



Performance Audit

**Department of Public Safety
Bureau of Fire**

Report by the
Office of City Controller

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November 2023

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Auditee Response



November 2023

To the Honorable Mayor Edward Gainey and
Honorable Members of Pittsburgh City Council:

The Office of the City Controller is pleased to present this performance audit of the City of Pittsburgh's **Department of Public Safety, Bureau of Fire**. The audit was conducted pursuant to the Controller's powers under Section 404(c) of the Pittsburgh Home Rule Charter. This audit assesses diversity within the Bureau of Fire, as well as the conditions of the Bureau of Fire's facilities. This audit also assesses the Bureau's hiring process, employee benefits, fleet, equipment, firefighter wellness, and inter-governmental cooperative agreements.

EXECUTIVE SUMMARY

The City of Pittsburgh's Bureau of Fire is dedicated to protecting life, property, and the environment by providing effective customer and human services related to fire suppression, fire responder medical service, hazardous materials mitigation, emergency management service, and domestic preparedness. In 2022, the Bureau of Fire relocated its headquarters to the City's Strip District and was comprised of 706 firefighters stationed at 30 firehouses throughout the City. These 30 firehouses are grouped into four Battalions that provide fire safety coverage for the City and the boroughs of Wilkinsburg and Ingram.

The Bureau's website provides information to the public about Bureau of Fire programs, locations, and operations, however, much of the info is out of date or incomplete. The Bureau of Fire should work with the Department of Innovation and Performance to update the Bureau of Fire's website with current information. **(Recommendations 1, 5)**

The City of Pittsburgh Bureau of Fire continues to struggle to attract and retain female firefighters. In 2022, the City's Bureau of Fire's percentage of female firefighters was less than 1%, which is significantly lower than the national average of 5% according to the 2020 National Fire Protection Association (NFPA) US Fire Department Profile. In 2019, this gender disparity led the City of Pittsburgh to hire the National Testing Network to create the Hiring Barrier Study to identify potential issues that were limiting diversity within the Bureau. The study found several potential issues in the hiring process, including the applicability of the minimum qualifications to the written and physical examinations and how points were determined for the civil service eligibility list. Many of these potential barriers are currently being modified, but this is outside the scope years of

this audit. Accordingly, we recommend that the results of these changes be tracked by the Department of Public Safety and the Bureau of Fire to document if female applications and hiring increase. **(Recommendation 3)**

City firefighters are the only full-time City employees without any paid parental leave, which could be a factor affecting hiring and retaining qualified firefighters. There is a pregnancy leave section in the firefighter's contract with the International Association of Firefighters (IAFF) Local No. 1 which vaguely states how duty assignments are handled on a case-by-case basis with no definition given as to what alternative duties are available or how long a firefighter can be given alternative duty. The City of Pittsburgh should negotiate with IAFF Local No. 1 to give firefighters paid parental leave and to clarify the pregnancy leave section of the firefighter's contract.

(Recommendation 4)

The deterioration of many City firehouses has led to the need for significant repairs. In 2017, the City hired Massaro Construction Management Services to create a complete building inventory of all city facilities called the Facilities Optimization Plan. This plan estimated that \$16,272,366 was needed to make repairs to all firehouses to maintain functionality and to forestall further deterioration. Progress towards this crucial reinvestment in our buildings has been hampered by lack of funding. In many cases, these issues could have been avoided or mitigated with more timely routine repairs and preventative maintenance. The Department of Public Safety should work with the Department of Public Works to create a maintenance schedule to deal with these problems.

(Recommendation 7) Also, when the 117th Congress passed the Inflation Reduction Act (IRA) and the Bipartisan Infrastructure Law (BIL), it included funding opportunities for Municipal, University, School and Hospital (MUSH) buildings to be retrofitted to reduce greenhouse gas emissions and improve health outcomes. The Bureau of Fire must pursue these opportunities quickly since many of these programs are only available for a limited time. **(Recommendation 11)**

Many of the City's firehouses were built prior to the hiring of female firefighters, and so buildings do not have adequate accommodations. In 1998, a female firefighter filed suit against the City for sexually discriminatory policy and a sexually hostile work environment. A settlement was reached, however, efforts to improve these conditions have been stalled. The Bureau of Fire must work with the Department of Public Works to develop conceptual plans to give female firefighters proper accommodations and then rigorously work to implement these plans as soon as possible.

(Recommendation 10)

The Bureau of Fire has been dealing with the aging of their fleet of vehicles, including pumper engines and ladder trucks. The Bureau considers the effective service life for vehicles to be eight years of frontline service followed by two to four years of reserve service. Forty-three percent (43%) of pumper engines and forty-five percent (45%) of ladder trucks within the Bureau of Fire are still within the effective service age for frontline service. None of the reserve pumper engines or ladder trucks are within the effective service age for reserve engines.

This aging fleet issue has been exacerbated by a cancelled order of pumper engines in 2022. The order was made without the Fire Chief's knowledge, and upon inspection of the vehicles, they

were found to have significant deficiencies that would limit their usefulness. The Bureau of Fire, Office of Management and Budget, and the Equipment Leasing Authority should create a vehicle replacement schedule and follow it. **(Recommendation 13)** This recommendation is echoed in the City Controller's 2023 Recycling and Emergency Medical Services performance audits. It is also recommended that the Bureau of Fire administration must always be involved with future vehicle orders and that all orders should be reviewed by multiple people with experience in the field. **(Recommendation 12, 14)**

Over the course of the audit, it was found that, due to a miscommunication with First Vehicle Services, the city's fleet maintenance contractor, the Bureau of Fire had stopped conducting ladder performance testing and had never conducted hose nozzle/appliance testing. Fire hoses have been tested however records of past testing were not retained as recommended by NFPA standards. The Bureau of Fire should resume or begin testing ground ladders, hose nozzles and fire hose appliances and maintain records of the testing, as recommended by NFPA standards. **(Recommendation 15, 19)**

The Bureau of Fire has been service testing their fire hoses, however record-keeping for these tests started in 2022. These records grouped fire hoses together instead of recording test results individually, as recommended by NFPA standards. Older hoses lacked unique identification numbers, but new hoses ordered in June 2022 will have unique identification numbers. The auditors recommend that the Bureau of Fire should begin record-keeping for individual fire hoses as the fire hoses with unique identification numbers are delivered. **(Recommendation 17, 18)**

Firefighter health and wellness has been a significant concern, as the Bureau of Fire conducts no physical exams after the hiring process. In 2021, the Jewish Community Center of Greater Pittsburgh, used grant money to pay for one year of a wellness app for public safety's personnel (Fire, Police and EMS) and their families. The Bureau of Fire should survey personnel to see if the app was helpful to them and if they have any suggestions or recommendations for improvement. The Bureau of Fire should continue to monitor costs associated with an overall wellness program to aid firefighters in maintaining their physical and mental health and, if necessary, investigate other avenues to pay for such a program. **(Recommendation 21, 22)**

Our findings and recommendations are discussed in detail beginning on page 21. We believe our recommendations will provide more efficient operations within the Bureau of Fire. We would like to thank the Department of Public Safety, Bureau of Fire staff, and the Department of Public Works for their cooperation and assistance during this audit.

Sincerely,



Michael E. Lamb
City Controller

INTRODUCTION

This performance audit of the **Department of Public Safety's Bureau of Fire** was conducted pursuant to the City Controller's powers under section 404(c) of Pittsburgh's Home Rule Charter. This performance audit analyzes the Bureau of Fire's recruitment efforts, departmental diversity, the bureau's capital assets projects, fleet and equipment issues, firefighter health and safety, and intergovernmental cooperative agreements.

This is the fourth Performance audit of the Pittsburgh Bureau of Fire by the City Controller's Office. An audit completed in 2012 addressed the Bureau's compliance with National Fire Protection Association (NFPA) standards, non-emergency programs, firefighter training, and overtime.

Two performance audits of the Bureau of Fire Supply Warehouse were completed in 2010 and 2018, both which examined facility usage and inventory control procedures.

OVERVIEW

The Bureau of Fire's mission is to protect life, property, and the environment by providing effective customer and human services related to fire suppression, fire responder medical service, hazardous materials mitigation, emergency management service, and domestic preparedness. The Pittsburgh Bureau of Fire encourages firefighters to take a proactive role in reducing the impact from emergencies by providing programs related to public education, risk reduction, fire prevention, community relations, disaster planning, and operational training.

The Bureau of Fire Headquarters was relocated to the Fire Warehouse on Railroad Street in the City's Strip District neighborhood in late 2022. The Fire Chief and their administration operate from these offices.

History of the Bureau of Fire

The need to put out fires within a community has always existed. Originally "bucket lines" were used to help a neighbor in distress. Prior to 1794, the Pittsburgh-area Fire Department was a compulsory, unpaid service of every available and able adult male in the area. Failure to serve was punishable with the penalty of a fine.

Starting in 1794, compulsory service was replaced with private volunteer fire companies, who were paid by the property owner and/or their insurance companies to be the first to put out a fire. These companies purchased their own fire engines and would be staffed by volunteers or teenagers who paid to join, as the fire companies were viewed as social clubs at the time. They were generally formed around bucket committees and a single engine. While the fire companies were able to improve the overall firefighting capabilities of the City of Pittsburgh, the constant

fighting between the companies regarding territory coverage led to many physical altercations and controversies. The fire companies could also be overwhelmed by large fires, as they were in the Great Fire of Pittsburgh in 1845, which destroyed a third of the city.

In 1870, the City of Pittsburgh's Bureau of Fire was formed as a public, paid firefighting department under the Board of Fire Commissioners. The Board of Fire Commissioners was led by City Council-appointed Board President Henry Hayes, a former member of a volunteer fire department and a successful local merchant. On May 5, 1903, the firefighters in the department organized into a City Fireman's Protective Association and then, on September 11, 1903, they formed the first firefighters' union in the country, International Association of Firefighters (IAFF) Local No. 1. Today's City of Pittsburgh firefighters are organized in the same union.

Staffing and Operational Budget

The number of budgeted uniformed firefighters has remained at a yearly total of 667 for 2020, 2021 and 2022, along with three civilian administrative positions. Table 1 shows the Bureau of Fire budgets for 2020 and Table 2 shows 2021 and 2022 budgets.

The 667 positions include the fire chief, assistant chief, deputy chiefs, battalion chiefs, firefighter instructor, fire captain, fire lieutenant, master firefighter, and firefighter positions from the second through the fourth years. Deputy and battalion chiefs are shown separately due to differing pay rates from union negotiations. The three administrative positions are the fire inspector 1, administrative assistant, and administrative specialist.

TABLE 1
Bureau of Fire
2020 Budgeted Positions with Salary

City of Pittsburgh Operating Budget
Fiscal Year 2021

Position Summary				
Title	2020 FTE	Rate/ Grade	Hours/ Months	2020 Budget
Fire Chief	1	121,469	12	\$ 121,469
Assistant Chief	2	113,844	12	227,688
Deputy Chief	3	110,528	12	331,584
Deputy Chief *	1	100,961	12	100,961
Battalion Chief	4	100,493	12	401,973
Battalion Chief *	14	91,767	12	1,284,736
Firefighter Instructor	4	91,339	12	365,354
Fire Captain	54	83,049	12	4,484,658
Fire Lieutenant	112	75,493	12	8,455,169
Firefighter	472	see below	12	31,862,859
Total Uniformed Firefighters	667			\$47,636,452
IAFF Firefighter Hourly Rates				2020
Master Firefighter				\$ 32.5271
Firefighter - 4th Year				31.1250
Firefighter - 3rd Year				27.6308
Firefighter - 2nd Year				24.0254
Firefighter - 1st Year				20.4310
Deputy Fire Marshall	1	U22D	12	\$ 54,723
Administrative Assistant	1	17E	12	47,427
Administrative Specialist	1	11D	12	36,880
Total Fire Civilian Positions	3			\$ 139,030
Total Full-Time Permanent Positions	670			\$47,775,482
<i>*Promoted after 1/1/2010</i>				
Temporary, Part-Time, and Seasonal Allowances				
Firefighter Recruit Allowance	—	\$ 21.45	—	\$ 750,000
	—			\$ 750,000
Total Full-Time Permanent Positions	670			\$47,775,482
Temporary, Part-Time, and Seasonal Allowances	—			750,000
Vacancy Allowance	—			—
27th Pay Period	—			1,837,491
Anticipated 7/1 Workforce Reduction	—			—
Total Full-Time Positions and Net Salaries	670			\$50,362,973

Source: City of Pittsburgh 2020 Operating Budget

TABLE 2
Bureau of Fire
2021 and 2022 Budgeted Positions with Salary

City of Pittsburgh Operating Budget
Fiscal Year 2022

Bureau of Fire
250000

Position Summary

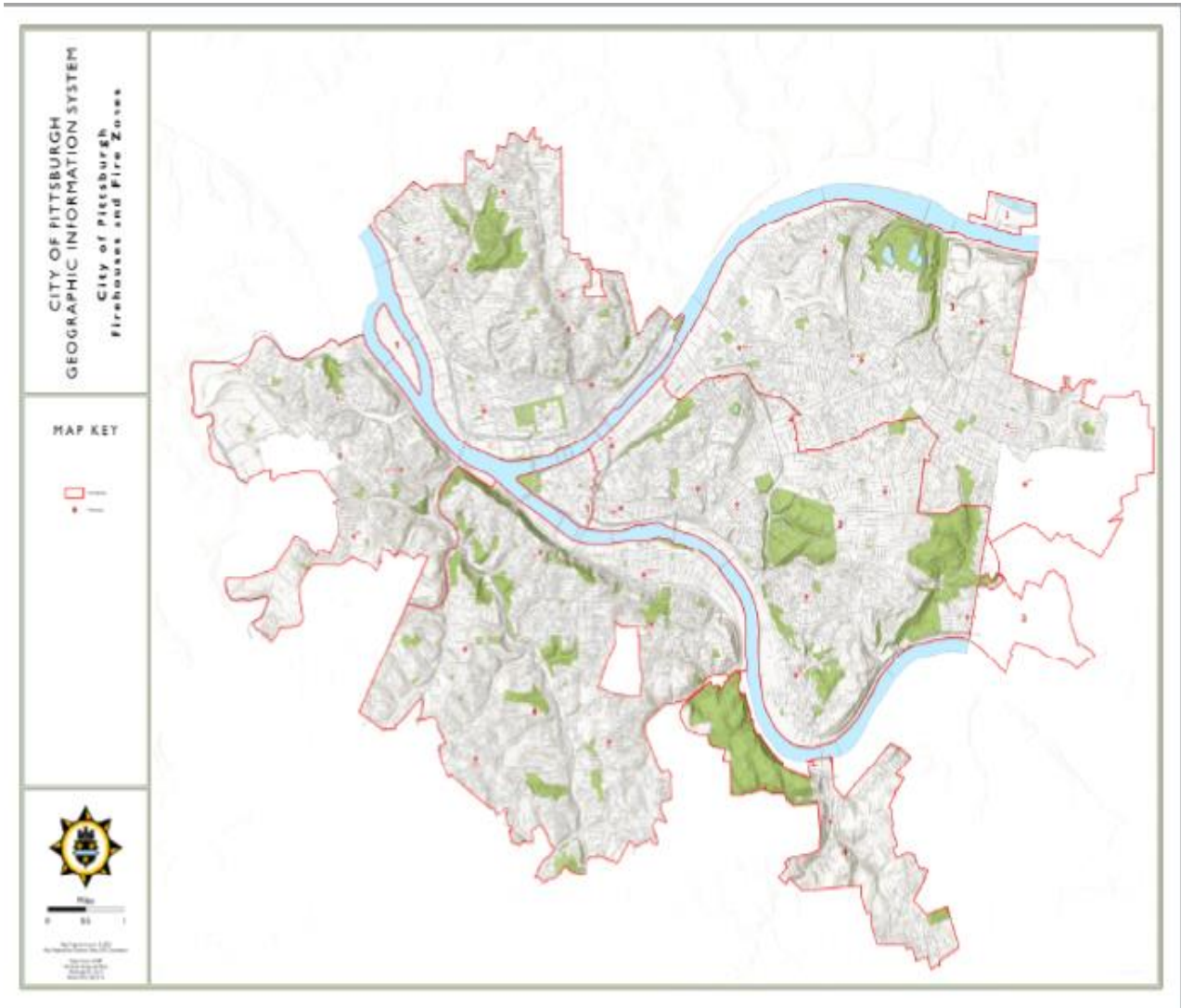
Title	2021 FTE	Rate/ Grade	Hours/ Months	2021 Budget	2022 FTE	Rate/ Grade	Hours/ Months	2022 Budget
Fire Chief	1	125,113	12	\$ 125,113	1	133,280	12	\$ 133,280
Assistant Chief	2	117,259	12	234,519	2	123,975	12	247,949
Deputy Chief	3	114,396	12	343,189	2	118,400	12	236,801
Deputy Chief *	1	104,494	12	104,494	2	108,152	12	216,303
Battalion Chief	4	104,011	12	416,042	3	107,651	12	322,953
Battalion Chief *	14	94,979	12	1,329,701	15	98,303	12	1,474,544
Firefighter Instructor	4	94,535	12	378,142	4	97,844	12	391,376
Fire Captain	54	85,956	12	4,641,630	54	88,965	12	4,804,087
Fire Lieutenant	112	78,135	12	8,751,120	112	80,870	12	9,057,394
Firefighter	472	see below	12	32,912,552	472	see below	12	33,737,329
Total Uniformed Firefighters	667			\$49,236,503	667			\$50,622,017
IAFF Firefighter Hourly Rates				2021				2022
Master Firefighter				\$ 33.5030				\$ 34.5080
Firefighter - 4th Year				32.0588				33.0205
Firefighter - 3rd Year				28.4597				29.3135
Firefighter - 2nd Year				24.7461				25.4885
Firefighter - 1st Year				21.0439				21.6753
Deputy Fire Marshall	1	U07-L	12	\$ 56,379	1	U07-L	12	\$ 58,070
Administrative Assistant	1	17E	12	48,849	1	17E	12	50,315
Administrative Specialist	1	11D	12	37,987	1	11D	12	39,126
Total Fire Civilian Positions	3			\$ 143,215	3			\$ 147,512
Total Full-Time Permanent Positions	670			\$49,379,718	670			\$50,769,529
<i>*Promoted after 1/1/2010</i>								
Temporary, Part-Time, and Seasonal Allowances								
Firefighter Recruit Allowance	—	\$ 22.10	—	\$ 750,000	—	\$ 22.76	—	\$ 750,000
	—			\$ 750,000	—			\$ 750,000
Total Full-Time Permanent Positions	670			\$49,379,718	670			\$50,769,529
Temporary, Part-Time, and Seasonal Allowances	—			750,000	—			750,000
Total Full-Time Positions and Net Salaries	670			\$50,129,718	670			\$51,519,529

Source: City of Pittsburgh's 2022 Operating Budget

Battalions, Firehouses and Companies

Currently, Pittsburgh's Bureau of Fire has 30 firehouses: 29 of these firehouses are located within the City limits and one is in Wilkinsburg. The city is broken into four areas of coverage called Battalions (or districts), and each has a Battalion Chief. Figure 1 shows the four Battalions with firehouse locations. A larger map with firehouse numbers can be found in Appendix 1.

FIGURE 1
Firehouse Locations and Battalion Boundaries



Source: City of Pittsburgh's Department of Innovation & Performance

Each apparatus, or vehicle type, has its own company representing a group of personnel who work on that vehicle. Typically, there are three types of companies that could be stationed at

a firehouse: an engine company, truck company, and quint company. Each firehouse is staffed by at least one of these fire companies. There are also specialized units that are part of the Bureau which may also be housed in a firehouse, including a MAC unit, arson investigation, foam trucks, HazMat foam and spill units, foam trailers, water rescue unit, and a command unit.

Single company firehouses can have either a fire engine or ladder truck stationed. Fire engines, also known as pumpers, have a permanently mounted fire pump of at least 750 gallons per minute capacity, a water tank, and hose connections for the variety of hoses they carry.

A dual-function company firehouse will have a pumper and another vehicle company stationed together. For example, a truck company with a ladder truck equipped with a hydraulically operated ladder or elevating platform for the purpose of placing personnel and/or water streams in elevated positions, which is also known as an aerial apparatus. These ladder trucks are a firefighter’s toolbox, containing ladders, rescue equipment, and fire tools.

According to the Deputy Chief, since 2018, the city does not have any Quint companies anymore. However, Quint companies are still referenced on the Bureau’s website.

A Mobile Air Compressor (MAC) unit firehouse will have an additional MAC as a secondary vehicle instead of a ladder truck. Mobile Air Compressors are used to refill air for the Self-Contained Breathing Apparatus (SCBA) that firefighters use. SCBAs are carried on all trucks for each firefighter. Firehouses that have MAC units as their secondary vehicle require fewer personnel than a regular dual-purpose firehouse.

As of August 2023, the City of Pittsburgh has 28 engine companies, 11 truck companies, 2 MAC units, and a fire boat.

Table 3 contains the firehouse numbers and/or co-occupants, neighborhoods, street addresses, companies, battalion numbers, and if applicable, any special units or command staff member (Battalion chiefs and deputy chiefs) for all 30 firehouses operated by the City of Pittsburgh’s Bureau of Fire.

TABLE 3

Bureau of Fire Firehouse Locations and Types					
Firehouse # and co- occupant	Neighborhood	Address	Company	Battalion	Spec Units/ Command
3	Strip District	1401 Penn	Engine 3	2	MAC Unit
4	Uptown	1324 Forbes	Engine 4/ Truck 4	2	Deputy Chief
6	Lawrenceville	3958 Penn	Engine 6/ Truck 6	3	Water rescue craft/Foam trailer
7	Stanton Heights	4603 Stanton	Engine 7	3	Arson units
8	East Liberty	5714 Penn Circle West	Engine 8/ Truck 8	3	Battalion Chief 3

Bureau of Fire Firehouse Locations and Types					
Firehouse # and co- occupant	Neighborhood	Address	Company	Battalion	Spec Units/ Command
10/ EMS 5	Hill District	2500 Allequippa	Engine 10	2	--
12/ EMS 7	Greenfield	4156 Winterburn	Engine 12	2	--
13	Hazelwood	200 Flowers	Engine 13/ Truck 13	2	--
14	Oakland	259 McKee	Truck 14	2	Battalion Chief 2
15	Lincoln-Lemington	7024 Lemington	Engine 15	3	--
16	Wilksburg	900 Hay St	Engine 16	3	--
17	Homewood	7601 Hamilton	Engine 17/ Truck 17	3	Water Rescue Raft
18/ PBP 4	Squirrel Hill	5858 Northumberland	Engine 18	2	--
19	Swisshelm Park	159 Homestead	Engine 19	3	--
20/ EMS 12	Hays	514 Baldwin	Engine 20	4	--
22	Arlington	1945 Arlington	Engine 22	4	--
23	Carrick	1704 Brownsville	Engine 23	4	Command Unit
24	South Side	1729 Mary	Engine 24/ Truck 24	4	Marine Division, Battalion Chief 4
26	Brookline	630 Brookline	Engine 26/ Truck 26	4	--
27	Mount Washington	96 Virginia	Engine 27	4	--
28	Beechview	1428 Beechview	Engine 28	4	--
29	Westwood	2100 Noblestown	Engine 29	4	Hazmat foam unit
30	Elliot	916 Steuben	Engine 30/ Truck 30	1	--
31	Sheraden	3000 Chartiers	Engine 31	1	--
32	East Allegheny	900 Spring Garden	Engine 32/ Truck 32	1	Hazmat spill unit 1
33	Woods Run	3284 Central	Truck 33	1	--

Bureau of Fire Firehouse Locations and Types					
Firehouse # and co- occupant	Neighborhood	Address	Company	Battalion	Spec Units/ Command
34	Observatory Hill	3914 Perrysville	Engine 34	1	--
35	Brighton Heights	1519 Orchlee	Engine 35	1	--
37	Manchester	1124 West North	Engine 37	1	Hazmat, Hazmat Foam, Battalion Chief 1
38	Northview Heights	198 Essen	Engine 38	1	--

Data source: Bureau of Fire and City of Pittsburgh Cartegraph data

Personnel Requirements from the Union Contract

The following staffing requirements come from the union contract between IAFF Local No. 1 and the City of Pittsburgh, which dictate that each fire engine must be run by one lieutenant and three firefighters and that each fire truck must be run by one captain and three firefighters. MAC units require only one captain and one firefighter, while fire boats require one captain and two firefighters.

The union contract also dictates the hours that firefighters work. Firefighters are required to be at a fire station for 24 hours, one day, and then have 72 hours off duty. This means that each fire station has three other work shifts to cover for each individual shift's 72 hours off before that original shift returns to the firehouse.

Each type of fire station, whether a single company, dual company, or MAC unit, requires a specific number of firefighters on duty at any given time and a specific number of assigned firefighters for full coverage. Table 4 shows the required staffing levels per station type.

TABLE 4

Required Staffing Levels per Station Type		
Station Type	On-Duty Firefighters	Assigned Firefighters
Single Company	4	16
Dual Company	8	32
MAC Unit	6	24

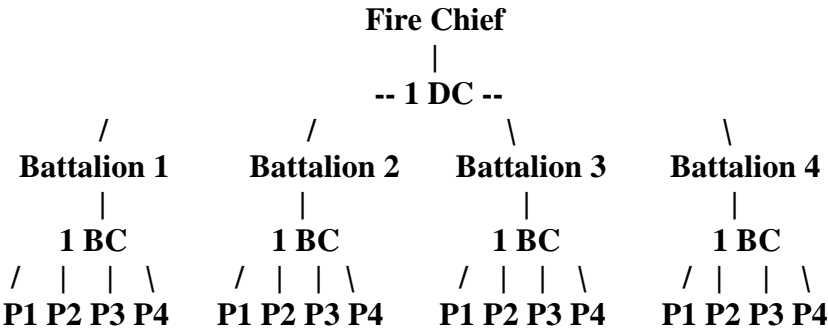
Data Source: City of Pittsburgh Bureau of Fire

Per the union contract, fire stations are grouped together as follows:

The Bureau of Fire of the Department of Public Safety of the City of Pittsburgh shall be organized into four Districts or Battalions. Each District or Battalion shall be comprised of four Platoons. Each Platoon shall be commanded by one Deputy Chief and four Battalion Chiefs.

The hierarchy of the Bureau, per the union contract, is presented as an organization chart in Figure 2. It shows one chief, one deputy chief (DC), four battalions with four battalion chiefs (BC) and four platoons (P) for each battalion.

**FIGURE 2
City of Pittsburgh’s Bureau of Fire
Daily Deployment**



Within the hierarchy are companies, engine and ladder truck companies. The needed number of companies is also explained in the union contract.

The union contract states that the Bureau of Fire must have the following companies as their minimum:

- A. Twenty-seven engine companies
- B. Eleven ladder truck companies
- C. One MAC unit
- D. One fire boat

Each battalion contains a different number of firehouses which covers certain neighborhoods. Table 5 lists the neighborhoods that each Battalion covers.

TABLE 5

Bureau of Fire Battalion Coverage by Neighborhood	
Battalion 1 (8 Firehouses)	Washington Landing, Troy Hill, Downtown, Spring Garden, Allegheny, Manchester, California/Marshall, Fineview, Upper Spring Hill/City View, Perry South, Perry North/Summer Hill, Northview Heights, Brighton Heights, Sheraden/Fairywood/Chartiers City, Ingram, Elliott/West End, Crafton Heights/Westwood, East Carnegie/Oakwood, Mexican War Streets, Esplen, Lower Spring Hill, Parkway North, P.A.T Berry St Tunnel

Battalion 2 (7 Firehouses)	Lower Hill District/Crawford Roberts/ Uptown, Technology Dr/ 2 nd Ave, Lower Strip, Uptown/Duquesne Univ/Bluff, Middle Hill/Bedford Dwellings, Polish Hill, Oakland, Schenley Park, South Oakland, Greenfield, Hazelwood/Glen Hazel, Squirrel Hill South, Squirrel Hill North, Regent Square, Squirrel Hill Central, Swisshelm Park, Summerset, Upper Hill, Schenley Farms, Melwood Ave, Upper Polish Hill, Upper Strip, CMU, Parkway East – Pittsburgh Side, Armstrong Tunnels, Neville Railroad Tunnel
Battalion 3 (7 Firehouses)	Bloomfield, Lower Lawrenceville, Central Lawrenceville, Upper Lawrenceville, Garfield Heights, Bloomfield, Stanton Heights/Morningside, East Liberty, Highland Park, Larimer, Shadyside, Frankstown/ Fifth Ave Area, North Point Breeze/South Homewood/Park Place, Lincoln/Lemington, Wilkinsburg, East Hills, Friendship/Garfield, Waterworks Mall, Parkway East Wilkinsburg Side, Swissvale
Battalion 4 (8 Firehouses)	Mt. Washington/Duquesne Heights, Station Sq/South Shore, Pius St/ Monastery Area, P.A.T - South Hills Junction Tunnel, Allentown, Knoxville, Bon Air, Arlington, Mt. Oliver City, Banksville, Parkway West, Wabash Tunnel, Carrick, Becks Run Rd, Fort Pitt Tunnels, Beltzhoover, Liberty Tunnels, Saw Mill Run, Agnew Rd, Hays/Lincoln Place/New Homestead, Allentown, Southside Slopes, Overbrook, Southside Flats, Brookline, Beechview/Shadycrest

Data source: City of Pittsburgh Bureau of Fire

OBJECTIVES

1. Assess diversity and gender equity in hiring, retention, and facility accommodations
2. Report on the status for facilities, equipment and fleet, including firehouse conditions, equipment testing and recordkeeping, and age of fire apparatus
3. Examine injury rates of firefighters compared to national averages and possible interventions
4. Report on the intergovernmental agreements with adjoining municipalities
5. Make recommendations for improvement

SCOPE

The scope of this performance audit is demographic information of Bureau of Fire personnel, its hiring and training processes, firehouse conditions and equipment, health and wellness of firefighters, and current intergovernmental cooperative agreements. The years in our scope were 2020-2022.

METHODOLOGY

The auditors held an entrance conference meeting using Microsoft Teams with the city's Fire Chief to discuss the audit objectives.

The auditors reviewed fire response data from 2020-2022 provided by the Bureau of Fire.

Auditors reviewed the 2020 Hiring Barrier Assessment written by the National Testing Network.

Auditors exchanged correspondence with City of Pittsburgh's Department of Human Resources & Civil Service and the Bureau of Fire regarding hiring processes and demographic information.

Auditors exchanged correspondence with the President of the Pittsburgh Fire Fighters Union, IAFF Local No.1 regarding firefighter employment benefits.

The auditors reviewed meeting minutes from the City of Pittsburgh's Department of Human Resources & Civil Service's Occupational Safety Office's Occupational Safety Committee and met with the Manager of Risk Management to discuss firefighter injury reports and Safety Committee duties. Auditors used statistics compiled by NFPA to compare the rate of fireground injuries of City firefighters nationwide to those of City firefighters.

Auditors researched studies about parental leave for firefighters, as well as issues faced by pregnant firefighters.

Auditors reviewed fire service contracts between the City of Pittsburgh and the municipalities of Wilksburg and Ingram since the commencement of the contracts and reviewed fire service calls to these areas for the years 2020-2022.

Capital and operating budgets for 2020, 2021 and 2022 were reviewed.

Auditors met with the DPW's project manager to discuss firehouse conditions and plans for improvements. Auditors also inquired about projects completed since a Facilities Optimization Plan was completed in July 2017 and visited four firehouses which were identified

as priorities in the plan, and four non-priority firehouses. The auditors compared the report of the building's condition in Facilities Optimization Plan to the condition of the building presently. The auditors visited the four priority firehouses: 24 (South Side), 18/Police Zone 4 (Squirrel Hill), 7 (Stanton Heights), and 17 (Homewood South). Non-priority firehouses visited were: 23 (Carrick), 35 (Brighton Heights), 4 (Uptown), and 34 (Observatory Hill).

The Assistant Fire Chief was contacted to provide ladder and hose inspection reports for the scope years 2020, 2021 and 2022. Auditors used the hose inspection reports to verify that NFPA standards are being met.

Auditors visited the Fire Academy and witnessed firefighters in a retraining fire drill for high rise buildings. The parking lot was examined to verify condition complaints and pictures taken.

Auditors received apparatus information and vehicle maintenance histories for vehicles during the scope years from the fleet manager.

Auditors reviewed invoices from the contractor Sycamore Mechanical Contractors for the inspection, maintenance, and repair of the emissions control systems.

Auditors interviewed a current female firefighter with the City of Pittsburgh Bureau of Fire.

FINDINGS AND RECOMMENDATIONS

Bureau of Fire Organization

Fire Bureau administration stated that the best written explanations about the Bureau of fire can be found in the City of Pittsburgh operating budget. According to the City's 2020, 2021, and 2022 operating budget introductions, the current City of Pittsburgh Bureau of Fire is divided into four divisions: Administration, Operations, Planning and Training, and Risk Management.

The Administration division handles managerial and administrative functions for the department, including budget and finance, payroll, employee relations, strategic planning, record and data gathering, and facility/fleet management.

The Operations Division covers emergency and incident responses, as well as hazardous material incidents, floods, disaster, and emergency management. Emergency management helps communities reduce their vulnerability and cope with any disasters.

The Planning and Training division provides training, communication, and logistics for the Bureau of Fire. The division also assists in continuing development for Bureau personnel, with programs in fire suppression, apparatus driving operations, emergency medical responder, hazardous material, technical rescue, vehicle rescue, and disaster response topics. Due to disaster-related events in 2023 (e.g., East Palestine, Ohio train derailment), the division has increased training associated with disaster related topics. New recruits must complete 32 weeks of basic training before being assigned to a permanent station. Continuing education is required for all members of the Pittsburgh Bureau of Fire.

The Risk Management division enforces the hazardous material code, and the International Fire Code for City of Pittsburgh resident and businesses. They also conduct fire investigations after a fire and investigates all complaints of life-threatening and unsafe conditions throughout the city.

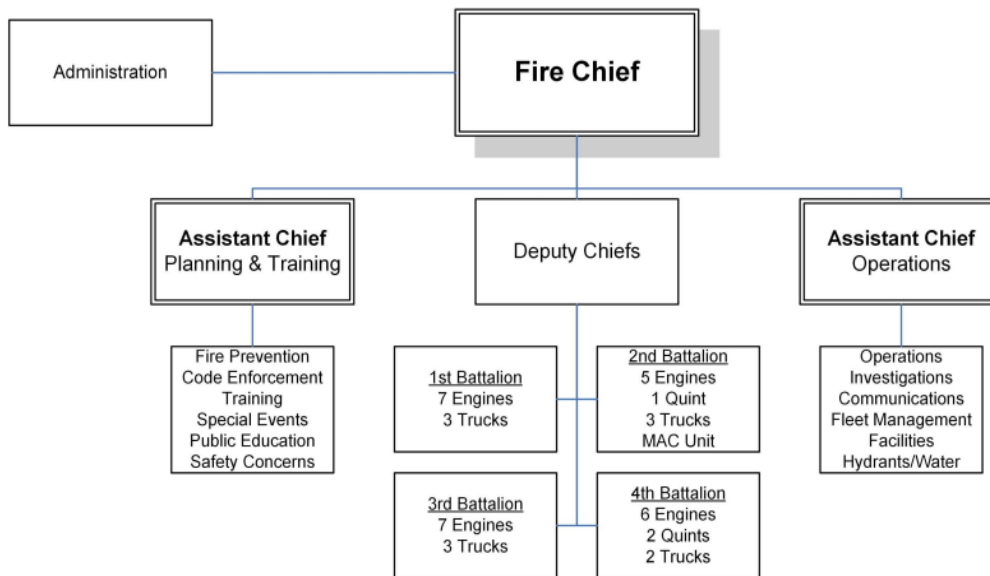
Additionally, the division is responsible for preventive and corrective measures for city residents and Bureau employees. These measures include the Fire Prevention Education programs and the smoke detector safety/installation program.

Finding: The Bureau of Fire website has a section for Blood Pressure Screenings, which are no longer being conducted.

Figure 3 shows the Bureau of Fire's organizational chart for this audit's scope years of 2020, 2021 and 2022.

FIGURE 3
Department of Public Safety
Bureau of Fire Organizational Chart
2020, 2021 and 2022

Department of Public Safety Bureau of Fire



Source: 2020, 2021, and 2022 City of Pittsburgh Operating Budgets

The Bureau of Fire is built on a hierarchical rank structure as follows: chief, assistant chief, deputy chief, battalion chief, captain, lieutenant, and firefighter. While the chief and assistant chiefs are selected by the mayor, all other positions are promotable under civil service rules.

An organization chart should stand on its own and show the functions and layout of how the Bureau works. It does not change if a position is not filled; it remains a constant. Figure 3 does not show that the four divisions of the bureau are under the chief nor does it show all the divisions as being separate.

The way the fire bureau is explained in the budget narrative, the four divisions should be an equal focus for the Fire Chief. Also, responsibilities explained in the narrative are not listed under the current division. For example, the budget introductions describe the Administration Division as controlling Facility and Fleet management, but the organizational chart places them under the Operations Division.

Finding: The organization chart in the city’s operating budgets does not adequately reflect the written Bureau of Fire’s budget description. Also, some content on the website is not updated to reflect the Bureau’s operations. For example, since 2018, the Bureau of Fire has not used Quint companies, but they are still listed on the Bureau of Fire’s website.

RECOMMENDATION 1:

The Bureau of Fire administration needs to contact the I&P to update the organizational chart on the Bureau’s webpage to adequately reflect how the bureau is set up and run. I&P should also be contacted to remove the Blood Pressure Screenings section from the Bureau of Fire website since those are no longer provided.

Annual Reports

The Bureau of Fire published an [annual report](#) for the year 2020 on their website. The report consisted of statistics relating to personnel and response to calls and highlighted the challenges that the past year had brought. Bureau of Fire administration stated these reports ceased when technical issues arose from the Bureau’s data management system. This software is currently being phased out and a new system is coming online soon. Annual reports were discontinued across the Department of Public Safety when the demands on personnel during the pandemic was a more pressing issue and have not been restarted.

RECOMMENDATION 2:

The Department of Public Safety, in conjunction with Bureau of Fire administration, should restart publishing annual reports on their website after the new data management system is brought fully online. It is important to provide transparency to the public and the public should have a place to find basic information about the Bureau, such as the number of incidents responded to, where new firehouses are being built, any apparatus bought, and any fire academy classes held that year.

Application Process

During the scope years of 2020, 2021, and 2022, the Bureau of Fire process for applicants to be placed on the civil service eligibility list involved three steps: an online application, a written exam, and a physical exam.

The process begins with an online application. Before 2023, applicants were required to have been residents of the City of Pittsburgh at the time of their application. Through union bargaining, this changed at the end of 2022. Applicants are also required to be at least 18 years old, have a current and valid PA driver’s license, and to never have been convicted of a felony or

serious misdemeanor.

After the application, the next step is a written exam, made up of 155 total questions. The written exam tests both cognitive abilities and behavioral orientation in the following areas:

- Verbal Comprehension
- Verbal Expression
- Problem Sensitivity
- Deductive Reasoning
- Inductive Reasoning
- Information Ordering
- Mathematical Reasoning
- Numeric Facilitation
- Stress Tolerance
- Team Orientation
- Motivation/Attitude

Applicants who score better than 75% pass the exam and are invited to continue through the process.

Next is the physical exam, which tests applicants' physical aptitude. To begin the physical exam, there is an untimed pass/fail test for applicant flexibility. After the flexibility test, there are four sequenced and timed tests which are scored based on how long it takes an applicant to complete them. These four tests are the stair climb, hose hoist, victim rescue, and forcible entry. During the four sequenced and timed tests, applicants are not allowed to take a break and are required to complete all four tests in succession. Candidates are given two points for each part of the physical exam they pass in the preferred time; one point is given for each part they finish after the preferred time. No points are given if they fail. In order to pass the physical exam, applicants are required to have scored six out of the eight available points.

During the scope years, after passing both the written and physical examinations, the applicant's scores were combined with a 50% weight given to each exam. It should be noted that starting in 2023, scoring has been changed; the written score passing grade is now 70% and the physical exam is either pass or fail. If you fail the physical exam, the candidate does not move on. There is no combined score; placement on the civil service eligibility list is based solely on the written score and potential bonus points. A bonus of 10 points is given if the applicant was a veteran of the United States military. The applicants are placed on the civil service eligibility list in descending order, from the highest score to the lowest.

A civil service eligibility list will remain in place for at least 18 months, which can be extended for a variety of reasons, before expiring. Any time that the Bureau of Fire wants to extend the span of an eligibility list past the 18-month initial window, they must go to the Civil Service Commission for approval. The number of applicants on the eligibility list can vary depending on how many applicants complete the written and physical exams. The Bureau of Fire will begin the application process for a new civil service eligibility list a few months before the prior eligibility list expires, at which time, all names will be removed from the list.

The Bureau of Fire selects applicants for the training academy from the civil service eligibility list starting with the highest scores. The selected applicants receive an information packet which must be returned to the Bureau. The Bureau of Fire will generally send out information packets to the top 64 applicants on the civil service eligibility list to fill 32 spots at the training academy. From there, candidates undergo background checks, a polygraph, and medical evaluations, including stress testing, and drug testing. Applicants who pass these background checks and whose packets are chosen are then invited to the training academy, from which they will complete all the necessary training to become fully fledged firefighters for the City of Pittsburgh.

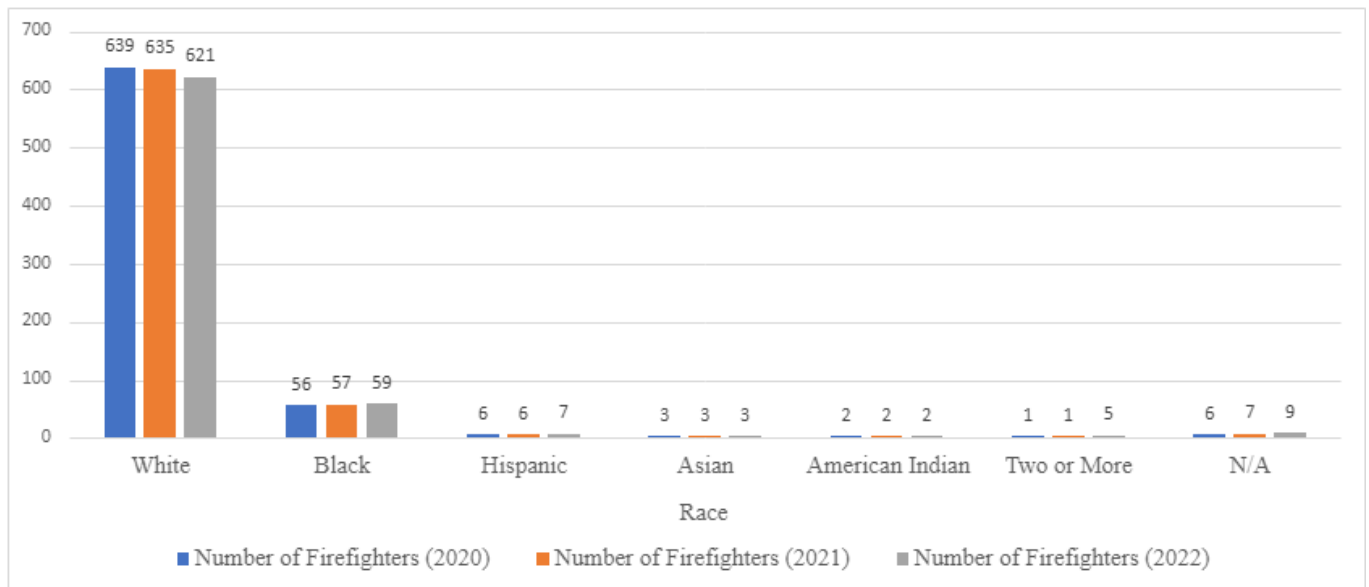
Finding: Potential fire academy candidates are tested for drug use after they are on the civil service eligibility list.

Demographics

Race

Of the 706 employees in the 2022 Bureau of Fire, 88% were White and 8% were Black, while Hispanic, Asian, American Indian, and people of two or more races made up 3% combined. The remaining 1% of the Bureau of Fire staff is listed as N/A, which represents individuals who did not provide this information. Graph 1 shows the demographic breakdown of the Bureau of Fire employees from 2020, 2021, and 2022 by race.

GRAPH 1
Bureau of Fire Staff by Race
2020, 2021 and 2022



Source: Payroll Explorer Pittsburgh, the City of Pittsburgh

Table 6 shows, according to the Bureau of Labor Statistics (BLS), the City of Pittsburgh

Bureau of Fire is significantly below the national percentage for Hispanic/Latino firefighters. Hispanic/Latino firefighters make up 1.0% of the City’s Bureau of Fire. Nationally, Hispanic/Latino firefighters make up 15.2% of all US firefighters, which is 14.2% more than the City of Pittsburgh’s percentage of Hispanic/Latino firefighters. This can be explained by the City of Pittsburgh’s significantly smaller Hispanic/Latino population. According to the 2020 US Census numbers, 19.1% of the US is Hispanic/Latino, compared to just 3.5% in the City of Pittsburgh.

TABLE 6

Percent of Firefighters by Race Nationally Compared to the City 2020, 2021, and 2022						
Race	National % of Firefighters	% of PBF Staff *	National % of Firefighters	% of PBF Staff *	National % of Firefighters	% of PBF Staff *
	2020	2020	2021	2021	2022	2022
White	85.0%	89.6%	84.3%	89.3%	85.5%	88.0%
Black	8.4%	7.9%	8.9%	8.0%	9.9%	8.4%
Hispanic/ Latino	13.1%	0.8%	11.0%	0.8%	15.2%	1.0%
Asian	1.2%	0.4%	2.6%	0.4%	1.5%	0.4%

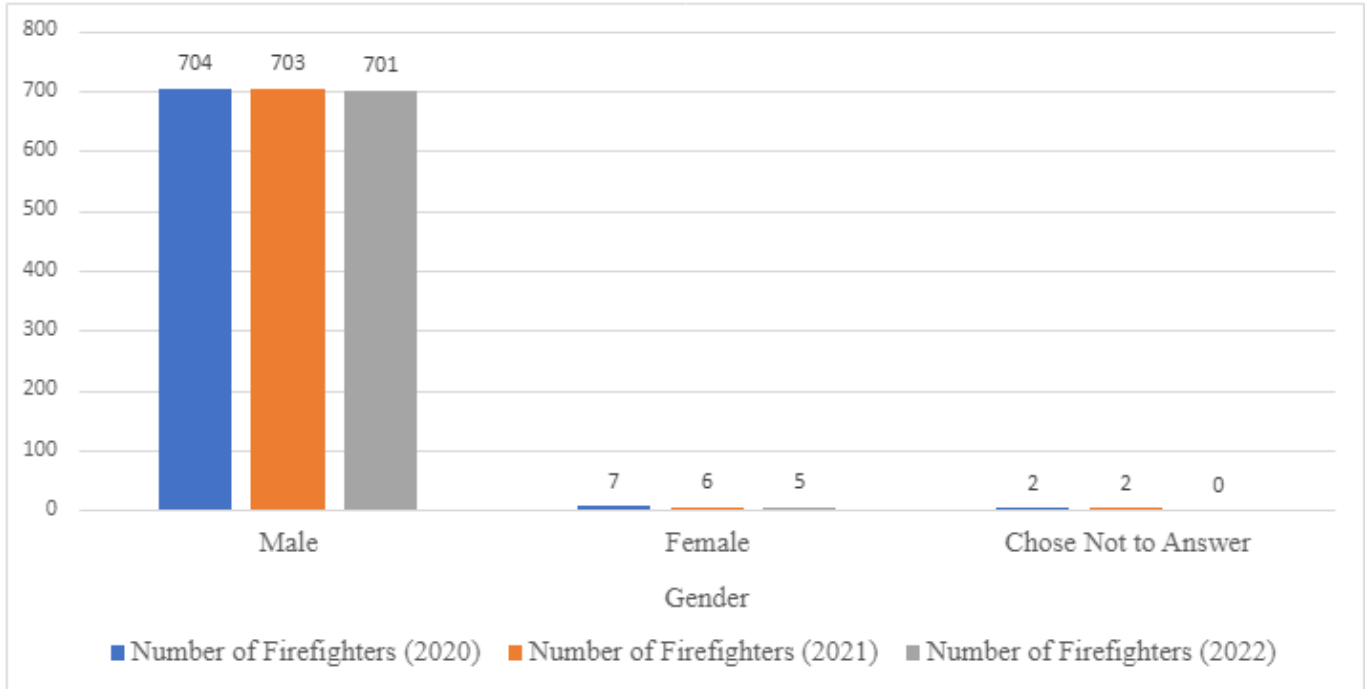
* Pittsburgh Bureau of Fire (PBF)

Data Source: Bureau of Labor Statistics (National Percentages), the City of Pittsburgh

Gender

Graph 2 shows the demographic breakdown of firefighters from 2020, 2021 and 2022 by gender. While the national average of career female firefighters is 5%, the City of Pittsburgh’s Bureau of Fire’s percentage of female firefighters is just 1%, significantly below the national average. Pittsburgh’s 2020 Census lists 51.1% of female residents.

GRAPH 2
Bureau of Fire Staff by Gender
2020, 2021 and 2022



Source: Payroll Explorer Pittsburgh, the City of Pittsburgh

Finding: Fewer than 1% of employees of the Bureau of Fire were female, compared to the 5% national average of career female firefighters as recorded by the NFPA 2020 US Fire Department Profile.

Recruitment Classes

From 2020-2022, the Bureau of Fire had three recruitment classes graduate from the academy with 83 new firefighters. Table 7 shows a demographic breakdown of those graduating classes, with N/A representing individuals who did not provide this information.

TABLE 7
Demographics of Bureau of Fire Academy Graduates
2020, 2021, and 2022

Race	Gender		
	Male	Female	N/A
White	68	1	0
Black	6	0	0
Two or More Races	4	0	0
N/A	3	0	1

Data Source: The City of Pittsburgh Human Resources and Civil Service Department

Finding: Out of the three graduating classes from 2020, 2021, and 2022, only one new female firefighter entered and graduated from the Bureau of Fire academy.

The gender disparity led to the City of Pittsburgh paying the National Testing Network \$49,875 in 2019 to create a Hiring Barrier Study. This study was made with the objective of identifying barriers in the hiring process that limited diversity in the Bureau of Fire and potentially hurt the recruiting pool. The study found several issues throughout the hiring process for the Bureau that limited diversity. As a result of the study, several significant changes have been implemented, starting with changes to the physical exam and required minimum qualifications. Changes are also being considered for the written exam. These changes will not take effect until 2023, which is outside the scope of this audit.

Problems with the Physical Exam

Pittsburgh has had many firsts involving female firefighters. Marina Betts was one of the first volunteer female firefighters in the country, where she worked as a volunteer in Pittsburgh's bucket brigades in the 1820s. Pittsburgh also hired one of the first female African American firefighters in 1976 with Toni McIntosh, who became one of the first paid female firefighters in the country. With this long and proud history, an examination into why so few female firefighters work for the City of Pittsburgh Bureau of Fire is warranted.

One way to enlist more female firefighters is to make sure that the application process is fair to people of all demographic groups, while still making sure that new hires are prepared for the job. A fair, but tough, hiring process should entice more potential applicants, and increase the competition for available spots.

Up until 2023, the physical exam used both a SCBA device and a numerical grading system. The SCBA was used to ensure that the applicant could handle the heavy weight of fire equipment while doing the job that is expected of a firefighter. While the SCBA is what a firefighter in the field would wear, it is both very awkward to carry and not readily available for an applicant to practice with before the exam.

The Hiring Barrier Study found the numeric grading system for the physical exam difficult to defend and recommended replacing it with a pass/fail system. The numeric grading system can be unfair in its design, because assigning a numeric grade beyond the minimum field requirements is superfluous. An applicant who passes the physical exam is capable of performing the job of a firefighter, so it makes sense to have the exam graded as a pass/fail system.

In 2021, there were a total of 406 applicants who completed the written exam; 92.6% of these applicants were male, while 6.7% were female, and 0.7% were N/A. Of these 406 applicants, 283 applicants completed the physical exam, with 93.6% being male, 5.3% being female, and 1.1% as N/A.

From the 283 applicants who completed the physical exam, 73 either failed the exam or chose not to continue. The remaining 210 applicants made the civil service eligibility list, with 96.7% male, 1.9% female, and 1.4% N/A.

Starting with 5.3% of the applicants being female for the physical exam and ending with 1.9% of the female applicants making the eligibility list, represents a loss of 64.2%. It appears that these female applicants, chose not to continue or failed the application process between the physical exam and the eligibility list.

Table 8 shows this gender progression through the application process for the 2021 firefighters.

TABLE 8
Bureau of Fire
Application Process Steps by Gender
2021

Application Steps	Male Applicants	% Male Applicants	Female Applicants	% Female Applicants	N/A Applicants	% N/A Applicants
Online Application	454	92.1%	35	7.1%	4	0.8%
Written Exam	376	92.6%	27	6.7%	3	0.7%
Physical Exam	265	93.6%	15	5.3%	3	1.1%
Civil Service Eligibility List	203	96.7%	4	1.9%	3	1.4%

Data Source: The City of Pittsburgh’s Human Resources and Civil Service Department

A civil service eligibility list was not made in either 2020 or 2022 so the application process was closed. In 2020, the Bureau of Fire selected needed applicants from a prior civil service eligibility list that was outside the scope of this audit. In 2022, the Bureau of Fire used the 2021 civil service eligibility list for selecting recruits for the fire training academy.

New Testing Standards

In response to firefighter wellness concerns, firefighters have been looking for better ways to standardize fitness and maximize effectiveness. An International Association of Firefighters (IAFF) and International Association of Fire Chiefs (IAFC) task force formed in 1997 found that the different physical requirements that fire departments across the US used did not adequately prepare candidates to perform firefighter duties. It was then unanimously agreed upon within the task force to develop a more standardized physical ability test for pre-employment testing. In 1999, the task force released the Candidate Physical Ability Test (CPAT) to help standardize the physical requirements for firefighters and to help ensure that firefighters were physically capable of the demanding job.

Since its creation in 1999, the CPAT has been reviewed and utilized by fire departments

throughout the U.S. and Canada. This test uses a weighted vest instead of a SCBA device as well as a pass/fail grading system. The use of a weighted vest still accurately imitates the weight of fire equipment used by firefighters, while being more readily available to applicants for practice before the exam. However, at this time, the City of Pittsburgh's Bureau of Fire did not implement the IAFF/IAFC's recommendations. Going forward, the City of Pittsburgh Bureau of Fire is implementing the CPAT instead of the prior physical exam. In an interview with a current female firefighter, the standardization of physical testing between males and females was viewed as a positive in the firefighter hiring process, as it helped show that female firefighters are prepared for the job.

Finding: The City of Pittsburgh's Bureau of Fire did not implement the IAFF/IAFC's recommendations to utilize the CPAT physical exam until 2023, 24 years after the 1999 release date.

Finding: The City of Pittsburgh Bureau of Fire, in 2023, is transitioning the physical exam portion of the application process to the CPAT following national practices.

Changes have also been made to the residency requirement, which has the added benefit of enlarging the recruitment pool. As of August 2023, firefighters are now required to live within an hour of the city instead of being city residents at the time of their application and during their service to the city. However, applicants who are city residents will receive a bonus point towards their rank on the eligibility list.

RECOMMENDATION 3:

As the Bureau of Fire administration makes changes to the residency requirements and begins using the CPAT physical exam, they should continue to track the number of applicants and their demographics during each step of the application process. This will provide information that can be analyzed about the impact of the changes in the residency requirement and the change in testing.

Summer Day Camp

The City of Pittsburgh Bureau of Fire has also attempted to address the gender divide by starting a girls' summer camp to help increase familiarity with the Bureau. The inaugural day camp lasted a week and had seven attendees in 2022. Camps are co-sponsored with Ebenezer Outreach Ministries, a local church group, and are held at the Ebenezer Baptist Church in the Hill District.

The 2022 camp involved exercises, nutrition education, CPR training, firehouse tours, working with a fire extinguisher simulator, obstacle course practice, and a demonstration on the obstacle course for parents and families. The curriculum included a video call with the actors from the hit TV show Chicago Fire. The subject matter from the show included their own day camp called "Girls on Fire" promoting female participation in becoming firefighters. The

feedback from the participants and their families, in the 2022 Pittsburgh's girls summer camp, has been extremely positive. The Bureau held a second camp from August 7-11, 2023, that was open to both city and non-city residents, due to the change in residency requirement. A flyer for the 2023 girls camp is included in the Appendix as Exhibit B.

Lack of Parental Leave and Benefits

Currently, there are no provisions, ordinances, or regulations providing for any paid family leave for City of Pittsburgh firefighters. For other public safety bureaus, EMS and Police unions were able to negotiate paid parental leave for six weeks. For Police, the leave does not have to be consecutive but can be taken in two-week increments.

The auditors were told by the president of IAFF Local No. 1 that firefighters had previously been given approved Director's leave. This is paid time off for an unknown duration and awarded on a case-by-case basis for different reasons. The president also told the auditors that the union has been fighting for paid parental leave for a number of years. At the last union negotiation, the administration would not agree to it, and the union challenged the issue through arbitration, which was denied.

As such, the only available parental leave option for firefighters is the 12-week unpaid leave granted under the federal Family and Medical Leave Act or the use of sick time which accumulates at 10 shifts per year and can accumulate 112 total shifts. A shift is 12 hours.

Paid family leave is a benefit of employment for young employees who want to start families and helps keep new parents in the workforce, particularly women. As the president of IAFF Local No. 1 stated, "Our system from stations to policies and even equipment was never designed for or even given consideration to female firefighters. We have a government that talks a lot about diversity, equity, and inclusion but we don't do anything to address it."

The auditors found that in one other Pennsylvanian city, progress has been made in giving family leave benefits to firefighters. Effective as of July 2021, the City of Philadelphia negotiated with their firefighters for four weeks of paid parental leave, according to a news release from the Philadelphia Firefighters and Paramedics Union, IAFF Local No. 22.

Finding: Under the current union contract, firefighters do not have any paid parental leave, unlike the other full-time city employees.

According to a 2018 study titled "Maternal and Child Health Among Female Firefighters in the US" from the *Maternal and Child Health Journal*, female firefighters in active duty were found to have higher rates of miscarriages and premature births. While exact rates vary between studies, miscarriages and premature births are elevated compared to the general population.

A 2003 FEMA study on the "Development of a Female Firefighter Pregnancy/Maternity Policy for the Oak Park Fire Department" found that both the physical stress of the firefighting job along with the possibility toxic chemical exposure were likely causes of the increased chance of fetus development issues. These issues can potentially be mitigated through a policy of

allowing pregnant firefighters to work an alternative lower-stress job within the Bureau.

The Bureau of Fire does have the ability to address the issues with pregnant firefighters working frontline during a pregnancy with the Pregnancy Leave section of the union contract, which states:

The City shall have the right to assign employees who are not physically able to perform their regular duties due to pregnancy or pregnancy-related disability to alternative duty.

Finding: The union contract does not state what the alternative duty can be, who assigns it, how long a firefighter can be assigned for alternative duty, and whether the alternative duty can be requested by the firefighter.

While these offerings can be beneficial, it is important that all these points are clearly defined in either the union contract or written policy to ensure that no bias exists in the system for providing these benefits. The auditors were told by the Fire Chief that alternative leave can be requested by the firefighter and that the leave is handled on a case-by-case basis regarding what duty is assigned and how much leave is given.

A paid family leave policy was adopted in 2015 for all City non-union employees. This policy grants eligible employees six weeks of leave to “assist and support new parent relationships” and to allow city employees to balance “work and family matters.” For the city to be serious about recruiting more female firefighters, changes to living spaces and parental leave policies are necessary.

RECOMMENDATION 4:

The Bureau of Fire and City administration must negotiate with the IAFF Local No. 1 to extend the city’s paid parental leave policy to all firefighters. The administration should also clarify and expand the Pregnancy Leave section of the union contract to make sure that the benefits are given equitably.

Additional Issues

The Bureau of Fire has a significant barrier with its firehouses, most of which were built before 1973 (when the first female firefighter in the nation was hired). A civil rights lawsuit was filed in 1998 by a City of Pittsburgh female firefighter. The suit noted that separate bunk space, toilets, and showers were not available to female firefighters. Since that lawsuit, the City reviewed the needs of each firehouse and have attempted to modernize them as the budget has allowed. Updates to firehouses are discussed in more detail later in the audit.

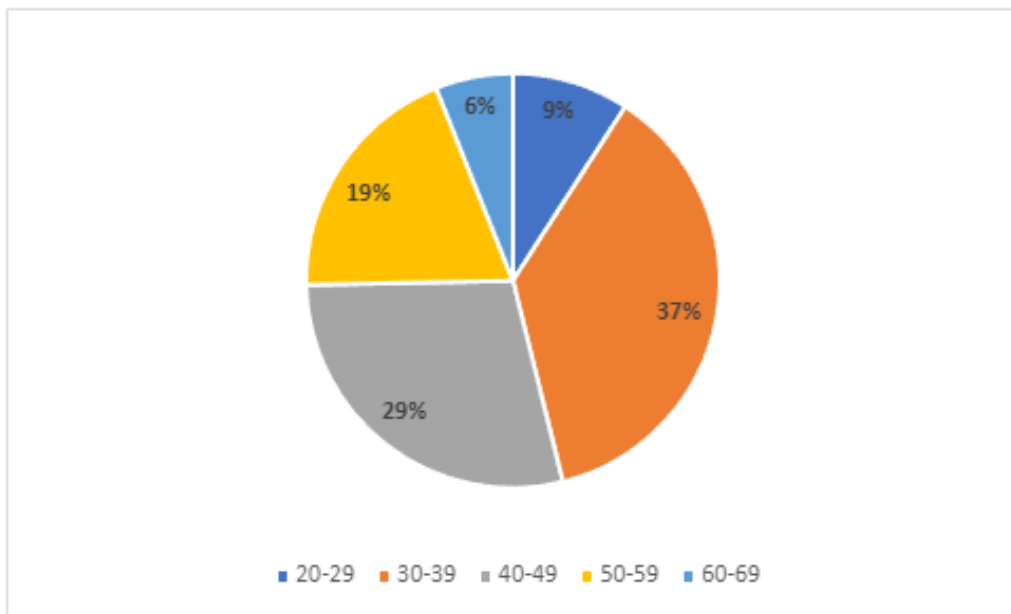
Age

As shown in Graph 3, in 2021, 37% of the firefighters in the City of Pittsburgh’s Bureau

of Fire were between the ages of 30 and 39 years old. A 2020 NFPA firefighter profile, because the NFPA does not track this yearly, found that nationally 27% of all firefighters were between 30 and 39 years old, so 10% less than the City of Pittsburgh’s Bureau of Fire.

Most of this difference can be attributed to a smaller than average group of 20- to 29-year-olds that were in the City’s Bureau of Fire. While the NFPA profile found that 20% of firefighters nationally were between 20 and 29 years old, only 9% of the City of Pittsburgh’s firefighters were within the same age range.

GRAPH 3
Bureau of Fire Staff
Age by Percentage
2021

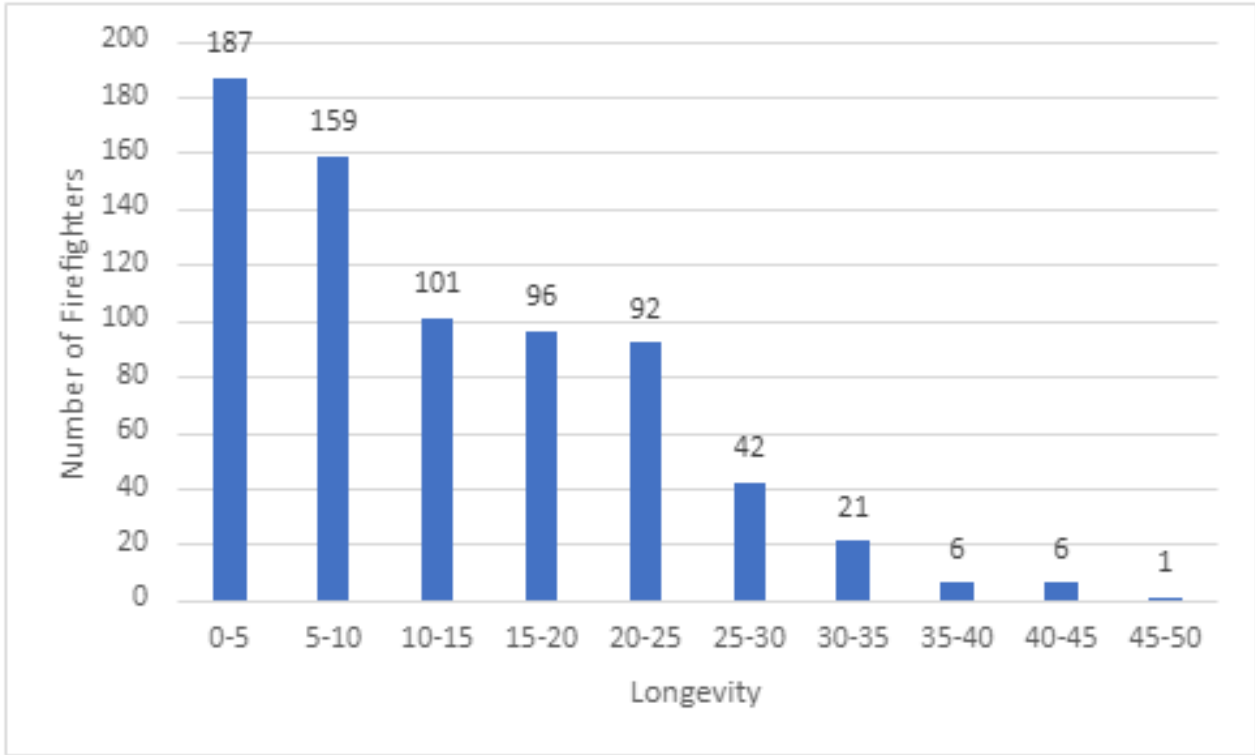


Source: Fiscal Focus Payroll Explorer Pittsburgh

Finding: The City of Pittsburgh Bureau of Fire had 10% percent more firefighters that are 30-39 years old than the national average.

Graph 4 shows the number of firefighters by their length of service or longevity within the City of Pittsburgh’s Bureau of Fire. A total of 346 firefighters, or 48.7%, of the Bureau of Fire’s 711 firefighters in 2021 had worked for the department for fewer than 10 years.

GRAPH 4
Number Firefighters in the
Bureau of Fire Staff by Longevity
2021



Source: Fiscal Focus Payroll Explorer Pittsburgh

Finding: In 2021, 48.7% of Firefighters had been with the Bureau 10 years or less.

Bureau of Fire Facilities

The City of Pittsburgh’s Bureau of Fire has many different physical buildings. The buildings include 30 firehouses, a fire warehouse and administrative offices, the Fire Academy, and the Marine Division. In 2022, Fire Administration personnel were moved from 200 Ross Street, in downtown, to the fire warehouse at 2945 Railroad Street in the Strip District. The Fire Academy is located at 1395 Washington Boulevard. Marine Division personnel are stationed alongside personnel in Firehouse 24 in the South Side, but the boat is kept at the South Side Marina.

When auditors reviewed the Bureau of Fire’s webpages in December 2022, no information was present on the page marked Fire Station Location Map. Since then, some progress has been made, but as of July 2023, information is still incomplete. A map of Bureau of Fire buildings provided to the Controller’s Office from the City’s I&P is included in Appendix A.

RECOMMENDATION 5:

With the same request as Recommendation 1, the Bureau of Fire administration should direct I&P to update addresses and maps of the Bureau of Fire facilities on the Bureau's website and reflect the most recent Fire Administration's office relocation.

Firehouse Conditions

City administrators and the public have long been aware of the City's buildings needing investment, whether it be news stories about the Oliver Bath House or the struggle to keep swimming pools safe and operational. As a condition of the state oversight of Pittsburgh, a building inventory and assessment was completed in 2017 by Massaro Construction Management Services (hereafter referred to as 'Massaro'). This inventory and assessment, entitled the Facilities Optimization Plan, can be found at the City of Pittsburgh's Office of Management & Budget's Asset Management webpage. Among the many recommendations, the urgent need to invest in public safety buildings, chiefly firehouses, was made. Among the many recommendations, the urgent need to invest in public safety buildings, chiefly firehouses, was made.

To better understand the conditions of the Bureau of Fire's firehouses, a brief history into the City's financial and facilities management should be reviewed. The Pennsylvania Financially Distressed Municipalities Act (Act 47 of 1987), commonly known just as Act 47, sought to stabilize municipalities experiencing severe financial distress to the extent that its ability to provide for the health, safety, and welfare of its citizens is in jeopardy. The City of Pittsburgh entered Act 47 in 2003 and exited in 2018. The Act 47 process requires state-appointed overseers to approve a recovery plan, which happened in 2004, with amended recovery plans added in 2009 and 2014. Virtually all city functions were severely impacted by this action, including the closure of six firehouses and the elimination of all vacant firefighter positions.

One of the principal findings of the Act 47 recovery plan was the absence of a complete building inventory with building condition data. Without any data about the conditions of the buildings, it was impossible to form a strategy to prioritize improvements. The recovery coordinators noted in their report that many other cities already had a building inventory on hand. The estimated high cost of such a study meant that the City had to delay initiating the process to contract a consultant to complete the work.

Eleven years later, in June 2015, the Mayor issued an executive order requiring a strategic investment and maintenance plan for city-owned facilities, which included identifying the current state of each facility, setting up maintenance schedules and establishing a long-term plan for each facility, and including, if necessary, selling off facilities no longer needed or salvageable. A professional service Request for Proposal (RFP) for a facilities optimization plan was released on July 1, 2015, and the contract was awarded to Massaro. The total cost of this review was \$939,905.74.

Facilities Optimization Plan

Investing in City facilities has many benefits, including improved productivity, more efficient space utilization, lower operating costs, fewer accidents and injuries, fewer building-related illness and improved public image. Massaro's aim in producing the facility assessment and optimization plan for the City was to provide consistent and reliable data about the conditions of facilities as well as a scoring system allowing stakeholders to act according to the immediate, short-term, middle and long-term needs by developing a 40-year master plan which included investment strategy.

Massaro commenced work in the fall of 2015 by meeting with City of Pittsburgh personnel and reviewing any existing documentation, which consisted mostly of drawings of original constructions, renovations, and information from a roof replacement study completed in 2008. They noted in their final report that several of the City's facilities are over 50 years old with no written record of component repairs or replacements made.

Massaro followed ASTM (American Society for Testing and Materials)'s [E2018-08](#) which is the standard guide for property condition assessments. Massaro's team identified instances of deferred maintenance and evaluated each major component to identify any need for repair or replacement. The assessment team recorded any observed deficiencies and took digital photographs, all of which were loaded into the City's Cartegraph system, an operations' management software for local governments, and into an Excel-based system to more easily calculate building project costs. The assessments covered the following five component areas, taken from Massaro's work plan submitted in 2015 in response to the RFP:

- *Architectural:*
 - Review of interior, envelope, entrances, windows, doors, and parking lots as well as general safety issues of all fire houses and medic buildings.
- *Structural:*
 - Visual inspection of the structure including defects, signs of structure distress or deformation, and material deterioration.
 - Loading on the structure or any deviation from intended use which results in overloading, any addition or alteration which can result in overloading or adverse effect on the structure.
 - Exposure to aggressive environments such as exposure to chemicals and water intrusions
 - Retaining wall structure, evidence of wall movement, and inadequate drainage.
- *Mechanical-Electrical-Plumbing:*
 - Evaluation of electrical, wireless network capability, plumbing and HVAC systems and equipment as well as general safety issues (sprinklers, standpipes, fire alarm, emergency generators, emergency exits)
 - Assessment of energy consumption and evaluation, and recommendations for an energy efficient best practice.
- *Accessibility Assessment:*
 - Identification of architectural barriers which prevent full access to building and facilities by people with disabilities, based on requirements of the International

Building Code: the Americans with Disabilities Act Accessibilities Guidelines for Buildings and Facilities and the Uniform Federal Accessibility Standards.

- *Roofing:*
 - Review of warranties, years built, functionality of gutters and downspout systems.

Facilities Maintenance Priorities

All components of a building require consistent maintenance, and when necessary, repaired or replaced. Massaro included a prioritization matrix in their report to aid City officials in compiling their own list of immediate, short-term and long-term needs.

- *Roofing*
 - Maintaining the roof in any building is obviously a crucial step in maintaining the structural integrity of the building itself.
- *Mechanical repair and upgrades*
 - Note: Replacement due to a condition of a system or device should be prioritized over efficiency-based replacements.
 - The highest priority in terms of mechanical components is those required by code, mostly having to do with proper ventilation.
 - Heating systems for indoor spaces, including boilers, furnaces, or unit heaters
 - Cooling system replacements
 - Heating spaces located in spaces which are open to the environment.
- *Electrical repairs and upgrades*
 - Note: Replacement of existing functioning light fixtures with LED is a low priority item. Replacements should be made over time as part of a capital improvements project.
 - All panelboard or piece of electrical distribution equipment which could pose a prolonged outage should a failure occur, and no replacement part is readily available.
 - Fire alarm/security systems and emergency generators. Generators were not tested by the Massaro team, and it was recommended they be inspected, and any deficiencies corrected as soon as possible.
- *Plumbing*
 - Note: If plumbing components fall under disrepair, then that item takes precedence over upgrades due to efficiency concerns.
 - Installation of a backflow preventer and installation of an associated expansion tank is a federally mandated code requirement. Installation of these items is of the highest priority.
 - Secondly, another code requirement is the arrangement of shower drains. By code, the water from a shower user must not interfere with another shower user.
 - Replacement of low efficiency plumbing fixtures, i.e., sinks, toilets, etc.
 - Water heater replacement based on efficiency is the lowest priority, however if heater is in disrepair, replacement must take priority.

Results of the City of Pittsburgh Facility Optimization Report

The Facility Optimization report was completed and given to the City in July 2017. It was estimated then that the City needed to invest over \$56 million to repair structures citywide. Massaro scored the conditions of the building structures and components using the rating scheme in Table 9.

TABLE 9

Condition Scores from the Facilities Optimization Plan		
Score	Condition	Description
1	Critical condition	Extremely worn or damaged. Replace immediately.
2	Poor condition	Worn from use, end of expected lifecycle. Replace within the years projected in the report
3	Fair condition	Average wear for building age; no new or major issue to report. Lack of maintenance.
4	Good condition	Good condition, no reported issues or concerns, keep regular maintenance.
5	New or like new condition	New or like-new condition; no issues to report; no expected failure unless no regular maintenance occurs

Source: City of Pittsburgh Facilities Optimization Plan

Further, Massaro categorized all structures as seen in Table 10. Category 1 are structures needing disposition, critical investment, or demolition. Category 2 buildings are public safety buildings which are integral to City services, including fire stations.

TABLE 10

Category Types and Examples from the Facilities Optimization Plan		
Categories	Type	Examples
Category 1*	Candidates for Disposition/ Demolition or Critical Investment	Oliver Bath House, Public Works 5 th Division
Category 2**	Public Safety Facilities	Fire stations, police zones buildings, EMS stations
Category 3	Recreation & Healthy Active Living Centers	Brighton Heights Senior Center, Ormsby Pool and Recreation Center
Category 4	Warehouses and Storage Facilities	Fire Warehouse, Quarry Street Storage Shed
Category 5	Other Structures	Public Works 3 rd Division, Schenley Park Skating Rink
*Category 1 structures included Firehouse 12/Medic 7, located in Greenfield.		
** The firehouse located in Wilkinsburg was not assessed in this report.		

Source: City of Pittsburgh Facilities Optimization Plan

Table 11 was included in the Massaro report and presents the number of buildings per category, the gross area square footage, and the estimated current repair costs of each category. Massaro evaluated 247 facilities encompassing over 1 million square feet with an estimate of over \$56 million in needed repairs. When costs per square foot are examined per category, Category 1 buildings (critical needs) structures have the higher repair costs, however Category 2 buildings (public safety) ran a close second.

TABLE 11

City Facilities by Category: Count, Square Footage, Cost per Square Foot and Current Needs Totals from the City of Pittsburgh Optimization Pan				
Categories	Count	Gross Area SF	Cost per Sq Ft	Current Needs*
Category 1	14	84,933	\$49.57	\$4,210,173
Category 2	44	545,777	\$46.07	\$25,144,000
Category 3	23	275,216	\$42.56	\$11,714,442
Category 4	14	141,412	\$34.23	\$4,840,743
Category 5	152	400,977	\$36.06	14,457,440
TOTAL:	247	1,448,314	\$38.77	\$56,156,625
*Current needs of Category 1 structures could include costs of demolition, if recommended. Category 1 structures as previously stated in Table 10 contained Firehouse 12/Medic 7 (Greenfield), and Medic 01/11 (Homewood) and Medic 10 (Marshall-Shadeland), along with some recreation centers and the Oliver Bath House.				

Data Source: City of Pittsburgh Facilities Optimization Plan

Public Safety Buildings Comparisons

It is difficult to determine whether firehouses receive less attention in relation to

maintenance and general upkeep than other public safety buildings, but there is some evidence that this occurs. The auditors conducted a comparison of 24-hour public safety facilities, meaning all police, EMS, and shared stations, to firehouses. Data was gathered to produce an average age of the structures, the Massaro estimated cost to repair, an average condition rating, cost per square foot and the average cost per building type. Auditors excluded some structures where comparisons could not directly be made to firehouses, e.g. the Municipal Courts Building, Police Accident Investigations facility, and the Commercial Vehicle Inspections facility, as well as Fire, Police, and EMS headquarters. The shared stations are: Medic 3/Arson/Police Zone 6 (West End), Firehouse 20/Medic 12 (Hays), Firehouse 10/Medic 5 (Hill District) and Police Zone 4/Firehouse 18 (Squirrel Hill). The year the building was built was unable to be found for two police stations and one EMS station and those figures were not included in the analysis.

Table 12 shows a breakdown of the comparison of the City’s public safety facilities by type, average age, estimated cost of repairs, average condition rating cost per square foot, and average cost per building.

TABLE 12
Public Safety Facilities
Count, Age, Estimated Cost to Repair, Average Rating,
Cost per Square Foot, Average Cost per Building

Type	Count	Average Age	Estimated Cost to Repair	Average Rating	Cost per SqFt	Average cost per Building
EMS	6	72	\$1,474,335	3.42	\$47.91	\$245,723
Fire	25	79	\$16,272,366	2.76	\$62.60	\$650,895
Police	4	35	\$823,618	4	\$22.31	\$205,905
Shared Stations	4	104	\$2,807,933	2.75	\$73.38	\$701,983
Summary:	Total: 36	Average: 73	Total: \$21,378,252	Average: 3.23	Average: \$51.55	Average: \$451,126.22

Data Source: Age, estimated repair costs, and average rating information taken from the Facilities Optimization Plan

Finding: Firehouses and shared stations are demonstrably older and therefore costlier to repair, it also becomes apparent that police stations and to a lesser extent EMS stations have seen more investment in their buildings than firehouses and shared stations have.

Priority Buildings

Massaro suggested the City first prioritize all Category 2 facilities with a condition score of critical, poor, fair-poor and/or fair. Within this category, they further suggested the City tackle the facilities with the highest investment needs. Using this formula, Massaro recommended the following firehouses be addressed first: Firehouse 24 (South Side), Firehouse 18/Police Zone 4 (Squirrel Hill), Firehouse 7 (Stanton Heights), and Firehouse 17 (Homewood South). Building

improvements were categorized under the following sections: Substructure (foundations), Building Shell (building frame, structure, concrete stairs, exterior walls, roofing), Interiors (interior construction and finishes), Components (Plumbing, HVAC, Electrical), Sitework/ADA (landscaping, paving, curbing, exterior retaining walls, topography and ADA compliance).

The Facilities Optimization Plan found the City's allocation of funds to be inadequate to address all facilities' needs. While this report did provide a useful inventory of City facilities and their conditions, it is also not as easy to renovate and refurbish all conditions in the report for each firehouse, since some building conditions (leaky roofs, etc.) are more critical than others. In particular, public safety buildings cannot be closed for the duration of a renovation. Overall, the Department of Public Works (DPW)'s project manager reported they have focused on critical needs first: roofing, substructure, and safety, before tackling interiors or sitework.

The auditors wanted to examine a sample of firehouses to see what improvements have been made since the report in 2017. Four priority buildings were visited: Firehouses 24 (South Side), 18 (Squirrel Hill), 7 (Stanton Heights) and 17 (Homewood). Four non-priority firehouses to compare were also visited: Firehouses 23 (Carrick), 35 (Brighton Heights), 4 (Uptown), and 34 (Observatory Hill). Tours of the four priority firehouses listed above and of the four non-priority firehouses were conducted in May 2023. As a point of interest: Firehouse 34, the City's oldest firehouse, was built in 1894. According to the Guinness Book of World Records, Firehouse 34 is only 18 years younger than the oldest continuously manned operating fire station, the Katarin Fire Station in Stockholm, Sweden. Photographs taken during the auditor's tours of these eight firehouses are included in Appendix Exhibits D-K.

Firehouse 24

In the Facilities Optimization Plan, Firehouse 24 (South Side), built in 1963, received a poor condition score, and the last renovation was noted as being in 1996. A total of 52 windows needed to be replaced. The roof was found to be holding water, with resultant damage to the interior walls in several locations. The roof had last been installed in 1991. The electrical and plumbing systems were noted to be original to the building, and the electrical system was not in compliance with code. There were also cracks in the pavement noted that were believed to become problematic in the next few years.

According to the DPW project manager, Firehouse 24 had asbestos remediation work completed in 2019, a new roof installed in 2018, new AC installed in 2019, new doors in 2018, new roof drains in 2021, and the following upgrades scheduled for 2023: masonry and pavement, including apron, and bays (bays are like residential garages and aprons are the driveways). A partial remodel was completed in 2022 and still outstanding is the Bureau of Fire's request for ballistic windows. DPW plans to install the ballistic windows on the police side and along the 18th Street side of the station, however this project is delayed because of supply issues at the time of this writing. Once a supplier is identified, the cost of materials and installation will need to be budgeted.

Auditors were told, despite the roof being replaced in 2018, firefighters reported significant leakage was still occurring during heavy rain. Damage can be seen in the photographs

included in Appendix, Exhibit D. DPW authorized roof drains to be installed in 2021 and reports receiving fewer complaints about leaks since that time.

While discussing issues with this roof with DPW’s project manager, the auditors were told that there are no contracts in place for the cleaning of rain gutters. While this is outside the scope of this audit, it is hoped that that DPW could remedy this situation soon in order to protect the City’s investment in roofs and avoid further damage to firehouses and other buildings.

A brief history of Firehouse 24 is necessary to explain. For many years, this firehouse shared the facility with Pittsburgh’s Bureau of Police’s Zone 3. In 2008, Zone 3 was moved to the Allentown neighborhood, a decision made by the Department of Public Safety. Since that time, most of the area once inhabited by Zone 3 officers has not been available for use by firefighters. In fact, this area is kept locked and is inaccessible to the Bureau of Fire. In 2021, the mayor announced that a new substation in the old Zone 3 section would be opened in 2022 to handle the volume of South Side calls. The councilperson for the South Side area further explained that the work is 50% completed with about \$500,000 invested into the reopening. The numbers below were included in WPXI’s [story](#) of May 2, 2023:

Zone 3 substation investments

\$14,184	Plumbing
\$3,090	Asbestos testing and abatement
\$76,858	Doors
\$16,774	Interior renovations and supplies
<u>\$461,262</u>	Masonry to the police side and shooting range
\$572,168	TOTAL

Despite Firehouse 24 being specifically pointed out as needing substantial repairs to stay in operation as a firehouse, auditors observed that most of the facilities improvement work did not actually go into the Bureau of Fire’s portion of the building, but rather into the police side that the firefighters cannot use. In fact, the Bureau of Fire’s side of the building only benefited from the roof replacement and a split AC installation, which presently the firefighters report as providing inadequate cooling/heating to their second-floor bunkhouse.

Finding: A large proportion of improvements to Firehouse 24’s building went into a planned substation for Zone 3 police.

Finding: As of May 2023, the Mayor’s office would not commit to the substation plans for WPXI’s story in May 2023, however the Department of Public safety reported that the substation plan is going ahead.

Finding: Firehouse 24 has the most firefighters on shift, per shift, then any other firehouse in the City owing to two companies housed there, as well as the battalion chief and the Marine Division being headquartered there.

RECOMMENDATION 6:

Substantial renovations have been made at Firehouse 24, which at the present time is 50% completed, at a cost of over a half of million dollars, and the space is not being used. The Bureau of Fire administration should consider their needs for personnel and storage space and advocate for a portion of the space, if needed. It is a waste of resources if the remodel continues without a clear vision for the future.

Firehouse 18/Police Zone 4

In the Facilities Optimization Plan, Firehouse 18/Police Zone 4 (Squirrel Hill) received a fair-poor condition score with last renovation completed in 1991. Among the deficiencies noted were 38 wood-framed windows in poor condition, brick walls needing to be repaired and repointed as well as the stone facade, and all interior walls and flooring were damaged and needed repair.

According to DPW's project manager, Firehouse 18/Police Zone 4 had its roof replaced in 2020, two masonry repair projects in 2017 and 2021, some windows replaced in 2021, a new AC installed in 2019, and sewer work conducted in 2021. A remodel is currently in the planning stages.

When the auditors toured this firehouse, a lot of facilities improvements work still needed to be completed. There are numerous large windows on the street side of this building, yet only two windows appeared to be replaced by glass block, both on the Police Zone 4 side of the building. It is acknowledged that windows this large would be expensive to replace, it also represents a significant issue for the building's heating and cooling. There is a large visible window in the façade which has been broken for roughly four years and no repair attempts have been made. The fractures are being held by tape and cardboard. When the firefighters asked for assistance with opening and closing kitchen windows to exhaust kitchen odors, the auditors were told that DPW personnel caulked them closed, which the auditors photographed and included in the Appendix..

Firefighters also reported to auditors that the box gutters were removed and replaced with smaller aluminum gutters during the new roof installation. Since that time, ice forms the length of the gutter, representing a dangerous situation for firefighters and the public, as well as the firefighting equipment. This means that the gutters are not draining. DPW facility maintenance has been made aware of this situation since 2021. The auditors verified the initial work order made to DPW and found many repeated requests being made thereafter.

In March 2021, firefighters' own equipment alerted the firefighters to dangerous carbon monoxide levels inside their own firehouse. According to information found in DPW Work Orders, both boilers required maintenance and were exhausting large amounts of carbon monoxide through the exhaust pipe which was entering the building at the rear rooms and bunkrooms. Levels of 220ppm were found in the common areas and 50ppm in the bay. According to the Environmental Protection Agency, average levels in homes range from 0.5 to 5

ppm. Auditors do not have the expertise to determine if routine maintenance could have averted this situation, but this incident did represent a risk to firefighter personnel. DPW did service the boiler and installed CO monitors throughout the firehouse.

Firehouse 7

Firehouse 7 (Stanton Heights) received a poor condition score in the facilities optimization plan; its last renovation noted as being in 1988. The building's brick walls needed to be repaired and at least 30% needed repointed. Extreme water damage was found in the building's upper levels and no proper ventilation to alleviate the resultant dampness was available. The basement was found to be extremely moldy, with demolition debris having been left there. The roof was noted to be a terracotta roof and there was no evidence of it ever having been replaced. It was suspected that the roof had been recently repaired, however the leaks had already caused the extensive water damage.

According to DPW's project manager, Firehouse 7 had an asbestos remediation in 2018, a new roof in 2019, masonry repairs and new windows in 2018. A new apron and bay are planned for 2023. A partial remodel was completed in 2019, when some female quarters were also added.

When the auditors toured the firehouse, there were visible reminders of past damage from dampness. Plaster wall cover has fallen off through the years with no substantial repairs being made. It is concerning that the resultant dust from the chipped and fallen plaster is being breathed in by the firefighters. Fire Management told the auditors that during heavy rainfalls, a corner downspout sprays water in the air and a trough in the basement will overflow with sewage. Pictures can be found in the Appendix Exhibit F.

Firehouse 17

Firehouse 17 (Homewood) received a poor condition score, and its last renovation was done in 2012. It was noted that there was consistent water draining through and under the foundation, around its entire perimeter. In general, the Massaro report found that Firehouse 17 was structurally very sound, however two headers over the garage doors should be replaced to ensure safety.

Firehouse 17 had some masonry repairs done in 2018, along with new doors and sewer work. More work is on hold until ongoing water issues which requires excavation is completed. During the auditor's visit, it was discovered that substantial issues remain at this firehouse as far as water damage. Pipes with leaks were observed in the basement area and the dampness remains an issue. Firefighters also expressed concerns over security issues with the firehouse- outer fencing does not lock and windows in the basement are only single-paned wood frame and are easily broken.

Finding: All priority firehouses have received upgrades since 2018. These repairs and upgrades do not align fully with the facilities optimization plan's recommendations. Due to the lack of money to address all issues, DPW has had to prioritize immediate repairs over planned upgrades.

Finding: Auditors toured four additional non-priority firehouses and found that they were generally in better condition than the priority firehouses. Photos from those additional visits are included in the Appendix.

Most repairs and updates noted as being needed in the Facilities Optimization plan were in the area of components parts, such as electric, plumbing and HVAC. It is difficult to quantify how much of that work was completed in these areas since the facilities optimization plan given that some of those repairs would fall outside the range of capital spending, and into DPW's facilities maintenance purview. Auditors received information above from the DPW project manager who oversees capital projects for public safety buildings and who only had access to the larger projects that the facilities maintenance division completed.

Finding: Years of delayed maintenance on old buildings has caused necessary repairs to increase. DPW is endeavoring to prioritize the buildings most in need, however more money must be earmarked for firehouse repairs before firehouses deteriorate and eventually become unusable.

Finding: Many issues firefighters raised with auditors during site visits consisted of more routine repairs.

Finding: Bureau of Public Safety administration informed the auditors that they are currently conducting a review of firehouse conditions.

A review of the facilities optimization plan and the repairs still outstanding could be used as a basis for planning and implementing needed repairs to firehouses. In addition, consulting with firefighters stationed at each firehouse could help to expose problems.

RECOMMENDATION 7:

Upon completion of the Bureau of Public Safety's audit of firehouse conditions, public safety and fire administration should work with the Department of Public Works maintenance facility to establish a routine maintenance schedule for firehouses. Small repair projects completed in a timely manner prevent larger repair expenses.

Needed Signage

Some firehouses are missing clear signage in the area around their driveways. According to Pittsburgh ordinance 541.01b(5), with a sign posted, it is illegal to park a car across the street from the firehouse within 75 feet of the entrance. Even without a sign posted, it is still illegal to park a car within 20 feet of the driveway entrance, but it is not always enforced without the signage. Having cars parked too closely to the driveway risks damage to the vehicles and to fire equipment.

Firehouses in Pittsburgh are typically located in residential neighborhoods and while neighbors in the immediate area are aware of the locations, visitors to the area may not be. A driver needs to be aware when they are approaching a firehouse, which would help the driver to be aware that a firefighters may wish to reverse their engine or truck into the station as well as help individuals find a staffed public safety facility in an emergency. Two examples of firehouse signs are shown below:

FIGURE 4
Examples of Signage Denoting Firehouses



Source: [My Safety Sign](#)

RECOMMENDATION 8:

The City of Pittsburgh’s Bureau of Fire administration should assess areas around firehouses and request clear signage to the entrances of as many fire stations as possible to allow greater enforcement of parking codes and aid driver’s overall awareness of firehouse operations, while increasing safety and awareness of firehouse operations.

Fire Academy Facility

Auditors had the opportunity to witness firefighters receive routine training in the Fire Academy parking lot. Auditors were able to see issues with the parking lot surface surrounding the academy facility. Potholes and asphalt cracks were significant and could be easily remediated. Firefighters train on this surface and face increased chances of injury when there are large potholes on the surface where someone can trip. Photographs of the parking lot as of July 2023 can be found in Appendix Exhibit L.

RECOMMENDATION 9:

The Bureau of Fire and City administration should make resurfacing the asphalt lot at the Fire Academy a priority. Fixing the parking lot prevents firefighter injuries and makes for a cleaner appearance for the public.

Additional Issues Facing Older Firehouses

NFPA released a report in 2019 entitled [Renovation Needs of the US Fire Service](#) by Matthew Foley. Key findings of this report are 43% of all firehouses in the US are over 40 years old. It further states that shortage of funding, including, until recently, the absence of grants to support the construction of new firehouses, could help explain the high percentage of older stations. In fact, the percentage of firehouses over 40 years old has increased from 32% in 2001 to 43% by 2015.

Emissions

There are some additional considerations in discussing the age of firehouses, over and above just an increase in regular maintenance and repair. Older firehouses typically do not have effective exhaust emissions controls in place. It has long been established that prolonged diesel exhaust and diesel particulate can increase the risk of cardiovascular disease, cardiopulmonary disease, respiratory disease, and lung cancer. Firehouse renovations have taken place nationwide that have added exhaust emission controls. Considerable progress has been made nationwide since 2001 when 78% of firehouses did not have exhaust emission controls down to 59% in 2015.

Finding: The City of Pittsburgh has exhaust emission control systems in place in all its firehouses.

PHOTO 1
Example of an Exhaust Emissions System



Source: City of Pittsburgh Controller's Office

Bureau of Fire administrators were unable to provide the date of installation or any invoices on any of the exhaust emissions systems but noted that it was longer than 15 years ago. This prompted auditors to review inspections, maintenance, and repair invoices for the audit years of 2020-2022. The City contracts with Sycamore Mechanical Contractors to perform these

services for the firehouse emission systems. Inspection and maintenance visits cover all mechanical and electrical aspects of the systems and system performance data is collected and provided to the Bureau of Fire on the invoice. The maintenance portion of the visit includes lubing the tracks, greasing the motors and inspecting the system for any needed repairs. Some additional issues are sometimes discovered during this process and are scheduled for repair later. Emergent issues are noted at each visit which should help administration plan for future expenses. Auditors also observed these exhaust systems at the eight firehouses visited in May 2023.

Finding: According to Fire administrators and the contracted company, inspections and maintenance visits should be scheduled every six months, or 180 days. Apart from the acute pandemic year of 2020, auditors found that these inspections and maintenance visits occurred on average every 188 days.

Using the Controller’s Office OnBase database system, repairs on exhaust emissions systems were gathered for all invoices paid from 2020-2022. With this information, the Bureau of Fire can benchmark the repair rate of their exhaust emissions system and use this information for a cost benefit analysis. In 2021, EMS was able to secure a grant which pays for 90% of installations of exhaust systems on eleven EMS stations. The average cost per station was \$59,479. It appears that maintaining the systems we have is more cost efficient than replacement is currently.

TABLE 13
Bureau of Fire
Emissions Remediation Repair
Number of Calls, Labor and Parts Costs, Invoiced in 2020-2022

	2020	2021	2022
Number of Repair Calls Invoiced	77	100	85
Labor costs for repairs	\$78,605.00	\$102,401.75	\$90,093.25
Parts costs for repairs	\$38,486.09	\$14,934.77	\$27,674.52

Data from City of Pittsburgh Controller’s Office OnBase

Auditors reached out to the company that inspects and maintains the exhaust emissions systems for the Bureau of Fire. They stated they did not install the systems, but estimates the systems were installed prior to 2009. This company has serviced them since 2015. They referenced the fact that Philadelphia has similar systems which were installed between 2009-2011 and likewise with Pittsburgh, they have noted no increase in repairs which could be attributed to age. They note that our systems are all in good working order and replacement is not foreseen in the immediate or short-term future.

Finding: Current firehouse emission systems are kept in good working order.
 Backup Power

The second issue noted in the above-named NFPA report of older firehouses is the lack of backup power. A significant portion of firehouses are older and do not have backup power and

therefore can find it difficult to answer phones, run computers, fuel apparatus or open garage doors during a power outage. Despite this critical need, 35% of firehouses nationwide do not currently have backup power, a decline from 57% in 2001. The reason that so many firehouses do not have backup power is cost. A typical firehouse generator installation is \$50,000-\$100,000. Installation is more difficult in Pittsburgh because of the location of our firehouses. Our firehouses are generally found in residential neighborhoods, so there is a variance to seek because of the noise of the generators and the storage of the diesel near homes.

It is important to point out that our public safety facilities must maintain full operational ability during brief outages of power. The DPW and the Bureau of Fire recognize the need for backup generators in cases of longer outages and all public safety buildings are slated to receive backup power generators eventually. Typically, they are being written into costs of major renovation plans.

Finding: At present, six public safety buildings out of 40 have backup power, five of them being firehouses. One of these stations is a shared fire and EMS facility.

Finding: As part of the Department of City Planning’s First Annual Pittsburgh Municipal Benchmarking Report analyzing energy usage, a priority recommendation was made to replace the diesel generators with the installation of solar panels and battery storage. The use of solar panels would solve the issues surrounding the storage of diesel and neighborhood noise while also serving to meet our climate goals.

Facilities for Female Firefighters

Additionally, many older firehouses are not equipped to accommodate female firefighters simply because the first female firefighter in the nation was only hired in 1973. As noted in the NFPA Journal, in the article *Better Attire Requested* published in 2022, “nationwide, similar trends have seen the total female firefighter population climb to nearly 90,000, or 9% of the estimated 1.1 million career and volunteer firefighters in the US, according to NFPA statistics. As recently as 2017, women made up just 7% of the US fire service.” However, the rate of females as *career* firefighters is only about 5%, according to the 2020 NFPA US Fire Department Profile.

Firehouses built before the 1970s typically have one restroom block, one shower block, and one locker room area for an assumed all-male staff. Occasionally, command staff were allotted a small facility for their own personal use. This typical layout, or variations of this layout, are not always easily renovated to include more equitable spaces. Retrofitting these older firehouses for female firefighters include making sleeping areas with some privacy measures, and a restroom, shower and locker room area that women can use on demand. Thus, renovations include not only adding drywall to make walls, but could require additional plumbing and electrical work.

Finding: The City of Pittsburgh Bureau of Fire administration identifies only four firehouses (12, 13, 16 & 34) as having appropriate, *separate* female accommodations out of 30 total firehouses.

DPW, which oversees maintenance and improvements of City facilities, tracks firehouses in terms of all components and they favor more integrated facilities, for example adding low barrier walls between bunks or making already existing command staff restrooms into female staff restrooms, if possible. The auditors conducted an interview with a current female firefighter who indicated that her firehouse had separate bathrooms and shower facilities, but no separate or private space in the bunkhouse. She felt that her firehouse afforded her adequate privacy, but other firehouses where she might work did not have any facilities by gender, which can create an awkward living space for all firefighters. She did report that her male co-workers have been willing to share their space.

Finding: Renovations to make these accommodations can be expensive and inconvenient, yet women have been firefighters for many years, and it is more than overdue that facilities are made to welcome all who wish to be firefighters. Moreover, female prospective firefighters may be more likely to apply if the City was able to tout a concentrated effort to make these renovations.

Female Accommodations in other Cities

The City of Pittsburgh is not alone in grappling with ways of making their fire department more welcoming to all prospective firefighters. The auditors compared the City's progress in making renovations to accommodate female firefighters to other fire departments in the region. As previously stated, by 2015, 43% of firehouses in the US were built prior to 1975. Since fire departments themselves can vary widely, it was important to also include larger cities, neighboring areas, all-volunteer and career/volunteer combination forces. The following departments were chosen to give a more illustrative portrait of how these differing departments are making progress: City of Cleveland's Division of Fire (Cleveland, OH), Mount Lebanon Fire Department (Mount Lebanon, PA), and Fairfield Township Volunteer Fire Company #1 (New Florence, PA).

Cleveland

The City of Cleveland, Ohio is somewhat comparable to Pittsburgh in terms of city size (Pittsburgh's 58.4 square miles vs Cleveland's 82.5) and population (Pittsburgh's 300,431 vs Cleveland's 367,991). Cleveland's Division of Fire employs 772 staff, spread throughout 25 firehouses. As previously stated, Pittsburgh has 667 firefighters for 30 firehouses.

Our situation is akin to Cleveland's in many ways. In 2017, they only employed four women as firefighters, all of whom were approaching retirement age. It was reported that the division at that time had not hired a woman in 25 years. When questioned, the fire chief at the time admitted they were considering refining their hiring physical test to be more equitable to female candidates.

In November of 2019, the EEOC issued a rare probable cause of discrimination in Cleveland's Division of Fire hiring procedures after a four-year investigation. Among other things, the determination stated "the evidence collected during the investigation revealed only

some of the fire houses have female restroom and locker room facilities. Therefore, I find the female firefighters, individually and as a group of aggrieved individuals, have not been afforded the same terms and conditions of employment as their male firefighters because of their sex in violation of Title VII [Civil Rights Act of 1964].”

More recently in 2021, it was reported that one firehouse had been updated for mixed-gender use, and although only one woman was currently employed, twelve more were about to graduate the fire academy. It was presented to council as an emergency measure to start to remodel more firehouses considering the increase in expected female firefighters. In February 2021, Cleveland City Council approved the emergency ordinance authorizing renovations on five more firehouses, allocating \$85,000 from their general fund and a bond issue of \$745,000, a typical way of funding large capital projects. It was also noted at that time that the Cleveland’s facilities management had already conducted conceptual designs for the remodel of all firehouses to accommodate females. In 2022, it was reported that female firefighters now numbered 12, with an additional three ready to graduate the fire academy

Mount Lebanon

Mount Lebanon is a southern suburb of the City of Pittsburgh. It is slightly over six square miles in area and as of 2020, its population was 34,075. The township’s fire department consists of 18 career and 45 volunteer firefighters, five of the firefighters are female. The lone firehouse is a shared facility with the police department and was built in 2002. The firehouse portion of the building has individual bunkrooms, along with female locker rooms, restrooms and showers. As an aside, their police department is in the process of expanding their female locker room facility, as there are more female police officers than was anticipated 20 years ago.

Finding: Mount Lebanon foresaw the need in 2002 to accommodate females in their police and fire departments.

Fairfield Township

Fairfield Township is located along the eastern border of Westmoreland County, approximately 60 miles to the east of Pittsburgh. The township has a total area of 60.8 square miles and as of 2020 had a population of 2,046. Fairfield Township Volunteer Company #1 was founded in 1954 and continues to provide service to the community. Tragically, their only firehouse burned in 2009 and was a total loss. Rebuilding the firehouse happened in stages because of budget constraints and various competing priorities. The new firehouse was finally completed in 2019. As of 2023, Fairfield VFD #1 has 23 active firefighting members, two of them women. The new firehouse was purposely built to accommodate female firefighters with separate shower and bathrooms for post incident decontamination.

Finding: As illustrated above, many fire departments in the area are facing the same issues around fair and equal treatment of women in their fire departments. Yet despite budget constraints, size and makeup of departments, and age of facility, real progress is being made in this area.

Finding: Examining ways in which hiring processes are inequitable are vital and necessary steps in the short-term. Renovating firehouses quickly represents a true commitment to diversity and equity in the long-term.

DPW reports that some firehouses can be remodeled more easily than others and making facilities fully separate, which is the preference of the Bureau of Fire, is more costly than adding some barriers which would make all bunks, showers and lockers semi-private. Retrofitting firehouses to accommodate female firefighters coinciding with general renovation plans does delay the process a great deal, as in the past only one firehouse would get an interior renovation per year. Also, installing female facilities in firehouses which do not yet have female firefighters increases the risk that eventually these facilities will be used for other purposes, such as a female restroom taken over by command staff.

While it is costly to create separate facilities, oftentimes shared facilities can be made for less expense and less interruption to the mission of the Bureau of Fire. The installation of some walls around bunks and some dividers built in group shower, locker area and changing facilities could be the answer for some of these older, more difficult-to-adapt firehouses.

Finding: DPW is including making accommodations for female firefighters as part of their overall renovation or building plans for each firehouse.

Finding: Within the last decade, there has been substantial growth in the rate of women becoming firefighters. The goal should be to implement less expensive alternatives in older firehouses to accommodate female facilities in a more expeditious way. To wait until each firehouse is renovated represents a substantial delay in recruiting, integrating, and retaining more female firefighters.

RECOMMENDATION 10:

Bureau of Fire administration should work with DPW administration and develop conceptual design plans for each firehouse in relation to female accommodations that are agreeable to *all* stakeholders. City administration should then prioritize making these accommodations for all firehouses. The City has been aware of this situation, not least of which as part of the 1998 civil rights lawsuit, and it is no longer acceptable to continue to delay this work. After the conceptual design plans are agreed to by all parties, serious consideration needs to be given to funding for the renovation of all firehouses as well as adding female facilities.

Climate Goals

In 2015, the Mayor joined 468 other mayors from around the US and committed the City as a whole to achieve the following goals by 2030: a reduction in citywide emissions by 50%, a reduction in energy and water usage by 50%, a reduction in greenhouse gas emissions from transportation by 50% and becoming a zero-waste city. Additionally, the Mayor committed City facilities to the following goals: utilization of 100% renewable energy in all City facilities,

creation of a fossil fuel-free City fleet, and the divestment of City pension funds from the fossil fuel industry.

Many of these goals we all can see in action today. Many city cars bought in the ensuing eight years have been electric, the blue recycling can distribution program is ongoing, city streetlights are being studied to upgrade to LED and Hays Woods was set aside and provides a significant amount of tree canopy for residents to enjoy. For some of these goals we will see a reward quickly, and for some, our rewards will be enjoyed by future generations. More information about the Climate Action Plan 3.0 can be found at the Department of City Planning's Climate Action [webpage](#).

By 2019, the Department of City Planning's Sustainability & Resilience division completed an energy benchmarking report, which gave baseline readings of energy consumption for all buildings owned and operated by the City in 2017. Results of the report identified the City-County Building as the highest energy consumer, mostly owing to its size and age of equipment. Most of the city buildings were either high or just average energy consumers in comparison to nationwide median of buildings of the same use type. It was estimated that in 2017, the City spent \$2,700,000 on energy, reducing this by half would represent a tremendous savings to the City's taxpayers.

This benchmarking report included information on 24 firehouses, excluding the shared use public safety buildings and the firehouse in Wilkinsburg. The report concluded that these firehouses utilized 13% of the City's portfolio energy use, with firehouses 8, 4 and 24 having the highest energy usage of all. The report pointed out that having this information available can help guide the City in its prioritization of projects. This report was completed in preparation of meeting the City's new Sustainable Development for City-Owned Buildings, which was born out of the Climate Action 3.0 plan.

The Sustainable Development for City Owned Buildings ordinance became effective in June 2020. Its purpose is as follows:

The City of Pittsburgh is committed to building and supporting sustainable developments, to yield cost savings to the City taxpayers through reduced operating costs, to provide healthy and productive work environments for all residents and employees, to contribute to the City's goals of protecting, conserving, and enhancing the region's environmental resources, and to deliver on the City's public dedication to upholding the Paris Climate Accord. Additionally, the City shall help to set a community standard of sustainable building.

This ordinance requires net-zero ready performance and is applicable in all new building construction on City-owned property and all major renovations of existing city buildings. A net-zero energy ready building is defined as being highly energy efficient. Further,

These buildings will achieve building performance that complies with the "Pittsburgh Net-Zero Energy Ready Standard," which is defined by the Department of Public Works and can only be updated with approval from the Department of Planning and City

Council. These buildings will be designed and constructed with the necessary infrastructure to receive a solar photovoltaic system or other carbon neutral energy generation technologies in the future. Achieving net-zero energy ready will not require any form of building certification, but it will require proof of the building's energy performance over the first twelve (12) months of operation and occupancy, adjusted for annual weather variations.

Readying these older buildings to be net-zero ready is expected to be a costly endeavor and the construction of new firehouses will also have to budget a portion of its construction funding for net-zero goals. But it can be done. In 2018, Salt Lake City built their first new firehouse in 30 years and made it a Net-Zero building. This is the first net-zero (meaning it generates more energy than it consumes) firehouse in the country and it earned LEED Gold certification through the U.S. Green Building Council. More information can be found [here](#).

Finding: Delayed maintenance on firehouses coupled with the age of the structures makes repair more costly. These high repair costs in addition to the need to modernize- adding generators, proper exhaust mechanisms, environmentally friendly upgrades, and adding facilities for female firefighters, indicate a crisis in critical infrastructure investment.

Funding for Firehouse Improvements

There are currently opportunities for funding improvements to municipal buildings. When the 117th Congress passed the [Inflation Reduction Act \(IRA\)](#) and the [Bipartisan Infrastructure Law \(BIL\)](#), it included funding opportunities for Municipal, University, School and Hospital (MUSH) buildings to be retrofitted to reduce greenhouse gas emissions and improve health outcomes. Prevailing wages and buy American provisions have also been built-in to these historic pieces of legislation.

There are many programs included in the IRA and BIL, but of particular interest to firehouses are the Energy Efficiency Conservation Block Grants (EECBG). These block grants are administered by the Department of Energy (DOE) and are grants to aid local and state governments or Tribal governments in retrofitting buildings to become more energy efficient. These block grants have existed for some years but enjoyed an increase in funding from the BIL and IRA.

Time is of the essence to pursue these MUSH funding opportunities. The City of Pittsburgh's Mayor's Office houses the Office of Management and Budget which contains the Grants Office. The Grants Office guides City departments in the application for grants, pre- and post-award administration, as well as assistance with reporting processes.

RECOMMENDATION 11:

Bureau of Fire administration should pursue these grants and meet with the Department of Public Works and the Grants Office administrations to clarify which MUSH building funding could be applicable to their situation.

Future Facility Plans

On May 28, 2019, City Council passed a resolution to enter into a professional services agreement with Winston Design Development for architectural and engineering design services for a series of interior remodels for six fire stations (Firehouses 19, 23, 26, 34, 35 and 38). The design process consists of meeting with key personnel of the Bureau of Fire, and DPW’s Bureau of Facilities, architectural and engineering design work (drawings, specifications, cost estimates, etc.) and assisting the City with procurement processes, space planning, station alerting (a system which uses a series of audio and visual cues and provides first responders in both Fire and EMS with streamlined incident dispatch information) and access control consistent with the standards of the Bureau of Fire. Specifically, Table 14 includes a brief description of work contracted for each station and progress made, descriptive information was taken from the City of Pittsburgh’s RFP19000035:

TABLE 14

Contracted Design Work and Progress		
	Requested Work	Progress (As of early 2023)
Firehouse 19 (Swisshelm Park)	Partial remodel of lower and upper levels for house accommodating four firefighters and incorporating Station Alerting as required by Bureau of Fire. <u>Lower level-</u> remodel of existing single toilet into toilet and shower room. <u>Bay area-</u> Ceiling and wall at back of bay repaired with attention to location of pipes, radiators, and equipment. New turnout gear lockers installed into Bay. ADA access and ADA restroom solution or variance needed. <u>Upper floor-</u> Kitchen remodel, toilet, shower, locker remodel, bunk room configurations, HVAC, electrical, lighting as needed.	Plans submitted for permit approval; anticipated construction bid release in 2023
Firehouse 23 (Carrick)	Partial remodel of main floor accommodating four firefighters and incorporating Station Alerting as required by the Bureau of Fire. ADA access and ADA restroom remodel or variance as needed. <u>Bay area-</u> New turnout gear lockers installed in Bay. <u>Main level-</u> Kitchen remodel, new female restroom, bunk room configurations, HVAC, electrical and lighting as needed.	Anticipated design development in 2025, anticipated construction bid release in 2027
Firehouse 26	Complete remodel of lower and upper levels for house	Anticipated design

Contracted Design Work and Progress		
	Requested Work	Progress (As of early 2023)
(Brookline)	accommodating eight firefighters and incorporating Station Alerting as required by Bureau of Fire. ADA access and ADA restroom solution or variance needed. <u>Main level-</u> Kitchen remodel and incorporation of storage. <u>Bay area-</u> Review and design new structure for bay support, new turnout gear lockers inserted into Bay. <u>Upper level-</u> Complete remodel of entire floor utilizing Passive House design. Review structure and support for main staircase retaining historic character.	development in 2023, anticipated construction bid release in 2025
Firehouse 34 (Observatory Hill)	Partial remodel of lower and upper levels for house accommodating four firefighters and incorporating Station Alerting as required by Bureau of Fire. ADA access and ADA restroom solution or variance needed. <u>Main level-</u> Kitchen remodel. <u>Bay area-</u> New turnout lockers. <u>Upper level-</u> Reconfiguration of bunk rooms and locker area, toilet/shower remodels.	In design development, anticipated construction bid release in 2024
Firehouse 35 (Brighton Heights)	Schematic designs needed for redesign existing staircase from basement to roof access. Design roof access hatch/door. Partial remodel of main and lower levels to house four firefighters, as affected by stair redesign and incorporating Station Alerting as required by Bureau of Fire. ADA access and ADA restroom solution or variance needed. <u>Main level-</u> Kitchen remodel. <u>Upper level-</u> Remodel of bunk rooms, toilet/shower/locker rooms.	In design development, anticipated construction bid release in 2024
Firehouse 38 (Northview Heights)	Complete remodel of main and lower levels for house accommodating four firefighters and incorporating Station Alerting as required by Bureau of Fire. ADA restroom solution or variance needed. <u>Main level-</u> Remodel back of bay and incorporate fenestration for female quarters. <u>Bay area-</u> New turnout gear lockers. <u>Lower level-</u> Remodel of toilet/shower/locker room.	Anticipated design development in 2024, anticipated construction bid release in 2026.

Source: City of Pittsburgh’s RFP19000035.

An addendum was included with this RFP providing a clarification to the new net-zero guidelines. In the addendum it was stated, “The City of Pittsburgh understands that our existing infrastructure, with many buildings 100+ years old, precludes achieving net-zero without major changes to the vertical infrastructure inventory and a serious outlay of funds.” For the needs of the RFP, it was noted among other things that the City is committed to maintaining the historical character of significant City assets, and the City has a team working on solar placement for public safety facilities. This contract was not to exceed \$407,872.66 for the purposes of adding separate male/female bunk quarters, toilet facilities, lockers, and showers, adapting kitchens,

adding ADA access as required and where possible, and adapting facilities to net-zero ready goals.

In 2021, the City amended that contract to include a building addition for Firehouse 23, an additional scope to include more stringent requirements needed to align with Net-Zero Ready code for Firehouses 19, 23, 26, 35, 38, change of scope to include exterior renovation/outside-in renovation strategy for Net-Zero Energy for Firehouses 23, 38 and the addition of backup generators for Firehouses 19, 23, 26, 34, 35, and 38. This amended contract is now not to exceed \$702,769.00. DPW indicated that the addition to Firehouse 23 was the primary driver of this increase.

Additionally, the City of Pittsburgh has engaged the firm of AE7 to design a new Firehouse/EMS combination building to be constructed in Lincoln Place as well as the modification of Police Zone 5 in East Liberty to also house Firehouse 8. According to DPW's project manager, as of Summer 2023 the Firehouse 20/EMS 12 (the Lincoln Place project) will begin the permitting process in the Fall 2023, with an expected construction start in late 2024. The current budget for this new building is \$13 million. The modification of Police Zone 5 is currently in the permitting process and construction is expected to begin in the fall of 2023. Current budget of this project is \$12.5 million.

Fleet

The City of Pittsburgh Bureau of Fire's fleet of vehicles is made up of 87 total vehicles, including 36 pumper engines, 16 ladder trucks, 12 command SUVs, 3 pickup trucks, 2 cargo vans, 2 foam tenders, 2 SUVs, 2 trailers, a command pickup truck, a fire boat, a foam truck, a forklift, a MAC apparatus, a passenger van, a pursuit sedan, a rescue truck, a support pickup truck, a support sedan, a support SUV, and a support van. Most of these vehicles are assigned to fire stations around the City, but a significant number are kept in reserve as spares to be used only if necessary. These reserve vehicles are used when a stationed vehicle is brought in for repairs or servicing.

According to a note in NFPA standard 1911, apparatus should respond to first alarms for the first 15 years. For the next 5 years, they should be in reserve status for use at major fires or as a temporary replacement for out-of-service vehicles. Fleet management for the City of Pittsburgh considers the effective age of pumper engines and aerial trucks to be eight years of frontline service and two to four years in reserve service. The disparity between the NFPA note and fleet management's expectation stems from the City of Pittsburgh's unique topography and harsh climate, which can wear out vehicles quickly.

Finding: Fleet management's effective age for apparatus does not match the recommended age of NFPA standards because of the City's unique topography and harsh climate.

Pumper Engines

A pumper engine is defined by the NFPA as a fire apparatus with a permanently mounted fire pump of at least 750gpm (3000 L/min) capacity, a water tank, and a hose body, whose primary purpose is to combat structural and associated fires. As shown in Table 15, the 36 pumper engines for the Bureau of Fire were brought into service with the department from 1999 to 2020. The average age of Bureau of Fire pumper engines is nine years old. That number includes engines that are held as reserves, whose average age is sixteen years old. Among pumper engines in front-line service, the average age is seven years old. The 2003 Spartan *LC pumper engine, at station 60, is used for training purposes at the Bureau of Fire’s Training Academy.

TABLE 15

Bureau of Fire Pumper Apparatus Inventory Sheet, 2022			
Station	Pumper	Vehicle Year	Vehicle Age
3	SPARTAN METRO STAR	2015	7
4	SPARTAN PUMPER	2020	2
6	SPARTAN METRO STAR	2012	10
7	SPARTAN PUMPER	2020	2
8	SPARTAN PUMPER	2020	2
10	SPARTAN PUMPER	2020	2
12	SPARTAN PUMPER *LC	2012	10
13	KME *LC	2008	14
15	SPARTAN PUMPER	2020	2
16	SPARTAN PUMPER *LC	2012	10
17	SPARTAN METRO STAR	2012	10
18	SPARTAN PUMPER	2019	3
19	SPARTAN METRO STAR	2015	7
20	SPARTAN PUMPER *LC	2012	10
22	SPARTAN METRO STAR	2014	8
23	SPARTAN PUMPER	2019	3
24	KME PUMPER *LC	2008	14
26	KME	2008	14
27	SPARTAN PUMPER	2019	3
28	SPARTAN METRO STAR	2012	10
29	SPARTAN METRO STAR	2014	8
30	SPARTAN METRO STAR	2014	8
31	SPARTAN METRO STAR	2012	10
32	SPARTAN METRO STAR	2012	10
34	KME PUMPER	2008	14
35	SPARTAN PUMPER	2020	2
37	SPARTAN PUMPER	2020	2
38	KME PUMPER *LC	2009	13

Bureau of Fire Pumper Apparatus Inventory Sheet, 2022			
Station	Pumper	Vehicle Year	Vehicle Age
Reserve	KME PUMPER *LC	2009	13
Reserve	KME *LC	2008	14
Reserve	KME *LC	2008	14
Reserve	KME PUMPER	2008	14
Reserve	KME *LC	2008	14
Reserve	KME PUMPER	2007	15
Reserve	SPARTAN *LC	2003	19
Reserve	HME PUMPER	1999	23

Data Source: City of Pittsburgh Fleet Services

According to the NFPA recommended standards, 86% of the Bureau of Fire pumper engines are within the effective age of 15 years for frontline service and 87% are within the effective age of 20 years for reserve service.

By City of Pittsburgh standards, 43% of pumper engines are within the age of effective frontline service of 8 years and none of the reserve engines are within the effective age of reserve service of 12 years. For both standards, the City of Pittsburgh fleet is aging out of the recommended usage.

In the fall of 2021, three Pierce pumper engines were ordered with plans for two more. This order occurred while the current Fire Chief was away on vacation and, upon his return, he found serious deficiencies in the ordered vehicles when compared to previously ordered apparatus. In 2022, the order was cancelled with a full refund being given from the manufacturer and a new order was made. But this delay has added years to the expected arrival date of the new pumper apparatus.

In May 2023, the Bureau of Fire purchased two used pumper apparatus from Spencer Manufacturing and the Emsworth Fire Department for \$20,000 and \$33,000 dollars respectively and needed an additional \$10,567.01 for repairs and to prepare them for entrance into service with the City. These pumper engines were purchased due to the delayed new purchase orders.

RECOMMENDATION 12:

The Bureau of Fire Administration must always be involved with future vehicle orders so vehicles can be ordered accurately with all required specifications to meet the Fire Bureau’s needs.

RECOMMENDATION 13:

The Bureau of Fire, Office of Management and Budget, and the Equipment Leasing Authority administrations should create a vehicle replacement schedule and not deviate from it. The same recommendation is made in both City Controller’s Office 2023 Department of Public Safety Bureau of Emergency Medical Services performance audit and the 2023 Bureau of Environmental Services- Recycling Division performance audit, because vehicle replacement is a major concern for most City Department vehicles, especially the Department of Public Safety’s. A steady ordering stream of vehicles will help alleviate vehicle shortages and eliminate groups of vehicles aging out of service at the same time.

Aerial Trucks

For the Bureau of Fire’s 16 ladder trucks (also known as aerial apparatus), the average age is eleven years old. The average age of ladder trucks in front-line service is eight years old and the average age of the reserve ladder trucks is fifteen years old. The oldest ladder truck is a 2006 Seagrave Concorde *LC that is used for training purposes at station 60, also known as the Bureau of Fire Training Academy.

Table 16 shows the 11 fire stations and Training Academy with ladder trucks, the vehicles’ year and age, and the reserved ladder trucks.

TABLE 16

Bureau of Fire Ladder Trucks with Aerial Apparatus Inventory Sheet, 2022			
Station	Ladder Truck	Vehicle Year	Vehicle Age
4	PIERCE ARROW XT AERIAL	2016	6
6	PIERCE ARROW	2021	1
8	PIERCE ARROW XT *LC	2009	13
13	PIERCE ARROW XT *LC	2008	14
14	PIERCE ARROWXT AERIAL	2018	4
17	PIERCE ARROW	2021	1
24	PIERCE ARROW XT *LC	2009	13
26	PIERCE ARROW XT *LC	2009	13
30	PIERCE ARROWXT AERIAL	2018	4
32	PIERCE ARROW XT AERIAL	2016	6
33	PIERCE ARROW XT *LC	2008	14
60	SEAGRAVE CONCORDE *LC	2006	16
Reserve	SEAGRAVE CONCORDE *LC	2007	15
Reserve	PIERCE ARROW XT *LC	2008	14
Reserve	SEAGRAVE CONCORDE *LC	2007	15
Reserve	PIERCE ARROW XT *LC	2009	13

Source: City of Pittsburgh Fleet Services

According to NFPA recommended standards, all 11 of the Bureau of Fire’s ladder trucks

with aerial apparatus currently in service are within the effective age of 15 years for frontline service, though two of these will be older than that standard in 2024.

By City of Pittsburgh standards, 45% of aerials are within the age of effective frontline service of eight years and none of the reserve trucks are within the effective age of reserve service of 12 years.

Finding: In 2022, all ladder trucks with an aerial apparatus were within the NFPA standard for frontline apparatus of 15 years and reserve apparatus of 20 years. By City of Pittsburgh standards, only 45% of ladder trucks with an aerial apparatus are within the effective frontline service age of eight years.

Along with the pumper engines and ladder trucks, the Bureau of Fire also uses foam tenders. Foam tenders are used to spray a specialized foam to fight larger fires. Currently, the two foam tenders, purchased in 2021, have had issues with the fluids shifting in their holds, making the vehicles too unbalanced in turns, and leading them to be deemed unroadworthy. Plumbing on these vehicles has also been deemed inadequate, due to being too small. The foam that is used by the foam tenders has also been banned nationally, so the Bureau of Fire is now looking to get rid of the current foam inventory and find a new foam to use.

Finding: Two foam tenders purchased in 2021 for \$259,410 each for the Bureau of Fire are not roadworthy and have not been used outside of inspections for the past year.

RECOMMENDATION 14:

The vehicle ordering departments of the Bureau of Fire, Office of Management and Budget, and the Equipment Leasing Authority should create a city-wide fleet management strategy for all vehicles with a focus on public safety. All vehicle and equipment orders should be reviewed by a second set of eyes with experience in the field to ensure that no purchase errors occur.

Ground Ladders

According to NFPA standard 1932.7.1.6, ground ladders must be serviced on the following schedule:

Before the ladder is placed in service the first time, at least annually, at any time a ladder is suspected of being unsafe, after the ladder has been subjected to overloading, after the ladder has been subjected to impact loading or unusual conditions of use, whenever the ladder has been exposed or is suspected of having been exposed to direct flame contact, whenever the heat sensor label has changed to indicate heat exposure, and/or after any repairs have been completed, unless the only repair was replacing the halyard. (The rope used to extend or retract the extendable and retractable section(s) of an extension ladder).

Ground ladders used to be tested at First Vehicle Services while fire vehicles were brought in to be inspected. At some point, First Vehicle Services stopped performing these ground ladder tests, and, through either an oversight or lack of communication, the Bureau of Fire never found a replacement testing agency. As such, the ground ladders for the Bureau of Fire are significantly overdue for testing and record keeping. These tests help remove ladders that are no longer structurally sound from Bureau of Fire inventories to be replaced by new ladders.

As of July 2023, the Bureau of Fire has not restarted testing, but they are currently looking at available options. One option that is available is to join the South Hills Area Council of Governments ground ladder testing contract. The other option is to begin searching for a new vendor for ground ladder testing. They are also preparing to buy new ground ladders to replace those that do not pass testing, though the lead time to receive new ground ladders is expected to be at least a year.

Finding: Bureau of Fire ground ladders have not received systematic annual service testing.

RECOMMENDATION 15:

The Bureau of Fire administration should endeavor to restart ground ladder testing as soon as possible and to keep the records of the testing results for the life of the ground ladders, as recommended by NFPA standards.

As shown in Table 17, NFPA code 1901 recommends that fire apparatus carry certain numbers and types of ground ladders based on apparatus type.

TABLE 17

NFPA Required Ground Ladders by Apparatus Type		
Ladder Type	Apparatus Type	
	Pumper	Aerial
Straight Ladder with Roof Hooks	1	2
Extension Ladder	1	2
Folding Ladder/Stepladder/Multipurpose Ladder	1	1

Source: NFPA Code 1901

According to the City of Pittsburgh Bureau of Fire’s Assistant Chief, their pumpers are equipped with one 24’ extension ladder, one 14’ straight ladder with roof hooks, and one 10’ folding ladder. Bureau of Fire ladder trucks have two 35’ extension ladders, one 28’ extension ladder, one 24’ extension ladder, one 20’ straight ladder with roof hooks, two 16’ straight ladders with roof hooks, one 14’ straight ladder with roof hooks, 10’ folding ladder, and one multi-positional ladder.

Finding: The City of Pittsburgh Bureau of Fire’s apparatus are equipped with the proper number

of each type of ground ladder, as recommended by NFPA standards.

Standards for Fire Hoses, Nozzles, and Fire Hose Appliances

Fire departments nationwide, including the City of Pittsburgh, use different size hoses and connectors to fight fires. Depending on a fire's severity and location, the Bureau of Fire uses the following fire hose sizes: 1 3/4" diameters, 2 1/2" diameter hose, 3" hose, and 5" hoses. Hoses 2 1/2" in diameter or larger are called supply hoses because they are used to supply water to the pumper. Hoses that are smaller than 2 1/2" in diameter are called the attack hoses because they directly fight the fire.

National standards recommends that all fire hoses be pressure tested and nozzles to be hydrostatic (relating to or denoting the equilibrium of liquids and the pressure exerted) tested and flow tested (how well it sprays water) annually. Fire hose appliances (valves, fittings, etc.) are hydrostatic tested and then any components are tested. This includes relief, shutoff, and/or check valves, to make sure that those components function properly. The only exception is the fire hose elbow appliance.

The NFPA also recommends documenting all tests and saving all the reports. NFPA standards also suggest having all fire hoses, as well as all nozzles and fire hose appliances, be assigned a unique identification number. This allows the Bureau to track repairs and the service test history for the equipment's service life.

The pressure test for fire hoses makes sure that a fire hose can output the necessary amount of water to fight a fire and withstand the pressure. Fire hoses can be connected to reach great lengths, so it is important that every fire hose is tested to make sure that each part of the chain works properly.

There are three ways to conduct a hose pressure test; with a hose testing machine, on a standing pump, or attached to a pumper apparatus. The Pittsburgh Bureau of Fire uses a hose testing machine for its hose pressure tests.

When the auditors visited the testing facility in July 2023, the one hose testing machine was broken and had been sent back to the manufacturer for repairs with no timeline for it to be returned, thereby delaying hose testing. However, hose testing in 2022 was complete and the auditors received a copy of the paper test reports for analysis. Out of 1,088 hoses that were known to be tested in 2022, only 41 fire hoses were withdrawn from fire vehicles to either be repaired or replaced.

RECOMMENDATION 16:

The City of Pittsburgh Bureau of Fire administration should look to add a backup hose testing machine to limit possible downtime for hose testing if one machine fails and needs to be sent in for repairs. The administration should also contact the current manufacturer repairing the hose testing machine, to determine when it will be returned. If not within the next month, a

loaner should be requested.

In visits with Pittsburgh Bureau of Fire staff, the auditors were told that current hoses have no identification marks. Instead, hoses were recorded as groups by their length and the apparatus they were brought in on for testing. According to the Fire Captain, hose pressure tests have been conducted annually, however record keeping for the testing only began in 2022.

Starting in June 2022, the Bureau began to gradually replace older fire hoses with new fire hoses from a new vendor, Snap-Tite hoses. The new hoses will have identification numbers, be color-coded for easier size identification to improve efficiency, and are built to be more durable.

The first phase has already been delivered, with the Bureau of Fire buying 152-- 50 ft 1 3/4" diameter red attack hoses for \$32,224 at \$212 each. This phase also had an order for 36--10 ft 1 3/4" diameter red attack hoses for \$3,240 at \$90 each. Included in this purchase is an offer to use the company's Hose Record Vault software service. The offer also includes two days of free on-site training and free online support. The city has not yet taken advantage of these additional free services. For new hose purchases, the Bureau has begun to track hoses by identification number.

RECOMMENDATION 17:

The Pittsburgh Bureau of Fire administration should utilize the Hose Record Vault service, a service that was included in the order of Snap-Tite hoses, for documenting and tracking new hoses as they arrive. These records should be kept for the life of the hose, as recommended by the NFPA. The Bureau should also consider utilizing the free on-site training and online support.

RECOMMENDATION 18:

The Bureau of Fire administration should continue tracking hoses by identification number, as recommended by NFPA standards.

According to NFPA standard 1901, Bureau of Fire vehicles are recommended to be equipped with a minimum amount of fire hoses, so they are prepared for any situation. The NFPA suggests that, for fire departments nationwide, both the pumper engines and foam tenders should have 800 ft of 2 1/2" diameter or larger hoses, and 400 ft of 1 3/4" diameter hoses on every vehicle. Table 18 shows the City's Bureau of Fire's required number of hoses on operational pumper engines and foam tenders.

TABLE 18

Bureau of Fire Required Number of Fire Hoses for Each Apparatus Type				
Apparatus Type	5" Supply 100 ft	3" Hose 50 ft	2.5" Hose 50 ft	1.75" Hose 50 ft
Pumper Apparatus	10	13	6	14
Foam Tender	3	7	3	12

Data source: City of Pittsburgh Bureau of Fire

Pittsburgh Bureau of Fire pumper engines carry 1,950 ft of hose that are 2 1/2" in or larger in diameter, while the foam tenders carry 800 ft of hose of a similar size. Bureau of Fire pumper engines and, when operational, foam tenders also carry 700 ft and 600 ft of fire hoses that are 1 3/4" in diameter, respectively.

Fire hose nozzles are expected to be able to pass a hydrostatic test and a flow test. The hydrostatic test makes sure that there are no leaks from parts of the nozzle, while the flow test determines if the nozzle can still handle the water pressure that it is rated for.

From there, appliances are expected to pass tests based on what components they have, whether they have relief, shutoff, and/or check valves, to make sure that those components function properly. Documentation of these test results should be kept for the life of the nozzle or appliance, according to the NFPA.

Finding: During the auditors' visits to the testing/training facility, the auditors were told that there had been no testing or record keeping for nozzles or fire hose appliances.

RECOMMENDATION 19:

The Bureau of Fire administration should begin service testing fire hose nozzles and appliances according to NFPA 1962 standards. The newly purchased nozzles and fire hose appliances will have a unique ID engraved on them. The Bureau of Fire administration should keep individual records for these nozzles and appliances for as long as they are in use, as recommended by NFPA standards.

Firefighter Safety, Health, and Wellbeing

Coping with COVID-19

Public safety departments around the world remained on the job throughout the pandemic, and the Bureau of Fire was no exception. The Bureau quickly formed the IAFF/PBF COVID-19 Task Force, which opened dialogue between management and labor in order to make

their COVID-19 response a solid collaboration. The national IAFF body published their guidelines, entitled '[IAFF U.S. Policy & Guidelines Manual for COVID-19](#)' in March 2021 and these guidelines were followed throughout the country.

This publication used the following resources: Centers for Disease Control, World Health Organization, Fire Service Joint Labor Management Wellness Fitness Initiative and the IAFF Coronavirus Toolkit to create evidence-based best practices for protecting firefighters and their families. The manual focused on education and prevention, along with concrete guidelines for personal protective equipment (PPE), decontamination, testing, and administrative protocols. According to Bureau administration, the Bureau of Fire were able to work with outside contacts to source and procure PPE, cleaning products and disinfection supplies. The fire warehouse became the sole COVID-19 supply distribution point and fire personnel were able to construct a real-time dashboard system to monitor inventories with in-house fire talent.

COVID-19 made the jobs of firefighters even more difficult. Firefighters were not always able to socially distance and were not able to limit exposure to the virus, given how part of their mandate includes responding to medical calls. Life within the firehouses was also affected, with reminders to thoroughly clean commonly used items and consider sleeping or using the gym equipment in shifts instead of as a group. At the start of a shift, firefighters were reminded to perform a self-screening of any symptoms, not to handle each other's firefighting gear or clothing and arrive singly through a firefighter-only entrance.

On March 18, 2021, the Pittsburgh Fire Fighters (@PghFireFighters) account on the X app (formerly Twitter) announced that over 75% of their firefighters had received their vaccinations and included photographs of the President of the IAFF Local No. 1 and the Fire Chief receiving their own vaccines. The IAFF and administration held clinics and generally encouraged their personnel to get vaccinated and as of December 2021, over 85% of firefighters had been vaccinated.

Firefighter Injury Processing

The City of Pittsburgh has an Injury Reporting Policy in place which is similar to most workplace injury policies. This is to ensure that employees get the medical care they need when injured, as well as to gather the data to examine if any systemic changes need to be made in the worker's environment. The procedure lists the following: assure the employee receives immediate medical attention, and if needed, the employee must be seen at the contracted workplace medical facility or an emergency department. For all injuries, despite their severity, the supervisor must contact the contracted worker's compensation contractor and complete three forms: Workman's Compensation Information Form, a City of Pittsburgh Worker's Compensation Health Care Provider Panel, and a City of Pittsburgh Injury Report Form. Additional forms need to be completed for motor vehicle accident injuries and infectious disease exposures. As soon as possible and not more than 72 hours after the incident, the supervisor must speak to the employee and any witnesses to fully complete the City of Pittsburgh Injury Investigation Form. Additionally, injuries to firefighters get reported on a City of Pittsburgh Firefighter Injury Report and a Casualty Report.

The City of Pittsburgh's Department of Human Resources & Civil Service's Office of Risk Management receives copies of firefighter injury reports, infectious disease exposure forms, and casualty reports and uses this information to report non-identifying abstracts to the monthly Occupational Safety Committee and analyzes the data to compile suggestions that the office communicates directly to the Bureau of Fire. They also present this data and their analysis at their monthly Occupational Safety Committee meetings. The auditors reviewed the audit scope years of 2020-2022 Occupational Safety Committee meeting minutes. It was found that the Fire Bureau Administration attends this meeting infrequently.

Finding: According to the minutes of the Occupational Safety Committee, the Bureau of Fire administration has not always attended these monthly Occupational Safety Committee meetings.

RECOMMENDATION 20:

The Bureau of Fire's administration should regularly attend or send a representative to the Risk Management Office's Occupational Safety Committee monthly meetings. The Office of Risk Management exists to aid in employee safety and can also act as a resource for free or low-cost trainings and injury analysis.

Firefighter Risks on the Fireground

Firefighters face many dangers over the course of their job. The risks to firefighters are the highest at what are called firegrounds, or active fires. Here firefighters are exposed not just to excessive heat and fire, but also to smoke and possibly hazardous chemicals emitted from the burning materials, being inside unsafe structures, and the strain of carrying heavy equipment. NFPA records all firefighter injuries nationwide and the location of occurrence. The number of injuries on firegrounds has steadily decreased through the years, from a high of 65.3% of reported injuries in 1981 to a low of 34.6% in 2020, however at the same time there has been a decrease in the number of fires. According to *Trends in Firefighter Injuries* released by NFPA 2013 rates of firefighter injuries *per* fire have remained roughly steady.

Examining City of Pittsburgh firefighter injury data requires a caveat. The information was obtained from the Office of Risk Management's data and abstractions which were already anonymized and categorized as to type of injury, date of injury, location of injury occurrence, and if injury resulted in any lost time. Conversations with the Risk Management supervisor indicated that data is collected and entered into a database. Data from 2020-2022 was analyzed and the auditors found a 34% rate of injuries to City firefighters at firegrounds, very close to the national average of 34.6%

Finding: The rates of injuries to Pittsburgh firefighters at firegrounds are consistent with the national average.

Firefighting poses many health risks to firefighters, both immediate and long-term. Substantial evidence suggests firefighting leads to cardiovascular strain and an increased risk of

developing certain job-related cancers. Sudden cardiac events are the leading cause of death at the fireground, and half of all on duty deaths of firefighters are attributable to myocardial infarctions. There is research ongoing that is attempting to identify risk factors in cardiovascular health in firefighters, one [study](#) being led by Joseph Heaton, MD, who is himself a cardiologist and a volunteer firefighter.

Firefighters are also susceptible to exposure to carcinogens not only from any type of fire which produces toxic combustion products, but also when taking off their PPE during which some suspected carcinogens can be released into the air. Carcinogens are also present in the form of exposures from diesel fumes, from vehicles at the firehouse or at the fire itself. Firefighters can be exposed to these chemicals while breathing or through contact with skin.

There are certain commonsense measures that can be implemented to improve firefighters' health and wellbeing. These measures include encouraging smoking cessation in fire services personnel, wellness programs that promote exercise and healthy diets, and annual medical evaluations for all firefighters.

The Jewish Community Center of Greater Pittsburgh (JCC) received a grant from the Department of Justice's Antiterrorism and Emergency Assistant Program to be used to support mental health and wellness of individuals who work for entities responding to acts of terrorism or violence. The JCC decided to utilize the funding for one year of a wellness app for public safety's personnel (Fire, Police and EMS) and their families. The wellness app covers behavioral health tools, wellness issues, stress management, health habits, and resilience development among many other topics in either an iPhone or Android app and all access is confidential. Flyers were prominently displayed at each firehouse auditors toured in late spring of 2023. This donation was valued at \$67,500.

Finding: The Department of Public Safety entered into a professional services agreement on September 24, 2021, with an app maker and the JCC to create a wellness app for all public safety personnel.

RECOMMENDATION 21:

The Bureau of Fire administration should develop a survey to ask public safety personnel if this wellness app proved useful to them and if they could specify any additional needs in terms of health and wellness.

Firefighters Health and Wellness Programs

According to the Fifth Fire Service Needs Assessment Survey conducted by the NFPA and published in December 2021, 72% of fire departments do not have programs to maintain basic firefighter fitness and health and 61% of departments do not provide medical and physical evaluations that comply with NFPA 1582, *Standard on Comprehensive Occupational Medical Program for Fire Departments*. This report stated that when departments do have a fitness/health

program it is likely to be a larger department and associated with the IAFC/IAFF (International Association of Fire Chiefs/International Association of Firefighters) Wellness Fitness Initiative. Most departments that provide physical and medical evaluations for firefighters do so every six months or annually.

Finding: After the physical that takes place before hiring, the Bureau of Fire conducts no further physical assessments after hire. Fire administration indicated an interest in the Wellness Fitness Initiative but also indicated that at present it is too costly to pursue.

The Fire Service Joint Labor Management Wellness-Fitness Agreement, Fourth Edition, the source for the wellness program discussed above, points out that it is “**no secret that, historically, the fire service has placed a great deal of its focus on maintaining apparatus and equipment rather than the uniformed personnel who provide emergency services and use such equipment** [emphasis added]” The extreme physical exertion at emergency incidents can sometimes result in adverse physiological and psychological outcomes. The Wellness-Fitness Initiative (WFI) began as a commitment to improve health, safety and longevity for all uniformed firefighting personnel. In fact, a supporting program of the task force that began the WFI produced the changes in the physical testing of candidates, the CPAT, discussed earlier in the audit.

The WFI has components geared to address the following issues: medical, fitness, injury and medical rehabilitation, and behavioral health. The medical component is built on the hope that firefighters can remain healthy enough to work effectively throughout their careers and maintain good health into their retirement. The medical program is geared to accomplish the following, taken from the Fire Service Joint Labor Management Wellness-Fitness Agreement, Fourth Edition in 2018:

1. Identify where an individual is physically and mentally able to perform essential functions of job without undue risk of harm to self or others,
2. Monitor the acute and long-term effects of the working environment on uniformed personnel, including exposure to chemical and biological agents and the effects of physical and psychosocial stressors in the fire department,
3. Detect patterns of disease in the fire department that might indicate underlying work-related health concerns,
4. Provide quantifiable medical information on the entire fire department,
5. Inform uniformed personnel of their occupational hazards and health status,
6. Provide a cost-effective investment in health promotion and disease prevention in the fire department,
7. Comply with federal, state, provincial and local health and safety requirements.

As a part of this WFI, an extremely thorough examination and testing is part of this medical component, offering tests and exams for cancers and cardiovascular disease that firefighters cannot receive from their own doctors because of insurance coverage limitations. Investing in firefighter personnel should be every bit as important as investment in equipment and firehouses. Firehouses have exercise equipment in their firehouses that encourage firefighters to maintain top physical conditioning.

While firefighters are aware of the issues surrounding chemical agents and extreme physical exertion, it should not be incumbent upon each firefighter to monitor their health just with their PCP. A regular PCP might not be conversant in unique issues firefighters face and crucial health markers can be missed if appropriate testing does not take place.

Finding: Firefighters do not currently have a wellness program that provides support in monitoring their physical health.

RECOMMENDATION 22:

The Bureau of Fire and the Department of Public Safety administrations should continue to monitor the cost-effectiveness of the WFI program or other health programs developed for firefighters to monitor their physical well-being. Local healthcare nonprofits should be approached to sponsor this worthwhile program to protect the lives of the City's firefighters, much as the JCC helped the City's public safety's divisions when procuring funding for the wellness app.

Intergovernmental Cooperative Agreements

There are many issues facing smaller fire departments surrounding the City of Pittsburgh. The heavily fragmented nature of municipal governments in Pennsylvania means that usually a community is supporting its own firefighting services, be that via tax revenue or fundraising. An issue which also complicates small municipality's ability to provide effective fire protection services is the reliance on volunteer firefighters.

According to the U.S. Fire Administration, a subsection of FEMA, Pennsylvania has the third highest rate of volunteer or mostly volunteer fire departments at 96.8%. There is a nationwide shortage of people willing to volunteer to be firefighters. Fire departments are also struggling with the need to provide a wider variety of services, including dealing with hazardous materials, an increase in opioid overdoses, responding to medical calls, or providing water rescues. These issues serve to severely challenge small municipalities' ability to provide fire protection services. There are solutions that some municipalities have found to solve this dilemma, including consolidation of fire services or through intergovernmental cooperation agreements (ICA), which is usually a larger municipality providing services for a smaller one.

The City of Pittsburgh's Bureau of Fire provides fire protection and related services (including fire suppression, emergency management coordination, hazardous materials response, vehicle and other rescue services and fire prevention and education) to two municipalities under ICAs, the Boroughs of Wilkinsburg and Ingram.

The Borough of Wilkinsburg borders the City of Pittsburgh on the east side and is 2.09 square miles. The City of Pittsburgh and Wilkinsburg Borough first entered into an agreement for the City to provide these services on April 1, 2011. This was the second ICA the City held

with Wilkinsburg, having provided non-recyclable municipal waste collection since 2007. The fire services ICA is renewable every five years. When this agreement was initiated, the City absorbed the full-time Wilkinsburg firefighters who qualified under City requirements, with some remaining at the stationhouse in Wilkinsburg and the rest disbursed throughout the City's forces. The City also took over all fire fighting vehicles and equipment as well as the main fire station at 605 Ross Street in Wilkinsburg, becoming the 30th station in the City's Bureau of Fire's station roster.

The ICA between Wilkinsburg and Pittsburgh requires Wilkinsburg to make fixed quarterly payments for continued services. The payments are based on estimated costs for salaries and benefits, supplies and equipment, personnel pre-employment expenses and indirect costs. Salary and benefit costs are predicated on the wages and benefits currently provided under the current labor agreement between the City and the firefighter's union.

Table 19 details the yearly contracted payments from the Borough of Wilkinsburg to the City for fire services since 2011.

TABLE 19

Contracted Payments from Wilkinsburg for Fire Services, 2011-2023	
Year	Payments Total
2011 (Starting April)	\$1,038,111.00
2012	\$1,608,852.00
2013	\$1,634,848.00
2014	\$1,615,849.00
2015	\$1,663,351.00
2016	\$1,648,352.00
2017	\$1,648,352.00
2018	\$1,648,352.00
2019	\$1,769,348.00
2020	\$1,875,827.00
2021	\$1,997,755.76
2022	\$2,067,677.20
2023	\$2,140,045.92
Total	\$22,356,720.88

Data Source: Contracts between the City of Pittsburgh and the Borough of Wilkinsburg

When the original contract with Wilkinsburg was made, the average calls per year was not published in the contract. Renewal contracts also have not had this information. Examining the call response data for 2020 and 2021, the auditors were able to calculate that the Borough of Wilkinsburg had 836 calls in 2020 and 1,034 calls in 2021 where at least one fire apparatus arrived on scene.

Finding: Call data is not included in Wilkinsburg's contract.

RECOMMENDATION 23:

The Bureau of Fire administration should include the number and types of calls for the number of years equal to the contract length. Contracts are publicly available, so a more thorough description of the calculation of costs should also be available.

Another example of a collaborative response to fire services is the more recent ICA the City of Pittsburgh made with the Borough of Ingram. Ingram is a .46 square mile Borough located five miles west of the center of the city and bordering Crafton Heights to the west. In April 2016, the Borough’s council voted to disband their volunteer fire company and sign an ICA with the City to provide services. Council cited an insufficient number of volunteers, as well as the costs of maintaining three fire stations within the small community.

An ICA was signed with Ingram, in May 2016. At the start of this agreement, a discount was offered for the first five years in exchange for two fire vehicles Ingram owned which the City would take over. The City estimated the value of these assets to be \$100,000, which resulted in a \$20,000 yearly discount in coverage costs over the five years of the first contract. The City is able to serve the Borough of Ingram primarily from Fire Houses #30 (Elliott) and #31 (Sheraden), and Ingram’s physical firehouses were not needed.

Table 20 shows the payments received from Ingram for fire services. Pittsburgh and Ingram signed another ICA in March 2019, which extended the contract to a ten-year contract with option to renew, the contract is now active until March 2026. The contract also referenced a lump sum payment of \$336,000 made by Ingram in 2019, which discounted their rates from 2019-2025. Table 20 shows the payments received from Ingram since 2016 shows all monies paid as owed.

TABLE 20

Contracted Totals from Ingram For City of Pittsburgh Fire Services,2016-2023	
Year	Payments Total (Discount applied)
2016 (Starting May)	\$84,777 (\$20,000)
2017	\$87,252 (\$20,000)
2018	\$90,780 (\$20,000)
2019	\$46,671 (\$68,000)
2020	\$53,690 (\$68,000)
2021	\$64,526 (\$48,000)
2022	\$67,731 (\$48,000)
2023	\$78,749 (\$48,000)
Total	\$574,176 (\$340,000)*

* Discount for two fire vehicles and the lump sum advance payment in 2019

Data Source: Contract between the City of Pittsburgh and the Borough of Ingram

When the contract with Ingram was made, the calculations were made on the basis of the total number of calls and a cost per call calculation. Ingram reported an average of 58 calls per year from 2012-2017. The Pittsburgh Bureau of Fire furnished us with response call data for 2020 and 2021. In 2020, Ingram had 61 calls and 52 calls in 2021 where at least one fire apparatus arrived on scene.

Finding: For the audit period, the agreement with the Borough of Ingram did not create any unexpected pressure on the Bureau of Fire’s operational ability. Since the call data for Wilkinsburg was not included in the contract, it cannot be verified if Wilkinsburg’s calls are out of expectations at the time the contract was drawn up.

Table 21 shows a comparison between Wilkinsburg’s and Ingram’s rates of calls for the years 2020-2021. In this instance, a call was defined as at least one fire apparatus arriving on the scene of the emergency. It appears that the contracts are roughly equitable. The cost per call row is simply the amount of the contract divided by the number of calls for that year.

TABLE 21
Boroughs of Wilkinsburg and Ingram
Calls and Average Cost
2020-2021

	Wilkinsburg		Ingram	
	2020	2021	2020	2021
Contract Amount due the City	\$1,875,827	\$1,997,756	\$121,690	\$112,526
Calls	836	1,034	61	52
Cost per call	\$2,244	\$1,932	\$1,995	\$2,164

Data Source: Pittsburgh’s Bureau of Fire ICAs with Wilkinsburg and Ingram

As discussed in [*Developing Collaborative Capacity to Enhance Municipal- Level Fire Services in Allegheny County*](#), a report written in the Fall of 2020 by team members of the University of Pittsburgh’s Congress of Neighboring Communities at the Graduate School of Public and International Affairs, municipalities face severe hardship in maintaining effective fire services due to Pennsylvania’s history of decentralization to municipalities, as well as the extreme fragmentation of our municipalities. In fact, this report notes that Pennsylvania holds 12% of the nation’s 20,000 all-volunteer fire companies. It was not until Acts 7, 8, 9 and 31 in 2007/2008, which amended the Second Class Township Code of 1933, which allowed municipalities greater flexibility to make decisions regarding fire services, including collaborations.

According to the report, increasing collaborative capacity, be it through consolidation of small departments, combining career firehouses with volunteer fire personnel or pursuing intergovernmental agreements as Wilkinsburg and Ingram has with Pittsburgh will be key in the future to maintaining safe and reliable emergency services for all.

APPENDIX

EXHIBIT A
 Map of Firehouses, Academy, HQ/Warehouse

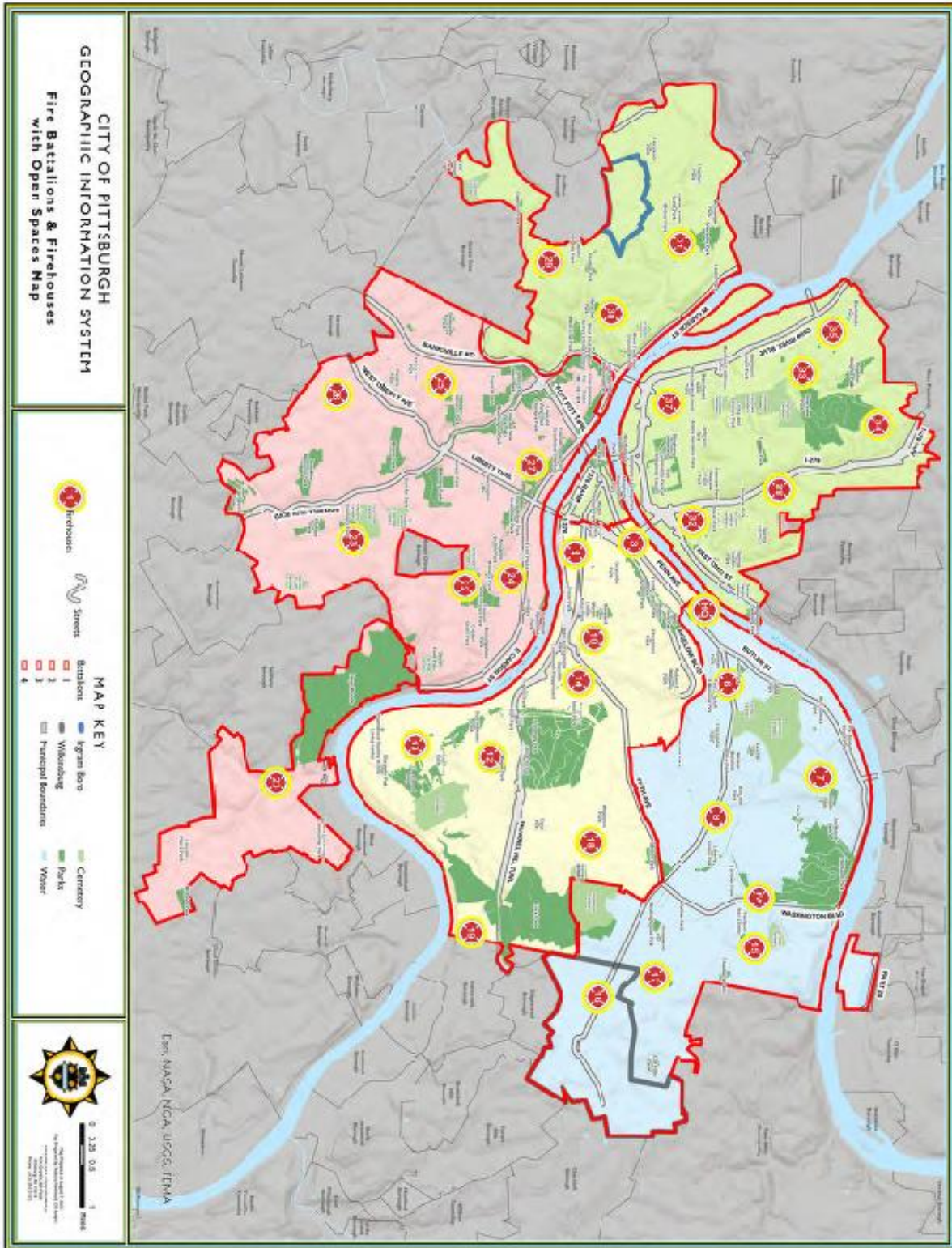


EXHIBIT B
Girls Fire Camp Flyer
2023

City of Pittsburgh
BUREAU OF FIRE

Ebenezer Outreach Ministries

EBENEZER
"LIFE CHANGING CHURCH"

PITTSBURGH BUREAU OF FIRE

2ND GIRLS FIRE CAMP

7-11 AUGUST 2023
EBENEZER BAPTIST CHURCH
GIRLS AGES 14-18

SCAN FOR INFO!

Or Visit PFB Website
www.Pittsburghpa.gov/fire
Or Facebook Page
www.facebook.com/PghFire

LEARN ABOUT

- FITNESS & NUTRITION
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- SELF CONFIDENCE

COME JOIN US FOR A WEEK LONG CAMP TO EXPLORE A CAREER AS A FIREFIGHTER

MORE INFORMATION Lisa: 412-255-2863 | Lisa.Epps-Cuda@pittsburghpa.gov

EXHIBIT C
City of Pittsburgh Facility Optimization Plan
July 2017

6.1 CATEGORY 2 CURRENT INVESTMENT NEEDS AND CONDITION SCORE PER FACILITY

CATEGORY 2									
BUILDING NAME	Code	YEAR BUILT	Area SF	NO	STREET	ZIP	COUNCIL DISTRICT	CONDITION SCORE	REPAIR COST
FIREHOUSE 24	B111	1963	28,146.00	1729	MARY ST	15203	3	POOR	\$2,091,410
FIREHOUSE 04	B118	1959	26,228.00	1324	FORBES AVE	15219	6	FAIR	\$1,543,343
MEDIC HEADQUARTERS	B153	1885	44,277.00	700	FILBERT ST	15232	8	FAIR	\$1,220,851
POLICE HEADQUARTERS	B400	Unknown	80,000.00		WESTERN AVE.	15212	3	GOOD	\$1,096,875
POLICE ZONE 04 / FIREHOUSE 18	B115	1906	15,868.00	5858	NORTHUMBERLAND ST	15217	8	FAIR-POOR	\$1,063,271
MEDIC 03 / ARSON / POLICE ZONE 6	B112	1908	11,254.00	312	SOUTH MAIN ST	15220	2	FAIR-POOR	\$981,151
MUNICIPAL COURTS BUILDING	B902	Unknown	44,646.00	660	FIRST AVENUE	15219	6	GOOD	\$958,420
FIREHOUSE 13	B125	1955	7,275.00	200	FLOWERS AVE	15207	5	FAIR-POOR	\$918,101
FIREHOUSE 07	B121	1911	8,622.00	4603	STANTON AVE	15206	7	POOR	\$914,002
FIREHOUSE 28	B137	1944	9,081.00	1428	BEECHVIEW AVE	15216	4	FAIR-POOR	\$858,655
FIREHOUSE 14	B110	1945	17,262.00	259	MCKEE PLACE	15213	3	FAIR	\$855,977
FIREHOUSE 22	B132	1980	4,500.00	1945	ARLINGTON AVE	15210	3	FAIR-POOR	\$795,050
FIREHOUSE 23	B133	1958	9,880.00	1704	BROWNSVILLE RD	15210	4	FAIR	\$780,399
FIREHOUSE 8	B114	1928	20,874.00	119	PENN CIRCLE WEST	15206	9	FAIR	\$762,780
FIREHOUSE 37	B144	1947	10,780.00	1124	WEST NORTH AVE	15233	6	FAIR	\$714,041
FIREHOUSE 17	B128	1953	10,168.00	7601	HAMILTON AVE	15208	9	POOR	\$696,002
FIREHOUSE 03	B117	1978	6,344.58	1401	PENN AVE	15222	7	GOOD	\$610,392
MEDIC 08	B131	1893	4,163.08	212	WALTER AVE	15210	3	POOR	\$603,133
MEDIC 04	B150	1902	7,113.00	215	LAFAYETTE AVE	15214	6	FAIR-POOR	\$602,119
FIREHOUSE 34	B141	1894	8,656.54	3914	PERRYVILLE AVE	15212	1	FAIR-POOR	\$595,718
FIREHOUSE 27	B136	1908	11,833.68	96	VIRGINIA AVE	15211	2	FAIR	\$556,164
FIREHOUSE 15	B126	1909	6,159.66	7024	LEMINGTON AVE	15206	9	POOR	\$554,844
FIREHOUSE 26	B135	1910	7,032.50	630	BROOKLINE BLVD	15226	4	FAIR	\$550,110
POLICE ZONE 5 (NEW-OLD HOUSING POLICE)	B402	Unknown	11,046.00	1401	WASHINGTON BLVD.	15206	7	GOOD	\$444,455
FIREHOUSE 30	B138	1909	6,238.50	916	STUBEN ST	15220	2	POOR	\$412,465
FIREHOUSE 31	B139	1911	7,815.00	3000	CHARTIERS AVE	15204	2	POOR	\$404,072
FIREHOUSE 20 / MEDIC 12	B130	1905	5,645.00	514	BALDWIN RD	15207	5	POOR	\$395,266
FIREHOUSE 10 / MEDIC 5	B122	1956	5,500.00	2500	ALLEQUIPA ST	15213	6	GOOD	\$368,245
FIREHOUSE 35	B142	1900	7,586.00	1519	ORCHLEE ST	15212	1	FAIR	\$359,809
FIREHOUSE 32	B140	1984	12,524.00	900	SPRING GARDEN AVE	15212	1	FAIR	\$328,793
FIREHOUSE 06	B120	1974	6,352.93	3958	PENN AVE	15201	7	FAIR	\$302,305
POLICE ACCIDENT INVESTIGATIONS / SWAT (OLD 5 FIREHOUSE)	B119	1974	5,564.83	2945	WEBSTER AVE	15219	6	FAIR	\$278,719
FIREHOUSE 38	B145	1977	8,391.00	198	ESSEN ST	15235	1	FAIR	\$261,761
FIREHOUSE 19	B129	1915	4,058.00	159	HOMESTEAD ST	15218	5	FAIR	\$245,663
POLICE - COMMERCIAL VEHICLE INSPECTIONS (OLD 39 FIREHOUSE)	B146	1901	5,392.00	1800	LEY ST	15212	1	FAIR	\$210,883
POLICE ZONE 01	B379	1998	11,187.00	1501	BRIGHTON RD	15212	6	GOOD	\$178,835
POLICE ZONE 3 (NEW 2009)	B405	Unknown	9,270.00	830	WARRINGTON AVE	15210	3	GOOD	\$171,448
MEDIC 06	B373	1996	8,099.39	4740	MOSSFIELD	15224	9	GOOD	\$104,927
MEDIC 09 / RESCUE 1	B123	1972	4,456.00	800	SOUTH MILLVALE AVE	15213	7	GOOD	\$99,308
FIREHOUSE 34 TRUCK	B366	1994	2,684.00	3284	CENTRAL AVE	15212	1	GOOD	\$86,854
FIREHOUSE 29	B225	1995	11,448.00	2100	NOBLESTOWN RD	15205	2	FAIR	\$73,656
MEDIC 02	B364	1990	3,422.33	430	MATTHEWS	15210	3	GOOD	\$55,623
POLICE ZONE 02	B108	1978	5,413.46	2000	CENTRE AVE	15219	6	GOOD	\$28,880
RIVER SAFETY BOATHOUSE	B621	Unknown	3,520.00	100	PNC PARK	15212	1	GOOD	\$9,225
Current Investment Needs in CATEGORY 2 Facilities									\$25,144,000

EXHIBIT D
City of Pittsburgh Firehouse 24 Photos
2023

Firehouse 24



Ceiling Leaks, Garage Bay
Firehouse 24



Ceiling Leaks, Kitchen
Firehouse 24



Over time, roof leakage or masonry damage from clogged gutters has damaged portions of the ceiling.
Firehouse 24



Mini split A/C does not provide enough cooling for the bunkhouse portion of the fire house.
Firehouse 24



Wraps on plumbing in the bathroom need to be replaced.
Firehouse 24



No control over the boiler, so it is either fully on or off, no in-between.
Firehouse 24

EXHIBIT E
City of Pittsburgh Firehouse 18 Photos
2023



Cracks in garage pad that may have damaged the sewer underneath.
Firehouse 18



Broken windows on the 2nd floor that haven't been replaced, allowing significant water leaks.
Firehouse 18



Windows on the 1st floor were caulked up instead of properly fixed.
Firehouse 18



New regular gutters allow dangerous icicles to form, that must be knocked down.
Firehouse 18



Basement has significant mold issues that limit the amount of time personnel can stay down there, despite being the location of the fire house's washer and dryer.
Firehouse 18

EXHIBIT F
City of Pittsburgh Firehouse 7 Photos
2023



Broken cupboards
Firehouse 7



Basement sewer overflows into the trench.
Firehouse 7



Plaster/Lathe falling off the walls of the stairs.
Firehouse 7



Paint chipping on the walls of the firehouse.
Firehouse 7



Water heater in officer's room is broken.
Firehouse 7



Trim/Mold Issues with shower in Captain's bathroom
Firehouse 7

EXHIBIT G
City of Pittsburgh Firehouse 17 Photos
2023

Firehouse 17



Cracks in driveway pad.
Firehouse 17



Leaky pipes throughout station
Firehouse 17



Floor drains are non-flowing
Firehouse 17



Gate for parking doesn't fully close, allowing trespassers in.
Firehouse 17



Water drains from the pad into the basement.
Firehouse 17

EXHIBIT H
City of Pittsburgh Firehouse 23 Photos
2023

Firehouse 23



Cracks in the pad
Firehouse 23



Dryer is not vented, allowing lint to cause significant issues to electronic basement equipment.
Firehouse 23



Drain-pipes leak into the basement.
Firehouse 23



Asbestos-covered pipes located in the basement.
Firehouse 23



HVAC room smells of gas.
Firehouse 23

EXHIBIT I
City of Pittsburgh Firehouse 35 Photos
2023

Firehouse 35



Station door was not working at the time of the auditors' visit.
Firehouse 35



Steps are slanting to one side, which has led to at least one injury resulting in lost time.
Firehouse 35



Paint peeling in garage bay
Firehouse 35

EXHIBIT J
City of Pittsburgh Firehouse 4 Photos
2023

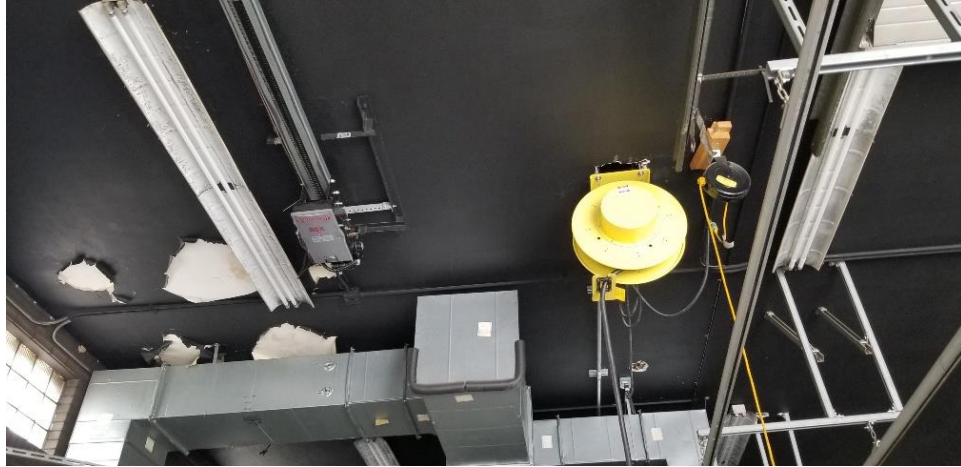
Firehouse 4



Cracks in the garage pad
Firehouse 4



Paint peeling on ceilings
Firehouse 4



Paint peeling on ceilings
Firehouse 4



Cabinet doors broken
Firehouse 4



Leaking water into the basement
Firehouse 4



Water leaks onto the furnace and extinguishes the pilot flame on the boiler, leaving the station without hot water
Firehouse 4

EXHIBIT K
City of Pittsburgh Firehouse 34 Photos
2023

Firehouse 34



Water leaks into the basement
Firehouse 34



More water leaks into basement

Firehouse 34



Secondary shower is currently unusable.
(Not pictured, but this firehouse also has a very poor internet connection that affects the ability of the personnel there to complete mandatory administrative tasks)
Firehouse 34



Old style steps from original firehouse design
Firehouse 34

EXHIBIT L
City of Pittsburgh Fire Academy Photos
2023



Potholes in the pavement
Fire Academy



More potholes in the pavement around the practice building
Fire Academy



Practice building is out of date and is inadequate for training to fight fires in modern buildings
Fire Academy

ED GAINEY
MAYOR



DARRYL JONES
CHIEF

CITY OF PITTSBURGH
BUREAU OF FIRE

October 30, 2023

Michael E. Lamb, City Controller
Office of the City Controller
414 Grant Street
Pittsburgh, PA 15219

Dear Controller Lamb,

RECOMMENDATION 1:

The Bureau of Fire administration needs to contact the Department of I&P to update the organizational chart on the Bureau's webpage to adequately reflect how the bureau is set up and run. I&P should also be contacted to remove the Blood Pressure Screenings section from the Bureau of Fire website since those are no longer provided.

Response: The Bureau of Fire will ask I&P to address these items as soon as possible.

RECOMMENDATION 2:

The Department of Public Safety, in conjunction with Bureau of Fire administration, should restart publishing annual reports on their website after the new data management system is brought fully online. It is important to provide transparency to the public and the public should have a place to find basic information about the Bureau, such as the number of incidents responded to, where new firehouses are being built, any apparatus bought, and any fire academy classes held that year.

Response: The Bureau of Fire take this recommendation and work with I&P to restart publishing this information. We agree that it would benefit the community to have this information pertaining to all aspects of the Fire Bureau. This data will be easier to access with the use of a new reporting Software as well.

RECOMMENDATION 3:

As the Bureau of Fire administration makes changes to the residency requirements and begins using the CPAT physical exam, they should continue to track the number of applicants and their demographics during each step of the application process. This will provide information that can be analyzed about the impact of the changes in the residency requirement and the change in testing.

Response: Tracking demographics and data is a joint effort between Human Resources and the Bureau of Fire. As research is conducted regarding what works for the City of Pittsburgh and best practices throughout the country

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RECOMMENDATION 4:

The Bureau of Fire and City administration must negotiate with the IAFF Local No. 1 to extend the city's paid parental leave policy to all firefighters. The administration should also clarify and expand the Pregnancy Leave section of the union contract to make sure that the benefits are given equitably.

Response: Tracking demographics and data is a joint effort between Human Resources and the Bureau of Fire. As research is conducted regarding what works for the City of Pittsburgh and best practices throughout the country

RECOMMENDATION 5:

With the same request as Recommendation 1, the Bureau of Fire administration should direct I&P to update addresses and maps of the Bureau of Fire facilities on the Bureau's website and reflect the most recent Fire Administration's office relocation.

Response: The Bureau of Fire will ask I&P to address these items as soon as possible.

RECOMMENDATION 6:

Substantial renovations have been made at Firehouse 24, which at the present time is 50% completed, at a cost of over a half of million dollars, and the space is not being used. The Bureau of Fire administration should consider their needs for personnel and storage space and advocate for a portion of the space, if needed. It is a waste of resources if the remodel continues without a clear vision for the future.

Response: The remodel of station 24 is a coordinated effort between Public Works and the Bureau of Police. The unoccupied portion of the building was to be utilized to reestablish police presence in the South Side of the city. This is not a Bureau of Fire project.

RECOMMENDATION 7:

Upon completion of the Bureau of Public Safety's audit of firehouse conditions, public safety and fire administration should work with the Department of Public Works maintenance facility to establish a routine maintenance schedule for firehouses. Small repair projects completed in a timely manner prevent larger repair expenses.

Response: Fire administration is now currently working Public Works Staff to identify and prioritize Fire Bureau facilities that need repair and to establish routine maintenance schedules. One of the main issues that act as a barrier to accomplishing this goal is funding for these projects.

RECOMMENDATION 8:

The City of Pittsburgh's Bureau of Fire administration should assess areas around firehouses and request clear signage to the entrances of as many fire stations as possible to allow greater enforcement of parking codes and aid driver's overall awareness of firehouse operations, while increasing safety and awareness of firehouse operations.

Response: The Bureau of Fire will collaborate with Public Works and the Department of Mobility & infrastructure to identify and address where the challenges are presented. This is a collaborative effort that will take time to implement.

RECOMMENDATION 9:

The Bureau of Fire and City administration should make resurfacing the asphalt lot at the Fire Academy a priority. Fixing the parking lot prevents firefighter injuries and makes for a cleaner appearance for the public.

Response: This project is a request that has been over the past several years but funding has not been available. It is the Fire Bureau's understanding that this project will be funded in fiscal year 2024.

RECOMMENDATION 10:

Bureau of Fire administration should work with DPW administration and develop conceptual design plans for each firehouse in relation to female accommodations that are agreeable to *all* stakeholders. City administration should then prioritize making these accommodations for all firehouses. The City has been aware of this situation, not least of which as part of the 1998 civil rights lawsuit, and it is no longer acceptable to continue to delay this work. After the conceptual design plans are agreed to by all parties, serious consideration needs to be given to funding for the renovation of all firehouses as well as adding female facilities.

Response: This project has begun and there are currently quarterly meetings with various stakeholders to identify and address the issues. It is Public Works plan to start implementing changes to help address the concerns as stations are being repaired or renovated.

RECOMMENDATION 11:

Bureau of Fire administration should pursue these grants and meet with the Department of Public Works and the Grants Office administrations to clarify which MUSH building funding could be applicable to their situation.

Response: Fire Administration has and will continue to have dialogue with Public Works regarding these projects and to determine if there are additional funding sources that can help with the Fire Station projects.

RECOMMENDATION 12:

The Bureau of Fire Administration must always be involved with future vehicle orders so vehicles can be ordered accurately with all required specifications to meet the Fire Bureau's needs.

Response: The Fire Administration takes an active part in the bid specification and design portion when it pertains to the vehicle and apparatus purchases.

RECOMMENDATION 13:

The Bureau of Fire, Office of Management and Budget, and the Equipment Leasing Authority administrations should create a vehicle replacement schedule and not deviate from it. The same recommendation is made in both City Controller's Office 2023 Department of Public Safety Bureau of Emergency Medical Services performance audit and the 2023 Bureau of Environmental Services- Recycling Division performance audit, because vehicle replacement is a major concern for most City Department vehicles, especially the Department of Public Safety's. A steady ordering stream of vehicles will help alleviate vehicle shortages and eliminate groups of vehicles aging out of service at the same time.

Response: Fire Administration developed an internal replacement schedule and presented to Equipment Leasing Authority in 2023. This was done well in advance of the City of Pittsburgh budget meetings and presentations so that the Equipment Leasing Authority could begin to implement the plan. Funding for the project was limited in the proposed 2024 Budget and it will not follow the proposed replacement plan.

RECOMMENDATION 14:

The vehicle ordering departments of the Bureau of Fire, Office of Management and Budget, and the Equipment Leasing Authority should create a city-wide fleet management strategy for all vehicles with a focus on public safety. All vehicle and equipment orders should be reviewed by a second set of eyes with experience in the field to ensure that no purchase errors occur.

Response: This is a venture that the Bureau of Fire would not be opposed to. A city-wide fleet management system would be beneficial and most likely cost-effective for the City of Pittsburgh and the bureau's.

RECOMMENDATION 15:

The Bureau of Fire administration should endeavor to restart ground ladder testing as soon as possible and to keep the records of the testing results for the life of the ground ladders, as recommended by NFPA standards.

Response: Fire Administration has already begun working on a plan to address ladder testing. We are also looking to locate and identify any ladders that are considered spares so that the Fire Bureau has enough ladders to replace any ladders that might be taken out of service as a result of the ladder testing.

RECOMMENDATION 16:

The City of Pittsburgh Bureau of Fire administration should look to add a backup hose testing machine to limit possible downtime for hose testing if one machine fails and needs to be sent in for repairs. The administration should also contact the current manufacturer repairing the hose testing machine, to determine when it will be returned. If not within the next month, a loaner should be requested.

Response: The hose testing machine was an issue that was identified while the controllers office was conducting the audit. A new hose testing machine was purchased and placed into service before this report was issued.

RECOMMENDATION 17:

The Pittsburgh Bureau of Fire administration should utilize the Hose Record Vault service, a service that was included in the order of Snap-Tite hoses, for documenting and tracking new hoses as they arrive. These records should be kept for the life of the hose, as recommended by the NFPA. The Bureau should also consider utilizing the free on-site training and online support.

Response: Fire Administration is in the process of replacing their Records Management System (RMS). Most records management systems have an inventory component built into the program. This would be a data set that we could use for new and older equipment as an inventory is imported into the RMS.

RECOMMENDATION 18:

The Bureau of Fire administration should continue tracking hoses by identification number, as recommended by NFPA standards

Response: Using tracking numbers for all equipment is a project that the Fire Bureau is beginning as we are replacing equipment. This will allow us to begin to track data as it pertains to any and all equipment within the bureau.

RECOMMENDATION 19:

The Bureau of Fire administration should begin service testing fire hose nozzles and appliances according to NFPA 1962 standards. The newly purchased nozzles and fire hose appliances will have a unique ID engraved on them. The Bureau of Fire administration should keep individual records for these nozzles and appliances for as long as they are in use, as recommended by NFPA standards.

Response: The testing and maintenance of equipment is valuable for the safety of the firefighters as well as it can be a cost effective way to prolong the life of equipment. The Bureau of Fire will determine if the testing procedures can be done in house or through the use of an outside vendor. Research time will be needed to properly identify the correct procedure to utilize.

RECOMMENDATION 20:

The Bureau of Fire's administration should regularly attend or send a representative to the Risk Management Office's Occupational Safety Committee monthly meetings. The Office of Risk Management exists to aid in employee safety and can also act as a resource for free or low-cost trainings and injury analysis.

Response: The Bureau of Fire has attended meetings in the past but it has not been consistent. We will work to establish consistency in attending the Occupational Safety Committee meetings in the future as the work the committee does is extremely valuable to aid in employee safety.

RECOMMENDATION 21:

The Bureau of Fire administration should develop a survey to ask public safety personnel if this wellness app proved useful to them and if they could specify any additional needs in terms of health and wellness.

Response: This recommendation will be taken into consideration and the Bureau of Fire can work with the staff of the Occupational Safety Committee. This would help in many facets as we would could obtain valuable information and data from our members.

RECOMMENDATION 22:

The Bureau of Fire and the Department of Public Safety administrations should continue to monitor the cost-effectiveness of the WFI program or other health programs developed for firefighters to monitor their physical well-being. Local healthcare nonprofits should be approached to sponsor this worthwhile program to protect the lives of the City's firefighters, much as the JCC helped the City's public safety's divisions when procuring funding for the wellness app.

Response: This recommendation would be a collaborative effort between the Fire Bureau, Department of Public Safety, and the Risk Management Office's Occupational Safety Committee.

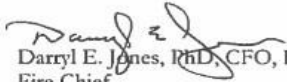
RECOMMENDATION 23:

The Bureau of Fire administration should include the number and types of calls for the number of years equal to the contract length. Contracts are publicly available, so a more thorough description of the calculation of costs should also be available.

Response: This can be done in conjunction with recommendation #2 regarding publishing annual reports. All of this data can be completed while publishing those reports.

The Pittsburgh Bureau of Fire would like to thank the Controllers Office for their continued effort to ensure that all departments are doing their absolute best to ensure the safety of the members of the Fire Bureau and the residents and patrons of the City of Pittsburgh. All Recommendations put forth are achievable through collaborative efforts with the various City of Pittsburgh departments that are outlined in the report. In addition, some of the recommendations from the comptroller's office we are already identified and an action plan has already begun to correct those items. Again, we thank you for this thorough report and we look forward to making these adjustments to continue to support the mission of the Pittsburgh Bureau of Fire.

Sincerely,


Darryl E. Jones, PhD, CFO, EFO
Fire Chief