with hospitals to replace supplies	0.6
Reassess the need for the mail room position	0.6
Reduce supervisory requirements within the fire code unit	0.6
Staff the fire code unit with civilians	0.6
Invest in additional training for fire marshals	0.6
Do not include haz mat crews in the BLS rotation	0.4
Increase fees for conducting variance investigations	0.4

"EXPECTED VALUE" OF STUDY RECOMMENDATIONS

Recommendation	Value	Probability Of Success		Expected Value
Increase investment in quality assurance and use the results to drive improvement efforts	62.7	0.8	(a)	50.16
Develop management systems that support the department's commitment to data based decision-making	25.4	0.8		20.32
Modify organizational structure	20.9	0.8	(a)	16.72
Invest additional resources in training	18.3	0.8	(a)	14.64
Modify apparatus deployment and emergency response staffing	18.2	0.7		12.74
Establish clear expectation that all firefighters and paramedics are responsible for prevention education	13.8	0.9		12.42
Modify dispatch policies	12.4	0.9		11.16
Increase EMS supervisory and management positions	11.3	0.9		10.17
Explore with the city ways to ensure a portion of the savings and revenues resulting from implementation efforts will be reinvested in department operations	16.8	0.6		10.08
Cross-train paramedics to serve as firefighters	13.5	0.7		9.45
Refocus the performance management process on identifying ways for individual firefighters and paramedics to improve their performance	10.5	0.8		8.40
Establish fines that discourage residents and businesses from making non-emergency requests of the Fire Department	11.0	0.7		7.70
Broaden prevention efforts to include preventable EMS calls and reducing the number of unnecessary emergency calls	7.9	0.9	(a)	7.11
Invest additional resources to strengthen prevention efforts	13.5	0.5		6.75
Refine performance measures and use them to monitor unit and department performance	8.1	0.8		6.48
Upgrade information systems	15.9	0.4		6.36
Revamp promotional processes	8.8	0.7		6.16
Ensure firefighters place the same priority on responding to first responder medical emergencies as fire emergencies	8.5	0.7		5.95
Establish fees to ensure costs imposed on the emergency response system are internalized by residents and businesses	7.5	0.7		5.25
Provide promotional candidates feedback on how they can improve their performance	5.4	0.9		4.86
Employ civilian EMTs to support ALS and BLS units that are not needed to support fire suppression	5.4	0.8		4.32
Assign paramedics who are cross-trained to work the same schedule as firefighters	4.5	0.8		3.60
Communicate the discipline that is imposed for various infractions	4.0	0.9		3.60
Limit the number of non-emergency calls to which the department responds	4.9	0.7		3.43
Staff ALS units with one paramedic and one EMT	4.8	0.7		3.36
Work collaboratively with Local 22 on how to implement selected policies	4.3	0.7		3.01
Develop and use management systems to strengthen race relations (and gender equality) within the department	4.1	0.7		2.87
Have the prevention unit focus on prevention activities that cannot be effectively performed on a decentralized basis	2.8	0.9		2.52
Establish and adhere to replacement cycles for equipment	3.0	0.8		2.40
Provide ongoing, consistent investment in recruiting a diverse workforce	4.0	0.6		2.40
Grant additional authority to mid-managers	3.3	0.7		2.31
Explore developing a non-emergency medical response capacity	3.8	0.6		2.28
Establish guidelines to govern the transfer of employees among stations	2.5	0.9		2.25
Discontinue the chief's aides positions	3.0	0.7		2.10
Work to establish a 24-hour work schedule for firefighters	4.8	0.4		1.92
Work with hospitals to reduce the time EMS staff must wait when delivering a patient	2.4	0.6		1.44
Reconfigure the staffing of the safety office	1.5	0.9		1.35
Establish policies that require recruits and firefighters to be physically fit	1.9	0.7		1.33
Make more extensive use of battalion chiefs and captains to determine the cause and origin of fires	1.8	0.7		1.26
Reduce fire marshal unit staffing	1.8	0.7		1.26
Ensure that Fire Communications Center employees receive ample training	2.0	0.6	(a)	1.20
Cease the practice of "browning out" stations on a rotating basis	1.6	0.7		1.12

Recommendation	Value	Probability Of Success		Expected Value
Adjust EMS work schedules to ensure consistent service can be provided during shift change	1.2	0.9		1.08
Incorporate fitness training into the work schedules of all firefighters	1.5	0.7		1.05
Do not allow firefighters to opt out of the BLS rotation	1.1	0.9		0.99
Replace firefighters and paramedics who are assigned to special events	1.6	0.6	(a)	0.96
Explore opportunities to provide training to other area jurisdictions	1.5	0.6		0.90
Modify the process for handling complaints	1.0	0.8		0.80
Staff the employees assistance unit with a mix of professional counselors, paramedics, firefighters, males, and females	1.0	0.8		0.80
Explore having arson investigators certified as law enforcement officers with arrest powers	0.9	0.7		0.63
Work with the union to develop alternative approaches to addressing discipline issues	1.2	0.5		0.60
Allow EMS managers and supervisors to retain the 10 percent stipend for serving as paramedics	0.8	0.7	(a)	0.56
Allow paramedics who have switched to fire suppression to work overtime as paramedics	0.6	0.9		0.54
Seek full reimbursement for serving as the EMS regional office for the state	1.5	0.3		0.45
Contract out graphics and photographic support	0.6	0.7		0.42
Discontinue advanced quick response unit when ambulance capacity has increased	0.6	0.7		0.42
Reassess the need for the mail room position	0.6	0.7		0.42
Reduce supervisory requirements within the fire code unit	0.6	0.7		0.42
Staff the fire code unit with civilians	0.6	0.7		0.42
Do not include haz mat crews in the BLS rotation	0.4	0.9		0.36
Explore entering into relationships with hospitals to replace supplies	0.6	0.6		0.36
Invest in additional training for fire marshals	0.6	0.6		0.36
Increase fees for conducting variance investigations	0.4	0.7		0.28

(a) If city agrees to reinvest savings in department probability would be much higher.

shortcomings during the initial stages of the implementation process would create a tangible benefit to all employees, supervisors, and managers and would signal to employees that the department is moving in an improved direction. Employees are also extremely frustrated by having to respond to "nuisance calls." Increasing the priority of the recommendation to establish fines that discourage residents and businesses from making non-emergency requests of the Fire Department (which already has a high "expected value") would also help to generate employee support for implementation efforts. Finally, concerns about the consistency of disciplinary actions and staff transfers are of great concern to employees. Taking steps to address these concerns by communicating the discipline that is imposed for various infractions and by clarifying transfer policies would help to alleviate these concerns and allow employees to focus their attention on other issues.

Develop Implementation Plan

An implementation plan to guide the Fire Department in implementing the recommendations detailed in this report is presented in Exhibit XV-5. Please note that recommendations that will require investments are, for the most part, delayed until the start of the new fiscal year although some activities – such as beginning the process of cross-training paramedics to serve as firefighters – should begin sooner. In addition, the implementation plan does not consider which recommendations are subject to negotiation. Timelines will need to be adjusted to the extent that implementation of selected recommendations is subject to negotiation.[6]

[6] Ultimately, the Pennsylvania Labor Relations Board may need to determine which recommendations are subject to negotiations.

IMPLEMENTATION PLAN

Priority	Recommendation	Responsibility(a)	Commence	Complete
Highest	■ Establish implementation task forces	■ Commissioner	2/1/2012	3/1/2012
Highest	■ Increase investment in quality assurance and use the results to drive improvement efforts	■ Deputy Commissioner – Operations ■ Deputy Commissioner – Administrative Services ■ Fiscal Officer	7/1/2012	Ongoing
Highest	■ Develop management systems that support the Fire Department's commitment to data based decision-making	■ Deputy Commissioner – Administrative Services	7/1/2012	1/1/2015
Highest	■ Upgrade time and attendance systems (if warranted)	■ Deputy Commissioner – Administrative Services	7/1/2012	1/1/2013
Highest	■ Modify organizational structure	■ Commissioner	2/1/2012	1/1/2013
Highest	■ Invest additional resources in training	■ Deputy Commissioner – Operations ■ Battalion Chief – Fire Academy ■ Deputy Commissioner – Administrative Services ■ Fiscal Officer	7/1/2012	1/1/2013
Highest	■ Modify apparatus deployment and emergency response staffing	■ Commissioner ■ Deputy Commissioner – Operations	3/1/2012	1/1/2014
Highest	■ Establish clear expectation that all firefighters and paramedics are responsible for prevention education	■ Commissioner ■ Deputy Commissioner – Operations	3/1/2012	Ongoing
Highest	■ Modify dispatch policies	■ Deputy Commissioner – Technical Services ■ Chief Dispatcher	4/1/2012	1/1/2013
Highest	■ Establish fines that discourage residents and businesses form making non-emergency requests of the Fire Department	■ Commissioner ■ Deputy Commissioner – Administrative Services ■ Deputy Commissioner – Operations ■ Fiscal Officer	3/1/2012	1/1/2013

IMPLEMENTATION PLAN

Priority	Recommendation	Responsibility(a)	Commence	Complete
Highest	■ Establish guidelines to govern the transfer of employees among stations	■ Commissioner	3/1/2012	9/1/2013
Highest	■ Limit the number of non-emergency calls to which the department responds	■ Commissioner ■ Medical Director ■ Deputy Commissioner – Operations	3/1/2012	1/1/2013
Highest	■ Communicate the discipline that is imposed for various infractions	■ Commissioner ■ Special Investigations – Deputy Chief	3/1/2012	Ongoing
High	■ Increase EMS supervisory and management positions	■ Commissioner ■ Deputy Commissioner – Operations	7/1/2012	1/1/2014
High	■ Explore with the city ways to ensure a portion of the savings and revenues resulting from implementation efforts will be reinvested in department operations	■ Commissioner ■ Deputy Commissioner – Administrative Services	2/1/2012	6/1/2012
High	■ Cross-train paramedics to serve as firefighters	■ Deputy Commissioner – Operations ■ EMS Administrative Chief	4/1/2012	1/1/2014
High	■ Refocus the performance management process on identifying ways for individual firefighters and paramedics to improve their performance	■ Deputy Commissioner – Administrative Services ■ Human Resources – Director	4/1/2012	1/1/2013
High	■ Broaden prevention efforts to include preventable EMS calls and reducing the number of unnecessary emergency calls	■ Commissioner ■ Deputy Commissioner – Operations	2/1/2012	Ongoing
High	■ Invest additional resources to strengthen prevention efforts	■ Commissioner ■ Deputy Commissioner – Technical Services ■ Fiscal Officer	7/1/2012	1/1/2014
High	■ Refine performance measures and use them to monitor unit and department performance	■ Deputy Commissioner – Administrative Services	3/1/2012	1/1/2013

IMPLEMENTATION PLAN

Priority	Recommendation	Responsibility(a)	Commence	Complete
High	■ Upgrade informational systems	■ Deputy Commissioner – Administrative Services	7/1/2012	1/1/2015
High	■ Revamp promotional processes	■ Commissioner ■ Deputy Commissioner – Administrative Services ■ Human Resources Director	3/1/2012	6/1/2012
High	■ Ensure firefighters place the same priority on responding to first responder medical emergencies as fire emergencies	■ Commissioner ■ Deputy Commissioner – Operations	2/1/2012	Ongoing
High	■ Establish fees to ensure costs imposed on the emergency response system are internalized by residents and businesses	■ Commissioner ■ Deputy Commissioner – Administrative Services ■ Deputy Commissioner – Operations ■ Fiscal Officer	3/1/2012	1/1/2013
High	■ Provide promotional candidates feedback on how they can improve their performance	■ Deputy Commissioner – Administrative Services ■ Human Resources Director	2/1/2012	Ongoing
Medium	■ Employ civilian EMTs to support ALS and BLS units that are not needed to support fire suppression	■ Commissioner ■ Medical Director ■ Deputy Commissioner – Operations ■ EMS Administrative Chief	3/1/2012	1/1/2014
Medium	■ Assign paramedics who are cross-trained to work the same schedule as firefighters	■ Deputy Commissioner – Operations ■ EMS Administrative Chief	4/1/2012	1/1/2014
Medium	■ Staff ALS units with one paramedic and one EMT	■ Commissioner ■ Medical Director ■ Deputy Commissioner – Operations ■ EMS Administrative Chief	3/1/2012	1/1/2014
Medium	■ Work collaboratively with Local 22 on how to implement selected policies	■ Commissioner ■ Deputy Commissioner – Administrative Services	2/1/2012	Ongoing

IMPLEMENTATION PLAN

Priority	Recommendation	Responsibility(a)	Commence	Complete
		■ Human Resources – Director		
Medium	■ Develop and use management systems to strengthen race relations (and gender equality) within the department	■ Commissioner ■ Deputy Commissioner – Administrative Services	7/1/2012	1/1/15
Medium	■ Have the prevention unit focus on prevention activities that cannot be effectively performed on a decentralized basis	■ Deputy Commissioner - Operations	7/1/2012	1/1/2013
Medium	■ Establish and adhere to replacement cycles for apparatus	■ Deputy Commissioner – Administrative Services ■ Deputy Commissioner – Technical Services ■ Fiscal Officer	7/1/2012	Ongoing
Medium	■ Provide ongoing, consistent investment in recruiting a diverse workforce	■ Commissioner ■ Deputy Commissioner – Administrative Services ■ Human Resources Director	7/1/2012	Ongoing
Medium	■ Grant additional authority to mid-managers	■ Commissioner	3/1/2012	1/1/2013
Medium	■ Explore developing a non-emergency medical response capacity	■ Commissioner ■ Medical Director ■ Deputy Commissioner – Operations ■ EMS Administrative Chief	7/1/2012	6/1/2013
Medium	■ Discontinue the chief's aides positions	■ Deputy Commissioner – Operations	3/1/2012	6/1/2013
Medium	■ Work to establish a 24-hour work schedule for firefighters	■ Commissioner ■ Deputy Commissioner – Operations ■ Deputy Commissioner – Technical Services ■ Human Resources Director	7/1/2012	1/1/2014
Low	■ Work with hospitals to reduce the time EMS staff must wait when delivering a patient	■ Deputy Commissioner – Operations ■ EMS Administrative Chief	6/1/2012	1/1/2013

IMPLEMENTATION PLAN

Priority	Recommendation	Responsibility(a)	Commence	Complete
Low	■ Reconfigure the staffing of the safety office	■ Deputy Commissioner – Operations ■ Safety Office Battalion Chief	3/1/2012	1/1/2013
Low	■ Establish policies that require recruits and firefighters to be physically fit	■ Commissioner ■ Deputy Commissioner – Operations	9/1/2012	9/1/2013
Low	■ Make more extensive use of battalion chiefs and captains to determine the cause and origin of fires	■ Deputy Commissioner – Operations ■ Deputy Commissioner – Technical Services	3/1/2012	1/1/2013
Low	■ Reduce fire marshal unit staffing	■ Deputy Commissioner – Technical Services ■ Fire Marshal – Deputy Chief	1/1/2013	1/1/2014
Low	■ Ensure that Fire Communications Center employees receive ample training	■ Deputy Commissioner – Technical Services ■ Chief Dispatcher	7/1/2012	1/1/2013
Low	■ Cease the practice of "browning out" stations on a rotating basis	■ Commissioner ■ Deputy Commissioner – Operations	1/1/2014	Ongoing
Low	■ Adjust EMS work schedule to ensure consistent service can be provided during shift change	■ Deputy Commissioner – Operations ■ EMS Administrative Chief	3/1/2012	6/1/2012
Low	■ Incorporate fitness training into the work schedules of all firefighters	■ Deputy Commissioner – Operations	3/1/2012	6/1/2012
Low	■ Do not allow firefighters to opt out of the BLS rotation	■ Deputy Commissioner – Operations	3/1/2012	Ongoing
Low	■ Replace firefighters and paramedics who are assigned to special events	■ Deputy Commissioner – Operations	7/1/2012	1/1/2013
Low	■ Explore opportunities to provide training to other area jurisdictions	■ Deputy Commissioner – Operations ■ Fire Academy Battalion Chief	1/1/2013	6/1/2013

IMPLEMENTATION PLAN

Priority	Recommendation	Responsibility(a)	Commence	Complete
Low	■ Modify the process for handling complaints	■ Commissioner ■ Special Investigations Deputy Chief	1/1/2013	6/1/2013
Low	■ Staff the employee assistance unit with a mix of professional counselors, paramedics, firefighters, males, and females	■ Deputy Commissioner – Administrative Services ■ Human Resources Director	7/1/2012	6/1/2013
Low	■ Explore having arson investigators certified as law enforcement officers with arrest powers	■ Deputy Commissioner – Technical Services ■ Fire Marshal – Deputy Chief	7/1/2012	1/1/2013
Low	■ Work with the union to develop alternative approaches to addressing discipline issues	■ Commissioner	1/1/2013	1/1/2015
Low	■ Allow EMS managers and supervisors to retain the 10 percent stipend for serving as paramedics	■ Deputy Commissioner – Administrative Services ■ Fiscal Officer	6/1/2012	1/1/2013
Lowest	■ Allow paramedics who have switched to fire suppression to work overtime as paramedics	■ Deputy Commissioner - Operations	2/1/2012	4/1/2012
Lowest	■ Seek full reimbursement for serving as the EMS regional office for the state	■ Deputy Commissioner – Operations ■ EMS Regional Officer	4/1/2012	1/1/2013
Lowest	■ Contract out graphics and photographic support	■ Deputy Commissioner – Technical Services ■ Fire Prevention – Deputy Chief	3/1/2012	7/1/2012
Lowest	■ Discontinue advanced quick response unit when ambulance capacity has increased	■ Deputy Commissioner – Operations	6/1/2013	1/1/2014
Lowest	■ Reassess the need for the mail room position	■ Deputy Commissioner – Administrative Services ■ Fiscal Officer	6/1/2012	6/1/2013

IMPLEMENTATION PLAN

Priority	Recommendation	Responsibility(a)	Commence	Complete
Lowest	■ Reduce supervisory requirements within the fire code unit	■ Deputy Commissioner – Technical Services	(b)	(b)
Lowest	■ Staff the fire code unit with civilians	■ Deputy Commissioner – Technical Services ■ Fire Code – Deputy Chief	7/1/2012	6/1/2014
Lowest	■ Do not include haz mat crews in the BLS rotation	■ Deputy Commissioner – Operations	3/1/2012	4/1/2012
Lowest	■ Explore entering into relationships with hospitals to replace supplies	■ Deputy Commissioner – Operations ■ EMS Administrative Chef	1/1/2013	6/1/2013
Lowest	■ Invest in additional training for fire marshals	■ Deputy Commissioner – Technical Services ■ Fire Marshal – Deputy Chief	7/1/2012	1/1/2013
Lowest	■ Increase fees for conducting variance investigations	■ Deputy Commissioner – Technical Services ■ Fire Code – Deputy Chief	2/1/2012	1/1/2013

(a) Responsibilities are assigned to positions in the current organizational structure.
(b) When the deputy chief who currently leads the unit retires.

APPENDIX A – EMPLOYEE SURVEY RESULTS

APPENDIX A – EMPLOYEE SURVEY RESULTS

As part of this engagement an online survey was made available to Fire Department employees. The objectives of the survey were to give all employees the opportunity to provide input to the study and to help the department more fully understand employee needs and perceptions. This chapter presents information about the survey process and an overview of the survey respondents. Survey questions and answers for all employees are presented in detail in Exhibit A-1. Results for firefighters and paramedics are shown in Exhibit A-2 and A-3 respectively. These results can be used as a baseline against which the Fire Department can reassess employee perceptions and satisfaction on an ongoing basis.

A – SURVEY PROCESS

The consultants prepared a draft survey that was reviewed by the project steering committee. After the survey was finalized the Fire Commissioner distributed a link to the survey in a general memorandum. Of the department's approximate 2,200 employees, 1,810 (82 percent) responded to the survey. With this high level of response it can be assumed that the survey results generally reflect the opinions of all employees.

B – SURVEY RESPONDENTS

This section presents information on the 1,810 Fire Department employees who responded to the survey. Information on their role in the department (i.e., whether they are managers/supervisors or line employees), the division to which they are assigned, their department position, the length of time they have worked in the department, and their age, race, and gender, follows.

Role. One-third (33 percent) of the survey responses were received from employees who identified themselves as managers or supervisors. The remaining 67 percent of the survey respondents were line employees.

Division. Seventy-four percent of survey respondents are assigned to the operations division, 3.0 percent are assigned to the technical services division, 2.0 percent are assigned to administrative services division, and 21 percent are assigned to other divisions.

Position. Of the employees who responded 1,212 (67.0 percent) identified themselves as firefighter/EMTs, 246 (14.0 percent) identified themselves as firefighters, and 179 (10.0 percent) identified themselves as firefighter/paramedics or fire service paramedics.

Tenure. Over 61 percent of the survey respondents have worked for the Fire Department for more than ten years and more than 82.0 percent have worked for the department for more than five years.

Tenure	Percent of Respondents
Less than 1 year	1.0%
1 to 5 years	17.0%
6 to 10 years	21.0%
11 to 20 years	32.0%
More than 20 years	29.0%

Age. Forty-five percent of survey respondents are over 46 years of age.

Age	Percent Of Respondents
18 to 25	2.0%
26 to 35	22.0%
36 to 45	31.0 %
46 to 55	29.0%
56 or older	16.0%

Race. Slightly less than two-thirds (63 percent) of Fire Department respondents identified themselves as Caucasian; less than one-fourth (24 percent) identified themselves as African American; and 5.0 percent identified themselves as Hispanic.

Race/Ethnic Background	Percent Of Respondents
Caucasian	63.0%
African American	24.0%
Hispanic	5.0 %
Other	8.0%

Gender. Male employees accounted for 93.0 percent of survey respondents; female employees accounted for 7.0 percent of respondents.

PHILADELPHIA FIRE DEPARTMENT
EMPLOYEE SURVEY RESULTS - ALL RESPONDENTS

General Information

Is your position primarily managerial or supervisory?	Yes	No	
	33.0%	67.0%	
Which category best describes your job classification?	Civilian (non-uniform)		2.0%
	Firefighter (but not an EMT)		14.0%
	Firefighter/EMT (but not a paramedic)		67.0%
	Firefighter/paramedic who currently functions as a paramedic		1.0%
	Fire service paramedic		9.0%
	Other		7.0%
Are you a firefighter who previously was a paramedic?	Yes	3.0%	
	No	97.0%	
In what fire department division do you work?	Operations		74.0%
	Technical Services		3.0%
	Administrative Services		2.0%
	Other		21.0%
How long have you worked for the Philadelphia Fire Department?	Less than 1 year		1.0%
	1 to 5 years		17.0%
	6 to 10 years		21.0%
	11 to 20 years		32.0%
	More than 20 years		29.0%
Please indicate which of the following best describes your race or ethnic background.	Caucasian		63.0%
	African American/Black		24.0%
	Hispanic/Latino		5.0%
	Other		8.0%
What is your age?	18 to 25		2.0%
	26 to 35		22.0%
	36 to 45		31.0%
	46 to 55		29.0%
	56 or older		16.0%
Please indicate your gender?	Male	93.0%	
	Female	7.0%	

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree
LEADERSHIP PRACTICES							
Communications							
Communication is open and effective.	4.3%	18.9%	21.6%	25.7%	29.4%	23.2%	55.1%
I understand the Department's goals and priorities.	7.3%	29.9%	19.8%	19.5%	13.5%	37.2%	33.0%
I understand the role my unit plays in achieving Fire Department goals and priorities.	18.3%	46.1%	17.1%	8.3%	10.2%	64.4%	18.5%
I understand how my job contributes to achieving Fire Department goals and priorities.	18.5%	46.8%	16.1%	8.6%	10.0%	65.3%	18.6%
Expectations for performance are clearly communicated.	9.7%	34.8%	20.1%	17.0%	18.4%	44.5%	35.4%
Expectations for performance are consistently communicated.	7.1%	27.6%	22.7%	21.7%	21.0%	34.7%	42.7%
Inclusiveness							
The department has a collaborative work environment.	2.9%	20.0%	22.6%	23.6%	30.9%	22.9%	54.5%
Department members (administration, management, supervisors, and field staff) work well together to address issues facing the Department.	2.2%	9.8%	17.8%	27.8%	42.4%	12.0%	70.2%
Fire department managers and supervisors are willing to consider points of view that are different from their own.	2.3%	14.7%	22.7%	23.3%	42.4%	17.0%	65.7%
Supervision							
I feel free to express my opinions to my supervisor.	14.4%	41.7%	17.2%	11.4%	15.4%	56.1%	26.8%
I am encouraged to share my opinions about how to strengthen Department operations.	3.5%	16.2%	21.6%	25.3%	35.3%	19.7%	60.6%
I feel comfortable discussing problems or concerns with my supervisor.	14.5%	42.8%	19.3%	10.6%	12.7%	57.3%	23.3%
Supervisors (captains, lieutenants, and civilian supervisors) work to eliminate barriers that make it difficult for staff to perform their job responsibilities.	7.7%	37.3%	27.2%	13.9%	13.9%	13.9%	27.8%
Supervisors (captains, lieutenants, and civilian supervisors) provide constructive feedback on performance.	9.8%	47.0%	23.0%	9.6%	10.7%	56.8%	20.3%
Supervisors (captains, lieutenants, and civilian supervisors) encourage staff to improve their performance.	10.6%	50.5%	20.8%	8.7%	9.4%	61.1%	18.1%

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree
Mid-Management							
Mid-managers (deputy chiefs, battalion chiefs, and civilian managers) work to eliminate barriers that make it difficult for staff to perform their job responsibilities.	4.5%	27.7%	30.8%	18.7%	18.4%	32.2%	37.1%
Mid-managers (deputy chiefs, battalion chiefs, and civilian managers) provide constructive feedback on performance.	5.1%	35.2%	26.7%	17.0%	16.0%	40.3%	33.0%
Mid-managers (deputy chiefs, battalion chiefs, and civilian managers) encourage staff to improve their performance.	6.2%	43.1%	25.8%	11.9%	13.1%	49.3%	25.0%
Senior Management							
Senior managers (commissioner and deputy commissioners) work to eliminate barriers that make it difficult for staff to perform their job responsibilities.	2.6%	9.3%	16.6%	19.2%	52.2%	11.9%	71.4%
Senior managers (commissioner and deputy commissioners) provide constructive feedback on performance.	2.8%	9.7%	16.8%	20.9%	49.9%	12.5%	70.8%
Senior managers (commissioner and deputy commissioners) encourage staff to improve their performance.	3.3%	16.7%	20.4%	16.2%	43.4%	20.0%	59.6%
Leadership Development							
The Department has effective approaches to developing new senior leaders.	1.3%	9.1%	18.7%	23.8%	47.1%	10.4%	70.9%
The Department has effective approaches to developing new mid-managers.	1.2%	10.9%	19.6%	23.9%	44.4%	12.1%	68.3%
The Department has effective approaches to developing new first-line supervisors (captains, lieutenants, and civilian supervisors).	1.7%	12.2%	18.5%	24.5%	43.1%	13.9%	67.6%
EMPLOYEE ENGAGEMENT							
Job Design							
Work is well organized.	4.7%	36.9%	27.8%	18.8%	11.9%	41.6%	30.7%
Work is designed to make effective use of employee skills.	4.5%	33.0%	25.5%	20.0%	16.9%	37.5%	36.9%
My job allows the Department to make good use of my skills and capabilities.	6.9%	36.5%	22.1%	17.2%	17.3%	43.4%	34.5%

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree
Commitment							
Firefighter jobs in the Fire Department are secure.	4.5%	22.4%	21.1%	27.9%	24.1%	26.9%	52.0%
Paramedic jobs in the Fire Department are secure.	5.6%	17.1%	20.1%	26.9%	30.3%	22.7%	57.2%
Civilian jobs in the Fire Department are secure.	5.7%	18.7%	48.0%	15.4%	12.2%	24.4%	27.6%
Outstanding firefighters are recognized for their performance.	3.7%	20.2%	22.3%	28.7%	25.1%	23.9%	53.8%
Outstanding paramedics are recognized for their performance.	2.1%	14.0%	22.6%	27.3%	33.9%	16.1%	61.2%
Outstanding civilian employees are recognized for their performance.	3.6%	17.0%	51.8%	13.3%	14.3%	20.6%	27.6%
Firefighters have adequate opportunities for career advancement.	8.8%	34.6%	21.4%	18.2%	17.1%	43.4%	35.3%
Paramedics have adequate opportunities for career advancement.	4.1%	18.9%	27.1%	21.4%	28.5%	23.0%	49.9%
Civilian employees have adequate opportunities for career advancement.	4.6%	17.1%	60.6%	7.8%	9.8%	21.7%	17.6%
Time							
Existing work schedules provide me with the opportunity to achieve a good work/life balance.	40.2%	37.4%	8.6%	4.1%	9.8%	77.6%	13.9%
I have sufficient time during my workday to effectively perform my job responsibilities.	23.7%	47.3%	13.2%	18.4%	7.5%	71.0%	25.9%
KNOWLEDGE ACCESSIBILITY							
Availability							
The information I need to effectively perform my job responsibilities is readily available to me.	9.4%	49.6%	18.1%	14.4%	6.9%	59.0%	21.3%
I receive the training I need to effectively perform my job responsibilities.	5.5%	32.5%	20.8%	20.9%	18.6%	38.0%	39.5%
Collaboration							
Employees in my unit work effectively together.	37.5%	44.4%	9.1%	5.0%	2.4%	81.9%	7.4%
Employees from different units within the Fire Department work effectively together on issues of common concern.	9.0%	45.1%	22.2%	13.0%	7.2%	54.1%	20.2%
Department leaders (commissioner and deputy commissioners) work effectively together.	2.8%	9.4%	20.2%	17.1%	36.8%	12.2%	53.9%
Mid-managers (deputy chiefs, battalion chiefs, and civilian managers) work effectively together.	2.8%	33.0%	27.6%	13.5%	13.6%	35.8%	27.1%

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree
Information/Best Practice Sharing							
I have access to best practices employed by other fire/EMS agencies that is relevant to my work.	2.9%	22.4%	27.3%	25.7%	21.7%	25.3%	47.4%
I have access to best practices employed by organizations (other than fire/EMS agencies) that is relevant to my work.	2.1%	20.4%	30.6%	25.6%	21.4%	22.5%	47.0%
I have access to best practices employed by the Philadelphia Fire Department that is relevant to my work.	4.2%	32.6%	27.4%	18.1%	17.7%	36.8%	35.8%
Information Systems							
The communication of needed information within my unit is adequate.	11.2%	53.4%	17.3%	10.8%	7.3%	64.6%	18.1%
The communication of needed information across Department units is adequate.	2.6%	24.2%	25.5%	28.0%	19.7%	26.8%	47.7%
Existing information systems make it easy to access needed information.	3.0%	27.5%	26.9%	25.8%	16.8%	30.5%	42.6%
Existing information systems make it easy to record information on Fire Department activities.	2.4%	26.5%	27.4%	24.7%	19.0%	28.9%	43.7%
WORKFORCE OPTIMIZATION							
Processes							
Work processes within the Philadelphia Fire Department are well defined.	4.0%	34.5%	26.5%	22.6%	12.4%	38.5%	35.0%
Emergency medical services are effectively integrated into the Department's overall operations.	3.3%	25.5%	20.1%	24.2%	26.8%	28.8%	51.0%
I receive adequate training on how my work is expected to be done.	6.5%	38.0%	20.5%	19.4%	15.6%	44.5%	35.0%
Conditions							
My physical work area facilitates productive work activity.	6.9%	45.9%	22.0%	14.3%	10.9%	52.8%	25.2%
The work environment within the Philadelphia Fire Department is supportive.	3.2%	21.7%	22.4%	22.4%	30.4%	24.9%	52.8%
Paramedics are treated with as much respect as firefighters.	3.7%	16.9%	17.8%	23.6%	38.1%	20.6%	61.7%
Civilian Fire Department employees are treated with as much respect as firefighters.	6.6%	22.8%	48.2%	10.7%	11.6%	29.4%	22.3%

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree
Civilian Fire Department employees are treated with as much respect as paramedics.	5.5%	20.3%	50.5%	11.2%	12.5%	25.8%	23.7%
My race or ethnicity does not affect how I am treated by the Fire Department staff I work with on a daily basis.	12.2%	28.8%	14.5%	11.8%	32.7%	41.0%	44.5%
My gender does not affect how I am treated by the Fire Department staff I work with on a daily basis.	15.7%	39.4%	19.3%	8.4%	17.2%	55.1%	25.6%
My race or ethnicity does not affect how I am treated by my supervisor.	21.9%	40.8%	15.3%	6.7%	15.3%	62.7%	22.0%
My gender does not affect how I am treated by my supervisor.	23.7%	46.5%	16.7%	4.0%	9.2%	70.2%	13.2%
Race or ethnicity does not affect how staff are treated by senior managers (commissioner and deputy commissioners) within the Fire Department.	5.0%	12.9%	15.2%	16.0%	50.8%	17.9%	66.8%
Gender does not affect how staff are treated by senior managers (commissioner and deputy commissioners) within the Fire Department.	5.2%	18.2%	24.5%	17.1%	35.0%	23.4%	52.1%
Race or ethnicity does not affect how staff are treated by mid-managers (deputy chiefs, battalion chiefs, and civilian managers) within the Fire Department.	5.5%	21.5%	21.7%	18.3%	33.0%	27.0%	51.3%
Gender does not affect how staff are treated by mid-managers (deputy chiefs, battalion chiefs, and civilian managers) within the Fire Department.	6.1%	25.2%	28.1%	17.1%	35.0%	31.3%	52.1%
My immediate supervisor values my work.	36.3%	48.1%	9.7%	3.0%	2.9%	84.4%	5.9%
EMS supervisors (ES4s and ES5s) value the work of the paramedics they oversee.	14.8%	31.3%	31.3%	7.8%	14.8%	46.1%	22.6%
Accountability							
High expectations for the performance of all employees have been established.	8.9%	35.8%	19.7%	18.3%	17.2%	44.7%	35.5%
Fire Department leaders (commissioner and deputy commissioners) are held accountable for the decisions they make.	3.5%	11.9%	12.3%	16.7%	35.5%	15.4%	52.2%
Fire Department mid-managers (deputy chiefs, battalion chiefs, and civilian managers) are held accountable for the decisions they make.	7.0%	31.3%	19.2%	17.5%	25.0%	38.3%	42.5%
Fire Department first-line supervisors (captains, lieutenants, and civilian supervisors) are held accountable for the decisions they make.	23.0%	471.0%	12.0%	7.4%	10.5%	494.0%	17.9%
Line employees are held accountable for their performance.	25.3%	42.1%	16.1%	8.7%	7.7%	67.4%	16.4%
I am held accountable for my performance.	40.2%	49.1%	6.8%	1.7%	2.2%	89.3%	3.9%

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree
HUMAN RESOURCE PRACTICES							
Hiring							
The hiring process is fair.	3.3%	12.1%	14.4%	16.3%	53.9%	15.4%	70.2%
Persons who are hired by the Fire Department are competent.	1.5%	13.5%	25.9%	25.9%	33.2%	15.0%	59.1%
The Fire Department hires the best available job candidates.	1.6%	9.3%	14.9%	20.7%	53.5%	10.9%	74.2%
The hiring process is timely.	3.2%	10.1%	16.7%	22.8%	47.2%	13.3%	70.0%
Hiring decisions are made without regard to race or ethnic background.	2.6%	9.8%	14.3%	14.0%	59.3%	12.4%	73.3%
Hiring decisions are made without regard to gender.	2.9%	15.8%	21.3%	16.8%	43.2%	18.7%	60.0%
Promotions							
The promotional process is fair.	2.6%	13.2%	16.0%	17.7%	50.4%	15.8%	68.1%
The best candidates for promotion are selected.	2.1%	8.3%	14.8%	20.2%	54.5%	10.4%	74.7%
The promotional process is timely.	2.3%	13.6%	22.8%	19.6%	41.7%	15.9%	61.3%
Promotional decisions are made without regard to race or ethnic background.	3.1%	12.4%	14.2%	14.7%	55.7%	15.5%	70.4%
Promotional decisions are made without regard to gender.	3.3%	15.2%	21.1%	16.2%	44.2%	18.5%	60.4%
The factors that are considered when making promotional decisions are clearly articulated.	2.8%	13.0%	18.1%	19.9%	46.2%	15.8%	66.1%
Discipline							
The disciplinary process is fair.	1.2%	5.4%	17.7%	21.4%	54.3%	6.6%	75.7%
Discipline is consistently administered across the Fire Department.	2.7%	8.9%	10.7%	18.2%	59.5%	11.6%	77.7%
Discipline is consistently applied across divisions, offices, and units.	2.2%	9.0%	14.7%	18.6%	55.5%	11.2%	74.1%
Discipline is consistently applied across shifts.	3.2%	14.3%	20.5%	16.2%	45.8%	17.5%	62.0%
Decisions relating to discipline are timely.	2.0%	9.0%	20.0%	21.7%	47.3%	11.0%	69.0%
Disciplinary decisions are made without regard to race or ethnic background.	2.1%	9.4%	13.6%	15.3%	59.6%	11.5%	74.9%
Disciplinary decisions are made without regard to gender.	2.2%	10.8%	24.2%	17.0%	45.7%	13.0%	62.7%
The grievance process is fair.	1.2%	8.9%	28.9%	17.3%	44.5%	10.1%	61.8%
The grievance process is timely.	1.6%	7.9%	28.2%	17.8%	44.5%	9.5%	62.3%
The steps in the grievance process are well articulated.	1.5%	15.3%	31.3%	17.5%	34.4%	16.8%	51.9%

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree
Transfers							
The transfer process is fair.	1.2%	6.7%	13.1%	20.4%	58.6%	7.9%	79.0%
The transfer process is timely.	1.9%	9.3%	17.1%	20.6%	51.1%	11.2%	71.7%
Transfer decisions are made without regard to race or ethnic background.	2.1%	8.1%	16.0%	16.6%	57.2%	10.2%	73.8%
Transfer decisions are made without regard to gender.	2.4%	10.0%	23.6%	17.5%	46.4%	12.4%	63.9%
Performance Management							
Excellent performance is formally recognized.	2.0%	19.0%	24.3%	27.2%	27.5%	21.0%	54.7%
Annual performance ratings accurately reflect the performance of individuals being evaluated.	4.1%	23.6%	23.2%	23.1%	26.0%	27.7%	49.1%
Fire Department employees who are not meeting performance expectations receive the support they need to improve their performance.	2.7%	20.8%	26.2%	24.5%	25.8%	23.5%	50.3%
Fire Department employees who continually fail to meet performance expectations are encouraged to resign or are fired.	1.4%	4.4%	17.0%	28.6%	48.7%	5.8%	77.3%
LEARNING CAPACITY							
Innovation							
Fire Department leaders (commissioner and deputy commissioners) are open to new ways of doing business.	1.5%	6.5%	15.8%	21.2%	54.9%	8.0%	76.1%
Fire Department leaders (commissioner and deputy commissioners) encourage employees to find new and better ways to work.	1.6%	9.1%	17.2%	21.1%	51.1%	10.7%	72.2%
Fire Department mid-managers (deputy chiefs, battalion chiefs, and civilian managers) are open to new ways of doing business.	2.5%	21.8%	28.5%	18.1%	25.3%	24.3%	43.4%
Fire Department mid-managers (deputy chiefs, battalion chiefs, and civilian managers) encourage employees to find new and better ways to work.	2.6%	23.2%	27.7%	18.6%	23.5%	25.8%	42.1%
Fire Department first-line supervisors (captains, lieutenants, and civilian supervisors) are open to new ways of doing business.	7.1%	45.2%	24.8%	10.9%	11.9%	52.3%	22.8%
Fire Department first-line supervisors (captains, lieutenants, and civilian supervisors) encourage employees to find new and better ways to work.	7.4%	45.9%	24.4%	11.2%	11.1%	53.3%	22.3%
Line employees are open to new ways of doing business.	8.1%	46.1%	29.4%	9.2%	7.2%	54.2%	16.4%
I am open to new ways of doing business.	30.6%	54.6%	11.6%	1.2%	1.9%	85.2%	3.1%
Training							

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree
New firefighters receive the training they need to effectively perform their job duties.	8.5%	44.2%	19.3%	15.5%	12.6%	52.7%	28.1%
New paramedics receive the training they need to effectively perform their job duties.	7.9%	40.2%	29.9%	11.9%	10.2%	48.1%	22.1%
New civilian employees receive the training they need to effectively perform their job duties.	4.3%	20.1%	63.0%	5.3%	7.4%	24.4%	12.7%
Newly promoted firefighter supervisors receive the training they need to effectively perform their new roles.	2.7%	15.6%	22.5%	28.3%	31.0%	18.3%	59.3%
Newly promoted paramedic supervisors receive the training they need to effectively perform their new roles.	3.0%	15.5%	40.2%	18.9%	22.4%	18.5%	41.3%
Newly promoted civilian supervisors receive the training they need to effectively perform their new roles.	2.6%	13.7%	66.2%	7.3%	10.2%	16.3%	17.5%
Firefighters receive the ongoing training they need to effectively perform their job duties.	5.4%	32.9%	17.9%	22.7%	21.0%	38.3%	43.7%
Paramedics receive the ongoing training they need to effectively perform their job duties.	4.0%	30.9%	34.2%	14.7%	16.1%	34.9%	30.8%
Civilian employees receive the ongoing training they need to effectively perform their job duties.	3.0%	16.7%	65.8%	6.8%	7.7%	19.7%	14.5%
Value And Support							
Fire Department leaders (commissioner and deputy commissioners) value the importance of ongoing learning on the part of firefighters.	4.9%	21.3%	22.9%	17.0%	33.9%	26.2%	50.9%
Fire Department leaders (commissioner and deputy commissioners) value the importance of ongoing learning on the part of paramedics.	4.7%	19.2%	27.8%	14.3%	33.9%	23.9%	48.2%
Fire Department leaders (commissioner and deputy commissioners) value the importance of ongoing learning on the part of civilian employees.	4.4%	18.6%	47.2%	8.6%	21.1%	23.0%	29.7%
Fire Department mid-managers (deputy chiefs, battalion chiefs, and civilian managers) value the importance of ongoing learning on the part of firefighters.	7.7%	48.9%	24.1%	8.4%	10.9%	56.6%	19.3%

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree
Fire Department mid-managers (deputy chiefs, battalion chiefs, and civilian managers) value the importance of ongoing learning on the part of paramedics.	5.5%	37.7%	30.9%	11.0%	14.8%	43.2%	25.8%
Fire Department mid-managers (deputy chiefs, battalion chiefs, and civilian managers) value the importance of ongoing learning on the part of civilian employees.	5.6%	32.6%	45.4%	6.1%	10.3%	38.2%	16.4%
CHARACTERISTICS							
Fire Department employees are professional.	18.7%	52.8%	18.3%	6.3%	4.0%	71.5%	10.3%
Fire Department employees are encouraged to be innovative.	6.7%	29.0%	24.5%	23.6%	16.1%	35.7%	39.7%
Fire Department employees are encouraged to be progressive.	6.5%	29.8%	23.9%	22.2%	17.6%	36.3%	39.8%
Fire Department employees treat Philadelphia residents and visitors with respect.	31.7%	50.1%	12.3%	3.5%	2.4%	81.8%	5.9%
The Fire Department embraces diversity.	10.6%	30.2%	24.5%	14.3%	20.4%	40.8%	34.7%
Fire Department employees are service oriented.	20.9%	55.1%	16.2%	4.9%	3.0%	76.0%	7.9%
Fire Department employees are courteous to each other.	11.7%	50.4%	24.4%	9.2%	4.3%	62.1%	13.5%
Fire Department employees are courteous to Philadelphia residents and visitors.	25.9%	54.5%	14.7%	3.3%	1.6%	80.4%	4.9%
Fire Department employees work effectively together as teams.	27.6%	53.7%	18.0%	7.4%	3.3%	81.3%	10.7%
Fire Department employees are motivated to do a good job.	17.5%	43.0%	17.5%	12.4%	9.7%	60.5%	22.1%
Fire Department employees have a positive outlook on their job.	10.9%	30.4%	21.0%	21.0%	16.7%	41.3%	37.7%
Fire Department employees are civic minded.	12.2%	48.4%	29.9%	6.2%	3.3%	60.6%	9.5%
Fire Department employees are concerned about the condition and affairs of the communities they serve.	15.8%	48.2%	24.7%	8.0%	3.4%	64.0%	11.4%
Fire Department employees are well educated.	3.9%	28.0%	40.5%	20.2%	7.4%	31.9%	27.6%
The Fire Department has developed strong partnerships with the community.	10.8%	44.1%	30.2%	11.1%	3.8%	54.9%	14.9%
The Fire Department does an excellent job of engaging the community.	11.0%	41.7%	30.4%	12.4%	4.4%	52.7%	16.8%
The Fire Department does an excellent job at emergency fire response.	34.6%	44.9%	10.8%	5.9%	3.8%	79.5%	9.7%
The Fire Department does an excellent job at emergency medical response.	24.2%	40.6%	14.1%	9.9%	11.2%	64.8%	21.1%

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree
The Fire Department does an excellent job at hazardous materials response.	28.9%	45.5%	18.7%	3.8%	3.1%	74.4%	6.9%
The Fire Department does an excellent job at fire prevention education.	21.9%	45.6%	22.6%	5.6%	4.3%	67.5%	9.9%
The Fire Department does an excellent job at EMS prevention education.	9.1%	23.4%	25.0%	16.1%	26.4%	32.5%	42.5%
The Fire Department does an excellent job of using research to improve operations.	5.6%	18.1%	26.5%	21.4%	28.4%	23.7%	49.8%
The Fire Department does an excellent job of providing employee assistance services.	7.5%	31.4%	30.1%	14.4%	16.6%	38.9%	31.0%
VEHICLES, EQUIPMENT, TECHNOLOGY, RADIOS, BUILDINGS, FIRE COMMUNICATIONS							
Vehicles							
I have sufficient access to the vehicles I need to effectively perform my job responsibilities.	10.6%	46.0%	16.3%	14.9%	12.1%	56.6%	27.0%
Vehicle repairs are timely and effective.	2.1%	13.5%	14.0%	33.8%	36.5%	15.6%	70.3%
The fire department vehicles I use are well maintained.	2.4%	17.8%	18.7%	29.9%	31.2%	20.2%	61.1%
Equipment							
I have access to the equipment I need to effectively perform my job responsibilities.	7.7%	53.3%	17.6%	12.4%	9.0%	61.0%	21.4%
I have access to the equipment I need to safely perform my job responsibilities.	7.7%	54.0%	18.3%	11.1%	8.9%	61.7%	20.0%
Repairs to the equipment I use are timely.	3.6%	26.8%	21.2%	28.0%	20.5%	30.4%	48.5%
The equipment I use is well maintained.	6.2%	42.2%	22.1%	16.9%	12.6%	48.4%	29.5%
Technology							
The Fire Department makes effective use of technology to enhance performance.	2.3%	17.9%	25.5%	27.6%	26.8%	20.2%	54.4%
The Fire Department makes effective use of technology to reduce paperwork requirements.	2.9%	24.4%	23.0%	23.5%	26.2%	27.3%	49.7%
Needed technology is implemented in a timely manner.	1.7%	10.7%	22.2%	32.6%	32.8%	12.4%	65.4%
I have sufficient access to computers to effectively perform my job responsibilities.	6.3%	47.3%	21.6%	12.9%	11.8%	53.6%	24.7%
Records management and report writing systems are easy to use.	3.0%	24.0%	24.9%	23.7%	23.4%	27.0%	47.1%
Appropriate training is provided on how to make effective use of available technology.	2.2%	18.7%	22.2%	26.9%	29.8%	20.9%	56.7%
The Fire Department's technology infrastructure is well maintained.	1.7%	14.1%	28.7%	27.8%	27.6%	15.8%	55.4%

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree
Portable Radios							
I have adequate access to portable radios.	26.2%	66.6%	5.9%	1.0%	1.3%	92.8%	2.3%
Repairs to portable radios are timely and effective.	13.2%	49.0%	19.7%	11.2%	6.8%	62.2%	18.0%
The portable radios I use are well maintained.	13.9%	53.7%	18.5%	8.3%	5.5%	67.6%	13.8%
Buildings							
My work area is appropriately secure.	9.8%	50.9%	15.6%	13.3%	10.5%	60.7%	23.8%
Fire Department buildings are appropriately located.	8.5%	40.3%	24.3%	15.3%	11.5%	48.8%	26.8%
Fire Department buildings are clean.	8.0%	41.5%	23.4%	15.2%	11.9%	49.5%	27.1%
Fire Department buildings are well maintained.	2.8%	16.9%	22.6%	29.1%	28.6%	19.7%	57.7%
Emergency maintenance requests are handled promptly.	2.8%	23.3%	24.3%	27.4%	22.2%	26.1%	49.6%
Non-emergency maintenance requests are handled promptly.	1.6%	14.4%	24.5%	30.1%	29.4%	16.0%	59.5%
Products							
The quality of the products purchased by the Fire Department is high.	2.1%	21.2%	33.1%	28.4%	15.2%	23.3%	43.6%
The products purchased by the Fire Department meet my needs.	2.3%	36.4%	33.7%	17.5%	10.2%	38.7%	27.7%
The purchase of products by the Fire Department is timely.	2.4%	17.6%	31.6%	31.4%	17.0%	20.0%	48.4%
Items stored at the department warehouse are available when needed.	3.5%	34.7%	31.3%	20.6%	10.0%	38.2%	30.6%
Fire Communications							
The information needed to effectively respond to calls is gathered by the communications center.	5.4%	41.7%	21.1%	17.6%	14.3%	47.1%	31.9%
The information needed to effectively respond to calls is communicated by the communications center.	5.5%	39.9%	21.8%	18.2%	14.7%	45.4%	32.9%
Communications center staff are professional in their interactions with firefighters and paramedics.	5.4%	34.4%	25.6%	18.5%	16.2%	39.8%	34.7%
The communications center dispatches appropriate apparatus to effectively respond to incidents.	5.6%	40.0%	24.1%	16.3%	14.0%	45.6%	30.3%

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree
OTHER							
Fire Department employees are encouraged to be safety conscious.	24.1%	59.7%	10.3%	3.2%	2.7%	83.8%	5.9%
The Fire Department does an excellent job of reducing health related risks for employees.	5.9%	25.0%	26.3%	25.6%	17.3%	30.9%	42.9%
The Fire Department does an excellent job of reducing safety risks for employees.	6.1%	28.8%	28.6%	21.6%	14.9%	34.9%	36.5%
I would recommend that a friend come to work for the Philadelphia Fire Department.	18.7%	36.7%	22.1%	10.8%	11.7%	55.4%	22.5%

	Yes	No
Have you been through the Fire Department's formal disciplinary process?	26.0%	74.0%

Have you ever failed to report a minor injury?

Answer Options	Percent Response
Once	9.0%
Two to five times	36.0%
Six to ten times	12.0%
More than ten times	11.0%
Never, I report every injury	31.0%

	Yes	No
Have you ever encountered problems with the maintenance of your firehouse?	85.0%	15.0%

If the answer to the above question was yes, mark answers that apply:

Answer Options	Response Percent
Leaking roof	22.5%
Sanitary (toilets, sewer lines)	18.7%
Mold problems due to leaking pipes	4.1%
Asbestos	6.6%
Car vandalism in city parking lots	6.0%
Vermin (mice, rats, roaches, fleas, etc.)	42.1%

PHILADELPHIA FIRE DEPARTMENT
EMPLOYEE SURVEY RESULTS - FIREFIGHTERS AND FIREFIGHTER/EMTs

General Information

Which category best describes your job classification?	Firefighter (but not an EMT)	17.0%
	Firefighter/EMT (but not a paramedic)	83.0%
How long have you worked for the Philadelphia Fire Department?	Less than 1 year	1.0%
	1 to 5 years	18.4%
	6 to 10 years	22.8%
	11 to 20 years	31.8%
	More than 20 years	27.0%
Please indicate which of the following best describes your race or ethnic background.	Caucasian	63.5%
	African American/Black	24.1%
	Hispanic/Latino	5.0%
	Other	7.4%
What is your age?	18 to 25	2.0%
	26 to 35	23.0%
	36 to 45	32.0%
	46 to 55	29.0%
	56 or older	15.0%
Please indicate your gender?	Male	97.0%
	Female	3.0%

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree
LEADERSHIP PRACTICES							
Communications							
Communication is open and effective.	4.8%	20.7%	22.6%	24.7%	27.2%	25.5%	51.9%
I understand the Department's goals and priorities.	7.3%	30.5%	21.2%	19.7%	21.3%	37.8%	41.0%
I understand the role my unit plays in achieving Fire Department goals and priorities.	19.4%	47.7%	17.3%	6.8%	8.7%	67.1%	15.5%
I understand how my job contributes to achieving Fire Department goals and priorities.	19.2%	48.3%	16.8%	7.6%	8.1%	67.5%	15.7%
Expectations for performance are clearly communicated.	10.5%	36.5%	20.7%	15.9%	16.3%	47.0%	32.2%
Expectations for performance are consistently communicated.	8.0%	29.9%	23.6%	20.6%	17.9%	37.9%	38.5%
Inclusiveness							
The department has a collaborative work environment.	3.3%	22.0%	22.2%	24.1%	28.5%	25.3%	52.6%
Department members (administration, management, supervisors, and field staff) work well together to address issues facing the Department.	2.3%	10.4%	17.8%	28.5%	41.0%	12.7%	69.5%
Fire department managers and supervisors are willing to consider points of view that are different from their own.	2.5%	15.9%	22.6%	24.5%	34.6%	18.4%	59.1%
Supervision							
I feel free to express my opinions to my supervisor.	16.0%	43.8%	16.3%	11.0%	12.9%	59.8%	23.9%
I am encouraged to share my opinions about how to strengthen Department operations.	3.8%	17.4%	22.6%	25.6%	30.6%	21.2%	56.2%
I feel comfortable discussing problems or concerns with my supervisor.	15.7%	45.9%	18.3%	9.9%	10.2%	61.6%	20.1%
Supervisors (captains, lieutenants, and civilian supervisors) work to eliminate barriers that make it difficult for staff to perform their job responsibilities.	8.2%	39.4%	27.9%	13.1%	11.3%	13.9%	24.4%
Supervisors (captains, lieutenants, and civilian supervisors) provide constructive feedback on performance.	10.9%	50.9%	22.9%	7.8%	7.5%	61.8%	15.3%
Supervisors (captains, lieutenants, and civilian supervisors) encourage staff to improve their performance.	11.7%	54.4%	19.8%	7.1%	7.0%	66.1%	14.1%

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree
Mid-Management							
Mid-managers (deputy chiefs, battalion chiefs, and civilian managers) work to eliminate barriers that make it difficult for staff to perform their job responsibilities.	4.7%	30.0%	32.3%	17.2%	15.8%	34.7%	33.0%
Mid-managers (deputy chiefs, battalion chiefs, and civilian managers) provide constructive feedback on performance.	5.7%	38.4%	27.8%	15.1%	13.0%	44.1%	28.1%
Mid-managers (deputy chiefs, battalion chiefs, and civilian managers) encourage staff to improve their performance.	6.7%	46.4%	26.3%	10.1%	10.4%	53.1%	20.5%
Senior Management							
Senior managers (commissioner and deputy commissioners) work to eliminate barriers that make it difficult for staff to perform their job responsibilities.	2.7%	9.7%	16.3%	19.8%	51.5%	12.4%	71.3%
Senior managers (commissioner and deputy commissioners) provide constructive feedback on performance.	2.8%	10.1%	16.8%	21.0%	49.3%	12.9%	70.3%
Senior managers (commissioner and deputy commissioners) encourage staff to improve their performance.	3.2%	17.5%	20.4%	16.2%	42.6%	20.7%	58.8%
Leadership Development							
The Department has effective approaches to developing new senior leaders.	1.4%	9.8%	19.3%	24.4%	45.0%	11.2%	69.4%
The Department has effective approaches to developing new mid-managers.	1.2%	11.9%	20.4%	23.8%	42.6%	13.1%	66.4%
The Department has effective approaches to developing new first-line supervisors (captains, lieutenants, and civilian supervisors).	1.7%	12.8%	19.1%	15.2%	41.2%	14.5%	56.4%
EMPLOYEE ENGAGEMENT							
Job Design							
Work is well organized.	5.0%	40.2%	29.0%	16.9%	9.0%	45.2%	25.9%
Work is designed to make effective use of employee skills.	4.9%	36.4%	26.6%	19.2%	12.8%	41.3%	32.0%
My job allows the Department to make good use of my skills and capabilities.	7.2%	39.5%	23.3%	16.7%	13.4%	46.7%	30.1%

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree
Commitment							
Firefighter jobs in the Fire Department are secure.	3.4%	21.4%	21.3%	28.5%	25.4%	24.8%	53.9%
Paramedic jobs in the Fire Department are secure.	5.4%	17.1%	21.5%	26.7%	29.3%	22.5%	56.0%
Civilian jobs in the Fire Department are secure.	5.6%	18.0%	49.0%	14.6%	12.9%	23.6%	27.5%
Outstanding firefighters are recognized for their performance.	1.8%	15.2%	25.0%	28.4%	29.6%	17.0%	58.0%
Outstanding paramedics are recognized for their performance.	1.8%	15.2%	25.0%	28.4%	29.6%	17.0%	58.0%
Outstanding civilian employees are recognized for their performance.	3.0%	18.1%	53.3%	12.8%	12.8%	21.1%	25.6%
Firefighters have adequate opportunities for career advancement.	5.3%	33.4%	22.8%	20.0%	18.4%	38.7%	38.4%
Paramedics have adequate opportunities for career advancement.	4.2%	20.9%	30.5%	22.2%	22.2%	25.1%	44.4%
Civilian employees have adequate opportunities for career advancement.	4.3%	18.6%	62.1%	6.9%	8.2%	22.9%	15.1%
Time							
Existing work schedules provide me with the opportunity to achieve a good work/life balance.	45.8%	40.3%	8.3%	2.9%	2.7%	86.1%	5.6%
I have sufficient time during my workday to effectively perform my job responsibilities.	27.3%	51.4%	12.0%	5.9%	3.4%	78.7%	9.3%
KNOWLEDGE ACCESSIBILITY							
Availability							
The information I need to effectively perform my job responsibilities is readily available to me.	12.2%	54.1%	18.2%	9.9%	5.6%	66.3%	15.5%
I receive the training I need to effectively perform my job responsibilities.	8.0%	36.9%	18.9%	19.7%	16.5%	44.9%	36.2%
Collaboration							
Employees in my unit work effectively together.	39.8%	47.1%	8.0%	3.3%	1.8%	86.9%	5.1%
Employees from different units within the Fire Department work effectively together on issues of common concern.	10.5%	49.5%	23.2%	10.8%	6.1%	60.0%	16.9%
Department leaders (commissioner and deputy commissioners) work effectively together.	3.1%	12.6%	24.3%	20.3%	39.7%	15.7%	60.0%
Mid-managers (deputy chiefs, battalion chiefs, and civilian managers) work effectively together.	4.4%	35.1%	31.1%	15.3%	14.1%	39.5%	29.4%

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree
Information/Best Practice Sharing							
I have access to best practices employed by other fire/EMS agencies that is relevant to my work.	3.1%	23.9%	29.2%	25.6%	18.2%	27.0%	43.8%
I have access to best practices employed by organizations (other than fire/EMS agencies) that is relevant to my work.	2.1%	21.2%	32.4%	25.7%	18.5%	23.3%	44.2%
I have access to best practices employed by the Philadelphia Fire Department that is relevant to my work.	4.5%	34.4%	28.1%	18.1%	14.9%	38.9%	33.0%
Information Systems							
The communication of needed information within my unit is adequate.	12.8%	56.4%	15.9%	9.5%	5.3%	69.2%	14.8%
The communication of needed information across Department units is adequate.	2.7%	25.5%	26.3%	28.0%	17.5%	28.2%	45.5%
Existing information systems make it easy to access needed information.	3.0%	29.3%	27.7%	25.4%	18.0%	32.3%	43.4%
Existing information systems make it easy to record information on Fire Department activities.	2.4%	27.3%	27.7%	24.6%	18.0%	29.7%	42.6%
WORKFORCE OPTIMIZATION							
Processes							
Work processes within the Philadelphia Fire Department are well defined.	4.2%	36.7%	27.0%	21.4%	10.6%	40.9%	32.0%
Emergency medical services are effectively integrated into the Department's overall operations.	3.7%	28.1%	21.1%	24.4%	22.7%	31.8%	47.1%
I receive adequate training on how my work is expected to be done.	7.1%	40.4%	20.4%	17.9%	14.1%	47.5%	32.0%
Conditions							
My physical work area facilitates productive work activity.	7.5%	48.9%	21.8%	13.1%	8.7%	56.4%	21.8%
The work environment within the Philadelphia Fire Department is supportive.	3.2%	23.4%	22.6%	22.4%	28.3%	26.6%	50.7%
Paramedics are treated with as much respect as firefighters.	3.6%	18.5%	18.5%	25.5%	33.9%	22.1%	59.4%
Civilian Fire Department employees are treated with as much respect as firefighters.	6.5%	24.0%	50.3%	9.8%	9.4%	30.5%	19.2%

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree
Civilian Fire Department employees are treated with as much respect as paramedics.	5.5%	21.2%	53.0%	10.0%	10.3%	26.7%	20.3%
My race or ethnicity does not affect how I am treated by the Fire Department staff I work with on a daily basis.	12.6%	28.9%	14.3%	12.0%	32.2%	41.5%	44.2%
My gender does not affect how I am treated by the Fire Department staff I work with on a daily basis.	16.7%	40.1%	18.9%	7.8%	16.5%	56.8%	24.3%
My race or ethnicity does not affect how I am treated by my supervisor.	23.3%	41.1%	14.6%	6.5%	14.5%	64.4%	21.0%
My gender does not affect how I am treated by my supervisor.	25.0%	46.7%	16.8%	3.4%	8.0%	71.7%	11.4%
Race or ethnicity does not affect how staff are treated by senior managers (commissioner and deputy commissioners) within the Fire Department.	4.6%	12.6%	15.0%	16.1%	51.8%	17.2%	67.9%
Gender does not affect how staff are treated by senior managers (commissioner and deputy commissioners) within the Fire Department.	5.0%	17.9%	25.0%	17.6%	34.6%	22.9%	52.2%
Race or ethnicity does not affect how staff are treated by mid-managers (deputy chiefs, battalion chiefs, and civilian managers) within the Fire Department.	5.3%	22.0%	21.6%	18.1%	33.1%	27.3%	51.2%
Gender does not affect how staff are treated by mid-managers (deputy chiefs, battalion chiefs, and civilian managers) within the Fire Department.	6.0%	25.8%	28.3%	15.4%	24.5%	31.8%	39.9%
My immediate supervisor values my work.	38.9%	49.1%	8.4%	1.8%	1.9%	88.0%	3.7%
Accountability							
High expectations for the performance of all employees have been established.	9.0%	37.3%	19.4%	17.8%	16.4%	46.3%	34.2%
Fire Department leaders (commissioner and deputy commissioners) are held accountable for the decisions they make.	3.5%	11.7%	12.4%	17.2%	55.1%	15.2%	72.3%
Fire Department mid-managers (deputy chiefs, battalion chiefs, and civilian managers) are held accountable for the decisions they make.	7.3%	31.9%	19.7%	17.5%	23.6%	39.2%	41.1%
Fire Department first-line supervisors (captains, lieutenants, and civilian supervisors) are held accountable for the decisions they make.	24.4%	48.2%	11.5%	6.9%	9.0%	72.6%	15.9%
Line employees are held accountable for their performance.	25.4%	43.3%	15.5%	8.5%	7.4%	68.7%	15.9%
I am held accountable for my performance.	39.9%	49.9%	6.5%	1.6%	2.1%	89.8%	3.7%

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree
HUMAN RESOURCE PRACTICES							
Hiring							
The hiring process is fair.	3.1%	11.1%	14.1%	16.6%	55.1%	14.2%	71.7%
Persons who are hired by the Fire Department are competent.	1.3%	13.2%	26.6%	26.4%	32.5%	14.5%	58.9%
The Fire Department hires the best available job candidates.	1.5%	9.2%	14.7%	20.3%	54.2%	10.7%	74.5%
The hiring process is timely.	3.1%	10.1%	16.2%	22.8%	47.9%	13.2%	70.7%
Hiring decisions are made without regard to race or ethnic background.	2.4%	9.8%	13.4%	14.3%	60.1%	12.2%	74.4%
Hiring decisions are made without regard to gender.	2.4%	15.0%	20.7%	17.1%	49.8%	17.4%	66.9%
Promotions							
The promotional process is fair.	2.7%	13.7%	16.4%	17.4%	49.8%	16.4%	67.2%
The best candidates for promotion are selected.	2.2%	8.9%	14.7%	19.8%	54.3%	11.1%	74.1%
The promotional process is timely.	2.3%	14.4%	23.4%	19.3%	40.6%	16.7%	59.9%
Promotional decisions are made without regard to race or ethnic background.	2.7%	12.1%	14.3%	15.0%	55.8%	14.8%	70.8%
Promotional decisions are made without regard to gender.	3.0%	14.9%	21.8%	1`6.7%	43.6%	17.9%	#VALUE!
The factors that are considered when making promotional decisions are clearly articulated.	2.8%	13.1%	19.3%	18.9%	46.0%	15.9%	64.9%
Discipline							
The disciplinary process is fair.	1.0%	5.3%	17.5%	21.6%	54.5%	6.3%	76.1%
Discipline is consistently administered across the Fire Department.	2.6%	9.3%	11.2%	18.1%	58.8%	11.9%	76.9%
Discipline is consistently applied across divisions, offices, and units.	2.1%	9.3%	15.1%	19.3%	54.2%	11.4%	73.5%
Discipline is consistently applied across shifts.	3.3%	14.7%	20.9%	16.5%	44.7%	18.0%	61.2%
Decisions relating to discipline are timely.	1.8%	9.0%	21.2%	21.5%	46.5%	10.8%	68.0%
Disciplinary decisions are made without regard to race or ethnic background.	2.1%	8.9%	13.7%	15.6%	59.6%	11.0%	75.2%
Disciplinary decisions are made without regard to gender.	2.3%	10.0%	24.4%	17.3%	46.0%	12.3%	63.3%
The grievance process is fair.	1.0%	8.1%	30.0%	17.8%	43.1%	9.1%	60.9%
The grievance process is timely.	1.3%	7.4%	29.8%	17.6%	43.9%	8.7%	61.5%
The steps in the grievance process are well articulated.	1.1%	14.9%	33.2%	17.8%	32.9%	16.0%	50.7%

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree
Transfers							
The transfer process is fair.	1.0%	6.6%	12.5%	20.7%	59.3%	7.6%	80.0%
The transfer process is timely.	1.9%	8.8%	16.9%	20.4%	51.9%	10.7%	72.3%
Transfer decisions are made without regard to race or ethnic background.	2.0%	8.1%	15.7%	16.3%	58.0%	10.1%	74.3%
Transfer decisions are made without regard to gender.	2.3%	9.8%	23.9%	17.2%	46.7%	12.1%	63.9%
Performance Management							
Excellent performance is formally recognized.	1.9%	21.1%	25.5%	27.3%	24.3%	23.0%	51.6%
Annual performance ratings accurately reflect the performance of individuals being evaluated.	4.3%	25.3%	24.2%	22.3%	23.9%	29.6%	46.2%
Fire Department employees who are not meeting performance expectations receive the support they need to improve their performance.	2.8%	22.5%	28.1%	23.8%	22.8%	25.3%	46.6%
Fire Department employees who continually fail to meet performance expectations are encouraged to resign or are fired.	1.0%	4.5%	17.4%	28.2%	48.9%	5.5%	77.1%
LEARNING CAPACITY							
Innovation							
Fire Department leaders (commissioner and deputy commissioners) are open to new ways of doing business.	1.4%	6.4%	16.5%	22.3%	53.5%	7.8%	75.8%
Fire Department leaders (commissioner and deputy commissioners) encourage employees to find new and better ways to work.	1.5%	9.7%	17.7%	21.5%	49.6%	11.2%	71.1%
Fire Department mid-managers (deputy chiefs, battalion chiefs, and civilian managers) are open to new ways of doing business.	2.2%	24.0%	30.3%	19.3%	24.1%	26.2%	43.4%
Fire Department mid-managers (deputy chiefs, battalion chiefs, and civilian managers) encourage employees to find new and better ways to work.	2.4%	28.0%	30.4%	17.5%	21.7%	30.4%	39.2%
Fire Department first-line supervisors (captains, lieutenants, and civilian supervisors) are open to new ways of doing business.	7.3%	48.7%	24.8%	9.9%	9.2%	56.0%	19.1%
Fire Department first-line supervisors (captains, lieutenants, and civilian supervisors) encourage employees to find new and better ways to work.	7.6%	50.3%	24.6%	9.1%	8.4%	57.9%	17.5%

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree
Line employees are open to new ways of doing business.	8.1%	47.8%	30.0%	8.5%	5.6%	55.9%	14.1%
I am open to new ways of doing business.	29.0%	56.9%	11.3%	1.2%	1.6%	85.9%	2.8%
Training							
New firefighters receive the training they need to effectively perform their job duties.	7.9%	44.9%	18.6%	16.1%	12.5%	52.8%	28.6%
New paramedics receive the training they need to effectively perform their job duties.	7.2%	41,2%	32.4%	9.9%	9.3%	#VALUE!	19.2%
New civilian employees receive the training they need to effectively perform their job duties.	3.8%	21.3%	63.7%	4.4%	6.8%	25.1%	11.2%
Newly promoted firefighter supervisors receive the training they need to effectively perform their new roles.	2.4%	15.6%	22.9%	28.0%	31.0%	18.0%	59.0%
Newly promoted paramedic supervisors receive the training they need to effectively perform their new roles.	3.0%	15.9%	44.1%	16.3%	20.8%	18.9%	37.1%
Newly promoted civilian supervisors receive the training they need to effectively perform their new roles.	2.0%	14.2%	67.5%	6.2%	10.2%	16.2%	16.4%
Firefighters receive the ongoing training they need to effectively perform their job duties.	4.6%	33.7%	17.5%	22.4%	21.8%	38.3%	44.2%
Paramedics receive the ongoing training they need to effectively perform their job duties.	3.9%	32.4%	38.9%	11.7%	13.2%	36.3%	24.9%
Civilian employees receive the ongoing training they need to effectively perform their job duties.	2.6%	17.5%	66.9%	5.9%	7.0%	20.1%	12.9%
Value And Support							
Fire Department leaders (commissioner and deputy commissioners) value the importance of ongoing learning on the part of firefighters.	4.0%	21.4%	23.4%	17.0%	34.2%	25.4%	51.2%
Fire Department leaders (commissioner and deputy commissioners) value the importance of ongoing learning on the part of paramedics.	4.4%	20.8%	30.3%	13.9%	30.6%	25.2%	44.5%
Fire Department leaders (commissioner and deputy commissioners) value the importance of ongoing learning on the part of civilian employees.	4.1%	18.8%	47.7%	8.4%	21.0%	22.9%	29.4%
Fire Department mid-managers (deputy chiefs, battalion chiefs, and civilian managers) value the importance of ongoing learning on the part of firefighters.	7.0%	50.8%	23.9%	8.2%	10.1%	57.8%	18.3%

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree
Fire Department mid-managers (deputy chiefs, battalion chiefs, and civilian managers) value the importance of ongoing learning on the part of paramedics.	5.8%	41.0%	33.8%	9.3%	10.2%	46.8%	19.5%
Fire Department mid-managers (deputy chiefs, battalion chiefs, and civilian managers) value the importance of ongoing learning on the part of civilian employees.	5.3%	35.1%	44.8%	5.5%	9.2%	40.4%	14.7%
CHARACTERISTICS							
Fire Department employees are professional.	19.4%	53.0%	18.6%	5.8%	3.2%	72.4%	9.0%
Fire Department employees are encouraged to be innovative.	6.9%	31.7%	25.0%	22.8%	13.6%	38.6%	36.4%
Fire Department employees are encouraged to be progressive.	7.0%	32.5%	25.0%	21.2%	14.3%	39.5%	35.5%
Fire Department employees treat Philadelphia residents and visitors with respect.	32.1%	50.7%	12.0%	3.4%	1.8%	82.8%	5.2%
The Fire Department embraces diversity.	10.5%	31.0%	25.2%	13.6%	19.7%	41.5%	33.3%
Fire Department employees are service oriented.	20.8%	56.8%	15.7%	4.5%	2.2%	77.6%	6.7%
Fire Department employees are courteous to each other.	11.4%	51.8%	24.9%	8.0%	3.9%	63.2%	11.9%
Fire Department employees are courteous to Philadelphia residents and visitors.	25.8%	55.6%	14.5%	2.9%	1.2%	81.4%	4.1%
Fire Department employees work effectively together as teams.	18.5%	54.8%	17.8%	6.2%	2.7%	73.3%	8.9%
Fire Department employees are motivated to do a good job.	18.6%	45.2%	17.4%	10.4%	8.4%	63.8%	18.8%
Fire Department employees have a positive outlook on their job.	11.7%	32.5%	21.2%	19.9%	14.8%	44.2%	34.7%
Fire Department employees are civic minded.	12.6%	50.0%	29.3%	5,\.2%	3.0%	62.6%	#VALUE!
Fire Department employees are concerned about the condition and affairs of the communities they serve.	15.5%	49.1%	24.3%	7.3%	2.8%	64.6%	10.1%
Fire Department employees are well educated.	3.8%	29.3%	41.5%	18.5%	6.9%	33.1%	25.4%
The Fire Department has developed strong partnerships with the community.	10.9%	45.9%	30.3%	9.7%	3.3%	56.8%	13.0%
The Fire Department does an excellent job of engaging the community.	11.3%	43.3%	30.9%	10.8%	3.6%	54.6%	14.4%
The Fire Department does an excellent job at emergency fire response.	35.7%	44.7%	10.3%	5.9%	3.4%	80.4%	9.3%

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree
The Fire Department does an excellent job at emergency medical response.	25.0%	41.8%	14.9%	10.0%	8.3%	66.8%	18.3%
The Fire Department does an excellent job at hazardous materials response.	29.5%	46.4%	18.1%	3.3%	2.7%	75.9%	6.0%
The Fire Department does an excellent job at fire prevention education.	22.2%	45.6%	22.3%	5.8%	4.1%	67.8%	9.9%
The Fire Department does an excellent job at EMS prevention education.	10.1%	25.4%	26.4%	16.6%	21.6%	35.5%	38.2%
The Fire Department does an excellent job of using research to improve operations.	5.9%	19.3%	27.3%	21.8%	25.7%	25.2%	47.5%
The Fire Department does an excellent job of providing employee assistance services.	7.9%	33.0%	30.2%	14.2%	11.2%	40.9%	25.4%
VEHICLES, EQUIPMENT, TECHNOLOGY, RADIOS, BUILDINGS, FIRE COMMUNICATIONS							
Vehicles							
I have sufficient access to the vehicles I need to effectively perform my job responsibilities.	11.2%	46.7%	16.6%	14.2%	11.2%	57.9%	25.4%
Vehicle repairs are timely and effective.	2.1%	12.7%	14.1%	34.0%	37.0%	14.8%	71.0%
The fire department vehicles I use are well maintained.	2.4%	17.4%	19.0%	30.5%	30.7%	19.8%	61.2%
Equipment							
I have access to the equipment I need to effectively perform my job responsibilities.	7.8%	55.1%	17.6%	11.1%	8.4%	62.9%	19.5%
I have access to the equipment I need to safely perform my job responsibilities.	7.5%	55.5%	18.5%	10.1%	8.4%	63.0%	18.5%
Repairs to the equipment I use are timely.	3.4%	26.5%	21.5%	28.2%	20.4%	29.9%	48.6%
The equipment I use is well maintained.	6.0%	43.5%	22.6%	16.3%	11.6%	49.5%	27.9%
Technology							
The Fire Department makes effective use of technology to enhance performance.	2.0%	17.8%	26.3%	26.8%	27.0%	19.8%	53.8%
The Fire Department makes effective use of technology to reduce paperwork requirements.	2.5%	24.0%	23.7%	23.3%	26.6%	26.5%	49.9%
Needed technology is implemented in a timely manner.	1.6%	10.8%	22.3%	32.5%	32.7%	12.4%	65.2%
I have sufficient access to computers to effectively perform my job responsibilities.	6.1%	48.6%	22.0%	12.5%	10.8%	54.7%	23.3%

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree
Records management and report writing systems are easy to use.	2.7%	22.7%	26.0%	23.9%	24.8%	25.4%	48.7%
Appropriate training is provided on how to make effective use of available technology.	2.3%	19.1%	22.9%	26.1%	29.6%	21.4%	55.7%
The Fire Department's technology infrastructure is well maintained.	1.7%	14.3%	29.2%	27.6%	27.2%	16.0%	54.8%
Portable Radios							
I have adequate access to portable radios.	27.3%	65.1%	5.9%	0.8%	1.0%	92.4%	1.8%
Repairs to portable radios are timely and effective.	13.4%	50.8%	18.9%	10.6%	6.2%	64.2%	16.8%
The portable radios I use are well maintained.	14.0%	55.1%	18.0%	7.9%	5.0%	69.1%	12.9%
Buildings							
My work area is appropriately secure.	10.2%	53.3%	15.5%	11.6%	9.3%	63.5%	20.9%
Fire Department buildings are appropriately located.	8.9%	40.5%	23.8%	15.4%	11.3%	49.4%	26.7%
Fire Department buildings are clean.	7.9%	43.0%	23.2%	14.9%	11.0%	50.9%	25.9%
Fire Department buildings are well maintained.	2.8%	17.7%	22.3%	29.2%	28.1%	20.5%	57.3%
Emergency maintenance requests are handled promptly.	2.8%	23.8%	24.0%	26.7%	22.8%	26.6%	49.5%
Non-emergency maintenance requests are handled promptly.	1.5%	14.5%	24.1%	30.2%	29.7%	16.0%	59.9%
Products							
The quality of the products purchased by the Fire Department is high.	1.8%	21.1%	32.7%	25.2%	16.1%	22.9%	41.3%
The products purchased by the Fire Department meet my needs.	2.0%	36.0%	35.0%	16.6%	10.4%	38.0%	27.0%
The purchase of products by the Fire Department is timely.	2.1%	17.0%	32.2%	31.5%	17.3%	19.1%	48.8%
Items stored at the department warehouse are available when needed.	2.6%	34.8%	32.8%	20.1%	9.6%	37.4%	29.7%
Fire Communications							
The information needed to effectively respond to calls is gathered by the communications center.	5.6%	43.3%	22.4%	16.3%	12.5%	48.9%	28.8%
The information needed to effectively respond to calls is communicated by the communications center.	5.3%	41.9%	22.8%	1`6.5%	12.5%	47.2%	#VALUE!
Communications center staff are professional in their interactions with firefighters and paramedics.	4.8%	35.7%	26.6%	18.6%	14.3%	40.5%	32.9%
The communications center dispatches appropriate apparatus to effectively respond to incidents.	5.0%	41.8%	26.2%	15.7%	11.2%	46.8%	26.9%

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree
OTHER							
Fire Department employees are encouraged to be safety conscious.	24.4%	61.2%	9.6%	2.3%	2.5%	85.6%	4.8%
The Fire Department does an excellent job of reducing health related risks for employees.	5.7%	26.4%	27.6%	24.6%	15.8%	32.1%	40.4%
The Fire Department does an excellent job of reducing safety risks for employees.	6.1%	29.8%	29.5%	20.3%	14.2%	35.9%	34.5%
I would recommend that a friend come to work for the Philadelphia Fire Department.	20.0%	39.0%	20.6%	10.4%	10.0%	59.0%	20.4%

	Yes	No
Have you been through the Fire Department's formal disciplinary process?	23.0%	77.0%

Have you ever failed to report a minor injury?

Answer Options	Percent Response
Once	9.0%
Two to five times	37.0%
Six to ten times	12.0%
More than ten times	10.0%
Never, I report every injury	32.0%

	Yes	No
Have you ever encountered problems with the maintenance of your firehouse?	83.0%	17.0%

If the answer to the above question was yes, mark answers that apply:

Answer Options	Response Percent
Leaking roof	23.0%
Sanitary (toilets, sewer lines)	19.0%
Mold problems due to leaking pipes	4.0%
Asbestos	7.0%
Car vandalism in city parking lots	6.0%
Vermin (mice, rats, roaches, fleas, etc.)	41.0%

PHILADELPHIA FIRE DEPARTMENT
EMPLOYEE SURVEY RESULTS - FIREFIGHTER/PARAMEDICS AND FIRE SERVICE PARAMEDICS

General Information

Which category best describes your job classification?	Firefighter/Paramedic	17.0%
	Fire Service Paramedic	83.0%

How long have you worked for the Philadelphia Fire Department?	Less than 1 year	5.6%
	1 to 5 years	16.8%
	6 to 10 years	20.7%
	11 to 20 years	38.0%
	More than 20 years	19.0%

Please indicate which of the following best describes your race or ethnic background.	Caucasian	65.9%
	African American/Black	19.6%
	Hispanic/Latino	5.0%
	Other	9.5%

What is your age?	18 to 25	3.3%
	26 to 35	28.5%
	36 to 45	40.8%
	46 to 55	21.8%
	56 or older	5.6%

Please indicate your gender?	Male	73.0%
	Female	27.0%

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree
LEADERSHIP PRACTICES							
Communications							
Communication is open and effective.	1.2%	7.1%	12.4%	34.3%	45.0%	8.3%	79.3%
I understand the Department's goals and priorities.	5.3%	19.4%	14.1%	21.8%	39.4%	24.7%	61.2%
I understand the role my unit plays in achieving Fire Department goals and priorities.	8.8%	34.1%	18.2%	18.8%	20.0%	42.9%	38.8%
I understand how my job contributes to achieving Fire Department goals and priorities.	10.6%	35.9%	14.7%	16.5%	22.4%	46.5%	38.8%
Expectations for performance are clearly communicated.	4.2%	20.2%	15.5%	24.4%	35.7%	24.4%	60.1%
Expectations for performance are consistently communicated.	2.4%	10.7%	14.2%	27.8%	45.0%	13.0%	72.8%
Inclusiveness							
The department has a collaborative work environment.	0.6%	7.1%	23.5%	18.2%	50.6%	7.6%	68.8%
Department members (administration, management, supervisors, and field staff) work well together to address issues facing the Department.	1.2%	2.4%	15.4%	20.7%	60.4%	3.6%	81.1%
Fire department managers and supervisors are willing to consider points of view that are different from their own.	0.6%	4.7%	17.2%	18.3%	59.2%	5.3%	77.5%
Supervision							
I feel free to express my opinions to my supervisor.	5.9%	23.5%	25.3%	14.1%	31.2%	29.4%	45.3%
I am encouraged to share my opinions about how to strengthen Department operations.	0.6%	5.9%	11.2%	24.9%	57.4%	6.5%	82.2%
I feel comfortable discussing problems or concerns with my supervisor.	9.4%	20.0%	21.8%	17.6%	31.2%	29.4%	48.8%
Supervisors (captains, lieutenants, and civilian supervisors) work to eliminate barriers that make it difficult for staff to perform their job responsibilities.	3.6%	24.0%	18.0%	21.0%	33.5%	13.9%	54.5%
Supervisors (captains, lieutenants, and civilian supervisors) provide constructive feedback on performance.	3.0%	22.5%	26.0%	17.8%	30.8%	25.4%	48.5%
Supervisors (captains, lieutenants, and civilian supervisors) encourage staff to improve their performance.	3.6%	26.2%	26.2%	18.5%	25.6%	29.8%	44.0%

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree
Mid-Management							
Mid-managers (deputy chiefs, battalion chiefs, and civilian managers) work to eliminate barriers that make it difficult for staff to perform their job responsibilities.	0.6%	10.9%	21.2%	26.7%	40.6%	11.5%	67.3%
Mid-managers (deputy chiefs, battalion chiefs, and civilian managers) provide constructive feedback on performance.	0.0%	13.8%	17.4%	28.1%	40.7%	13.8%	68.9%
Mid-managers (deputy chiefs, battalion chiefs, and civilian managers) encourage staff to improve their performance.	0.6%	14.5%	22.9%	25.9%	36.1%	15.1%	62.0%
Senior Management							
Senior managers (commissioner and deputy commissioners) work to eliminate barriers that make it difficult for staff to perform their job responsibilities.	1.8%	1.2%	12.6%	16.2%	68.3%	3.0%	84.4%
Senior managers (commissioner and deputy commissioners) provide constructive feedback on performance.	1.2%	3.0%	12.7%	18.1%	65.1%	4.2%	83.1%
Senior managers (commissioner and deputy commissioners) encourage staff to improve their performance.	1.2%	6.6%	16.8%	15.6%	59.9%	7.8%	75.4%
Leadership Development							
The Department has effective approaches to developing new senior leaders.	0.0%	3.1%	12.3%	19.1%	65.4%	3.1%	84.6%
The Department has effective approaches to developing new mid-managers.	0.0%	3.8%	12.5%	24.4%	59.4%	3.8%	83.8%
The Department has effective approaches to developing new first-line supervisors (captains, lieutenants, and civilian supervisors).	1.2%	6.1%	14.7%	22.7%	55.2%	7.4%	77.9%
EMPLOYEE ENGAGEMENT							
Job Design							
Work is well organized.	1.8%	14.5%	16.4%	32.1%	35.2%	16.4%	67.3%
Work is designed to make effective use of employee skills.	0.6%	13.3%	12.0%	24.7%	49.4%	13.9%	74.1%
My job allows the Department to make good use of my skills and capabilities.	3.6%	16.3%	12.0%	20.5%	47.6%	19.9%	68.1%

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree
Commitment							
Firefighter jobs in the Fire Department are secure.	15.6%	28.6%	17.5%	20.1%	18.2%	44.2%	38.3%
Paramedic jobs in the Fire Department are secure.	4.3%	11.6%	11.6%	29.9%	42.7%	15.9%	72.6%
Civilian jobs in the Fire Department are secure.	5.5%	20.0%	48.2%	13.6%	12.7%	25.5%	26.4%
Outstanding firefighters are recognized for their performance.	16.5%	33.5%	18.4%	19.6%	12.0%	50.0%	31.6%
Outstanding paramedics are recognized for their performance.	0.0%	0.0%	6.1%	15.3%	78.5%	0.0%	93.9%
Outstanding civilian employees are recognized for their performance.	4.0%	11.1%	52.5%	12.1%	20.2%	15.2%	32.3%
Firefighters have adequate opportunities for career advancement.	36.3%	44.4%	8.8%	5.0%	5.6%	80.6%	10.6%
Paramedics have adequate opportunities for career advancement.	0.6%	1.2%	3.6%	15.1%	79.5%	1.8%	94.6%
Civilian employees have adequate opportunities for career advancement.	6.7%	11.2%	65.2%	3.4%	13.5%	18.0%	16.9%
Time							
Existing work schedules provide me with the opportunity to achieve a good work/life balance.	1.8%	6.6%	9.0%	11.4%	71.1%	8.4%	82.5%
I have sufficient time during my workday to effectively perform my job responsibilities.	1.8%	15.0%	15.6%	24.6%	43.1%	16.8%	67.7%
KNOWLEDGE ACCESSIBILITY							
Availability							
The information I need to effectively perform my job responsibilities is readily available to me.	1.8%	30.5%	20.7%	27.4%	19.5%	32.3%	47.0%
I receive the training I need to effectively perform my job responsibilities.	3.7%	26.5%	16.7%	29.6%	23.5%	30.2%	53.1%
Collaboration							
Employees in my unit work effectively together.	17.5%	43.8%	17.5%	11.9%	9.4%	61.3%	21.3%
Employees from different units within the Fire Department work effectively together on issues of common concern.	5.7%	27.2%	23.4%	25.3%	18.4%	32.9%	43.7%
Department leaders (commissioner and deputy commissioners) work effectively together.	2.3%	6.2%	22.3%	14.6%	54.6%	8.5%	69.2%
Mid-managers (deputy chiefs, battalion chiefs, and civilian managers) work effectively together.	4.4%	21.9%	27.0%	16.1%	30.7%	26.3%	46.7%

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree
Information/Best Practice Sharing							
I have access to best practices employed by other fire/EMS agencies that is relevant to my work.	0.7%	10.5%	12.4%	32.0%	44.4%	11.1%	76.5%
I have access to best practices employed by organizations (other than fire/EMS agencies) that is relevant to my work.	0.7%	10.1%	16.8%	29.5%	43.0%	10.7%	72.5%
I have access to best practices employed by the Philadelphia Fire Department that is relevant to my work.	0.6%	17.9%	22.4%	21.8%	37.2%	18.6%	59.0%
Information Systems							
The communication of needed information within my unit is adequate.	1.2%	30.2%	23.5%	22.2%	22.8%	31.5%	45.1%
The communication of needed information across Department units is adequate.	0.0%	10.6%	18.1%	30.0%	41.3%	10.6%	71.3%
Existing information systems make it easy to access needed information.	0.6%	12.1%	19.7%	33.1%	34.4%	12.7%	67.5%
Existing information systems make it easy to record information on Fire Department activities.	0.0%	16.5%	24.1%	28.5%	31.0%	16.5%	59.5%
WORKFORCE OPTIMIZATION							
Processes							
Work processes within the Philadelphia Fire Department are well defined.	1.3%	18.4%	25.3%	27.2%	27.8%	19.6%	55.1%
Emergency medical services are effectively integrated into the Department's overall operations.	0.0%	5.0%	8.2%	22.0%	64.8%	5.0%	86.8%
I receive adequate training on how my work is expected to be done.	1.3%	22.6%	22.0%	28.3%	25.8%	23.9%	54.1%
Conditions							
My physical work area facilitates productive work activity.	2.5%	25.2%	23.3%	20.8%	28.3%	27.7%	49.1%
The work environment within the Philadelphia Fire Department is supportive.	0.6%	8.7%	16.1%	22.4%	52.2%	9.3%	74.5%
Paramedics are treated with as much respect as firefighters.	0.0%	1.9%	4.4%	10.0%	83.8%	1.9%	93.8%
Civilian Fire Department employees are treated with as much respect as firefighters.	6.7%	11.2%	43.8%	13.5%	24.7%	18.0%	38.2%

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree
Civilian Fire Department employees are treated with as much respect as paramedics.	4.2%	10.5%	43.2%	15.8%	26.3%	14.7%	42.1%
My race or ethnicity does not affect how I am treated by the Fire Department staff I work with on a daily basis.	9.4%	22.0%	17.0%	12.6%	39.0%	31.4%	51.6%
My gender does not affect how I am treated by the Fire Department staff I work with on a daily basis.	10.1%	30.8%	22.6%	11.3%	25.2%	40.9%	36.5%
My race or ethnicity does not affect how I am treated by my supervisor.	13.2%	35.2%	18.9%	9.4%	23.3%	48.4%	32.7%
My gender does not affect how I am treated by my supervisor.	15.7%	40.3%	18.2%	7.5%	18.2%	56.0%	25.8%
Race or ethnicity does not affect how staff are treated by senior managers (commissioner and deputy commissioners) within the Fire Department.	3.9%	9.8%	13.1%	17.6%	55.6%	13.7%	73.2%
Gender does not affect how staff are treated by senior managers (commissioner and deputy commissioners) within the Fire Department.	3.3%	14.6%	20.5%	17.2%	44.4%	17.9%	61.6%
Race or ethnicity does not affect how staff are treated by mid-managers (deputy chiefs, battalion chiefs, and civilian managers) within the Fire Department.	5.2%	13.7%	20.3%	20.9%	39.9%	19.0%	60.8%
Gender does not affect how staff are treated by mid-managers (deputy chiefs, battalion chiefs, and civilian managers) within the Fire Department.	5.3%	18.7%	25.3%	16.7%	34.0%	24.0%	50.7%
My immediate supervisor values my work.	20.5%	41.0%	16.0%	13.5%	9.0%	61.5%	22.4%
EMS supervisors (ES4s and ES5s) value the work of the paramedics they oversee.	19.3%	40.7%	17.9%	9.3%	12.9%	60.0%	22.1%
Accountability							
High expectations for the performance of all employees have been established.	6.4%	29.9%	15.3%	22.9%	25.5%	36.3%	48.4%
Fire Department leaders (commissioner and deputy commissioners) are held accountable for the decisions they make.	1.3%	9.2%	7.2%	11.8%	70.6%	10.5%	82.4%
Fire Department mid-managers (deputy chiefs, battalion chiefs, and civilian managers) are held accountable for the decisions they make.	2.0%	21.7%	16.4%	19.7%	40.1%	23.7%	59.9%
Fire Department first-line supervisors (captains, lieutenants, and civilian supervisors) are held accountable for the decisions they make.	10.3%	40.4%	16.0%	7.7%	25.6%	50.6%	33.3%
Line employees are held accountable for their performance.	29.1%	33.1%	18.2%	8.1%	11.5%	62.2%	19.6%
I am held accountable for my performance.	48.8%	38.1%	8.1%	1.9%	3.1%	86.9%	5.0%

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree
HUMAN RESOURCE PRACTICES							
Hiring							
The hiring process is fair.	3.9%	16.9%	14.3%	14.3%	50.6%	20.8%	64.9%
Persons who are hired by the Fire Department are competent.	1.3%	14.9%	18.2%	24.7%	40.9%	16.2%	65.6%
The Fire Department hires the best available job candidates.	1.9%	9.7%	11.6%	21.9%	54.8%	11.6%	76.8%
The hiring process is timely.	1.9%	13.5%	14.8%	25.2%	44.5%	15.5%	69.7%
Hiring decisions are made without regard to race or ethnic background.	2.0%	9.2%	16.3%	11.8%	60.8%	11.1%	72.5%
Hiring decisions are made without regard to gender.	4.0%	18.0%	22.7%	12.0%	43.3%	22.0%	55.3%
Promotions							
The promotional process is fair.	0.7%	11.0%	12.3%	17.8%	58.2%	11.6%	76.0%
The best candidates for promotion are selected.	1.4%	5.4%	9.5%	20.9%	62.8%	6.8%	83.8%
The promotional process is timely.	0.7%	9.8%	18.9%	17.5%	53.1%	10.5%	70.6%
Promotional decisions are made without regard to race or ethnic background.	3.4%	11.0%	12.3%	11.6%	61.6%	14.4%	73.3%
Promotional decisions are made without regard to gender.	3.4%	13.0%	17.8%	10.3%	55.5%	16.4%	65.8%
The factors that are considered when making promotional decisions are clearly articulated.	2.8%	8.5%	11.3%	26.8%	50.7%	11.3%	77.5%
Discipline							
The disciplinary process is fair.	1.4%	2.8%	14.5%	20.0%	61.4%	4.1%	81.4%
Discipline is consistently administered across the Fire Department.	3.3%	4.6%	5.3%	16.6%	70.2%	7.9%	86.8%
Discipline is consistently applied across divisions, offices, and units.	2.7%	4.7%	9.5%	12.8%	70.3%	7.4%	83.1%
Discipline is consistently applied across shifts.	3.5%	11.1%	16.7%	12.5%	56.3%	14.6%	68.8%
Decisions relating to discipline are timely.	3.4%	7.5%	13.6%	20.4%	55.1%	10.9%	75.5%
Disciplinary decisions are made without regard to race or ethnic background.	0.7%	9.5%	12.2%	13.5%	64.2%	10.1%	77.7%
Disciplinary decisions are made without regard to gender.	1.4%	11.6%	23.8%	14.3%	49.0%	12.9%	63.3%
The grievance process is fair.	1.5%	10.5%	18.8%	13.5%	55.6%	12.0%	69.2%
The grievance process is timely.	2.3%	10.5%	15.8%	15.0%	56.4%	12.8%	71.4%
The steps in the grievance process are well articulated.	1.5%	13.7%	20.6%	13.7%	50.4%	15.3%	64.1%

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree
Transfers							
The transfer process is fair.	0.7%	5.3%	14.5%	17.8%	61.8%	5.9%	79.6%
The transfer process is timely.	2.1%	11.6%	15.1%	18.5%	52.7%	13.7%	71.2%
Transfer decisions are made without regard to race or ethnic background.	2.7%	6.7%	17.3%	18.0%	55.3%	9.3%	73.3%
Transfer decisions are made without regard to gender.	2.7%	7.5%	24.5%	17.0%	48.3%	10.2%	65.3%
Performance Management							
Excellent performance is formally recognized.	0.6%	4.5%	11.5%	25.6%	57.7%	5.1%	83.3%
Annual performance ratings accurately reflect the performance of individuals being evaluated.	1.9%	13.5%	21.3%	22.6%	40.6%	15.5%	63.2%
Fire Department employees who are not meeting performance expectations receive the support they need to improve their performance.	0.7%	6.2%	11.7%	29.7%	51.7%	6.9%	81.4%
Fire Department employees who continually fail to meet performance expectations are encouraged to resign or are fired.	2.2%	2.2%	14.7%	27.2%	53.7%	4.4%	80.9%
LEARNING CAPACITY							
Innovation							
Fire Department leaders (commissioner and deputy commissioners) are open to new ways of doing business.	0.7%	2.6%	6.6%	13.9%	76.2%	3.3%	90.1%
Fire Department leaders (commissioner and deputy commissioners) encourage employees to find new and better ways to work.	0.0%	3.3%	8.6%	13.9%	74.2%	3.3%	88.1%
Fire Department mid-managers (deputy chiefs, battalion chiefs, and civilian managers) are open to new ways of doing business.	2.0%	7.4%	12.2%	18.2%	60.1%	9.5%	78.4%
Fire Department mid-managers (deputy chiefs, battalion chiefs, and civilian managers) encourage employees to find new and better ways to work.	2.7%	8.1%	10.8%	16.2%	62.2%	10.8%	78.4%
Fire Department first-line supervisors (captains, lieutenants, and civilian supervisors) are open to new ways of doing business.	4.0%	20.5%	20.5%	17.9%	37.1%	24.5%	55.0%
Fire Department first-line supervisors (captains, lieutenants, and civilian supervisors) encourage employees to find new and better ways to work.	4.0%	17.2%	17.9%	23.8%	37.1%	21.2%	60.9%
Line employees are open to new ways of doing business.	10.7%	31.4%	22.9%	14.3%	20.7%	42.1%	35.0%
I am open to new ways of doing business.	48.1%	37.0%	9.1%	0.6%	5.2%	85.1%	5.8%
Training							

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree
New firefighters receive the training they need to effectively perform their job duties.	10.5%	38.7%	27.4%	9.7%	13.7%	49.2%	23.4%
New paramedics receive the training they need to effectively perform their job duties.	9.0%	34.6%	13.5%	24.4%	18.6%	43.6%	42.9%
New civilian employees receive the training they need to effectively perform their job duties.	7.5%	10.4%	61.2%	7.5%	13.4%	17.9%	20.9%
Newly promoted firefighter supervisors receive the training they need to effectively perform their new roles.	5.3%	11.5%	27.4%	24.8%	31.0%	16.8%	55.8%
Newly promoted paramedic supervisors receive the training they need to effectively perform their new roles.	3.1%	11.5%	20.0%	33.1%	32.3%	14.6%	65.4%
Newly promoted civilian supervisors receive the training they need to effectively perform their new roles.	7.0%	7.0%	66.2%	7.0%	12.7%	14.1%	19.7%
Firefighters receive the ongoing training they need to effectively perform their job duties.	13.2%	24.8%	21.7%	27.1%	13.2%	38.0%	40.3%
Paramedics receive the ongoing training they need to effectively perform their job duties.	2.6%	21.2%	11.5%	30.1%	34.6%	23.7%	64.7%
Civilian employees receive the ongoing training they need to effectively perform their job duties.	7.2%	5.8%	69.6%	5.8%	11.6%	13.0%	17.4%
Value And Support							
Fire Department leaders (commissioner and deputy commissioners) value the importance of ongoing learning on the part of firefighters.	10.8%	14.6%	19.2%	17.7%	37.7%	25.4%	55.4%
Fire Department leaders (commissioner and deputy commissioners) value the importance of ongoing learning on the part of paramedics.	2.0%	4.6%	9.2%	19.7%	64.5%	6.6%	84.2%
Fire Department leaders (commissioner and deputy commissioners) value the importance of ongoing learning on the part of civilian employees.	5.6%	9.9%	49.3%	4.2%	31.0%	15.5%	35.2%
Fire Department mid-managers (deputy chiefs, battalion chiefs, and civilian managers) value the importance of ongoing learning on the part of firefighters.	11.8%	29.9%	28.3%	9.4%	20.5%	41.7%	29.9%

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree
Fire Department mid-managers (deputy chiefs, battalion chiefs, and civilian managers) value the importance of ongoing learning on the part of paramedics.	2.0%	11.9%	13.2%	21.9%	51.0%	13.9%	72.8%
Fire Department mid-managers (deputy chiefs, battalion chiefs, and civilian managers) value the importance of ongoing learning on the part of civilian employees.	6.6%	7.9%	57.9%	6.6%	21.1%	14.5%	27.6%
CHARACTERISTICS							
Fire Department employees are professional.	15.6%	50.0%	15.6%	11.7%	7.1%	65.6%	18.8%
Fire Department employees are encouraged to be innovative.	3.9%	9.7%	15.6%	31.2%	39.6%	13.6%	70.8%
Fire Department employees are encouraged to be progressive.	1.9%	9.7%	11.7%	31.2%	45.5%	11.7%	76.6%
Fire Department employees treat Philadelphia residents and visitors with respect.	33.1%	44.2%	14.3%	3.2%	5.2%	77.3%	8.4%
The Fire Department embraces diversity.	9.9%	21.7%	17.1%	21.7%	29.6%	31.6%	51.3%
Fire Department employees are service oriented.	22.6%	42.6%	17.4%	10.3%	7.1%	65.2%	17.4%
Fire Department employees are courteous to each other.	12.3%	40.0%	25.8%	16.1%	5.8%	52.3%	21.9%
Fire Department employees are courteous to Philadelphia residents and visitors.	27.7%	48.4%	14.8%	5.8%	3.2%	76.1%	9.0%
Fire Department employees work effectively together as teams.	13.0%	45.5%	18.2%	15.6%	7.8%	58.4%	23.4%
Fire Department employees are motivated to do a good job.	11.0%	22.7%	18.2%	24.7%	23.4%	33.8%	48.1%
Fire Department employees have a positive outlook on their job.	5.8%	10.3%	14.8%	31.6%	37.4%	16.1%	69.0%
Fire Department employees are civic minded.	9.8%	33.6%	35.0%	16.1%	5.6%	43.4%	21.7%
Fire Department employees are concerned about the condition and affairs of the communities they serve.	15.1%	38.8%	23.0%	14.5%	8.6%	53.9%	23.0%
Fire Department employees are well educated.	3.3%	18.3%	31.4%	34.0%	13.1%	21.6%	47.1%
The Fire Department has developed strong partnerships with the community.	9.2%	27.6%	30.3%	24.3%	8.6%	36.8%	32.9%
The Fire Department does an excellent job of engaging the community.	6.6%	25.2%	29.1%	27.8%	11.3%	31.8%	39.1%
The Fire Department does an excellent job at emergency fire response.	25.2%	41.1%	17.2%	7.9%	8.6%	66.2%	16.6%
The Fire Department does an excellent job at emergency medical response.	18.7%	20.0%	9.0%	12.9%	39.4%	38.7%	52.3%

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree
The Fire Department does an excellent job at hazardous materials response.	19.4%	33.3%	29.5%	10.9%	7.0%	52.7%	17.8%
The Fire Department does an excellent job at fire prevention education.	18.7%	37.3%	29.1%	7.5%	7.5%	56.0%	14.9%
The Fire Department does an excellent job at EMS prevention education.	1.3%	4.6%	6.6%	13.2%	74.2%	6.0%	87.4%
The Fire Department does an excellent job of using research to improve operations.	1.3%	5.4%	14.8%	20.8%	57.7%	6.7%	78.5%
The Fire Department does an excellent job of providing employee assistance services.	3.4%	14.5%	23.4%	17.2%	41.4%	17.9%	58.6%
VEHICLES, EQUIPMENT, TECHNOLOGY, RADIOS, BUILDINGS, FIRE COMMUNICATIONS							
Vehicles							
I have sufficient access to the vehicles I need to effectively perform my job responsibilities.	5.2%	37.3%	17.6%	20.3%	19.6%	42.5%	39.9%
Vehicle repairs are timely and effective.	0.7%	10.5%	13.2%	32.2%	43.4%	11.2%	75.7%
The fire department vehicles I use are well maintained.	0.7%	13.7%	16.3%	26.8%	42.5%	14.4%	69.3%
Equipment							
I have access to the equipment I need to effectively perform my job responsibilities.	6.6%	42.8%	14.5%	21.7%	14.5%	49.3%	36.2%
I have access to the equipment I need to safely perform my job responsibilities.	7.2%	41.2%	18.3%	20.3%	13.1%	48.4%	33.3%
Repairs to the equipment I use are timely.	3.3%	24.0%	20.7%	26.7%	25.3%	27.3%	52.0%
The equipment I use is well maintained.	4.6%	32.5%	22.5%	22.5%	17.9%	37.1%	40.4%
Technology							
The Fire Department makes effective use of technology to enhance performance.	1.3%	15.2%	18.5%	32.5%	32.5%	16.6%	64.9%
The Fire Department makes effective use of technology to reduce paperwork requirements.	4.7%	24.8%	16.8%	28.2%	25.5%	29.5%	53.7%
Needed technology is implemented in a timely manner.	1.3%	11.3%	15.9%	35.1%	36.4%	12.6%	71.5%
I have sufficient access to computers to effectively perform my job responsibilities.	2.0%	27.0%	23.0%	23.7%	24.3%	28.9%	48.0%
Records management and report writing systems are easy to use.	2.8%	31.7%	19.0%	22.5%	23.9%	34.5%	46.5%
Appropriate training is provided on how to make effective use of available technology.	1.3%	14.7%	18.7%	34.7%	30.7%	16.0%	65.3%
The Fire Department's technology infrastructure is well maintained.	1.4%	9.2%	24.1%	30.5%	34.8%	10.6%	65.2%

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree
Portable Radios							
I have adequate access to portable radios.	20.5%	71.5%	5.3%	0.7%	2.0%	92.1%	2.6%
Repairs to portable radios are timely and effective.	13.6%	37.1%	22.9%	17.1%	9.3%	50.7%	26.4%
The portable radios I use are well maintained.	11.3%	42.7%	25.3%	14.0%	6.7%	54.0%	20.7%
Buildings							
My work area is appropriately secure.	7.2%	37.3%	14.4%	25.5%	15.7%	44.4%	41.2%
Fire Department buildings are appropriately located.	5.4%	40.5%	23.6%	14.2%	16.2%	45.9%	30.4%
Fire Department buildings are clean.	9.3%	28.0%	24.7%	17.3%	20.7%	37.3%	38.0%
Fire Department buildings are well maintained.	3.3%	14.4%	19.0%	29.4%	34.0%	17.6%	63.4%
Emergency maintenance requests are handled promptly.	2.3%	16.7%	24.2%	34.1%	22.7%	18.9%	56.8%
Non-emergency maintenance requests are handled promptly.	1.5%	12.8%	25.6%	29.3%	30.8%	14.3%	60.2%
Products							
The quality of the products purchased by the Fire Department is high.	2.6%	17.8%	34.2%	33.6%	11.8%	20.4%	45.4%
The products purchased by the Fire Department meet my needs.	2.6%	30.5%	33.8%	22.5%	10.6%	33.1%	33.1%
The purchase of products by the Fire Department is timely.	3.5%	14.0%	28.7%	37.8%	16.1%	17.5%	53.8%
Items stored at the department warehouse are available when needed.	5.4%	23.5%	28.2%	25.5%	17.4%	28.9%	43.0%
Fire Communications							
The information needed to effectively respond to calls is gathered by the communications center.	0.7%	19.2%	13.9%	30.5%	35.8%	19.9%	66.2%
The information needed to effectively respond to calls is communicated by the communications center.	1.3%	20.4%	13.8%	25.7%	38.8%	21.7%	64.5%
Communications center staff are professional in their interactions with firefighters and paramedics.	3.3%	18.4%	17.8%	23.7%	36.8%	21.7%	60.5%
The communications center dispatches appropriate apparatus to effectively respond to incidents.	4.0%	16.6%	14.6%	23.8%	41.1%	20.5%	64.9%

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Agree/ Strongly Agree	Disagree/ Strongly Disagree
OTHER							
Fire Department employees are encouraged to be safety conscious.	16.6%	51.7%	15.9%	11.3%	4.6%	68.2%	15.9%
The Fire Department does an excellent job of reducing health related risks for employees.	3.3%	13.2%	15.9%	32.5%	35.1%	16.6%	67.5%
The Fire Department does an excellent job of reducing safety risks for employees.	4.0%	17.2%	18.5%	35.1%	25.2%	21.2%	60.3%
I would recommend that a friend come to work for the Philadelphia Fire Department.	7.4%	14.2%	31.1%	13.5%	33.8%	21.6%	47.3%

	Yes	No
Have you been through the Fire Department's formal disciplinary process?	23.0%	77.0%

Have you ever failed to report a minor injury?

Answer Options	Percent Response
Once	12.0%
Two to five times	41.0%
Six to ten times	16.0%
More than ten times	12.0%
Never, I report every injury	20.0%

	Yes	No
Have you ever encountered problems with the maintenance of your firehouse?	87.0%	13.0%

If the answer to the above question was yes, mark answers that apply:

Answer Options	Response Percent
Leaking roof	17.9%
Sanitary (toilets, sewer lines)	16.0%
Mold problems due to leaking pipes	5.0%
Asbestos	4.0%
Car vandalism in city parking lots	6.6%
Vermin (mice, rats, roaches, fleas, etc.)	55.7%

APPENDIX B – COMPARISONS WITH OTHER DEPARTMENTS

APPENDIX B – COMPARISONS WITH OTHER DEPARTMENTS

While an assessment of the needs of any fire department should be based on an assessment of the need for fire and emergency medical services in the community served and the level of service the city wants (or can afford) to provide, comparisons with other jurisdictions can provide a useful context for these discussions. It is important to note that while "apples to apples" comparisons are difficult to make, this becomes less relevant when the purpose of the benchmarking effort is to provide an overall context for review rather than as the basis for making specific recommendations or decisions. To provide this context, the Philadelphia Fire Department was compared with fire departments from eight other jurisdictions. The first section of this appendix summarizes the approach that was used to select the benchmark departments. The second section presents the benchmark comparisons.

A – APPROACH

Three approaches were used to select the benchmark departments: project steering committee review of Philadelphia's current list of "peer" cities, the experience of the consulting team, and identification of cities with similar demographics. A benchmarking questionnaire was then distributed to 15 departments of which the following eight cities provided responses – Chicago, IL; Cincinnati, OH; Cleveland, OH[1]; Columbus, OH; Long Beach, CA; Milwaukee, WI; New York, NY; and Pittsburgh, PA.[1]

B – COMPARISON DATA

This section presents the results of the benchmark findings in 16 areas: population and area served; income; poverty level; staffing; shift schedules; paid workweek; budget; overtime expenditures; stations; apparatus replacement; incidents; response times; EMS staffing configuration; arson investigations; personnel issues; and other information.

POPULATION AND AREA SERVED

Of the nine departments for which benchmark information will be presented Philadelphia has the third largest population, ranks fourth in terms of square miles, and ranks third in terms of population density.

City	Population	Square Miles	Population Per Square Miles
New York, NY	8,175,133	321.8	25,404.39
Chicago, IL	2,824,064	228.0	12,386.25
Philadelphia, PA	*1,526,006*	*135.0*	*11,303.75*
Columbus, OH	753,572	239.9	3,141.19
Milwaukee, WI	603,338	96.5	6,252.21
Long Beach, CA	472,494	52.3[(a)]	9,034.3
Cleveland, OH	*396,000*	*77.6*	*5,103.09*
Cincinnati, OH	332,572	78.6	4,231.2
Pittsburgh, PA	313,118	65.0	4,817.2

[(a)]Does not include beach miles and waterway miles.

[1] These cities have separate fire and EMS divisions; Cleveland is in the process of integrating fire and EMS operations.

INCOME

The City of Philadelphia ranks sixth in terms of median household income.

City	Median Household Income	Rank
New York, NY	$50,173	1
Long Beach, CA	$50,000	2
Chicago, IL	$46,781	3
Columbus, OH	$41,370	4
Milwaukee, WI	$37,089	5
Philadelphia, PA	*$36,669*	*6*
Pittsburgh, PA	$35,732	7
Cincinnati, OH	$33,855	8
Cleveland, OH	$26,535	9
Average (excluding Philadelphia)	$40,192	

POVERTY LEVEL

Philadelphia has the third lowest percentage of the population below the poverty level.

City	Percent Of Population Below Poverty Level	Rank
New York, NY	18.6%	1
Long Beach, CA	18.8%	2
Philadelphia, PA	*19.2%*	*3*
Columbus, OH	19.9%	4
Chicago, IL	20.8%	5
Pittsburgh, PA	*21.7%*	*6*
Milwaukee, WI	24.3%	7
Cincinnati, OH	25.3%	8
Cleveland, OH	35.0%	9
Average (excluding Philadelphia)	23.05%	

STAFFING

In terms of overall staffing, the Philadelphia Fire Department employs the third highest number of budgeted employees.

City	Number of Budgeted Employees	Rank
New York, NY	15.752	1
Chicago, IL	5,177	2
Philadelphia, PA	*2,403*	*3*
Columbus, OH	1,603	*4*
Milwaukee, WI	1,027	5
Cleveland, OH	1,015	6
Cincinnati, OH	868	7
Pittsburgh, PA	855	8
Long Beach, CA	544	9
Average (excluding Philadelphia)	1,388	

Since the need for fire suppression services varies primarily with geographic area while the need for emergency medical services varies with both geographic area and population it is also useful to compare department staffing on these dimensions. As compared to the other jurisdictions, Philadelphia has the second fewest number of budgeted employees per 1,000 population however the city has the third highest number of budgeted employees per square mile.

City	Budgeted Employees Per 1,000 Population	Rank	Budgeted Employees Per Square Mile	Rank
Pittsburgh, PA	2.73	1	13.15	4
Cincinnati, OH	*2.61*	*2*	11.04	*6*
Cleveland, OH	2.56	3	13.08	5
Columbus, OH	2.13	*4*	6.68	9
New York, NY	1.93	5	48.95	1
Chicago, IL	1.83	6	22.71	2
Milwaukee, WI	1.70	7	10.64	7
Philadelphia, PA	*1.57*	*8*	*17.80*	*3*
Long Beach, CA	1.15	9	10.40	8
Average (excluding Philadelphia)	2.08		17.09	

Only two of the benchmark departments (New York City and Long Beach) employ a significant number of civilians as a percentage of overall department staffing.

City	Number Of Budgeted Uniform Employees	Number Of Budgeted Civilian Employees	Percent Civilian Employees	Rank
New York, NY	10,925	4,827	30.60%	1
Long Beach, CA	430	114	21.0%	2
Milwaukee, WI	951	76	7.40%	3
Philadelphia, PA	*2,293*	*110*	*4.60%*	*4*
Cincinnati, OH	841	27	3.10%	5
Columbus, OH	1,567	36	2.20%	6
Chicago, IL	5,073	104	2.00%	7
Cleveland, OH	865	10	1.30%[a]	8
Pittsburgh, PA	846	9	1.10%	9
Average (excluding Philadelphia)	2,687	650		

[a]Does not include Division of EMS civilian staff.

SHIFT SCHEDULES

All but two of the benchmark departments providing information assign fire suppression staff to work a 24-hour schedule. (The remaining two departments – Philadelphia and New York City – assign staff to work a 10-14 schedule and a 9-15 schedule, respectively.) Schedules for paramedics and EMTs assigned to EMS units, training officers, and arson investigators vary across the benchmark departments.

City	Fire Suppression	Paramedics	EMTs	Training Officers	Arson Investigators
Philadelphia, PA	*2 10-hour days, 2 14-hour nights, 4 days off*	*5 12-hour shifts, 2 12-hour shifts*	*2 10-8 hour days, 2 14-hour nights, 4 days off*	*Fire: 4 10-hour days, 4 days off EMS: 5 8-hour days*	*5 8.5-hour shifts*
Chicago, IL	24 hours on, 48 hours off	24 hours on, 72 hours off	24 hours on, 48 hours off	5 8-hours days	24 hours on, 48 hours off
Cincinnati, OH	24 hours on, 48 hours off	24 hours on, 48 hours off			4 10-hour shift and daily on-call rotation
Cleveland, OH	24 hours on, 24 hours off, 24 hours off			4-10 schedule	Mix of 10-hour and 24-hour shifts
Long Beach, CA	24 hours on	24 hours on	Mix of 24-hour and 12-hour shifts	4-10 schedule	5 8-hour shifts
Milwaukee, WI	24 hours on, 48 hours off	24 hours on, 48 hours off	24 hours on, 48 hours off	4-10 schedule	24 hours on, 48 hours off
New York, NY	2 9-hour shifts, 2 15-hour shifts	5 8-hour shifts, 2 days off, 5 8-hour shifts, 3 days off	5 8-hour shifts, 2 days off, 5 8-hour shifts, 3 days off	5 8-hour days	1 9-hour day, 1 10-hour day, 1 15.5-hour day, 3 days off
Pittsburgh, PA	24 hours on, 72 hours off	8-hour shifts	N/A	8 hour shifts	N/A

PAID WORKWEEK

Firefighters in Philadelphia are paid for 42 hours per week and staff assigned to EMS units are paid for a 40-hour workweek. In the other jurisdictions that provided data the hours paid per week range from 40 to 56. Arson investigators' pay ranges from 40 hours per week (in most departments) to 48.9 hours per week.

City	Fire Suppression	EMS	Arson Investigators	Training
Philadelphia, PA	*42*	*40*	*40*	*Fire: 42 hours* *EMS: 40 hours*
Cincinnati, OH	48	48	40	40
Cleveland, OH	45.23	45.23	45.23/24-hour shift 40 hours/10-hour shift	40
Long Beach, CA	56	56	40 hours plus on-call	40
Milwaukee, WI	48.9	48.9	48.9	40
New York, NY	40	40	40	40
Pittsburgh, PA		40	N/A	

BUDGET

When making budget comparisons it is important to recognize that each benchmark department provides a different range and level of service and may or may not include different categories of budgeted dollars. Budget comparisons do provide some, albeit limited, insight, however. Philadelphia's Fire Department budget ranks fourth as compared to the benchmark departments.

City	Department Budget	Rank
New York, NY	$1,670,922,136	1
Chicago, IL	$526,820,291	2
Columbus, OH	$214,362,059	3
Philadelphia, PA	*$196,534,243*	*4*
Cleveland, OH	$109,700,000	5
Milwaukee, WI	$104,992,024	6
Long Beach, CA	$93,537,333	7
Cincinnati, OH	$85,564,660	8
Pittsburgh, PA	$65,164,987	9
Average (excluding Philadelphia)	$358,882,936	

From a budget perspective, Philadelphia ranks last in terms of fire department budget per 1,000 population and fourth in terms of budget per square miles.

City	Budget Per 1,000 Population	Rank	Budget Per Square Mile	Rank
Columbus, OH	$284,461	1	$893,548	9
Cleveland, OH	$277,020	2	$1,413,660	5
Cincinnati, OH	$257,282	3	$1,088,609	6
Pittsburgh, PA	$208,116	4	$1,002,538	8
New York, NY	$204,391	5	$5,192,424	1
Long Beach, CA	$197,965	6	$1,798,795	3
Chicago, IL	$186,547	7	$2,310,615	2
Milwaukee, WI	$174,019	8	$1,088,000	7
Philadelphia, PA	*$128,790*	*9*	*$1,455,809*	*4*
Average (excluding Philadelphia)	$213,809		$1,905,183	

OVERTIME EXPENDITURES

Of the seven departments providing information Philadelphia ranks fourth in terms of overtime expenditures per budgeted employee.

City	Budgeted Overtime Amount	Overtime Amount Per Budgeted Employee	Rank
Long Beach, CA	$11,467,402	$21,092.97	1
Pittsburgh, PA	$2,607,836[a]	$14,487.98[a]	2
New York, NY	$191,000,000	$12,125,44	3
Philadelphia, PA	*$23,442,118*	*$9,755.35*	*4*
Cleveland, OH	$7,460,000	$6,666.67	5
Chicago, IL	$13,500,000	$2,607.69	6
Cincinnati, OH	$824,850	$950.29	7
Average (excluding Philadelphia)	$37,810,015	$7,829.41	

[a]Information is provided for Bureau of EMS only.

In terms of overtime expenditures as a percentage of total department budget, the Philadelphia Fire Department ranks third of the departments that provided information.

City	Overtime As A Percentage Of Total Department Budget	Rank
Pittsburgh, PA	20.02[a]	1
Long Beach, CA	18.02%	2
Philadelphia, PA	*11.93%*	*3*
New York, NY	11.43%	4
Cleveland, OH	6.11%	5
Chicago, IL	2.56%	6
Cincinnati, OH	1.00%	7
Average (excluding Philadelphia)	7.82%	

[a]Information is for Bureau of EMS only.

STATIONS

Of the nine jurisdictions, the City of Philadelphia ranks second in terms of the number of stations with staffed apparatus per square mile.

City	Number Of Stations With Staffed Apparatus	Stations With Staffed Apparatus Per Square Mile	Rank
New York, NY	250[a]	0.78	1
Philadelphia, PA	*61*	*0.45*	*2*
Pittsburgh, PA	29	*0.45*	*3*
Long Beach, CA	23	0.43	4
Chicago, IL	99	0.43	5
Milwaukee, WI	36	0.37	6
Cincinnati, OH	26	0.33	7
Cleveland, OH	23	0.30	8
Columbus, OH	32	0.13	9
Average (excluding Philadelphia)		0.40	

[a]Includes 218 fire houses and 32 EMS stations.

APPARATUS REPLACEMENT

Of the benchmark departments that provided information five have an established replacement cycle for fire suppression apparatus and four have an established replacement cycle for EMS apparatus.

City	Fire Suppression Replacement Cycle [a]	EMS Apparatus Replacement Cycle [a]
Philadelphia, PA		
Chicago, IL	No	5 years
Cincinnati, OH	10 years or 100,000 miles	3 years
Cleveland, OH	Truck- 12 years, Engine- 8 years	
Long Beach, CA	Truck-1 5 years, Engine- 10 years	Paramedic and BLS units- 6 years
Milwaukee, WI	Truck and engine- 15 years frontline; 7-8 years as reserve	6 years frontline; 3-4 as reserve
New York, NY	10 years	No
Pittsburgh, PA		No

[a]The department has recently developed a five-year apparatus replacement plan.

INCIDENTS

The Philadelphia Fire Department responded to the third highest number of total incidents of the benchmark departments.

City	Total Number Of Incidents Responded To	Rank
New York, NY	1,550,737	1
Chicago, IL	619,027	2
Philadelphia, PA	*272,319*	*3*
Columbus, OH	142,981	4
Pittsburgh, PA	90,991	5
Cincinnati, OH	73,136	6
Milwaukee, WI	67,528	7
Long Beach, CA	61,956	8
Cleveland, OH	60,076	9
Average (excluding Philadelphia)	333,304	

The Philadelphia Fire Department ranks sixth in terms of the number of incidents responded to per 1,000 population.

City	Number Of Incidents Responded To Per 1,000 Population	Rank
Pittsburgh, PA	290.60	1
Cincinnati, OH	219.91	2
Chicago, IL	219.20	3
Columbus, OH	189.74	4
New York, NY	189.69	5
Philadelphia, PA	*178.45*	*6*
Cleveland, OH	151.71	7
Long Beach, CA	131.13	8
Milwaukee, WI	111.92	9
Average (excluding Philadelphia)	187.98	

When incidents are broken down by type, Philadelphia ranks first in terms of the number of emergency medical incidents responded to as a percentage of the total responses.

City	Total Number Of Incidents Responded To	Number Of Emergency Medical Incidents Responded To	Ratio Of Emergency Medical Incidents To Total Number Of Incidents	Rank
Philadelphia, PA	*272,319*	*225,501*	*82.81%*	*1*
New York, NY	1,550,737	1,261,993	81.38%	2
Columbus, OH	142,981	110,398	77.21%	3
Milwaukee, WI	67,528	50,648	75.00%	4
Cincinnati, OH	73,136	53,323	72.90%	5
Pittsburgh, PA	90,991	65,036	71.48%	6
Long Beach, CA	61,956	39,721	64.11%	7
Cleveland, OH	60,076	33,645	56.00%	8
Chicago, IL	619,027	318,859	51.51%	9
Average (excluding Philadelphia)			68.70%	

RESPONSE TIMES

Each of the benchmark jurisdictions providing information report an average response time from call receipt to scene arrival of less than seven minutes for fire suppression incidents, less than eight minutes for first responding units, less than nine minutes for ALS apparatus, and ten minutes or less for BLS apparatus.

City	Fire Suppression Response Time	First Responder Response Time	ALS Response Time	BLS Response Time
Milwaukee, WI	3:05[a]	4:08[a]	5:41[a]	4:04[a]
Chicago, IL	3:00 – 4:00	4:00 – 6:00	6:33	8:55
New York, NY	4:22[b]	4:18	8:18	6:16[c]
Philadelphia, PA	*4:48*	*7:36*	*7:12*	*10:00*
Cincinnati, OH	4:53	4:45	4:47	7:07
Cleveland, OH	5:41	5:44	5:41	5:55
Long Beach, CA	6:24	5:49	6:09	6:10

[a]Response times are from dispatch to arrival at scene.
[b]Response time to structure fire- 4:01 minutes; response time to non-structure fire -4:26 minutes; response time to all other fire incidents- 4:38 minutes.
[c]Response time to cardiac arrest/trauma- 5:29 minutes; response time to life threatening incidents- 7:30 minutes.

EMS STAFFING CONFIGURATION

All of the benchmark departments assign a minimum of two staff to each type of EMS apparatus however the mix of staff assigned to ALS units varies for two departments.

City	ALS Staffing	BLS Staffing
Philadelphia, PA	*2 paramedics*	*2 EMTs*
Chicago, IL	1 officer, 1 paramedic	2 firefighters/EMT-B
Cincinnati, OH	1 EMT-P, 1 EMT-B	
Columbus, OH	2 paramedics	
Long Beach, CA	2 paramedics	2 EMTs
Milwaukee, WI	2 paramedics	
New York, NY	2 paramedics	2 EMTs
Pittsburgh, PA	2 paramedics	

ARSON INVESTIGATIONS

Arson investigations are performed by fire department staff in six of the benchmark jurisdictions, jointly by the fire and police departments in two jurisdictions, and by the police department in one jurisdiction.

City	Arson Investigations Responsibility
Philadelphia, PA	*Fire and police departments*
Chicago, IL	Fire department[a]
Cincinnati, OH	Fire department
Columbus, OH	Fire department
Long Beach, CA	Fire department
Milwaukee, WI	Fire and police departments
New York, NY	Fire department
Pittsburgh, PA	Police department

[a]Mandated by State law.

Determining the cause and origin of fires is the responsibility of line suppression staff in four of the benchmark departments.

City	Fire Cause And Origin Determination
Philadelphia, PA	*Fire marshal lieutenant*
Chicago, IL	Battalion chief
Cincinnati, OH	Line suppression officer. If determination cannot be made a fire investigator is called in.
Cleveland, OH	Battalion chief
Long Beach, CA	Captain (small fires), battalion chief (large fires)
Milwaukee, WI	Fire investigations staff
New York, NY	Fire marshals

PERSONNEL ISSUES

New Hires

None of the benchmark departments require new firefighter hires to be certified firefighters. Four of the departments (Philadelphia, Chicago, New York City, and Pittsburgh) require new paramedic hires to be certified paramedics.

Physical Fitness

Only one department (New York City) requires a mandatory annual physical exam, however seven departments require employment candidates to pass a fitness exam (only Philadelphia and Milwaukee do not have such a requirement).

New Hire Educational/Certification Requirements

Educational requirements for firefighters and paramedics are similar across departments.

City	New Firefighters	New Paramedics
Philadelphia, PA	*Equivalent to completion of the 12th grade*	*Equivalent to completion of the 12th grade and completion of training in ALS practices and techniques necessary to qualify for Pennsylvania certification*
Chicago, IL	High school diploma or GED	High school diploma (or GED) and EMT-P State license
Cincinnati, OH	High school graduate	High school graduate
Columbus, OH	High school diploma or GED	
Long Beach, CA	High school diploma	None
Milwaukee, WI	High school diploma	High school diploma
New York, NY	4 year high school diploma or equivalent and 15 college semester credits, or F/T military service honorable discharge, or 6 months satisfactory paid work experience	High school diploma and New York State Department of Health paramedic certification
Pittsburgh, PA		High school diploma

OTHER INFORMATION

Battalion Chief's Aides

Only two of the benchmark departments (Philadelphia and New York City) currently deploy battalion chief's aides. Cleveland eliminated this position as of November 2011.

Grants

Four of the departments providing information have a grants unit (Cincinnati, Cleveland, Milwaukee, and New York City) and four of the departments do not have such a unit (Philadelphia, Chicago, Long Beach, and Pittsburgh). The amount of grants dollars obtained range from $2,300,000 in Cincinnati; $4,450,000 in Cleveland; and $52,000,000 in New York City.

APPENDIX C – BEST PRACTICES FINDINGS

APPENDIX C – BEST PRACTICES FINDINGS

In addition to gathering comparative data from other jurisdictions,[1] the consultants also gathered information on best practices that may be used to provide a framework to address issues currently being faced in Philadelphia. Relevant practices were compiled from four sources: Berkshire Advisors' best practices database, the expertise of members of the consulting team, Internet research, and selected interviews with staff from best practice jurisdictions.

This appendix summarizes the results of the best practices research that was conducted as part of this engagement. Findings are presented relating to alternative transport services, officer training, prevention, and priority dispatch systems.

ALTERNATIVE TRANSPORT SERVICES

Similar issues and approaches have been identified by the best practice jurisdictions to providing alternative transport services when responding to nuisance calls (i.e. calls for which an emergency medical transport is not needed). In each jurisdiction, dispatchers may determine transport necessity at the time of call receipt or by on-scene emergency medical responders, typically in coordination with off-scene physicians. If the determination is made by dispatch staff that transportation is not necessary alternative vehicles, where available, may be deployed such as non-transport SUVs, Medic bikes, or outsourced private transport vehicles. If the determination is made at the scene that emergency medical transport is not needed responding staff can determine what services are appropriate. Options include providing pre-paid one-way or round-trip taxi vouchers to the hospital, distributing a list of community walk-in clinics where appropriate services are provided, or calling for ambulance transport.

There are several key components that must be in place for any alternative service model to succeed:

- **Staff training**. Staff must be appropriately trained. Dispatchers need to consistently ask appropriate questions to make the proper determination, on-scene responders must be well versed in transport protocols and must be willing to use their decision-making authority.

- **Public education**. In order for users to accept alternative transport as a credible option, they must be made aware of the reasons behind the decisions not to transport and be confident that their medical needs are being met.

- **Established criteria**. Decisions must be consistent and well documented. When the established criteria are not followed however, the reasons for not doing so should be documented

- **Liability issues**. Any alternative service model needs to take into account liability issues that may result from using private transport.

[1] The results of the benchmark comparisons are presented in Appendix B.

- **Performance monitoring**. Alternate transport arrangements should be performance-based and carefully monitored. Performance criteria should include transport availability, reliability, and timeliness. Non-performance penalties should be carefully structured.

- **Patient follow-up**. Patient satisfaction follow-up phone calls and surveys are crucial in helping to ensure program effectiveness and to collect recommendations for program changes. Such follow-up is, of course, only necessary when a policy decision has been made that the jurisdiction has a responsibility to provide transport services.

Findings from four jurisdictions (East Baton Rouge, LA; Renton, WA; Kent, WA; and Phoenix, AZ) follow.

East Baton Rouge, LA

In 2005 the East Baton Rouge Emergency Services Division established a paramedic-initiated referral program (on-scene medics educate patients who access the EMS system for treatment of specific minor complaints about alternative treatment options and modes of transportation) and a physician-directed referral program (with the assistance of medical control physicians located at two hospitals, on-scene medics re-direct non-acute patients requesting transport to hospital emergency rooms to community walk-in clinics). Program success has been mixed in large part because on-scene medics and on-call physicians are reluctant to not transport patients. In 2010, the department had 446 paramedic-initiated referrals and 163 physician-directed referrals (out of more than 50,000 calls-for-service).

Renton, WA

The Renton Fire and Emergency Services department participates in a taxi transport voucher pilot program (for patients who do not need emergency ambulance transport but have no other means of transportation). The program is funded through a grant administered by King County. On-scene EMTs are authorized to provide pre-paid round trip taxi vouchers to patients requesting transport. The vouchers can be used for transport to the hospital or a local clinic. The vouchers also used to transport the homeless population who previously were transported by ambulance to a hospital or to a shelter. Performance measures include a taxi response time of 20 minutes. Initially very few vouchers were distributed and the program was almost eliminated. Recently, however, activity has increased – the number of vouchers distributed has increased from 8 to 9 vouchers distributed a month to an average of 20 vouchers distributed a month. (The department responds to approximately 13,000 calls a year.)

Kent, WA

In 2010 the Kent Regional Fire Authority established a two-phase community medical technician pilot program (deployment of non-transport SUVs to lower acuity calls to ensure availability of more transport-capable vehicles for emergencies). To date, the program has been less successful than anticipated: availability of transport-capable vehicles increased by only .16 percent and transport of low-acuity patients decreased by only 4 percent. Phase 2 of the program will allow EMTs to refer patients with

unmanaged medical (or other) needs to agencies and resources that can provide assistance (and reduce reliance on emergency response).

Phoenix, AZ

In Phoenix, AZ, after an on-scene diagnosis taxi vouchers can be given to patients who do not need emergency transport and have no other means of transportation to receive medical care. The vouchers, which are one-way and have a $25 limit, can be used to pick up prescriptions or go to a clinic. An average of 10 taxi vouchers a day are distributed and every voucher CAD report is reviewed to ensure the voucher was distributed properly. Program funding is through the EMS operating budget.

OFFICER TRAINING

Best practice information relating to officer training has been obtained from Aurora (Rocky Mount), CO; Casper, WY; Houston, TX; and Montgomery County, MD.

Aurora, CO

Aurora, CO has implemented two officer training programs: a 40-hour program for acting officers and a two-week development program for tenured officers. Course topics for the 40-hour program – taught by department staff and local business people – include incident management and scene safety; building construction; engine company operations; truck company operations; and emergency scene simulations. Course completion is required before promotion but course participants can go out into the field after receiving certification (before the actual promotion). Evaluation includes 40 hours in the field with a company officer, 4 weeks later a practical and written exam is given, 2 weeks after that a company officer and the Chief give a final sign-off. Course topics for the officer development program for tenured officers and acting officers include personnel management; advanced strategy and tactics; leadership; incident management; multi-story/commercial operations; and ethics. Courses are held during non-peak vacation time and structured so positions only need to be backfilled at night (training staff and recent hires from paramedic school backfill for the officers who are being trained). The program is self-supporting (courses are attended by other agencies on an individual fee basis).

Casper, WY

Casper, WY's officer development program is a start-up program that has been in place for one year. Course topics include strategy and tactics (staff attend NFPA-sponsored classes); building construction (taught by a former firefighter now in the buildings trade); customer service (taught by a current firefighter working on overtime as a class facilitator); problem solving (taught by in-house deputy chiefs); smoke reading (Response Solutions module); and report writing (taught by department staff). While in training (or after completion) participants spend 10 shifts of supervised acting time with two different company officers and receive formal, daily evaluations. The department is in the process of implementing an internship pilot program that will focus on "soft" skills: conflict resolution, team building, performance evaluations, and public speaking.

Houston, TX

Houston, TX's officer development program focuses on management skills and fire tactics. The program includes four 16-hour classes and a 40-hour officer school. The 16-hour course topics include changes in emergency medical services; ethics; values and attitudes; and leadership. The 40-hour course topics include customer service; discipline and documentation; human resources issues; legal issues; motivation; resource management; and strategic planning. The program meets the requirements of the Insurance Services Offices (ISO) and the Commission on Fire Accreditation International. An ongoing officer development class includes simulation that provides realistic fire situations that an officer may encounter while in the field.

Montgomery County, MD

Montgomery County, MD offers 3 levels of fire officer training classes. Officer I is a 60-hour course for first-line supervisors. Course topics include human resources issues; fire inspections; public relations; and emergency service delivery. Officer II is a 48-hour course that builds upon Officer I knowledge. Course topics include managing resources; command incidents; and how to successfully interact with other agencies. Officer III is a 48-hour course that prepares current and potential chief officers by building upon Officer II knowledge. Topics include ethics; community outreach programming; budget development and management; pre-incident planning; and safety program development. The department's EMS Officer I program is a 48-hour course for first-line supervisors with course topics that include EMS company organization and administration; managing human resources; managing community relations; providing EMS public education; incident pre-planning; and safety and emergency services delivery.

PREVENTION

Information on prevention activities has been obtained from Casper, WY; Dallas, TX; and Montgomery County, MD.

A well-informed public is a key to fire prevention, citizen safety, and support and appreciation for the services provided by department employees. Accordingly, departments provide citizens with a wealth of information, hands-on training opportunities, and fire safety programs. School-aged children and teens are targeted through safety trailers and safety houses with computerized simulators, on-line games and videos, Risk Watch injury prevention curriculum, and firefighters serving as mentors and scoutmasters. In addition, fire setter intervention/prevention programs educate children on the dangers of playing with matches and targets at-risk children through referrals from the courts, school staff, family members, law enforcement officials, and social service providers. Older citizens can take advantage of CPR and first aid classes, fire extinguisher training, citizen academies and CERT classes, and public relations events. Free smoke alarm and battery distribution programs, home safety surveys and evacuation planning, and special life safety training for hospital, day-care, and hotel workers help citizens focus on fire prevention and safety issues.

Several jurisdictions offer unique prevention/education approaches to assist the public Casper, WY, in partnership with the local TV station, broadcasts a weekly, 10-minute fire prevention show on varying topics (introduction to fire safety; fireplace dangers). Fire department staff in Dallas, TX distribute applications for installation of smoke alarms and

monitors for deaf or hearing impaired residents and provides an interpreter at no charge, if needed, at the time of installation. After each preventable fire death prevention staff go door-to-door in the neighborhood

Montgomery County, MD disseminates File of Life magnetic packets the purpose of which is to provide medical history and other information that can be used to provide appropriate care if the resident is unconscious or unable to communicate effectively with on scene medical staff. In addition to this information the File of Life provides information about doctors, family members, insurance information, and any other special circumstances that rescue personnel should know. These packets can be hung on the outside, front of the refrigerator.

The nationally recognized Elderlinks program (offered in many communities including Miami, FL; Greensboro, NC; Fairfax County, VA; and Santa Ana; CA) trains firefighters on how to spot abuse or self-neglect of the elderly and possible ways to handle the situation. If abuse or neglect is suspected, the firefighter completes an online report of what has been seen and Elderlinks staff opens a case report, contacts the firefighter for additional information, and follows up with the citizen and referral agency (for example, hospice or meals on wheels). All referrals are followed up on to ensure needs have been met.

Prevention programs are evaluated less on quantitative success and more on qualitative factors. The number of participants and requests for support is a good indicator of a program's success. To ascertain citizen satisfaction questionnaires distributed after workshops and classes or citizen surveys are used by some jurisdictions.

PRIORITY DISPATCH SYSTEMS

Information on priority dispatch systems has been obtained from San Jose, CA; Pinellas County, FL; and Houston, TX.

San Jose, CA

The San Jose, CA fire department's communications center is recognized as an Accredited Center of Excellence (ACE) for dispatch protocols by the National Academy of Emergency Dispatch. Communications include a medical priority dispatch system (MPDS) to provide pre-arrival instructions for medical emergencies (in essence, resulting in "zero response time") and a fire priority dispatch system (FPDS) to provide arrival instructions for fire emergencies. Both systems are designed to provide the best in service and speed; correct dispatch levels can usually be determined in less than one minute. The MPDS takes into account the unique, non-visual nature of the dispatch environment, where both victims and the scene must be assessed and treated by remote control. The protocols ensure that dispatchers can rapidly question callers and evaluate patients, accurately select the appropriate EMS response, and communicate patient and scene information to responders.

Pinellas County, FL

Pinellas County, FL has changed its procedures for handling and dispatching calls. In the past, "pre-arrival" instructions were not delivered by 9-1-1 call-takers who originally answered the call but by call-takers located at the EMS Communications Center to

whom the call was transferred. This responsibility has now been assigned to the 9-1-1 call-taker.

In conjunction with transferring responsibility for providing "pre-arrival" instructions to the 9-1-1 center, Pinellas County is in the process of implementing a new system of priority dispatch. In the past, units were dispatched immediately and then downgraded as more information came in to the dispatch center. This resulted, however, in emergency units being needlessly dispatched (which limited their availability to respond to higher priority calls) and with apparatus responding with lights and sirens to minor medical situations. The new simpler dispatch system will match the emergency with the proper response using the following response categories:

Category	Description	Response
"E" Response	Life Threatening Emergency – patient not breathing (e.g., choking, hanging, drowning)	■ ALS Fire Department First Responder – lights and siren ■ ALS Ambulance – lights and siren ■ BLS Fire Unit – lights and siren at fire department's discretion
"D" Response	Life Threatening Emergency – chest pain, difficulty breathing, unconsciousness, seizures, dangerous bleeding	■ ALS Fire Department First Responder – lights and siren ■ ALS Ambulance – lights and siren ■ BLS Fire Unit – lights and siren if closest ALS first responder is not available
"C" Response	Potential Life Threatening Emergency – difficulty breathing, non-responsive, stroke, substance overdose, diabetic problems, serious injury	■ ALS Fire Department First Responder – lights and siren ■ ALS Ambulance – lights and siren ■ BLS Fire Unit – lights and siren if first/second closest ALS first responder is not available
"B" Response	Unknown Situation - serious bleeding/injury, pregnancy, psychiatric problems	■ ALS Fire Department First Responder – lights and siren ■ ALS Ambulance – lights and siren
"A" Response – High	Non-Life Threatening Situation (with high potential for transport)	■ ALS Ambulance – non-emergency
A" Response – Low	Non-Life Threatening Situation (with low potential for transport)	■ ALS Ambulance – non-emergency

Pinellas County estimates that by implementing an upgraded system of priority dispatch, unnecessary ambulance and fire/rescue responses can be reduced by 10 percent each (which will directly reduce costs associated with fuel and vehicle maintenance). In addition, the probability that crews will be available when needed will be increased. Moreover, any life-threatening or otherwise serious medical emergencies will continue to get a lights and-siren emergency response from both the fire department and EMS. Lesser emergencies will, however, get a less intense response.

Houston, TX, in response to a dramatic increase in EMS calls-for-service, enhanced its medical priority dispatch system. Emergency medical dispatchers (EMD), using a computer-assisted medical priority dispatch system, interrogate callers to determine the location, nature, and priority of the medical emergency. This information is then utilized to identify and dispatch the closest available appropriate EMS response unit (first responder, BLS ambulance, ALS ambulance, or paramedic squad). EMD's can also use pre-arrival instructions to provide critical dispatch life support instructions over the telephone until EMS units arrive on scene. To determine the appropriate location of ambulances fractal, rather than average, response time is used to measure response times in all areas of the city.

APPENDIX D – COMMUNITY STAKEHOLDERS

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As part of this engagement discussions were held with representatives from two community stakeholder groups. The objective of these discussions was to solicit community input on the level and quality of services provided by the Fire Department. Representatives from West Powelton Concerned Citizens and South Philadelphia H.O.M.E.S, Inc. participated in these discussions. The consultants made numerous attempts to solicit input from several other community stakeholder groups however these efforts were not successful.

A – GENERAL ACCOLADES

Participants agreed that interactions with their local fire station staff are positive. Fire stations have an open-door policy and welcoming atmospheres and station staff were described as being professional, courteous, and helpful. In particular praise was given for the patience and knowledge of smoke alarm installers. In addition, station staff were viewed as being part of the community. In part, this results from the fact that fire stations serve as local polling sites and in part because firefighters (and paramedics) participate in the adopt-a-family program, share community meals during the holidays, and readily participate in community meetings and events.

EMS staff are particularly well regarded and anecdotal stories included examples of EMS staff going the "extra mile" to address resident needs. Participants expressed satisfaction with on-scene response times to medical incidents and EMS personnel are seen as being extra solicitous with senior citizens.

B – GENERAL CONCERNS

Several areas of particular concern were voiced. Participants recommended levying progressive fines on individuals who knowingly tie up the emergency system for calls that are not emergencies, such as transport to doctor's appointments and repeated false alarm calls. Rolling brown-outs are also a concern and fears were expressed that the level of service suffers when a station is closed. Participants also suggested that the Fire Department needs to reach out more to the community as a way to mobilize stakeholders and solicit support as specific issues arise.