Consultant Report

2022

Community Risk Assessment and Standards of Cover

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Introduction

The following document functions as the Prince George's County Fire/EMS Department (the "Department" or "PGFD") All Hazard Community Risk Assessment and Standards of Cover statement. The Commission on Fire Accreditation International (CFAI) defines the process, known as "deployment analysis," as a written procedure that determines the distribution and concentration of fixed and mobile resources of an organization. The purpose of completing such a document is to assist the PGFD in ensuring a safe and effective response force for fire suppression, emergency medical services (EMS), hazardous materials incidents, and technical rescues, and in facilitating activities for domestic preparedness, emergency planning, and disaster response.

Creating a community risk assessment/standards of cover (CRA/SOC) document requires the research, study, and evaluation of a considerable array of community features. The following report will begin with a descriptive overview of PGFD and the area that it serves. Following this overview, an all-hazards risk assessment provides an analysis of potential risks and describes activities the PGFD employs to mitigate those risks. Current deployment and performance were assessed to determine the capabilities and capacities that are available. Benchmark statements and baseline performance support PGFD's ability to meet distribution and concentration metrics. The report concludes with plans for maintaining and improving capabilities, as well as policy recommendations to address gaps in performance or desired outcomes.

Throughout the document, several "accreditation building blocks" will be highlighted, drawing a direct link between the community risk assessment/standards of cover and the requirements of the fire department accreditation process as administered through CFAI.

Core Competency or Performance Indicator
Description of the core competency or performance indicator with the most important phrases or words underlined for emphasis.

This CRA/SOC is demonstrative of PGFD's continued commitment to regular community risk assessment. The Department has adopted a formal process of reviewing and assessing risk as an annual process. PGFD anticipates that regularly revisiting and revising the CRA/SOC will allow the Department to stay on top of changes in the community as well as enable staff to efficiently distribute and plan for resources allocated throughout the jurisdiction.

Prince George's County Fire/EMS Department would like to thank all members for their continued dedication to the citizens and visitors to the Department and for the commitment to continuous improvement embodied by the accreditation process.

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Executive Summary

Standards of Cover Process

A fire department's standards of cover (SOC) document is defined by the Commission on Fire Accreditation International (CFAI) as the "adopted written policies and procedures that determine the distribution, concentration, and reliability of fixed and mobile response forces for fire, emergency medical services, hazardous materials and other technical types of responses." For the elected body and department administrators to have confidence that their fire department is meeting the needs of the community, a complete assessment of the risks must be honestly undertaken. Only after the application of a proven and consistent risk assessment model is made can a fire department develop a SOC performance contract.

It is the responsibility of the department's decision-makers to provide an educated calculation of the expected risk, what resources are available to respond to that risk, and what outcomes can be expected. All of these factors play a role in providing the community's emergency services. It is best practice that communities set response standards based on the identified risks within their jurisdictions. Fire departments that do not apply a valid risk assessment model to their community are not able to adequately educate their community leaders on their true needs. The application of a tested risk assessment model allows the fire department and elected officials to make educated decisions about the level of emergency service they desire.

Section A – Documentation of Area Characteristics

Prince George's County Fire/EMS Department (the "Department" or "PGFD") is a full-service fire department providing fire suppression, EMS, fire prevention, hazardous materials, technical rescue, and bomb and explosive device response for approximately 967,201 people occupying over 499 square miles in Prince George's County, Maryland. Prince George's County wraps around the eastern boundary of Washington, D.C., and contains a 28-mile portion of the 65-mile-long Capital Beltway. PGFD serves 27 incorporated municipalities and 58 unincorporated places.

Prince George's County is a political subdivision of the State of Maryland, which operates under a "home rule" Charter that was adopted in November 1970. From Prince George's County's colonial beginnings until the late 1800s, loosely organized bucket brigades were a community's only source of fire protection. In 1968, the Department of Fire Protection was created, merging all fire protection organizations under a unified command.

Prince George's County Fire/EMS Department utilizes a tiered strategy to organize response areas into geographical planning zones. The first is by the Department's entire response area. The second utilized a more granular assessment of Geographic Planning Zones (GPZs). These GPZs have specific resource allocation strategies based on calculated risks. From an emergency response standpoint, the county is divided into 45 GPZs, each with a dedicated fire station.

Section B – Description of Agency Programs and Services

Prince George's County Fire/EMS Department provides high-quality fire suppression, EMS, fire prevention, hazardous materials, technical rescue, and bomb and explosive device response from 45 fire stations distributed throughout the county, which are primarily owned by 36 individual volunteer corporations.

The Department provides much more than an emergency response to fires, medical events, hazardous material spills, technical rescues, bomb and explosive device response. The Office of the Fire Marshal is responsible for enforcing laws and ordinances in effect in Prince George's County. Under the direction of the Fire Marshal, the office completes fire plan reviews, fire inspections, fire and explosive investigations and responds to complaints involving fire and life safety hazards received. The Fire Prevention and Life Safety Office is a system and process in which programs, actions, and services within the community are utilized to prevent injuries; loss of

life; loss of property; and damage to the environment. Fire & Life Safety Services activities identify and prioritize risks and apply resources in a coordinated manner to minimize the probability and severity of occurrence of fire, natural disasters, and human-made disasters.

Section C – All Hazard Risk Assessment of the Community

A comprehensive risk assessment analyzed the jurisdiction's physical, economic, sociologic, and demographic aspects. The factors that drive the service needs were examined in a precise and scientific manner to determine the capabilities necessary to adequately address the risks that are present.

Event types from the 2016-2020 computer-aided dispatch (CAD) data file were classified into the program areas of EMS, Fire, Hazmat, Technical Rescue, and Bomb based on Department leadership decisions. They were assigned a risk classification based on Department leadership criteria. Each of the major natural and human-made risks evaluated received a clearly defined probability and consequence ranking. Service areas that either had little quantitative data or did not require that level of analysis be evaluated through both retrospective analysis as well as structured interviews with Department staff members.

Section D – Community Feedback

As PGFD embarked on the strategic planning journey, the focus was placed on where the organization was going in the next five years to ensure that the program goals and objectives aligned with the desired outcomes identified by not only our internal personnel but the communities that PGFD serves.

With the guiding principle of inclusion in place and a clear plan for the multifaceted engagement, the organization was able to incorporate many voices in the creation of the refreshed Mission, Vision, and Values. This alignment facilitated the creation of strong and action-oriented goals, objectives, and critical tasks. The input gleaned from community members was invaluable in shaping the next several years of work for PGFD.

Section E – Program Goals and Objectives

The major programmatic goals and objectives for PGFD have been captured in the latest strategic plan, which covers 2022-2027. The goals, objectives, and associated sub-tasks have been organized into three main themes:

1. How do we continue to improve on saving lives, property, and the environment during and prior to emergency events?

2. How do we meet the increasing service demands over the coming years?

3. How do we better explain our services and demonstrate our value to our community?

The goals will be reviewed and addressed by goal owners in regular leadership reviews, including a quarterly review conducted with the executive leadership team. The annual reviews will identify any gaps in current capabilities, capacity, and the level of service provided within each service delivery area. Annually, the Fire Chief will create a documented report-out to share with all Department members and the county executive staff (including the Chief Administrator Officer).

Section F – Current Deployment and Performance

This section analyzed the emergency response history of the Department, taking a systems-level view of current performance, established formal benchmark (what PGFD strives to attain) performance measures, and analyzed actual (baseline) performance. The projected growth of the emergency call volume was also evaluated, along with an in-depth look at each first due fire station area to identify areas of concern with elevated risks and lagging performance.

Simultaneous Calls (call concurrency), Distribution (first unit on scene), Concentration (arrival of the full effective response force), Reliability (how often a unit can answer their own calls), and several other measures were used to paint a clear picture of PGFD's emergency response performance as balanced against community risk and internally developed response time goals.

Section G – Evaluation of Current Deployment and Performance

It is imperative that the Department continuously evaluate their actual performance (baseline performance) versus their established goals (benchmark performance). This section takes a detailed look at the gaps where performance could be improved (noted in red) or is currently exceeding established goals (in green).

Important trends can be discerned based on the risk level (low, moderate, high, extreme) or where the incidents are occurring (urban or rural). Some of the performance tables show gaps that will allow for further refinement of the response system, highlighting areas of opportunity for PGFD to achieve response time goals.

Section H – Plan for Maintaining and Improving Response Capabilities

A strategic plan, on paper, is a commitment to action. A commitment to action requires an execution strategy. PGFD does this by including the development of specific, measurable, attainable, relevant, and time-bound goals in the strategic plan. The strategic plan was developed to provide an inclusive continuous improvement framework to address existing gaps and variations for each functional area of the Department.

Sustaining the work is a critical step in the implementation of a strategic plan. The plan is a living document that supports continuous improvement rather than a static document that sits on the shelf. Meeting quarterly, the planning team will assess progress and report-out in a similar manner to what is shown here; areas of focus, objectives, goals, and tasks are examined to see if the target is still relevant, if more resources need to be allocated, or if adjustments to the strategy need to be undertaken; all in an effort to address existing gaps and variations between baseline and benchmark performance.

Section I – Conclusion and Recommendations

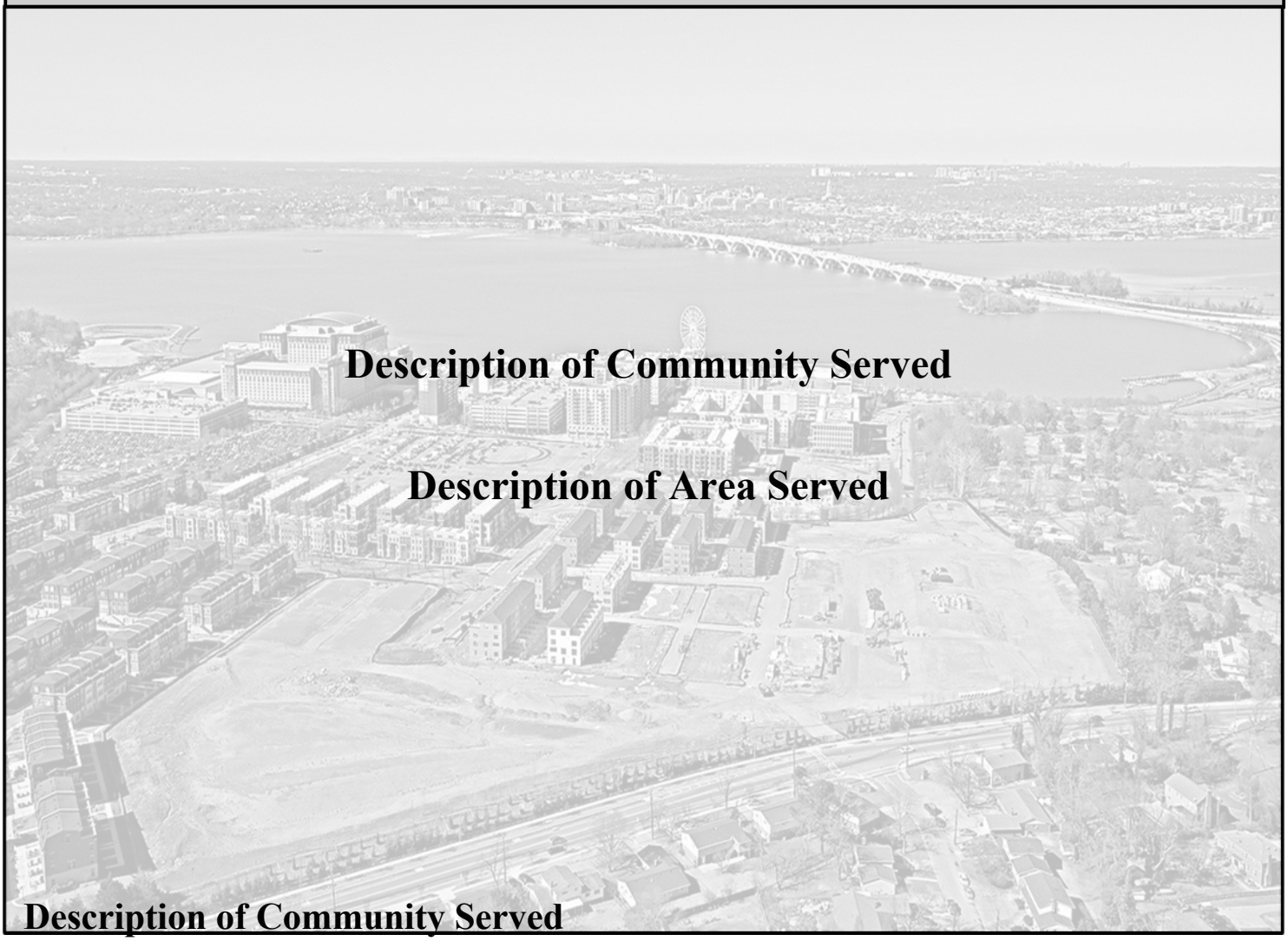
Prince George's County Fire/EMS Department is an organization with 962 career and nearly 970 volunteer firefighters who are committed to saving lives, protecting property, safeguarding the environment, and taking care of their people. This is accomplished by providing a full spectrum of emergency and non-emergency services that align with the risks present in the community. Population growth, continued expansion of building construction, and significant changes to human-made hazards made this an ideal time to undertake a comprehensive community risk assessment/standards of cover (CRA/SOC) process and assess the organization's benchmark and baseline performance.

A succinct list of strengths, weaknesses, opportunities, threats, and recommendations can be found in this section, further aiding PGFD in charting a path toward continuous improvement. Finally, observations and recommendations regarding station locations, ALS unit deployment, BLS unit deployment, workload, resource allocation, and commensurate staffing strategies. Six primary recommendations are presented in this section.

Appendices

- Data Analysis Report
- GIS Report
- Risk Assessment Report

Section A – Documentation of Area Characteristics



Description of Community Served

Description of Area Served

Description of Community Served

This section provides legal and historical background pertinent to the delivery of emergency service within the jurisdiction of Prince George's County Fire/EMS Department (the "Department" or "PGFD"). Included in this section are reviews of the legal and governmental structure, an overview of the demographics and physical environment, and characteristics of particular areas for which PGFD provides service.

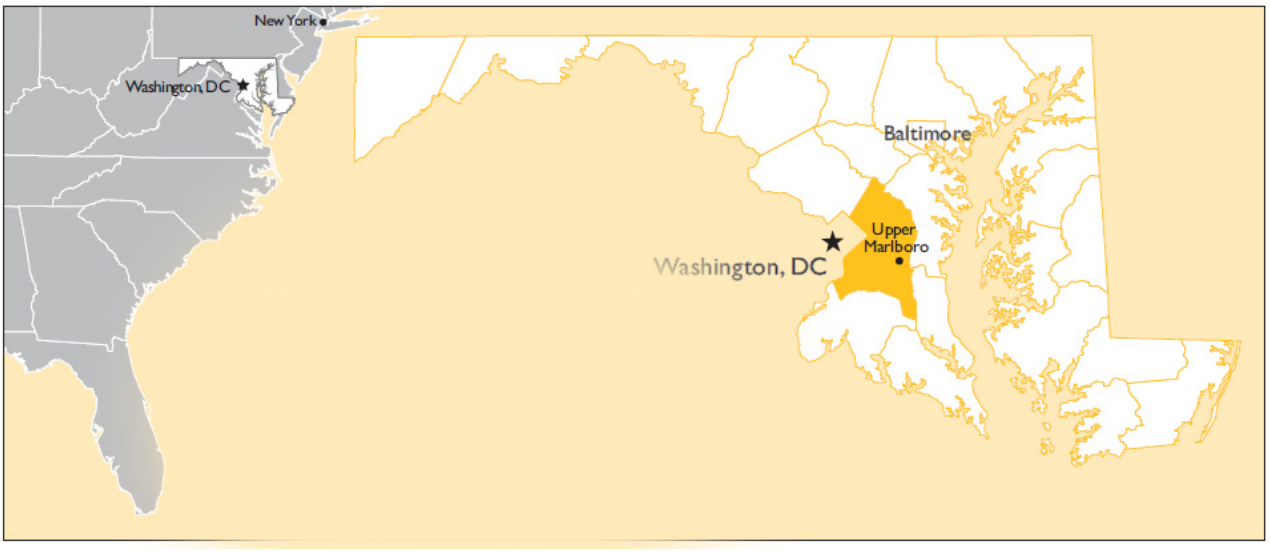
Introduction

Prince George's County Fire/EMS is a full-service combination career volunteer department providing fire suppression, EMS, fire prevention, hazardous materials, confined space rescue, high angle rescue, marine rescue, hazardous materials, technical rescue services, and bomb and explosive device response for Prince George's County, Maryland.

Documentation of Area Characteristics as it relates to Criterion 2A

The agency collects and analyzes data specific to the distinct characteristics of its legally defined service area(s) and applies the findings to organizational services and services development.

Prince George's County wraps around the eastern boundary of Washington, D.C. The Patuxent River forms Prince George's County's eastern border with Howard, Anne Arundel, Charles, and Calvert counties. According to Census 2020, Prince George's County has a population of 967,201 people covering a total area of 499 square miles, of which 483 square miles is land and 16 square miles is water. The Town of Upper Marlboro is the county seat of Prince George's County.



Prince George's County includes 27 incorporated municipalities and 58 unincorporated places. Collectively, they are named census-designated areas (CDPs). Per the 2020 census, Bowie is the largest municipality in the County, with a population of 58,310.

With just under one million residents, Prince George's County has a median income of $86,994, with an estimated 9.5% of the population living at or below the federal poverty line. Prince George's County is racially diverse, with African American residents comprising 64% of the population, non-Hispanic white residents making up 27%, and Hispanic/Latino residents representing just under 20% of the population. Just under 14% of Prince George's County's residents are age 65 or older, while 11% of the population is without health insurance.

Prince George's County residents enjoy a diversity of leisure in addition to the recreational and cultural opportunities of the nation's capital, located just across the county line. Leisure facilities and services provided

by the Maryland-National Capital Park and Planning Commission include a sports and concert facility (Show Place Arena), a 10,000 seat AA Minor League Baseball stadium (Bowie Baysox) and community centers, recreational buildings, aquatic facilities, ice rinks, golf courses, an equestrian center, tennis courts, a performing arts and cultural center, and a gymnastic center.

Other major recreational facilities located in Prince George's County include an 87,052-seat National Football League stadium (FedEx Field – Home of the Washington Commanders Football Team), an amusement park (Six Flags America) featuring rides, attractions, and shows, a 240,000-square foot Olympic-quality recreational Sports and Learning Complex, and the National Harbor, home to MGM Casino, the Gaylord Resort and Convention Center, and the Waterfront.

Prince George's County is home to six universities and colleges, including the flagship campus of the University System of Maryland. The University of Maryland Capital Region Medical Center in Largo celebrated its Grand Opening in June 2021.

PGFD provides emergency response out of 45 fire stations distributed throughout the county, which are primarily owned by 36 individual volunteer corporations. These stations are staffed at various levels by 962 career and nearly 970 volunteer firefighters. Appointed by the County Executive, the Fire Chief oversees the Department. The Fire Chief reports directly to the Deputy Chief Administrative Officer.

Volunteer firefighters are represented by the Prince George's County Volunteer Fire & Rescue Association. Career firefighters are affiliated with the Prince George's County Professional Firefighters and Paramedics Association, IAFF Local 1619.

Legal Basis

Performance Indicator 2A.1

Service area boundaries for the agency are identified, documented, and legally adopted by the authority having jurisdiction.

Prince George's County, Maryland, is a political subdivision of the State of Maryland, which operates under a "home rule" charter adopted in November 1970. Prince George's County is one of eleven Maryland counties that choose such a system of governance. Serving as head of the county executive branch, Prince George's County's elected county executive, through a Chief Administrative Officer, oversees four groups of government functions: administration, community resources, land use & environment, and public safety. A Deputy County Administrative Officer (DCAO) controls each of these groups. Department heads are responsible for reporting to their respective DCAO for purposes of executive authority and oversight.

Prince George's County's legislative functions are accomplished under the direction of an eleven-member county council. Comprised of nine district representatives and two at-large members, the county council focuses on legislative and business matters, zoning, land use, and health policy matters. Among the Council's chief priorities is the review of the annual operating budget and a capital budget, which under Section 804 of the County Charter, is required to be submitted by the County Executive for Council review no later than March 15.

History of the Agency

From Prince George's County's colonial beginnings until the late 1800s, loosely organized bucket brigades were a community's only source of fire protection. In 1879, the town of Upper Marlboro instituted a rudimentary alarm system that allowed for a quicker organization of bucket brigade volunteers[1]. Upper Marlboro followed up with an incorporated volunteer fire company in 1887, with other towns in Prince George's County following suit at the turn of the century until the early 1920s[2]. In 1968, the Department of Fire Protection was created, merging all fire protection organizations under a unified command. In conjunction with a nine-member Fire Commission, the PGFD administration is responsible for the formulation of annual budget requests for submission to the County Executive[3].

Jurisdiction

To study the unique features of Prince George's County, PGFD utilized a comprehensive two-part documented and adopted methodology that organizes response areas into geographical planning zones. The first is by the Department's entire response area. The second utilized a more granular assessment of Geographic Planning Zones (GPZs). These GPZs have specific resource allocation strategies based on calculated risks. From an emergency response standpoint, the county is divided into 45 GPZs, each with a dedicated fire station. The GPZs are not divided equally in terms of demographics and population density.

Core Competency 2A.3

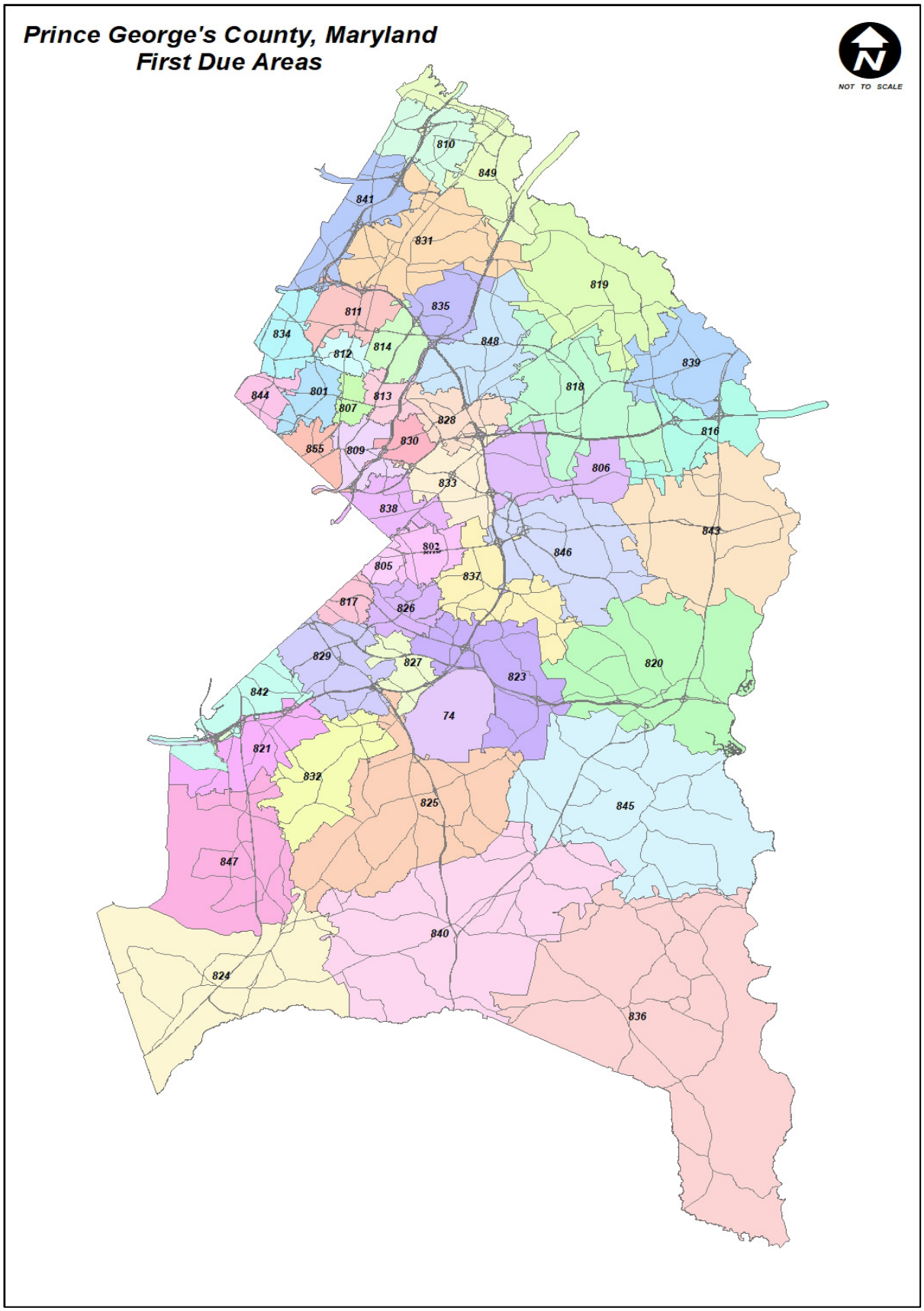
The agency has a documented and adopted methodology for organizing the response area(s) into geographical planning zones.

[1] *Prince George's County Volunteer Fire & Rescue Association.* Association History. 2021. https://www.PG Countyvfra.org/content/history/. Accessed 4 June, 2021.

[2] *Prince George's County Volunteer Fire & Rescue Association.* Association History. 2021. https://www.PG Countyvfra.org/content/history/. Accessed 4 June, 2021.

[2] *Prince George's County Portal.* Fire Commission. 2021. https://www.princegeorgescountymd.gov/704/Fire-Commission. Accessed 4 June, 2021.

[3] Prince George's County Portal. Fire Commission. 2021. https://www.princegeorgescountymd.gov/704/Fire-Commission. Accessed 4 June, 2021.


Prince George's County, Maryland
First Due Areas
NOT TO SCALE
810
849
841
831
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836

Auto/Mutual Aid

Service responsibility areas for mutual and automatic aid are identified, documented, and approved by the Department and Prince George's County. PGFD maintains an active relationship with the surrounding agencies.

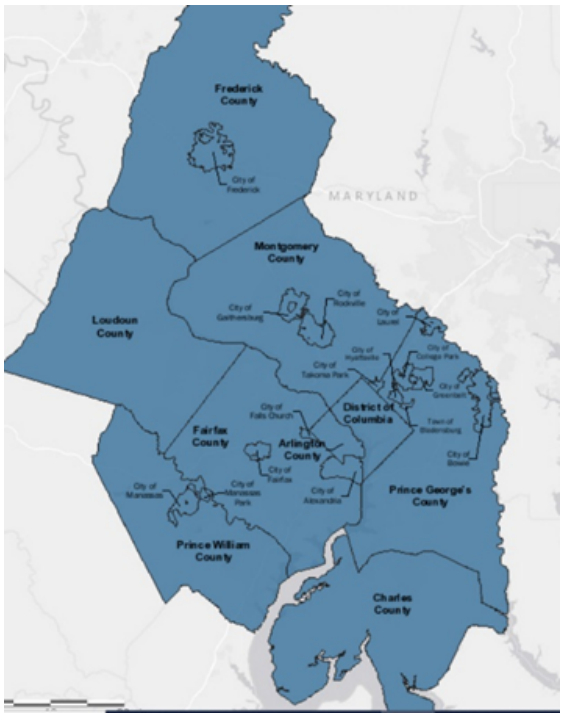
Performance Indicator 2A.2

Boundaries for other service responsibility areas, such as automatic aid, mutual aid and contract areas, are identified, documented, and appropriately approved by the authority having jurisdiction.

Prince George's is part of the National Capital Region (NCR) and part of the Metropolitan Washington Council of Governments (MWCOG). Established by Congress in 1924, the National Capital Planning Commission (NCPC) is the federal government's central planning agency for the NCR.

The broad National Capital Region Mutual Aid Agreement was signed in 2006 by Prince George's County, the Department of Columbia, the State of Maryland, the Commonwealth of Virginia, and other local governments of the NCR.[4]

The Metropolitan Washington Council of Governments (MWCOG) is a nonprofit association with a membership of 300 elected officials from 24 local governments, the Maryland and Virginia state legislatures, and the U.S. Congress. In 2009 the MWCOG Fire Chiefs Committee5 signed the Fire and Rescue Mutual Aid Operations Plan. The intent of this agreement is to ensure the fullest cooperation among fire prevention and suppression and emergency medical services agencies in the NCR.



[4] https://wmata.com/about/board/meetings/board-pdfs/upload/122106_MutualAidCOMPILED.pdf#:~:text=Mutual%20aid%20agreements%20have%20existed%20in%20the%20National,the%20laws%20and%20procedures%20applicable%20to%20the%20party.

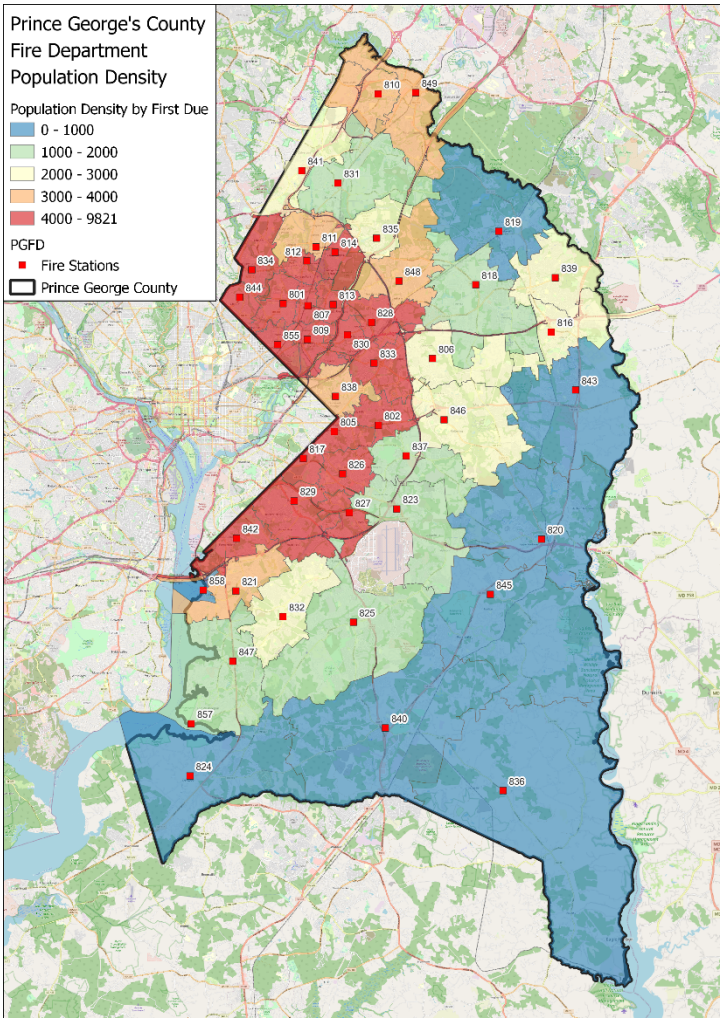
[5] https://www.mwcog.org/fire-chiefs/

Population Overview

PGFD serves a population of 967,201, according to Census 2020. Prince George's County is the second most populous county in Maryland, behind Montgomery County. Bowie is the most populous city (58,329) in Prince George's County. PGFD jurisdiction encapsulates 27 incorporated municipalities and 58 unincorporated places. Prince George's County has seen manageable growth over the years, experiencing a 6.9% increase in population since the last U.S. Census, dated April 1, 2010. The population density within the county ranges from 271 to 3,933 people per square mile, with the average population density at approximately 900 people per square mile. The Department uses the U.S. Census Bureau's population definitions for urban and rural areas. Urban zones have at least 2,500 people, while rural spaces include the population not located within the urban areas.

Core Competency 2A.4

The agency assesses the community by planning zone and considers the population density within planning zones and population are- as, as applicable, for the purpose of developing total response time standards.



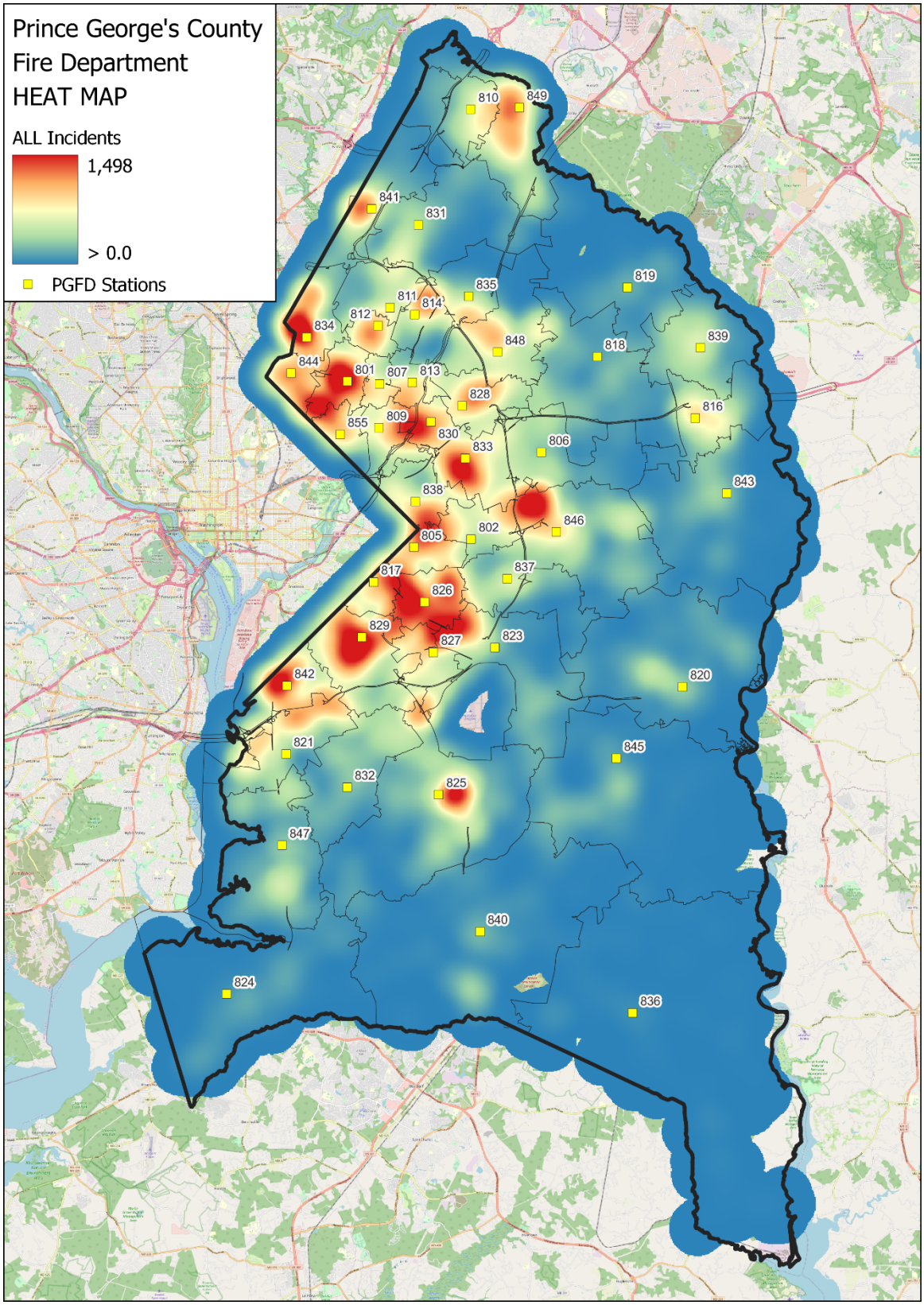
Data Overview

A 2016-2020 community demand snapshot indicates that the overall community demand for services has remained relatively stable over the rating period with an average decrease of -0.4% per year. The busiest service areas are located within battalions one, three, and five, which includes the area commonly bordered by the Department line to the west, Central Avenue to the north, the Capital Beltway to the east, and Allentown Road to the South. These areas represent more than 60% of our total calls for service, as they contain the highest population densities.

Performance Indicator 2A.5

Data that include property, life, injury, environmental and other associated losses, as well as the human and physical assets preserved and/or saved, are recorded for a minimum of three (initial accreditation agencies) to five (currently accredited agencies) immediately previous years.

	Number of Calls				
Program	2016	2017	2018	2019	2020
EMS	**105,405**	**105,669**	**104,427**	**105,840**	**104,293**
Fire Suppression	**19,288**	**18,665**	**20,732**	**20,552**	**18,017**
Hazmat	**2,987**	**2,759**	**2,913**	**2,843**	**2,399**
Technical Rescue	**16,349**	**16,572**	**16,748**	**16,390**	**12,944**
Bomb & explosive	52	28	71	43	26
Non-Emergency	**5,016**	**5,001**	**6,163**	**5,856**	**8,924**
Total	**149,097**	**148,694**	**151,054**	**151,524**	**146,603**
Calls per Day	**407.4**	**407.4**	**413.8**	**415.1**	**400.6**
YoY Growth	**N/A**	**-0.3%**	**1.6%**	**0.3%**	**-3.2%**


Prince George's County
Fire Department
HEAT MAP
ALL Incidents
1,498
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PGFD Stations
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Description of Area Served

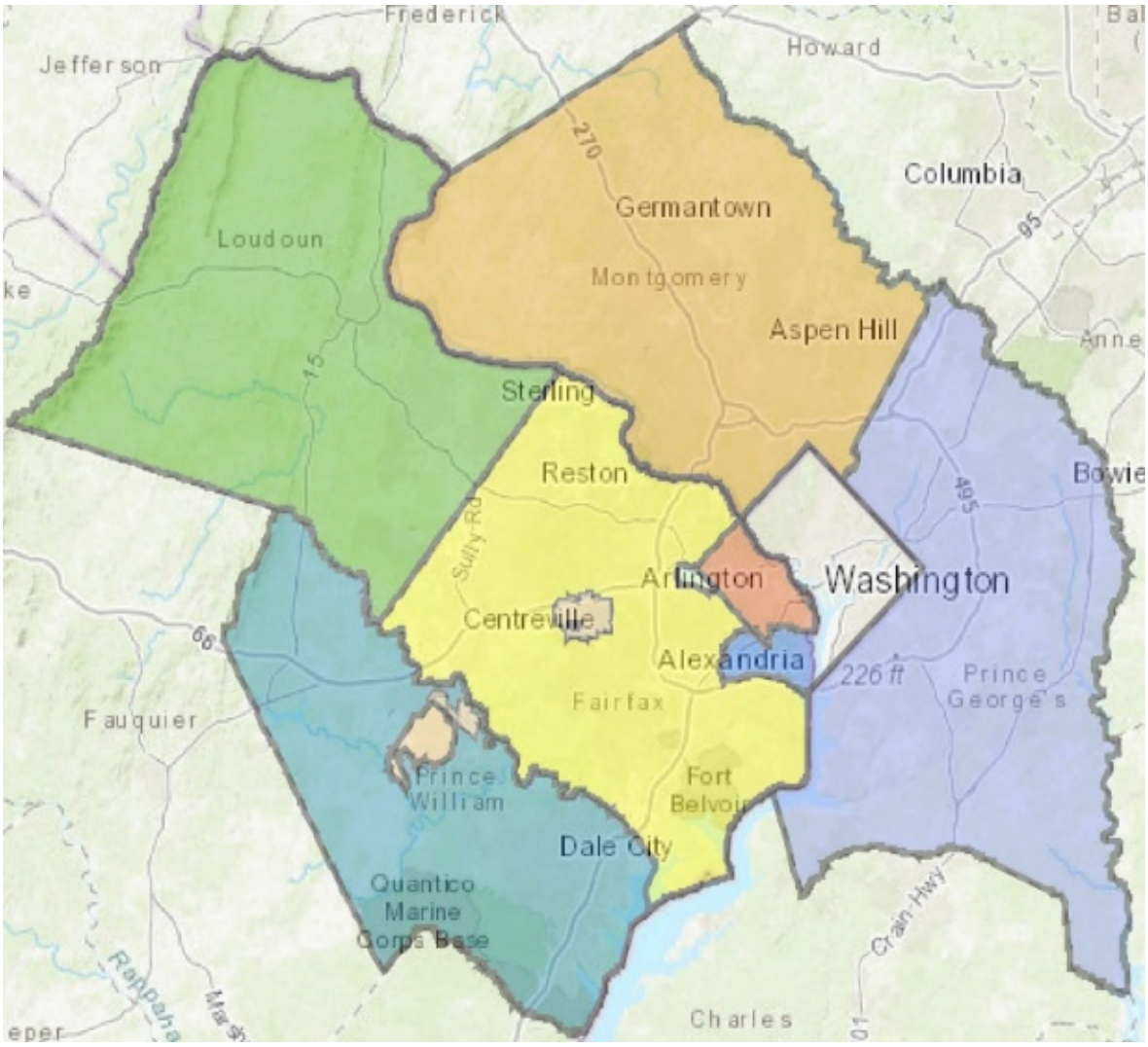
Geography

Performance Indicator 2A.6

The agency utilizes its adopted planning zone methodology to identify response area characteristics such as population, transportation systems, area land use, topography, geography, geology, physiography, climate, hazards, risks, and service provision capability demands.

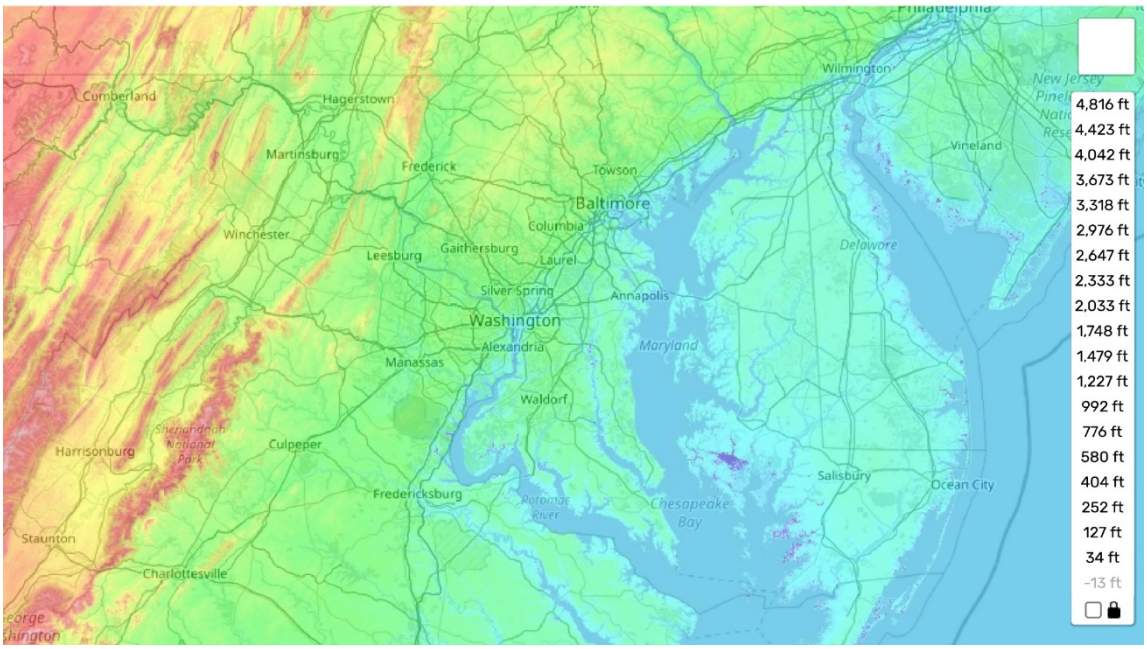
Prince George's County is in the south-central part of Maryland near the western shore of Chesapeake Bay. Prince George's County is a mix of urban and rural density adjacent to Washington D.C. Metropolitan Washington is a diverse and dynamic region home to more than five-and-a-half million people and one of the nation's largest economies.

Prince George's County encompasses just under 500 square miles and is part of the National Capital Region (NCR). The District of Columbia, Montgomery County, the Patuxent River, Charles County, and the Potomac River bound Prince George's County. Bordering the eastern portion of Washington, D.C., Prince George's County is located at 38.81717° N and -76.75563° E.



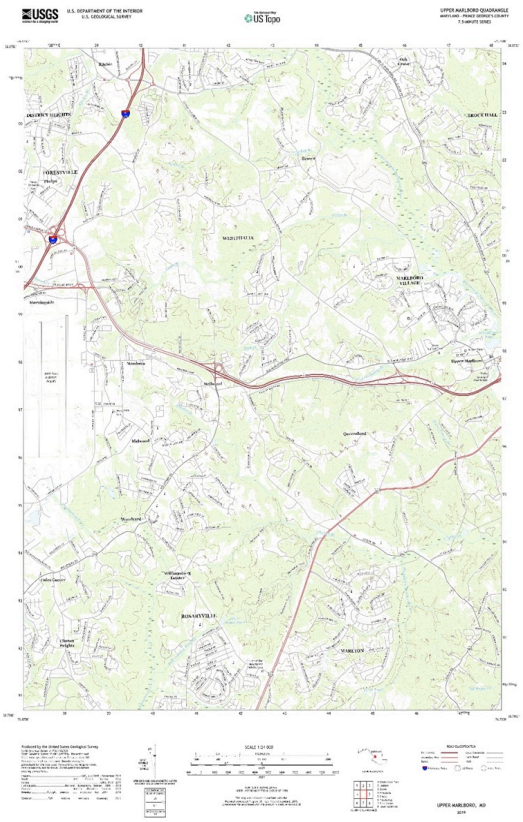
Topography

According to the U.S. Census Bureau, Prince George's County has a total of 499 square miles. Of this area, approximately 483 square miles is land, and 16 square miles is water. Prince George's County lies in the Atlantic Coastal Plain, and its landscape is characterized by gently rolling hills and valleys. Along its western border with Montgomery County, Adelphi, Calverton, and West Laurel rise into the piedmont, exceeding 300 feet in elevation.



Geology

Maryland is made up of six regions where the geology and climate make the land different from adjacent areas. These provinces include the Appalachian Plateaus, Ridge and Valley, Blue Ridge, Piedmont, Atlantic Coastal Plain, and the Atlantic Continental Shelf. Prince George's County is located in the Atlantic Coastal Plain, which is the largest region in Maryland. It encompasses the whole Eastern Shore, all counties bordering the Chesapeake Bay, and Southern Maryland. It is made up of gravel, clay, silt, sand, and some iron ore.

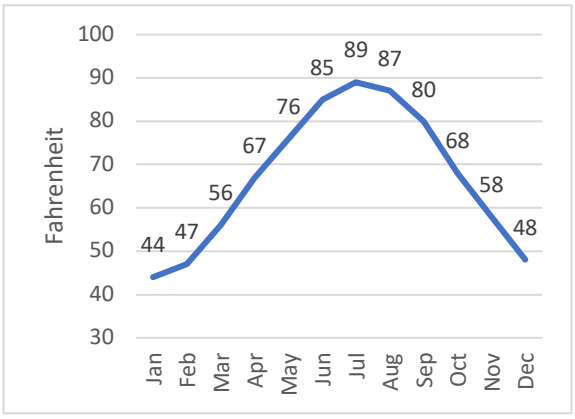


Climate

Prince George's County, Maryland, is classified as temperate of climate, that is, as being located between the Tropic of Cancer and the Arctic Circle in the Northern Hemisphere. Temperate climates, as is the case of Prince George's County, are noted for four distinct seasons. Prince George's County lies in the humid subtropical climate zone; therefore, summers tend to be humid and warm to hot.

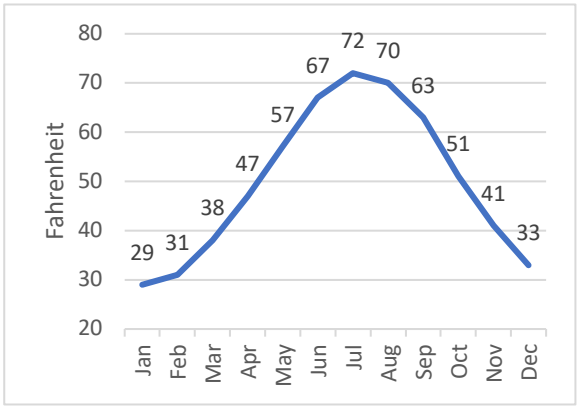
Average Annual High Temperature

Prince George's County, MD



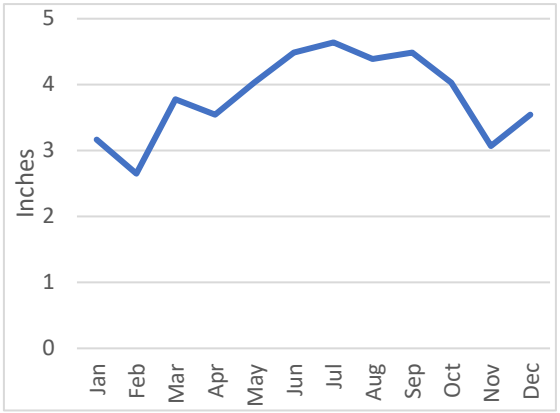
Average Annual Low Temperature

Prince George's County, MD



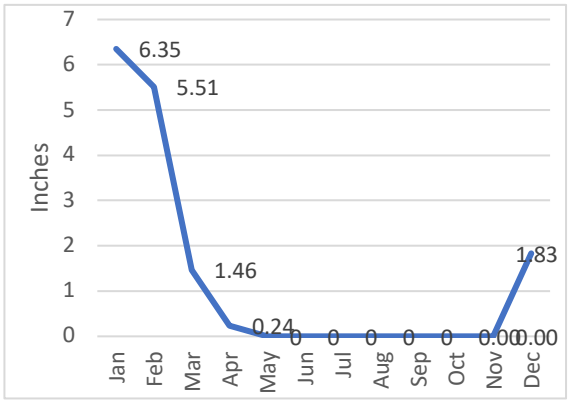
Average Annual Precipitation

Prince George's County, MD



Average Annual Snowfall

Prince George's County, MD



Physiography/Disaster Potentials

Prince George's County is vulnerable to natural hazards of tornados, flooding, and severe weather conditions. As part of Metropolitan Washington and the NCR, first responders must be prepared for terrorism, civil disturbance, and disaster potential from weapons that can create both mass casualties as well as mass disruption of society. PGFD responders must be prepared to recognize and mitigate attacks from Chemical, Biological, Radiological, Nuclear, and Explosive (CBRNE) type weapons.

All-Hazard Risk Assessment and Response Strategies as it relates to Criterion 2B

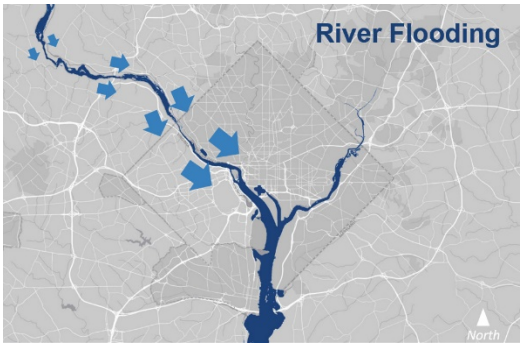
The agency identifies and assesses the nature and magnitude of all hazards and risks within its jurisdiction. Risk categorization and deployment impact considers such factors as cultural, economic, historical, and environmental values, and operational characteristics.

According to FEMA, the state of Maryland has had 37 federal disaster declarations since 1953 (Floods 10, Hurricane 9, Severe Storms 8, Snow 7, Biological 2, Tornado 1)[6]. Seismically quiet compared to neighboring states, Maryland has experienced only 64 recorded earthquakes within its borders since 1758. Most earthquakes are minor and rate less than 3.0 on the Richter scale. This means that while they may be recorded and perceived, they are unlikely to be felt at any distance from the epicenter. These lesser earthquakes occur at least once a year along the east coast.[7]

Historically, Maryland averages three reported tornados each year, most often occurring between May and July. The most powerful tornado recorded in Maryland occurred on April 29, 2002, in Calvert and Charles counties. Briefly reaching F5 status, it covered more than 30 miles and had winds in excess of 260 mph.[8]

Storm effects from hurricanes moving up the east coast are felt in Maryland almost every year, most often in August and September. High winds, heavy rains, and sometimes flash floods accompany these storms. While hurricane events in Prince George's County are quite rare, the possibility of associated tropical storms, intense thunderstorms, and flood events can happen. Nonetheless, a major hurricane (category 3 or higher) has never directly hit Maryland and only rarely has a lesser hurricane directly hit the state. Since recordkeeping began in 1851, only two lesser hurricanes have directly hit Maryland: one in 1878 and the Chesapeake and Potomac hurricane in 1933[9].

Prince George's County's biggest natural disaster threat comes from winter storms, flooding, hurricanes, and tropical storms. Coastal flooding affects tidal bodies of water, including the tidal reaches of the Potomac River and the Patuxent River in Prince George's County. The Potomac River is subject to tidal flooding along its entire length of the County, and the Patuxent River is subject to tidal flooding up to the confluence of Western Branch. The last major tropical storm disaster occurred in 1972. Leaving behind more than $10 million in damage in Prince George's County and the City of Laurel, Tropical Storm Agnes moved through the area on June 21-22, 1972.



[6] https://www.fema.gov/data-visualization/disaster-declarations-states-and-counties

[7] https://msa.maryland.gov/msa/mdmanual/01glance/html/weather.html

[8] https://msa.maryland.gov/msa/mdmanual/01glance/html/weather.html#:~:text=Historically%2C%20Maryland%20averages%20three%20reported%20tornadoes%20each%20year%2C,and%20had%20winds%20in%20excess%20of%20260%20mph.

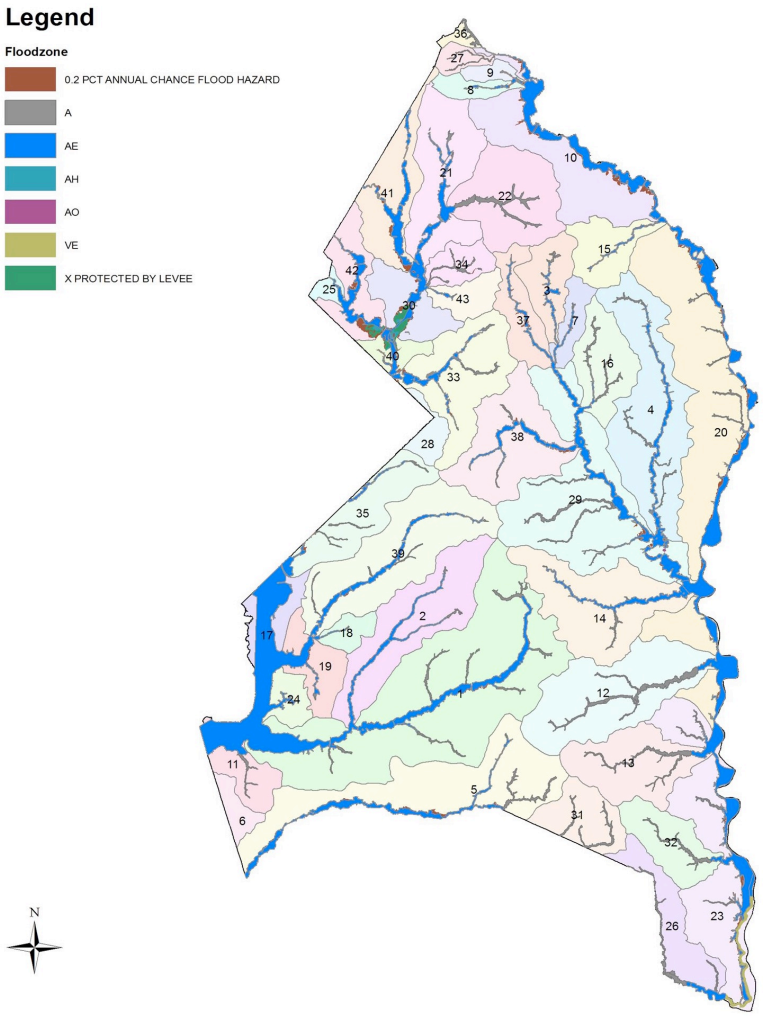
[9] https://msa.maryland.gov/msa/mdmanual/01glance/html/weather.html

The National Capital Region can experience significant river, coastal, and interior floods. Flooding is a serious issue not only because of its potential to impact residents but because of its effect on government operations and cultural treasures.

The NCR is vulnerable to three types of flooding: riverine, coastal, and interior. Each type of flooding has a different cause and also has different risks. A riverine flood occurs when heavy rains or snowmelt in the Potomac River watershed - upstream of the city - causes flooding hours or days later in Washington, D.C. Coastal floods occur when tropical storms or hurricanes push water up the Potomac River from the Chesapeake Bay and Atlantic Ocean. Interior floods, also known as flash floods, occur when heavy rainfall overwhelms the stormwater sewer system. [10]

Some, but not all, of Washington, D.C.'s flood risk is mitigated by two primary levee systems: the Potomac Park Levee System (which includes the 17th Street Levee Closure) and the Anacostia River Levee System. These levee systems reduce the risk of riverine and coastal flooding. They do not reduce the risk of interior flooding.

A snapshot of the overall hazard probability is referenced in the Figure. These specific hazards are discussed in detail in the Community Characteristics of Risk section.

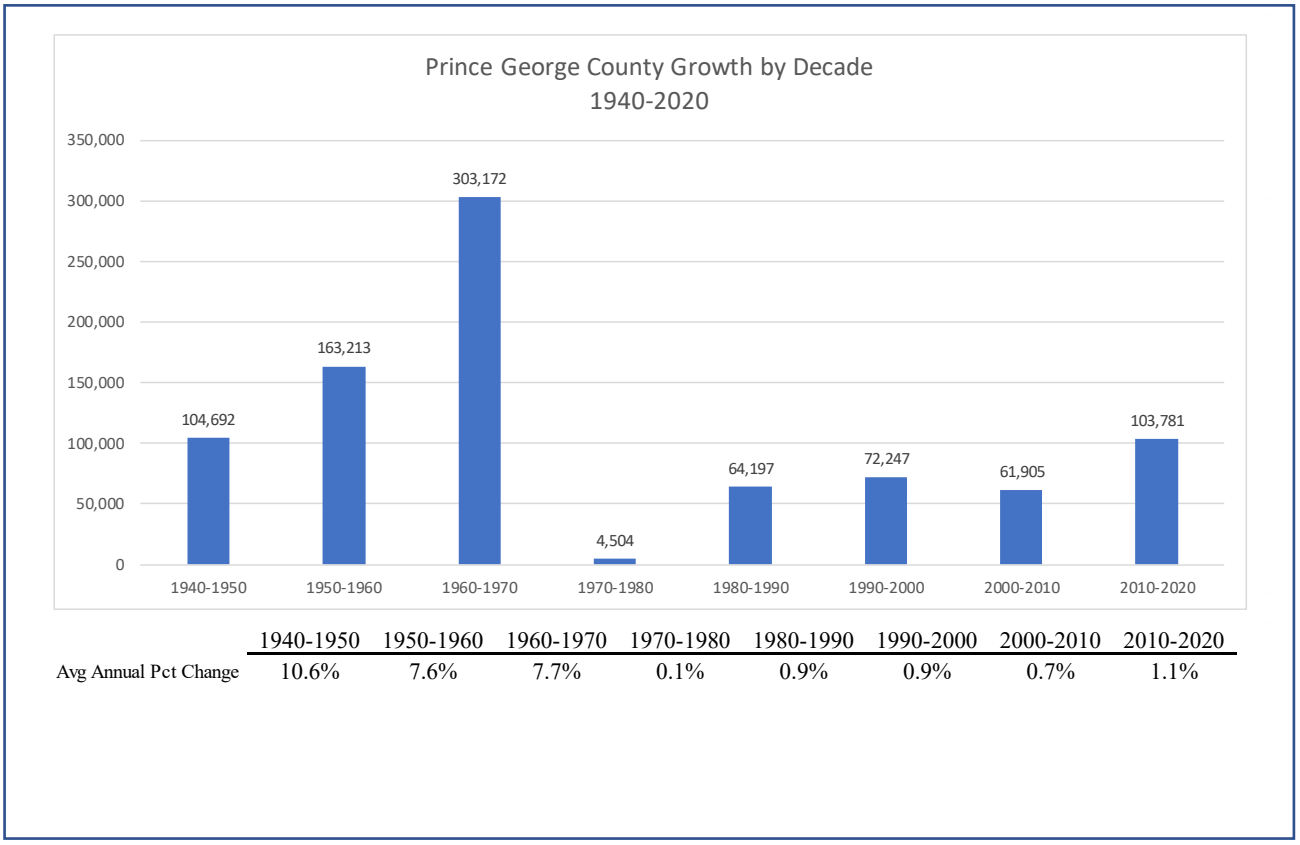


10 https://www.ncpc.gov/docs/Flood_Risk_Management_Planning_Resources_January_2018.pdf#:~:text=Flooding%20in%20the%20National%20Capital%20Region%20The%20National,1996%3B%20and%20coastal%20floods%20in%202003%20and%2020

Human Related Characteristics

Population Analysis

Prince George's County has continued to experience significant population growth over the last several decades, adding over an estimated 103,781 people to the county from 2010-2020. The overall growth trends by decade can be seen in the below figure.



	1940-1950	1950-1960	1960-1970	1970-1980	1980-1990	1990-2000	2000-2010	2010-2020
Avg Annual Pct Change	10.6%	7.6%	7.7%	0.1%	0.9%	0.9%	0.7%	1.1%

Demographics

Age

According to the United States Census Bureau, persons under 5 years of age account for 6.5% of the population in Prince George's County, persons under 18 account for 22.1% of the population, and persons over 65 for 13.9% of the population7. Age demographics across the three places are provided below.

Years of Age	Bowie	Clinton	Chillum
Under 5	5.1%	4.6%	7.3%
Under 18	21.5%	19.9%	25.1%
65 and over	14.9%	16.7%	11.9%

Socioeconomic Characteristic

Population alone is not the sole variable that influences demand for services, as socioeconomic and demographic factors can ultimately have a greater influence over demand. Median household income was evaluated to determine the degree to which the community had underprivileged populations. According to the U.S. Census Bureau, the national median household income is reported at $64,994. The median household income for Prince George's County was $86,994, with approximately 9.5% of inhabitants being at or below poverty levels[11]. Visualization of median household income also provides a perspective of where economic disparities may exist within the jurisdiction.

Income	Bowie	Clinton	Chillum
Median Household Income	$116,796	$110,108	$62,412
Per-capita Income	$50,185	$44,072	$25,253
Persons in Poverty	2.9%	5.5%	12.9%

[11] https://www.census.gov/quickfacts/fact/table/princegeorgescountymaryland,US/PST045221

Demographic Characteristics

Diversity

Prince George's County is the largest and the most affluent African American-majority county in the United States, with five of its communities identified in a top ten list. Due to Prince George's County, Washington, D.C., is ranked as the second most affluent African American market and the number one city with the largest affluent African American suburb.

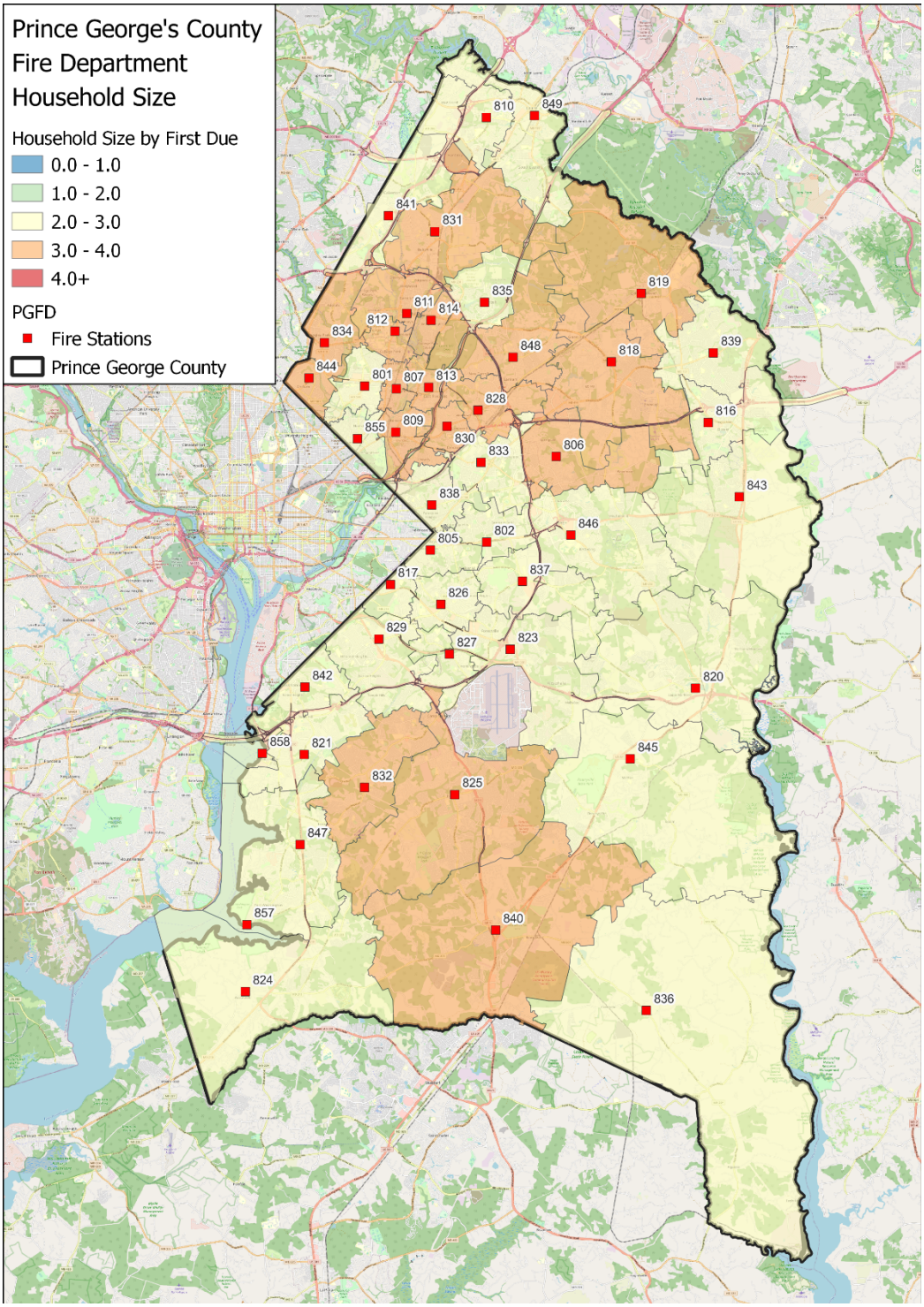
The 2020 Census reflects the great diversity in Prince George's County's population and changing definitions of race and racial composition.

Race and Hispanic Origin	Prince George's County	Bowie2	Clinton	Chillum
White Alone	27.1%	31.9%	7.6%	9.0%
Black or African American	64.4%	56.4%	81.2%	44.5%
Indian and Alaska Native Alone	1.2%	0.2%	0.7%	0.7%
Asian Alone	4.4%	3.8%	3.0%	1.8%
Native Hawaiian or other Pacific Islander	0.2%	0.0%	0.0%	0.0%
Two or More Races	2.7%	4.9%	3.6%	3.5%
Hispanic or Latino, percent(b)	19.5%	7.5%	6.5%	48.6%
White alone, not Hispanic or Latino	12.3%	29.1%	6.6%	4.2%

Hispanics may be of any race, so they also are included in applicable race categories

Household Size

Household size is another socioeconomic factor, with more densely populated and inhabited areas often posing more life safety risks during certain types of emergencies.



Area Economics[12]

Performance Indicator 2A.7

Significant socioeconomic and demographic characteristics for the response area are identified, such as key employment types and centers, assessed values, blighted areas, and population earning characteristics.

Economic Development is a core priority of Prince George's County's commitment to ensuring a high quality of life and securing the long-term viability of the county. Prince George's County has made notable progress since launching the Economic Development Incentive (EDI) fund to assist the county in expanding its tax base, attracting businesses, retaining existing businesses, and growing job opportunities through loans, grants, and guarantees to businesses throughout the county. To date, the county has awarded $43.1 million in EDI funding for 56 projects. This investment has created over 7,700 county jobs and retained over 5,988. Cumulatively, the EDI funding has leveraged over $1.27 billion dollars in total project investment in the county. Contracting opportunities with government, research, technology, and defense industry anchors contribute to a growing economy. The federal government and the county's mixed commercial base cushion the impact of economic downturns.

There are 16 federal agencies, mostly with research-focused activities within the county. These agencies attract technology companies as partners/contractors for their operations. The NASA Goddard Space Flight Center, the USDA Beltsville Agricultural Research Center, the USDA Animal, and Plant Health Inspection Service, the Army Research Laboratory, the Institute for Defense Analysis, the Internal Revenue Service, the Bureau of Economic Analysis, and the U.S. Census Bureau Supercomputer Center support the local technology business base.

NASA Goddard Space Flight Center

The University of Maryland, located in College Park, is a global leader in research, entrepreneurship, and innovation. The University is home to more than 41,000 students, 14,000 faculty and staff, and 250 academic programs. The University of Maryland Capital Region Medical Center celebrated its Grand Opening in June 2021. It is the first teaching hospital in Southern Maryland and has created more than 4,000 jobs.

University of Maryland

Prince George's County maintains an extensive budgetary control system. These controls aim to ensure compliance with legal provisions embodied in the annual appropriated budget approved by the County Council. Budgetary control in the General Fund is maintained at the department/agency level and the fund level for all other funds. No county liability shall be incurred or contracted by any department, agency, or employee. No bill or invoice shall be approved or paid unless authorized by the Council budget adoption or specific appropriation to cover payment out of public funds. Any person willfully violating this provision shall be deemed responsible for the contract, debt, or expenditure. Any department head allowing such actions is subject to disciplinary action by the Council.

[12] Economic Information from the 2021 Annual Comprehensive Financial Report

Prince George's County received AAA bond ratings from Moody's Investor Services Inc., Fitch Ratings, and S&P Global Ratings, despite continuing economic challenges due to the variability in market conditions and having to operate under various tax rate constraints. This reflects the county's continued sound financial management, ongoing and significant economic development, and extremely diverse local economy.

Management of the county is responsible for establishing and maintaining effective internal controls designed to ensure that the assets of the county are protected from loss, theft, or misuse and for ensuring that accurate accounting data are compiled to allow for the preparation of financial statements in conformity with GAAP. As a recipient of federal, state, and local financial assistance, the county is also responsible for establishing and maintaining effective internal control over compliance with requirements, laws, and regulations applicable to these programs. The internal control structure is designed to provide reasonable, but not absolute, assurance that these objectives are met. The concept of reasonable assurance recognizes that: (1) the cost of a control should not exceed the benefits likely to be derived; and (2) the valuation of costs and benefits requires estimates and judgments by management. The internal control structure is subject to periodic evaluation by management and the County's Office of Audits and Investigations. Factors considered in preparing the county's budget for the fiscal year 2021 included:

Property values grew in 2020. Group 3's assessable value increased by 13.4% in January 2021 from three years ago, resulting in the growth of property tax revenues.

Home sales increased by 20.6% in the fiscal year 2021 compared to the fiscal year 2020. The average median sale price rose to $358,143 in FY 2021, up from $322,017 in FY 2020.

A foreclosure moratorium went into effect during FY 2020 as a public health measure during the pandemic, continuing throughout FY 2021. No foreclosure data was reported during this fiscal year.

The county was awarded $176.6 million from the Federal American Rescue Plan Act. The first tranche of $88.3 million was received in May 2021, and the balance was received in May 2022. The county is using these funds for health, housing, economic recovery, and other uses in accordance with federal guidelines.

During the fiscal year 2021, the unassigned fund balance in the General Fund was $235.4 million. The county has appropriated $43.3 million in the use of the General Fund balance for the fiscal year 2022.

PGFD Financial Summary

The Fire and Emergency Medical Services Department (Fire/EMS) strives to improve the quality of life in Prince George's County by promoting safety and providing the highest quality of fire prevention, fire protection, emergency medical services, and community outreach programs.

FY 2023 BUDGET SUMMARY: The FY 2023 proposed budget for the Fire/EMS is $241,363,200, an increase of $18,700,400 or 8.4% over the FY 2022 approved budget. GENERAL FUND: The FY 2023 proposed General Fund budget for the Fire/EMS is $231,581,100, an increase of $18,270,800 or 8.6% over the FY 2022 approved budget

In FY 2023, compensation expenditures increased 6.8% over the FY 2022 approved budget due to mandated salary requirements, overtime to cover mandatory shifts and two recruit classes (75 new recruits) which are partially offset by anticipated staff attrition and salary lapse. Compensation includes funding for 1,065 out of 1,068 full-time positions. Fringe benefit expenditures increased 13.6% over the FY 2022 budget due to mandated salary requirements and the fringe benefit rate increase because of projected costs.

Operating expenditures increase 0.9% over the FY 2022 budget primarily to support replacing BLS and ALS equipment in ambulances. Funding is also provided for volunteer firefighter and emergency medical technician recruitment and retention efforts and staff training.

FY 2023 BUDGET SUMMARY

The FY 2023 proposed budget for the Fire/EMS is $241,363,200, an increase of $18,700,400 or 8.4% over the FY 2022 approved budget.

Expenditures by Fund Type

	FY 2021 Actual		FY 2022 Budget		FY 2022 Estimate		FY 2023 Proposed	
Fund Types	Amount	% Total	Amount	% Total	Amount	% Total	Amount	% Total
General Fund	$199,667,893	97.6%	$213,310,300	95.8%	$220,258,400	97.1%	$231,581,100	95.9%
Grant Funds	4,950,127	2.4%	9,352,500	4.2%	6,671,900	2.9%	9,782,100	4.1%
Total	**$204,618,020**	**100.0%**	**$222,662,800**	**100.0%**	**$226,930,300**	**100.0%**	**$241,363,200**	**100.0%**

GENERAL FUND

The FY 2023 proposed General Fund budget for the Fire/EMS is $231,581,100, an increase of $18,270,800 or 8.6% over the FY 2022 approved budget.

Expenditures by Category - General Fund

					Change FY22-FY23	
Category	FY 2021 Actual	FY 2022 Budget	FY 2022 Estimate	FY 2023 Proposed	Amount ($)	Percent (%)
Compensation	$101,369,698	$108,766,400	$111,977,000	$116,136,800	$7,370,400	6.8%
Fringe Benefits	72,229,431	78,203,000	81,967,200	88,863,400	10,660,400	13.6%
Operating	26,016,520	26,100,900	26,074,200	26,340,900	240,000	0.9%
Capital Outlay	167,713	240,000	240,000	240,000	—	0.0%
SubTotal	**$199,783,362**	**$213,310,300**	**$220,258,400**	**$231,581,100**	**$18,270,800**	**8.6%**
Recoveries	(115,469)	—	—	—	—	
Total	**$199,667,893**	**$213,310,300**	**$220,258,400**	**$231,581,100**	**$18,270,800**	**8.6%**

STAFF AND BUDGET RESOURCES

Authorized Positions	FY 2021 Budget	FY 2022 Budget	FY 2023 Proposed	Change FY22-FY23
General Fund				
Full Time - Civilian	77	77	77	0
Full Time - Sworn	991	991	991	0
Subtotal - FT	1,068	1,068	1,068	0
Part Time	0	0	0	0
Limited Term	0	0	0	0
Grant Program Funds				
Full Time - Civilian	0	0	0	0
Full Time - Sworn	54	27	50	23
Subtotal - FT	54	27	50	23
Part Time	0	0	0	0
Limited Term	0	2	2	0
TOTAL				
Full Time - Civilian	77	77	77	0
Full Time - Sworn	1,045	1,018	1,041	23
Subtotal - FT	1,122	1,095	1,118	23
Part Time	0	0	0	0
Limited Term	0	2	2	0

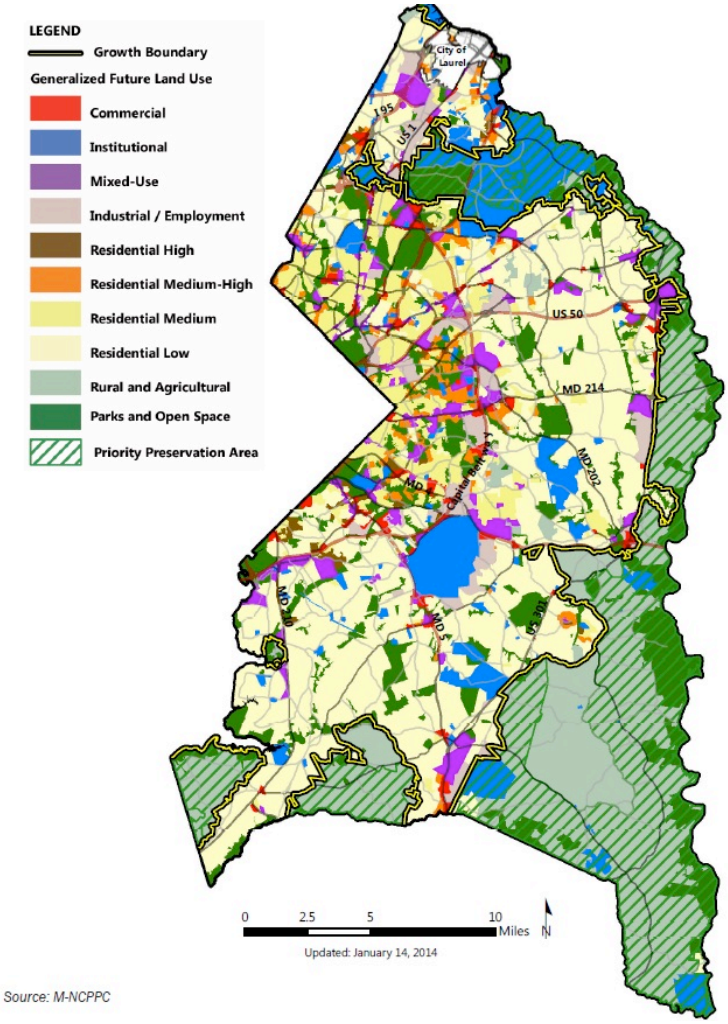
Human-Made Characteristics

Development[13]

The Zoning Ordinance regulates the use of land within various zoning categories. It is a tool for controlling illegal land use, such as commercial activities in residential neighborhoods. This Ordinance provides for enforcement only of private properties. Countywide, with the exception of the City of Laurel, which manages its own Zoning Ordinance.

The mission of the Prince George's County Department of Planning(M-NCPPC) is to help preserve, protect and manage the county's resources by providing the highest quality planning services and growth management guidance and facilitating effective intergovernmental and citizen involvement through education and technical assistance.

Prince George's 2035 Plan designates eight Regional Transit Centers, which are the focus of the county's planned growth and mixed-use development and have the capacity to become major economic generators. Six Neighborhood Reinvestment Areas are designated for coordinated funding and resources needed to stabilize and revitalize these areas. Also identified in the plan are Rural and Agricultural Areas composed of low-density residential, agricultural uses, and significant natural resources recommended for continued protection and investment to maintain critical infrastructure.



Source: M-NCPPC

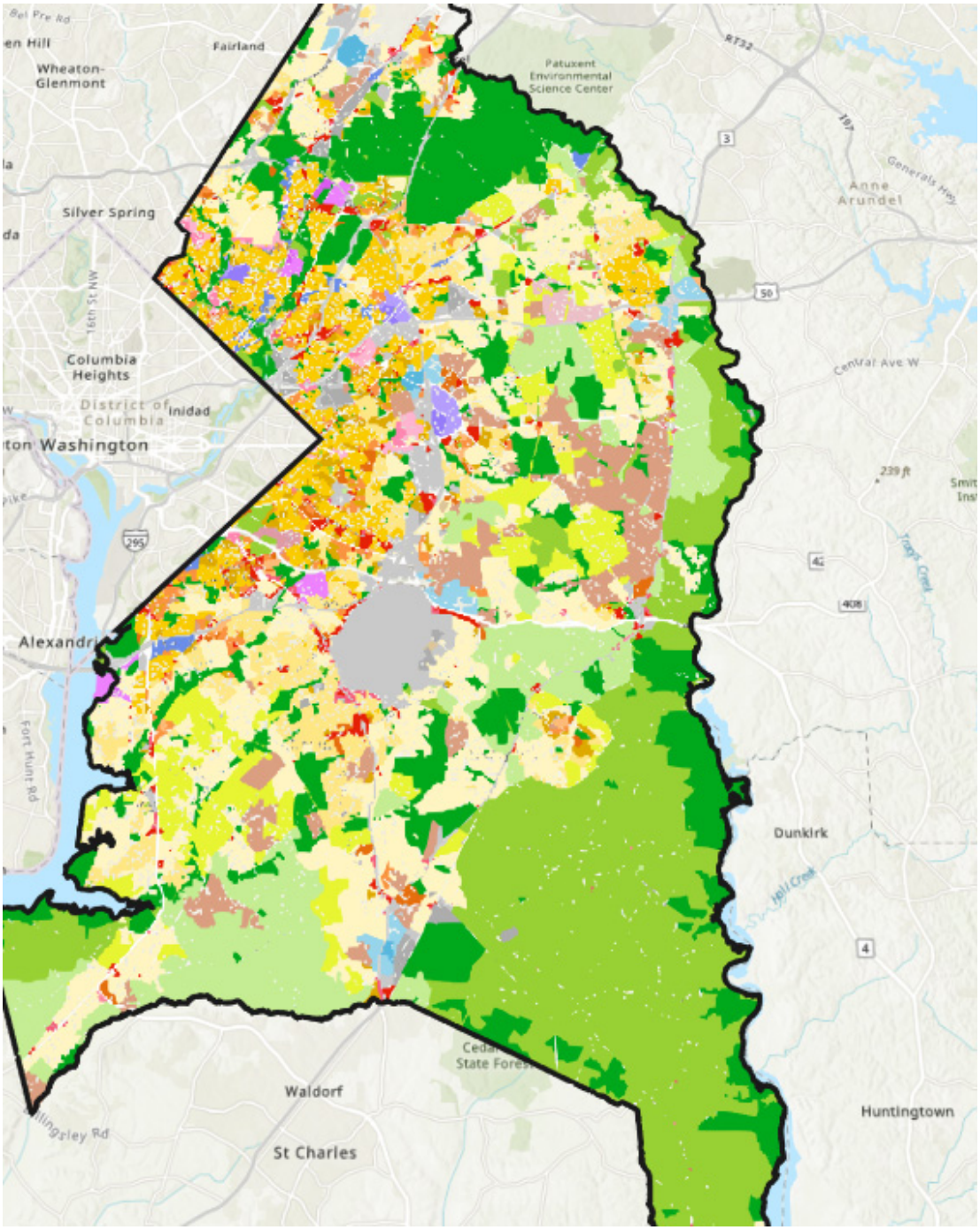
[13] Development and Land Use from the Plan Prince George's 2035

The highest percentage of the county's 282,589 acres is devoted to single-family dwelling units (27 percent). Land dedicated to agricultural and natural resource activities accounts for 16.7 percent of the county. At the same time, parks, open spaces, institutional uses, and undeveloped and unsubdivided property consume approximately 11 to 12 percent of our land. Only 37 acres, or 0.013 percent, of county land, is classified as mixed-use.

Table 10. Existing Land Use

	Land Use	Acres	%	Description
	Agricultural - Natural Resources	47,134	16.7%	Agricultural or natural resources activities.
	Residential - Single-Family	76,412	27.0%	Single-family detached units.
	Residential - Attached	1,190	0.4%	Single-family attached units, such as duplexes or triplexes.
	Residential - Townhouse	4,878	1.7%	Single-family townhouse units.
	Residential - Multi-family	5,431	1.9%	Multifamily units, such as apartments or condos.
	Mixed Use	37	0.0%	Mixed uses on a single lot, typically housing or office over retail.
	Commercial	5,832	2.1%	Commercial activities, such as shopping, service, trade, or restaurants.
	Office	3,446	1.2%	Office activities.
	Industrial	8,150	2.9%	Industrial, manufacturing, and storage activities.
	Institutional	32,663	11.6%	Social, institutional, or public facilities.
	Transportation and Utilities	7,186	2.5%	Transportation and utility-related activities.
	Parks and Open Space	34,475	12.2%	Parks and open space activities.
	Vacant–Not Subdivided	32,663	11.6%	Undeveloped land that has not been subdivided.
	Vacant–Subdivided	23,094	8.2%	Undeveloped land that has been subdivided.
	Total	282,589	100.0%	

Source: M-NCPPC, 2013



Infrastructure

Prince George's County has a strong, high-value economic base poised to capitalize on a series of competitive advantages. These advantages include numerous federal agencies, proximity to the nation's capital, a robust regional economy, and a transportation network that includes 15 Metro stations, three international airports, a network of railways, and access to interstates and highways.

To regulate public utilities and transportation companies conducting business in Maryland, the Public Service Commission was established by the General Assembly in 1910 (Chapter 180, Acts of 1910).

The utilities and companies regulated by the Commission concern electric and gas utilities and suppliers, telecommunications companies, water and sewage disposal companies, passenger motor vehicle carriers (sedans, limousines & charter buses), railroads, hazardous liquid pipelines, and other public service companies.

Electric

Prince George's County is served by three private electric utility companies: Potomac Electric Power Company (PEPCO), Baltimore Gas and Electric (BGE), and Southern Maryland Electric Company (SMECO).

Water

What is now known as WSSC Water began as The Washington Suburban Sanitary Commission (WSSC) on May 1, 1918. WSSC Water is currently among the nation's largest water and wastewater utilities, with a network of nearly 5,865 miles of freshwater pipelines and over 5,615 miles of sewer pipelines. The service area spans nearly 1,000 square miles in Prince George's and Montgomery counties, and it serves 1.9 million residents through approximately 475,000 customer accounts. WSSC Water drinking water has always met or exceeded federal standards.

To be sure that fire hydrants are ready when they are needed, WSSC Water crews physically inspect each hydrant regularly. Because there are so many hydrants - more than 43,000 spread out over 5,844 miles of water pipe - they are inspected on a three-year cycle, with about 13,000 inspections conducted in the two counties yearly. Most inspections are done in the summer, with more than 10,000 completed between April and September.

Natural Gas and Petroleum

Prince George's County has both natural gas and refined petroleum lines running through the County.

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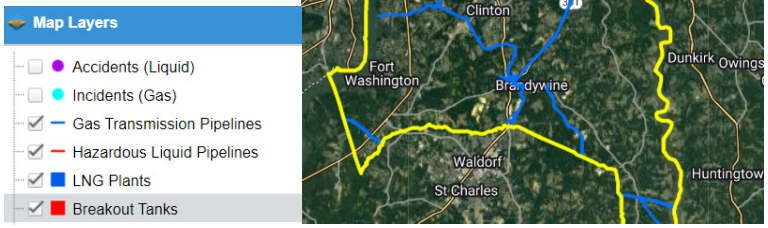

Transportation

Road

Prince George's County contains a 28-mile portion of the 65-mile-long Capital Beltway. After a decades-long debate, an east–west toll freeway, the Intercounty Connector ("ICC"), which extends Interstate 370 in Montgomery County to connect I-270 with Interstate 95 and U.S. 1 in Laurel, opened in 2012. An 11.5-mile portion of the 32.5-mile-long Baltimore–Washington Parkway runs from the county's border with Washington, D.C., to its border with Anne Arundel County near Laurel.

Metrorail

Metrorail provides safe, clean, reliable transit service for more than 600,000 customers a day throughout the Washington, D.C., area. The system is the second busiest in the United States, serving 91 stations in Virginia, Maryland, and the District of Columbia. There are currently 15 Metrorail stations in Prince George's County, with four of them as terminus stations.

Prince George's County Commuter Rail - The MARC Train (Maryland Area Rail Commuter) train service has two lines that traverse Prince George's County. The Camden Line runs between Baltimore Camden Station and Washington Union Station and has six stops in the county at Riverdale, College Park, Greenbelt, Muirkirk, Laurel, and Laurel Racetrack. The Penn Line runs between Pennsylvania and Washington Union stations on the Amtrak route. It has three stops in the county: Bowie, Seabrook, and New Carrollton.

Airports

Having a robust transportation system allows easy access to the region's national and international airports. Three airports serve the area: Ronald Reagan Washington National Airport (DCA) in Arlington County, Virginia; Baltimore–Washington International Thurgood Marshall Airport (BWI) in neighboring Anne Arundel County; and Dulles International Airport (IAD) in Dulles, Virginia.

Public Transportation

The Washington Metropolitan Area Transit Authority operates Metrobus fixed-route bus service, Metrorail heavy-rail passenger service in and out of the county, and the regional Metro Access paratransit system for people with disabilities. "The Bus" and the "Call-A-Bus" are operated by the Prince George's County Department of Public Works and Transportation, a Countywide fixed-route bus system. The Call-A-Bus service is for passengers who do not have access to or have difficulty using fixed-route bus service. Call-A-Bus is a demand-response service that generally requires 14-day advance reservations. The county also offers a subsidized taxicab service for elderly and disabled residents called Call-A-Cab, in which eligible customers who sign up for the service purchase coupons giving them a 50 percent discount with participating taxicab companies in Prince George's and Montgomery Counties.

Water Taxi

Prince George's County is served by a water taxi that operates from the National Harbor to Alexandria, Virginia, and to The Wharf in Washington, D.C.


city
cruises
POTOMAC WATER TAXI

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Section B - Description of Agency Programs and Services

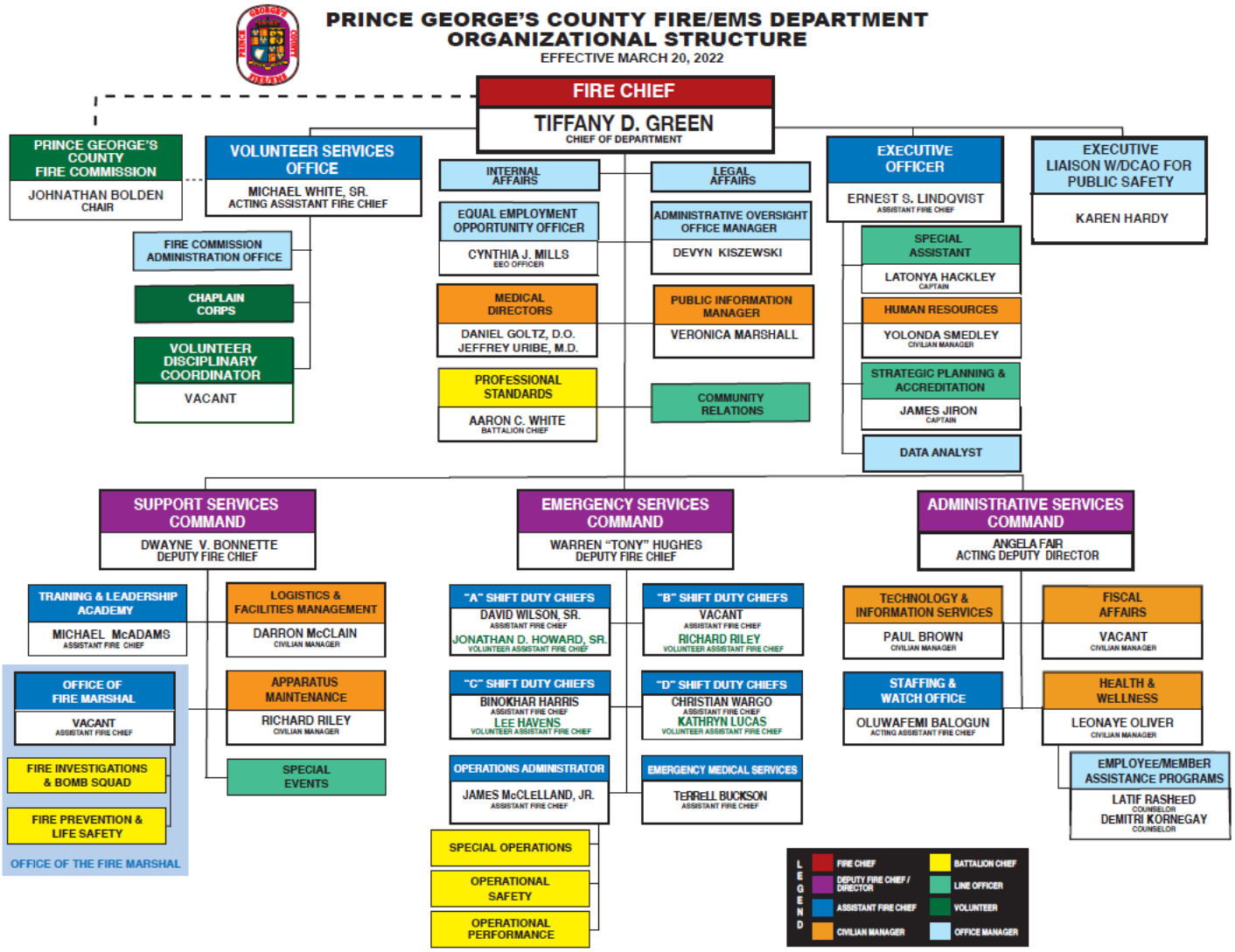
Organizational Overview

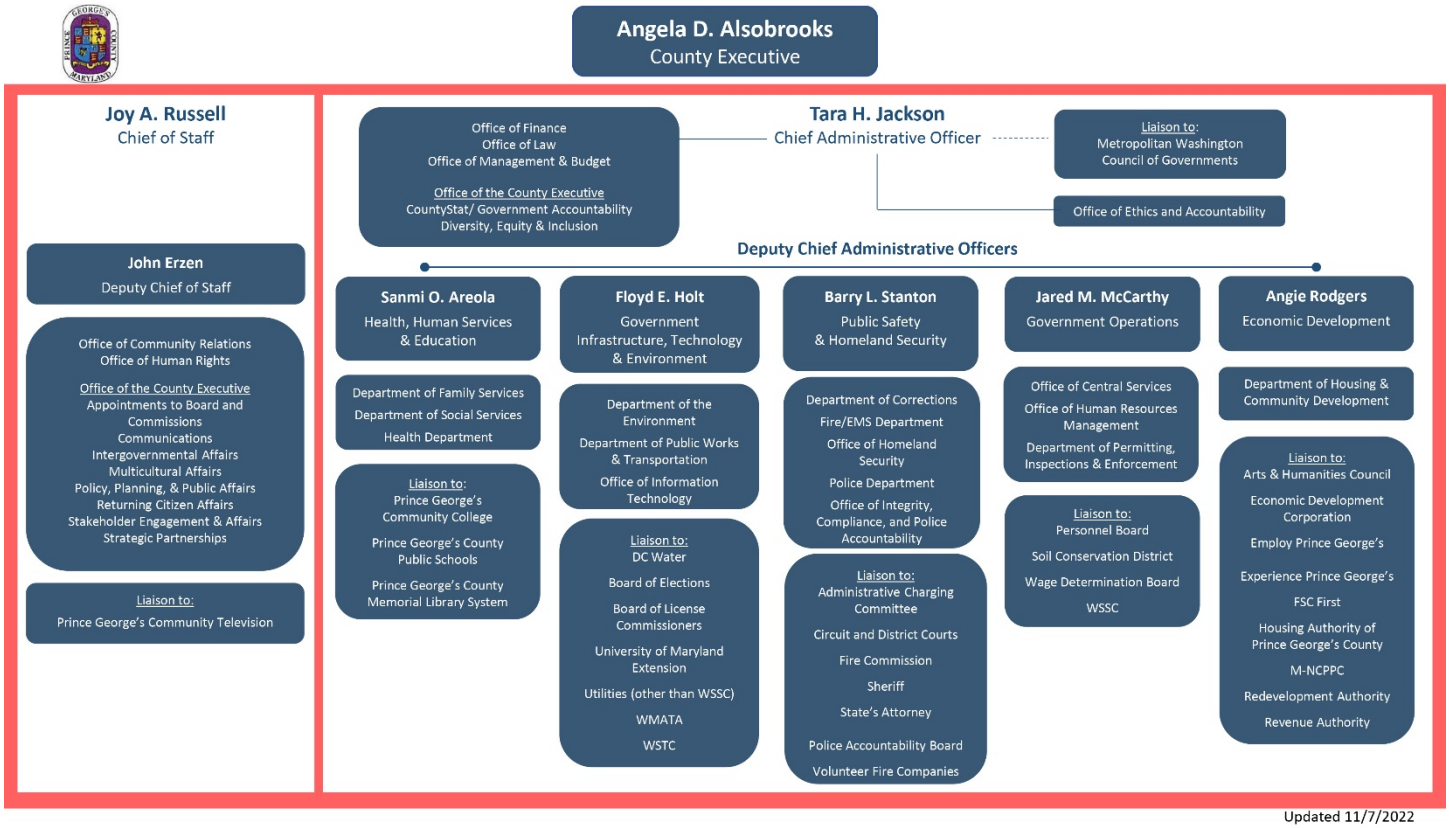
Service Delivery Programs

Organizational Overview

Prince George's County Fire/EMS Department (the "Department" or "PGFD") currently responds to emergency and non-emergency incidents out of 45 fire stations distributed throughout the county, which are primarily owned by 36 individual volunteer corporations. These stations are staffed at various levels by career and volunteer firefighters, making PGFD one of the largest and busiest combination departments in the United States. The administrative headquarters building is located at 9201 Basil Court, Suite 452, Largo, MD. The organizational chart below illustrates the general organizational structure of the Department.

Human Resources





The County Executive is Angela D. Alsobrooks.

The County Council members are:

District 1 - Thomas E. Dernoga

District 2 - Deni L. Taveras

District 3 - Dannielle M. Glaros

District 4 - Todd M. Turner

District 5 - Jolene Ivey

District 6 - Derrick Leon Davis

District 7 - Rodney C. Streeter

District 8 - Monique Anderson-Walker

District 9 - Sydney J. Harrison

PGFD combination career/volunteer structure reflects a typical paramilitary fire service on the career side but a slightly different rank structure on the volunteer side. The Office of the County Executive is responsible for managing the day-to-day operations of county government. It includes the Chief Administrative Officer, the Chief of Staff, Deputy Chief Administrative Officers, and several internal divisions. The Fire Chief oversees the operations of the Prince George's County Fire/EMS Department and the volunteer fire companies and reports directly to the Deputy Chief Administrative Officer.

The County Fire Chief appoints each of the ranks above Assistant Fire Chief and must be approved by the County Council. The highest rank on the volunteer side is Volunteer Assistant Fire Chief. Volunteer Company Chiefs are selected via a popular vote and the elected Volunteer Chief selects all other positions in the volunteer rank annually and must submit approval through the Prince George's County Volunteer Fire Commission.

The Fire Commission comprises 9 members elected by the volunteer fire companies. In accordance with the provisions of the County Charter, the Fire Commission must annually formulate a capital budget, a Capital Improvement Program (CIP), and a current expense budget for all volunteer fire companies with respect to the expenditure of public funds. Occasionally, a situation arises where the Fire Commission has to develop a policy or procedural manual to give guidance and assistance to the member companies. Listed here are those policies and procedures. The Fire Commission will obtain and retain a list of training completed via Target Solutions for audit and verification purposes.

Physical Resources-Apparatus

Command Vehicle

Seven command vehicles are staffed with a battalion chief and are on duty each shift. One command vehicle is staffed with a duty chief and is on duty each shift. In addition to emergency responses and personnel management, they also supervise many non-emergency programs.

Engine

A piece of fire apparatus that carries water, medical equipment, and tools to the scene of an emergency. The primary function of this crew at fires is to establish a water supply, search for people in the interior of a structure and apply water with hose lines to extinguish the fire.

Heavy Rescue Squad

The heart of the rescue squad is an Amkus Ultimate Hydraulic Rescue Tool System with 4-125’ hose reels, a full complement of rescue tools, and all the equipment necessary for vehicle extrication, most rescue situations, as well as firefighting.

Ladder Truck

This fire apparatus has a mechanically operated extendable ladder mounted on a fire truck. The mounted ladder can extents to approximately 100’ into the air and can provide maximize vertical reach for rapid response, ventilation, extinguishment, elevated water stream, and rescue operations. PGFD has 23 ladder trucks strategically located within Prince George’s County to optimize response.

Ambulance

An ambulance is a medically equipped vehicle which transports patients to hospitals. The PGFD operates both basic life support (BLS) ambulances and advanced life support (ALS) ambulances. BLS ambulances are stocked with equipment to handle urgent emergencies and ALS ambulances are stocked with equipment and personnel to provide critical and lifesaving medications and procedures. The PGFG operates 59 ambulances out of the 45 stations located in the County.

Physical Resources-Fire Stations

Station 801

Hyattsville Volunteer Fire Department

(Career Daytime/Volunteer Night)

6200 Belcrest Road, Hyattsville, MD

Station 802

Shady Glen Fire Station

100 Shady Glen Drive

Capitol Heights, MD 20743

(Opened June 1, 2022, as a replacement for Station 808)

Station 805

Capitol Heights Volunteer Fire Department

6061 Central Avenue, Capitol Heights, MD

Station 806

Prince George's County Fire / EMS Department (Springdale)

2901 St. Joseph Drive, Springdale, MD

Station 807

The Riverdale Volunteer Fire Department, Inc

4714 Queensbury Road, Riverdale, MD

Station 809

Bladensburg Volunteer Fire Department

& Rescue Squad, Inc.

4213 Edmonston Road, Bladensburg, MD

Station 810

Laurel Volunteer Fire Department No. 1, Inc.

7411 Cherry Lane, Laurel, MD

Station 811

Branchville Volunteer Fire Company

and Rescue Squad, Inc.

4905 Branchville Road, College Park. MD

Station 812

College Park Volunteer Fire Department, Inc.

8115 Baltimore Avenue, College Park, MD

Station 813

Riverdale Heights Fire & Rescue Squad, Inc.

6101 Roanoke Avenue, Riverdale, MD

Station 814

Berwyn Heights Volunteer Fire Department & Rescue Squad, Inc.

8811 60th Avenue, Berwyn Heights, MD

Station 816

Prince George's County Fire / EMS Department

(Northview)

14901 Health Center Drive, Bowie, MD

Station 817

Boulevard Heights Volunteer Fire Department

4101 Alton Street, Capitol Heights, MD

Station 818

Glenn Dale Volunteer Fire Association

11900 Glenn Dale Boulevard, Glenn Dale, MD

Station 819

Bowie Volunteer Fire Department (Huntington)

13008 9th Street, Bowie Maryland

Station 820

Marlboro Volunteer Fire Department

14815 Pratt Street, Upper Marlboro, MD 20772

Station 821

Oxon Hill Volunteer Fire Department

7600 Livingston Road, Oxon Hill, MD 20745

Station 823

Forestville Volunteer Fire Department

8321 Old Marlboro Pike, Upper Marlboro, MD

Station 824

Accokeek Volunteer Fire Department

16111 Livingston Road, Accokeek, MD

Station 825

Clinton Volunteer Fire Department

9025 Woodyard Road, Clinton, MD

Station 826

Department Heights Volunteer Fire Department

5900 Marlboro Pike, Department Heights, MD

Station 827

Morningside Volunteer Fire Department

6200 Suitland Road, Morningside, MD

Station 828

West Lanham Hills Volunteer Fire Department

7609 Annapolis Road, Hyattsville, MD

Station 829

Silver Hill Fire Department and Rescue Squad

3900 Old Silver Hill Road, Silver Hill, MD

Station 830

Landover Hills Volunteer Fire Department

6801 Webster Street, Landover Hills MD

Station 831

Beltsville Volunteer Fire Department Inc.

4911 Prince George's Avenue, Beltsville, MD

Station 832

Allentown Road Volunteer Fire Department

8709 Allentown Road, Fort Washington, MD

Station 833

Kentland Volunteer Fire Department

7701 Landover Road, Kentland, MD

Station 834

Chillum-Adelphi Volunteer Fire Department

7833 Riggs Road, Adelphi, MD

Station 835

Greenbelt Volunteer Fire Department and Rescue Squad Inc.

125 Crescent Road, Greenbelt, MD

Station 836

Baden Volunteer Fire Department

16608 Brandywine Road, Brandywine, MD

Station 837

Ritchie Volunteer Fire Department

1415 Ritchie-Marlboro Road, Ritchie, MD

Station 838

Chapel Oaks Volunteer Fire Department

5544 Sheriff Road, Capitol Heights, MD 20743

Station 839

Bowie Volunteer Fire Department (Belair)

15454 Annapolis Road, Bowie, MD

Station 840

Brandywine Volunteer Fire Department

13809 Brandywine Road, Brandywine, MD

Station 841

Beltsville Volunteer Fire Department, Inc

3939 Powder Mill Road, Beltsville, MD

Station 842

Oxon Hill Volunteer Fire Department (Glassmanor)

1100 Marcy Avenue, Oxon Hill MD

Station 843

Bowie Volunteer Fire Department (Pointer Ridge)

16408 Pointer Ridge Drive, Bowie, MD

Station 844

Prince George's County Fire / EMS Department (Chillum)

6330 Riggs Road, Chillum, MD

Station 845

Marlboro Volunteer Fire Department, Inc.

7710 Croom Road, Upper Marlboro, MD

Station 846

Kentland Volunteer Fire Department (Largo)

10400 Campus Way South, Upper Marlboro, MD

Station 847

Allentown Road Volunteer Fire Department

10900 Fort Washington Road, Fort Washington, MD

Station 848

West Lanham Hills Volunteer Fire Department

8501 Good Luck Road, Lanham, MD

Station 849

Laurel Volunteer Rescue Squad

14910 Bowie Road, Laurel, MD

Station 855

Bunker Hill Volunteer Fire & Rescue Association

3716 Rhode Island Avenue, Brentwood, MD

Located behind Station 836

Prince George's County Volunteer Marine Fire Rescue

16608 Brandywine Road, Brandywine, MD 20613

Dive Unit

Prince George's County Volunteer Marine Fire Rescue

13600 King Charles Terrace, Fort Washington, MD

Service Delivery Programs

Fire & Life Safety Services

The Office of the Fire Marshal is established within the PGFD, responsible for enforcing laws and ordinances in effect in Prince George's County. Under the direction of the Fire Marshal, the office completes fire plan reviews, fire inspections, fire and explosive investigations and responds to complaints involving fire and life safety hazards received.

Fire Prevention and Life Safety Office at PGFD is a system and process in which programs, actions, and services within the community are utilized to prevent injuries, loss of life, loss of property, and damage to the environment. Fire & Life Safety Services activities identify and prioritize risks and apply resources in a coordinated manner to minimize the probability and severity of the occurrence of fire, natural disasters, and human-made disasters.

Community Risk Reduction[14]

Community risk reduction efforts are integrated into the Fire Prevention and Life Safety Office. Community risk reduction is a system and process in which programs, actions, and services within the community are utilized to prevent injuries, loss of life, loss of property, and damage to the environment. Fire & Life Safety Services activities identify and prioritize risks and apply resources in a coordinated manner to minimize the probability and severity of the occurrence of fire, natural disasters, and human-made disasters.

The benefits of a safer community are achieved through the following:

Education — Whether our firefighters are helping a business owner understand the hazards created by overloading an electrical cord or reminding senior adults about trip hazards in their home, education is one of our most vital tools for prevention.

Engineering — Through plan review and code compliance activities, sometimes engineering controls are employed to prevent incidents from occurring in the first place. These engineering controls include fire sprinkler systems, hazardous materials spill prevention efforts, heat-regulating systems, and others.

[14] https://www.usfa.fema.gov/prevention/crr.html

Enforcement — Our code compliance activities are the backbone of our enforcement tools. Largely through state and local adoption of the International Fire Code, fire inspectors and plans examiners regulate risks that can lead to loss of life, property, and the environment.

Economic Incentive — Sometimes, economic incentives are employed to reduce a particular risk within the community. For example, businesses can receive a reduced fee for early operational permit renewal, resulting in a decrease in fire and hazardous materials incidents due to earlier fire inspections.

Emergency Response — Fire & Life Safety Services efforts aim to prevent emergency incidents. However, when they do occur, firefighters are distributed throughout our community at 45 different fire stations. Calculations for the optimized staffing levels suggest that the Department is understaffing the deployed resources by a total of 261 full-time equivalents. Also, workload is the main resource constraint and requires significant investment to right-size emergency response. The risk reduction process may help identify ways for our firefighters to respond more effectively to emergency incidents.

Fire Prevention and Life Safety

PGFD provides much more than an emergency response to fires, medical events, hazardous material spills, and technical rescues by actively attempting to reduce risk through prevention and education. The Fire Prevention and Life Safety section aims to enforce fire and life safety codes pertaining to all commercial and multi-family structures to reduce risk and save lives and property. The Fire Prevention and Life Safety Office comprises three sections: code enforcement, project coordination, and special hazards.

The Department of Permitting, Inspection and Enforcement (DPIE) shares joint responsibility with the Office of the Fire Marshal (Fire Prevention and Life Safety Office) for fire code enforcement. The Fire Chief delegates the responsibility to DPIE through a Memorandum of Understanding. DPIE is responsible for fire code enforcement associated with building or occupancy permits. Fire Prevention is responsible for existing buildings that have an associated use and occupancy permit.

Public Education

PGFD strives to improve the quality of life in Prince George's County through community outreach programs and is committed to ensuring that its county residents are made safe within their homes. The Department will visit a residential home and conduct a free fire safety advisory inspection. Also, they will install a free smoke detector in your home. The Department provides many safety/tip sheets online through the Department website.

Most public safety education is completed by the Prince George's County 36 volunteer fire and rescue corporations that staff their 45 stations. Many offer an array of fire and life safety information[15] through safety pages including videos, infographics, downloadable checklists, and shareable social media images.


Fire Extinguisher Safety


Home Fire Escape Planning


Cooking Fire Safety


Carbon Monoxide Safety

Fire Investigations Division

Under the direction of the Fire Marshal, the Fire Investigations Division is responsible for investigating all fires, explosions, or other emergencies within Prince George's County with unknown causes. Fire Investigators assigned to the office are responsible for the determination of the cause and origin of fires and explosives.

Domestic Preparedness

The Prince George's County Office of Emergency Management (OEM) focuses on people, plans, and programs to promote a prepared and resilient county. The OEM coordinates the county's response to natural and human-made disasters. OEM is responsible for emergency preparedness, response and recovery activities coordination, and mitigation planning. OEM is the county's liaison with local, state, and federal officials in all aspects of emergency management.

Fire Suppression

The Department provides high-quality fire suppression services within the jurisdiction as well as responds to requests for service from adjacent municipalities and fire departments. Fire suppression services are provided from 45 fixed facility fire stations distributed throughout the county, which are owned mainly by 36 individual volunteer corporations. These stations are staffed at various levels by career and volunteer firefighters, making PGFD one of the largest and busiest combination departments in the United States.

[15] Source for Content: National Fire Protection Association and U.S. Fire Administration.

To ensure the best operational control of the resources deployed throughout the county, they are divided into seven community response areas. Each battalion operates like a smaller fire department within the Prince George's County Fire/EMS Department and includes up to seven fire rescue stations as follows:

- Battalion 1 serves all communities in the general vicinity of Capitol Heights, Landover, and Largo;
- Battalion 2 serves all communities in the general vicinity of Bowie, New Carrollton, Lanham, and Glenn Dale;
- Battalion 3 serves all communities in the general vicinity of Department Heights, Temple Hills, Hillcrest Heights, and Forestville;
- Battalion 4 serves all communities in the general vicinity of Hyattsville, Langley Park, Chillum, Brentwood, College Park, and Riverdale;
- Battalion 5 serves all communities in the general vicinity of Accokeek, Camp Springs, and Oxon Hill;
- Battalion 6 serves all communities in the general vicinity of Laurel, Greenbelt, Beltsville, and Berwyn Heights;
- Battalion 7 serves all communities in the general vicinity of Upper Marlboro, Clinton, and Baden.

The busiest service areas are located within battalions one, three, and five, which includes the area commonly bordered by the Department line to the west, Central Avenue to the north, the Capital Beltway to the east, and Allentown Road to the south. These areas represent more than 60% of our total calls for service, as they contain the highest population densities.

Emergency Medical Services (EMS)

PGFD provides basic life support (BLS) from nearly all fire stations, as 59 units are staffed daily by both career and volunteer personnel around the clock. All BLS ambulances are equipped with automatic external defibrillators, and career and volunteer members are trained annually on their use. When the closest ambulance is unavailable, a fire unit is dispatched as a first responder. Fire units are also automatically dispatched to all personal injury accidents, reported cardiac arrests, or calls requiring additional staffing.

PGFD provides advanced life support (ALS) ambulances from nearly all fire stations. ALS ambulances are responsible for providing lifesaving medications, cardiac monitoring, and advanced procedures for all the county residents and visitors. The 28 ALS capable ambulances and 9 paramedic engines are staffed around the clock by paramedics who are employed by Prince George's County. Three field supervisors are always on duty to supervise paramedics and day-to-day emergency medical operations. Two mass casualty response/triage units in the county respond to all mass casualties, and there are standard response plans for all major incidents.

Technical Rescue

The Department has a technical rescue response program that manages all technical rescue incidents within the county. The technical rescue program can stabilize and mitigate technical rescue incidents involving confined space rescues, high angle rope rescues, swift water, ice rescues, vehicle extrication, structural collapse, and trench collapse rescues. The Technical Rescue Services Team has special knowledge, skills, and equipment to resolve unique and/or complex rescue situations safely.

Hazardous Materials

The Department has a hazardous materials (HazMat) response program that handles all HazMat incidents in Prince George's County. This team requires specialized resources and training to respond to these types of emergencies. Their technical skills and equipment allow them to detect and/or identify chemical, biological, radiological, and explosive materials. The team utilizes various levels of chemical protective clothing and equipment needed to enter dangerous atmospheres.

Bomb/Hazardous Device Program

Under the direction of the Fire Marshal, the bomb/hazardous device program specialized in the investigation and disarming of suspected explosive devices. PGFD's Bomb Squad is responsible for the render safe and/or removal, transportation, storage and disposal of suspected or confirmed explosive devices, incendiary devices, explosives, explosive chemicals, pyrotechnics, and unstable ammunition. This unit also works in conjunction with the fire investigations unit in conducting post-blast crime scene investigations, collection and preservation of bombing evidence, preparing and providing court testimony, and providing technical support for special operations.

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Section C – All Hazard Community Risk Assessment

Risk Assessment Process

Geospatial Risk Factors

Natural Risk Hazards

Human-made Hazards

Physical Assets Protected

Population Growth

Historical Service Demand and Probability Analysis

Risk Assessment Process

All-Hazard Risk Assessment and Response Strategies as it relates to Criterion 2B:

The agency identifies and assesses the nature and magnitude of all hazards and risks within its jurisdiction. Risk categorization and deployment impact considers such factors as cultural, economic, historical, and environmental values, and operational characteristics.

The purpose of this section is to describe the process used in analyzing the community it serves and its potential risks using real-world physical and theoretical factors. It was necessary to analyze the area's physical, economic, sociologic, and demographic aspects to perform a comprehensive risk assessment. The factors that drive the service needs are examined precisely and scientifically to determine the capabilities necessary to address the present risks adequately. Risk assessment is critical for determining the number and placement of resources and the mitigation measures that are required by the community.

Core Competency 2B.1

The agency has a documented and adopted methodology for identifying, assessing, categorizing and classifying all risks (fire and non-fire) throughout the community or area of responsibility.

The risks that PGFD faces can be natural or human-made and fall in various locations on the consequence, probability, and impact matrix. Where these risks are located on the matrix directly impacts how resources are located around the jurisdiction (distribution) and the overall number of resources required to mitigate the incident (concentration) effectively through the use of the staffing and deployment model.

Core Competency 2B.4

The agency's risk identification, analysis, categorization, and classification methodology has been utilized to determine and document the different categories and classes of risks within each planning zone.

Each of the major natural and human-made risks evaluated received a clearly defined probability and consequence ranking. Service areas that either had little quantitative data or did not require that level of analysis were evaluated through both retrospective analysis as well as structured interviews with Department staff members.

CAD call types from the 2019- 2021 CAD data file were classified into the program areas of EMS, Fire, Hazmat, Bomb, and Rescue based on Department leadership decisions and were assigned a risk classification. This was accomplished through an internal accreditation team that evaluated each of the CAD event types and classified each by program areas and risk levels low, moderate, high, and maximum. Results are provided below.

Incident Call Type Final[16]	Incident Type[16]	Program	Risk Classification
BOMB	EXPLOSIVE DEV SIG 44	BOMB	Moderate
BOMB1	Device Suspected	BOMB	Moderate
BOMB1	DEVICE/PACKAGE - BOMB1 RESP	BOMB	Moderate
BOMB2	Device Confirmed	BOMB	High
BOMB2	DEVICE/PACKAGE - BOMB2 RESP	BOMB	High
BOMBC	DEVICE/PKG/THREAT COMBINED	BOMB	Moderate
BOMBC	EXPLOSIVE DEVICE SIG 44 COMBINED	BOMB	Moderate
BOMT	BOMB THREAT	BOMB	Low
EXPLOC	EXPLOSION COMBINED	BOMB	Special
EXPLOD	EXPLOSION	BOMB	Special
ALS	Medic Local	EMS	Moderate
ALS+	ALS+	EMS	Moderate
ALS0	ALS0	EMS	Moderate
ALS1	Medic Local	EMS	Moderate
ALS2	Medic Local	EMS	High
ALS2	MEDIC LOCAL	EMS	High
ALSC	ALS COMBINED	EMS	Moderate
ANIMLC	ANIMAL COMPLAINT COMBINED	EMS	Low
ASPD	ASSIST POLICE	EMS	Low
BLS	BLS Amb	EMS	Low
BLS+	BLS+	EMS	Low
BLS1	BLS Amb	EMS	Low
BLSC	BLS COMBINED	EMS	Low
CPR	Working Code	EMS	High
CPRC	CPR COMBINED	EMS	High
DEATHC	DEATH REPORT COMBINED	EMS	High
DOAC	DOA COMBINED	EMS	High
ELEVI	ELEVATOR INJURIES	EMS	Low
HELPP	MEDIC LOCAL	EMS	Moderate
MTASK	MASS CASUALTY T F	EMS	Special
APTF	Apartment Fire	FIRE	High
APTF	Apt Fire w/Trapped	FIRE	High
APTF	Street Alarm	FIRE	Moderate
APTFR	APT FIRE REDUCED	FIRE	Moderate

[16] Entries presented verbatim from the data file.

Incident Call Type Final[16]	Incident Type[16]	Program	Risk Classification
APTT	APT FIRE W TRAPPED	FIRE	High
AUTOF	Auto Fire	FIRE	Low
AUTOFT	AUTO FIRE W TRAPPED	FIRE	Low
BRUSH	BRUSH FIRE	FIRE	Low
BRUSH	Brush Fire	FIRE	Low
BRUSHE	BRUSH FIRE ENHANCED	FIRE	Moderate
BTFIRE	BOAT FIRE	FIRE	Special
BUILDF	Building Fire	FIRE	High
BUILDFR	BUILDING FIRE REDU	FIRE	Moderate
BUILDT	BUILDING FIRE W TRAP	FIRE	High
COALRM	CO Alarm	FIRE	Low
FALRM	FIRE ALARM AFA	FIRE	Low
FALRM	Fire Alarm-AFA	FIRE	Low
FALRMA	FIRE ALARM AFA	FIRE	Low
HOUSEF	House Fire	FIRE	High
HOUSEFR	HOUSE FIRE REDUCED	FIRE	Moderate
HOUSET	HOUSE FIRE W TRAPPED	FIRE	High
HOUSET	House Fire w/Trapped	FIRE	High
INVEST	Invest Any Type	FIRE	Low
INVEST	Street Alarm	FIRE	Moderate
INVEST1	AFA	FIRE	Low
INVEST1	INVEST1	FIRE	Low
INVEST2	INVEST2	FIRE	Low
INVEST2	Odor of smoke	FIRE	Low
INVEST3	INVEST3	FIRE	Low
INVEST3	Vehicle Fire	FIRE	Low
INVEST4	CO w Sick	FIRE	Moderate
INVEST4	INVEST4	FIRE	Moderate
Invest5	INVEST5	FIRE	Moderate
Invest5	Lock Out with Food on Stove	FIRE	Low
METRO	METRO STATION TRAIN	FIRE	Special
METROF	Metro Train Fire	FIRE	Special
OUTF	Outside Fire	FIRE	Low
OUTFI	OUTSIDE FIRE W INJ	FIRE	Low
OUTSID1	OUTSID1	FIRE	Low
PLANE	Aircraft Crash	FIRE	Special
STREET	Street Alarm	FIRE	Moderate

Incident Call Type Final[16]	Incident Type[16]	Program	Risk Classification
STREETR	STREET ALRM REDUCE	FIRE	Moderate
STRUCF0	STRUCF0	FIRE	Low
STRUCF1	STREET ALRM REDUCE	FIRE	Moderate
STRUCF1	STRUCF1	FIRE	Moderate
STRUCF2	Street Alarm	FIRE	Moderate
STRUCF2	STRUCF2	FIRE	Moderate
STRUCF3	Street Alarm with Injuries	FIRE	Moderate
STRUCF3	STRUCF3	FIRE	Moderate
STRUCF4	STRUCF4	FIRE	High
STRUCF4	Structure Fire	FIRE	High
STRUCF5	STRUCF5	FIRE	High
STRUCF5	Structure Fire with Trapped	FIRE	High
STRUCF6	High Rise Fire	FIRE	Special
STRUCF6	STRUCF6	FIRE	Special
STRUCF7	High Rise Fire w Trapped	FIRE	Special
STRUCF7	STRUCF7	FIRE	Special
TOWNHF	Townhouse Fire	FIRE	High
TOWNHT	TOWNHOUSE FIRE W TR	FIRE	High
TRAIN	TRAIN EMERGENCY	FIRE	Special
TRAINC	TRAIN EMERGENCY COMBINED	FIRE	Special
WATER7	Boat Fire	FIRE	Special
WATER7	WATER7	FIRE	Special
WIREC	WIRES DOWN COMBINED	FIRE	Low
APTG	APT NATURAL GAS LK	HAZMAT	Moderate
APTG	Apt. Natural Gas Lk	HAZMAT	Moderate
BUILDG	BUILDING NAT GAS LK	HAZMAT	Moderate
BUILDG	Building Nat. Gas Lk	HAZMAT	Moderate
COLEAK	CO LEAK W SICK PEOP	HAZMAT	Moderate
COLEAK	CO Leak W/ Sick People	HAZMAT	Moderate
FUEL	Fuel Spill	HAZMAT	Low
GASLK1	GASLK1	HAZMAT	Moderate
GASLK1	Outside Gas Leak	HAZMAT	Low
GASLK2	GASLK2	HAZMAT	Moderate
GASLK2	Outside Gas leak with Sick People	HAZMAT	Moderate
GASLK3	GASLK3	HAZMAT	Moderate
GASLK3	Odor of Gas outside a Structure	HAZMAT	Moderate
GASLK4	GASLK4	HAZMAT	Moderate

Incident Call Type Final[16]	Incident Type[16]	Program	Risk Classification
GASLK4	Odor of Gas in structure	HAZMAT	Moderate
HAZBOX	HAZMAT BOX	HAZMAT	High
HAZINV	HAZMAT INVESTIGATION	HAZMAT	Low
HAZLOC	HAZMAT LOCAL	HAZMAT	Moderate
HAZMAT	HAZMAT CALL	HAZMAT	Moderate
HOUSEG	House Nat.Gas Leak	HAZMAT	Moderate
HOUSEG	HOUSE NATGAS LEAK	HAZMAT	Moderate
HOUSEG	Townhouse Nat.Gas Lk	HAZMAT	Moderate
OUTG	Outside Gas Leak	HAZMAT	Low
TOWNHG	TOWNHOUSE NATGAS LK	HAZMAT	Moderate
ACCDC	DEPT ACCIDENT PD COMBINED	RESCUE	Low
ACCFDC	DEPT ACCIDENT FD COMBINED	RESCUE	Low
ACCHC	HIGHWAY ACCIDENT COMBINED	RESCUE	Low
ACCIC	INDUSTRIAL ACCIDENT COMBINED	RESCUE	High
ACCMC	MOTORCYCLE ACCIDENT COMBINED	RESCUE	Moderate
ACCPC	PEDESTRIAN STRUCK COMBINED	RESCUE	Moderate
ACCSC	VEHICLE ACCIDENT COMBINED	RESCUE	Moderate
BTINV	WATER RESCUE INVEST	RESCUE	Low
COLAPI	Collapse Invest	RESCUE	Moderate
COLAPS	COLLAPSE	RESCUE	High
CONFSP	CONFINED SPACE RESCU	RESCUE	High
DEP	DEPARTMENTAL ACCI	RESCUE	Low
DEPFD	DEPARTMENTAL ACCI	RESCUE	Low
DROWNC	DROWNING COMBINED	RESCUE	Moderate
ELEV	Stuck Elevator	RESCUE	Low
ELEVT	ELEVATOR ENTRAPMENT	RESCUE	Moderate
ESCALT	ESCALATOR ENTRAPMENT	RESCUE	Moderate
HARES	HIGH ANGLE RESCUE	RESCUE	High
HARES4	HARES4	RESCUE	High
HITIC	HIT AND RUN W/INJURY COMBINED	RESCUE	Low
HITT	BLS Amb	RESCUE	Low
HITT	Hit & Run w/Injuries	RESCUE	Low
HITT	HIT AND RUN W INJURIES	RESCUE	Low
INDUSA	INDUSTRIAL FARM ACCI	RESCUE	High
INDUSA	Industrial/Farm Accident	RESCUE	High
LOC	LOCK IN OUT	RESCUE	Low
LOC	Lock In/Out	RESCUE	Low

Incident Call Type Final[16]	Incident Type[16]	Program	Risk Classification
LOCKC	LOCK OUT/IN COMBINED	RESCUE	Low
METROS	METRO PED/STRUCK	RESCUE	High
METROS	METRO TRAIN SUICIDE	RESCUE	High
MOTOR	Hit & Run w/Injuries	RESCUE	Low
MOTOR	Motorcycle Accident	RESCUE	Moderate
PED	Pedestrian Struck	RESCUE	Moderate
PIA	ACC W INJ	RESCUE	Low
PIA	Acc w/Injury	RESCUE	Low
PIAH	PIA Limited Access	RESCUE	Low
PIAT	PIA W ENTRAPMENT	RESCUE	Moderate
PIAT	PIA w/Entrapment	RESCUE	Moderate
PLANE1	Investigation of Aircraft Down	RESCUE	Moderate
PLANE2	Small Aircraft Crash	RESCUE	High
PLANE3	Aircraft in Water	RESCUE	Special
PLANE4	Large Aircraft Crash	RESCUE	Special
POOL	WATER RESCUE	RESCUE	Moderate
RESCUE1	Acc w/Injury	RESCUE	Low
RESCUE1	RESCUE1	RESCUE	Low
RESCUE2	PIA w/Entrapment	RESCUE	Moderate
RESCUE2	RESCUE2	RESCUE	Moderate
RESCUE3	PIA Limited Access	RESCUE	Low
RESCUE3	RESCUE3	RESCUE	Moderate
RESCUE4	PIA Limited Access W Trapped	RESCUE	Moderate
RESCUE4	RESCUE4	RESCUE	Moderate
RESCUE5	RESCUE5	RESCUE	Moderate
RESCUE5	WWB - PIA Limited Access	RESCUE	Moderate
RESCUE6	RESCUE6	RESCUE	Moderate
RESCUE6	WWB - PIA Limited Access W Trapped	RESCUE	Moderate
RESCUE7	PIA ejection	RESCUE	Moderate
RESCUE7	RESCUE7	RESCUE	Moderate
TRAINS	TRAIN PED/STRUCK	RESCUE	High
TRAINS	TRAIN SUICIDE	RESCUE	High
TRT	TECHNICAL RESCUE T F	RESCUE	Special
WATER	WATER RESCUE	RESCUE	Moderate
WATER1	Vehicle in Water no Patient	RESCUE	Low
WATER1	WATER1	RESCUE	Low
WATER2	Animal in Water	RESCUE	Low

Incident Call Type Final[16]	Incident Type[16]	Program	Risk Classification
WATER2	WATER3	RESCUE	Moderate
WATER3	Pool Emergency	RESCUE	Moderate
WATER3	WATER4	RESCUE	Moderate
WATER4	Person trapped in Water	RESCUE	High
WATER4	WATER5	RESCUE	Moderate
WATER5	Water Rescue	RESCUE	High
WATER6	Boat Emergency	RESCUE	Special
WATER6	WATER6	RESCUE	Special

Incidents were summarized by program area and relative risk severity across the most recent five-year reporting period (2016-2020).
"Percentage of Incidents" values reflect percentages within each program row, using the number of incidents per relevant risk rating category as the numerator and the total number of incidents in the corresponding program row as the denominator.

Reporting Period	Program	Number of Incidents Risk Rating					Percentage of Incidents Risk Rating				
		Low	Moderate	High	Special	Total	Low	Moderate	High	Special	Total
2016	Bomb	0	49	0	2	51	0.0	96.1	0.0	3.9	100.0
	EMS	27,700	42,994	2,990	5	73,689	37.6	58.3	4.1	< 0.1	100.0
	Fire	14,886	1,726	1,063	13	17,688	84.2	9.8	6.0	0.1	100.0
	Hazmat	1,053	1,708	8	0	2,769	38.0	61.7	0.3	0.0	100.0
	Rescue	14,035	1,655	33	0	15,723	89.3	10.5	0.2	0.0	100.0
	Total	**57,674**	**48,132**	**4,094**	**20**	**109,920**	**52.5**	**43.8**	**3.7**	**< 0.1**	**100.0**
2017	Bomb	3	17	0	2	22	13.6	77.3	0.0	9.1	100.0
	EMS	28,241	43,032	3,178	1	74,452	37.9	57.8	4.3	< 0.1	100.0
	Fire	14,657	1,522	1,073	10	17,262	84.9	8.8	6.2	0.1	100.0
	Hazmat	918	1,623	9	0	2,550	36.0	63.6	0.4	0.0	100.0
	Rescue	14,102	1,938	30	0	16,070	87.8	12.1	0.2	0.0	100.0
	Total	**57,921**	**48,132**	**4,290**	**13**	**110,356**	**52.5**	**43.6**	**3.9**	**< 0.1**	**100.0**
2018	Bomb	0	5	5	3	13	0.0	38.5	38.5	23.1	100.0
	EMS	26,974	44,074	2,979	3	74,030	36.4	59.5	4.0	< 0.1	100.0
	Fire	16,616	1,551	1,081	10	19,258	86.3	8.1	5.6	0.1	100.0
	Hazmat	883	1,814	7	0	2,704	32.7	67.1	0.3	0.0	100.0
	Rescue	14,352	1,928	34	0	16,314	88.0	11.8	0.2	0.0	100.0
	Total	**58,825**	**49,372**	**4,106**	**16**	**112,319**	**52.4**	**44.0**	**3.7**	**< 0.1**	**100.0**
2019	Bomb	0	1	1	1	3	0.0	33.3	33.3	33.3	100.0
	EMS	27,095	44,182	3,137	1	74,415	36.4	59.4	4.2	< 0.1	100.0
	Fire	16,734	1,537	1,082	3	19,356	86.5	7.9	5.6	< 0.1	100.0
	Hazmat	862	1,770	2	0	2,634	32.7	67.2	0.1	0.0	100.0
	Rescue	14,101	1,851	32	0	15,984	88.2	11.6	0.2	0.0	100.0
	Total	**58,792**	**49,341**	**4,254**	**5**	**112,392**	**52.3**	**43.9**	**3.8**	**< 0.1**	**100.0**
2020	Bomb	0	1	3	1	5	0.0	20.0	60.0	20.0	100.0
	EMS	24,651	45,849	3,600	0	74,100	33.3	61.9	4.9	0.0	100.0
	Fire	14,696	1,032	1,394	79	17,201	85.4	6.0	8.1	0.5	100.0
	Hazmat	743	1,496	1	0	2,240	33.2	66.8	< 0.1	0.0	100.0
	Rescue	10,681	1,766	43	7	12,497	85.5	14.1	0.3	0.1	100.0
	Total	**50,771**	**50,144**	**5,041**	**87**	**106,043**	**47.9**	**47.3**	**4.8**	**0.1**	**100.0**
All	Bomb	3	73	9	9	94	3.2	77.7	9.6	9.6	100.0
	EMS	134,661	220,131	15,884	10	370,686	36.3	59.4	4.3	< 0.1	100.0
	Fire	77,589	7,368	5,693	115	90,765	85.5	8.1	6.3	0.1	100.0
	Hazmat	4,459	8,411	27	0	12,897	34.6	65.2	0.2	0.0	100.0
	Rescue	67,271	9,138	172	7	76,588	87.8	11.9	0.2	< 0.1	100.0
	Total	**283,983**	**245,121**	**21,785**	**141**	**551,030**	**51.5**	**44.5**	**4.0**	**< 0.1**	**100.0**

Risk Assessment Process by Planning Areas

Occupancy Level Risk

The risk assessment process for the planning zones included independently measuring the occupancy level risk, socioeconomic and demographic variables, and elements of community demand. Therefore, the risk assessment process began with occupancy level risk. A total of 6,679 occupancies were provided by PGFD based on the number of stories above grade, square footage, and needed fire flow. This scoring process resulted in 3,154 occupancies classified as low risk, 3,087 occupancies classified as moderate risk, 430 occupancies classified as high-risk, and eight occupancies classified as the maximum risk in the jurisdiction. Occupancies were also classified by first due station, where available.

Physical Assets Protected

Performance Indicator 2B.5

Fire protection and detection systems are incorporated into the risk analysis.

A data file containing 6,679 occupancies to measure occupancy risk based on the number of stories above grade, square footage, and needed fire flow (Figure 1). Records that were missing information related to needed fire flow were given a score of 3 for that component.

Figure 1: Occupancy Risk Scoring Matrix

Risk Classification	Number of Stories		Square Footage		Needed Fire Flow		Total Risk Score
	Score	Scale	Score	Scale	Score	Scale	Scale
Maximum	7	≥ 10	7	> 100,000	7	≥ 4,500	> 17
High	5	≥ 4 to < 10	5	> 10,000 to 100,000	5	≥ 3,000 to < 4,500	> 11 to 17
Moderate	3	> 1 to < 4	3	≥ 5,000 to 10,000	3	≥ 1,500 to < 3,000 and Unknown	> 5 to 11
Low	1	1	1	< 5,000	1	0 to < 1,500	≤ 5

This scoring process resulted in 3,154 occupancies classified as low risk, 3,087 occupancies classified as moderate risk, 430 occupancies classified as high-risk, and eight occupancies classified as a maximum risk in the jurisdiction. Occupancies were also classified by first due station, where available. Scoring was based on the combined number of moderate-, high-, and maximum-risk structures according to the scale below.

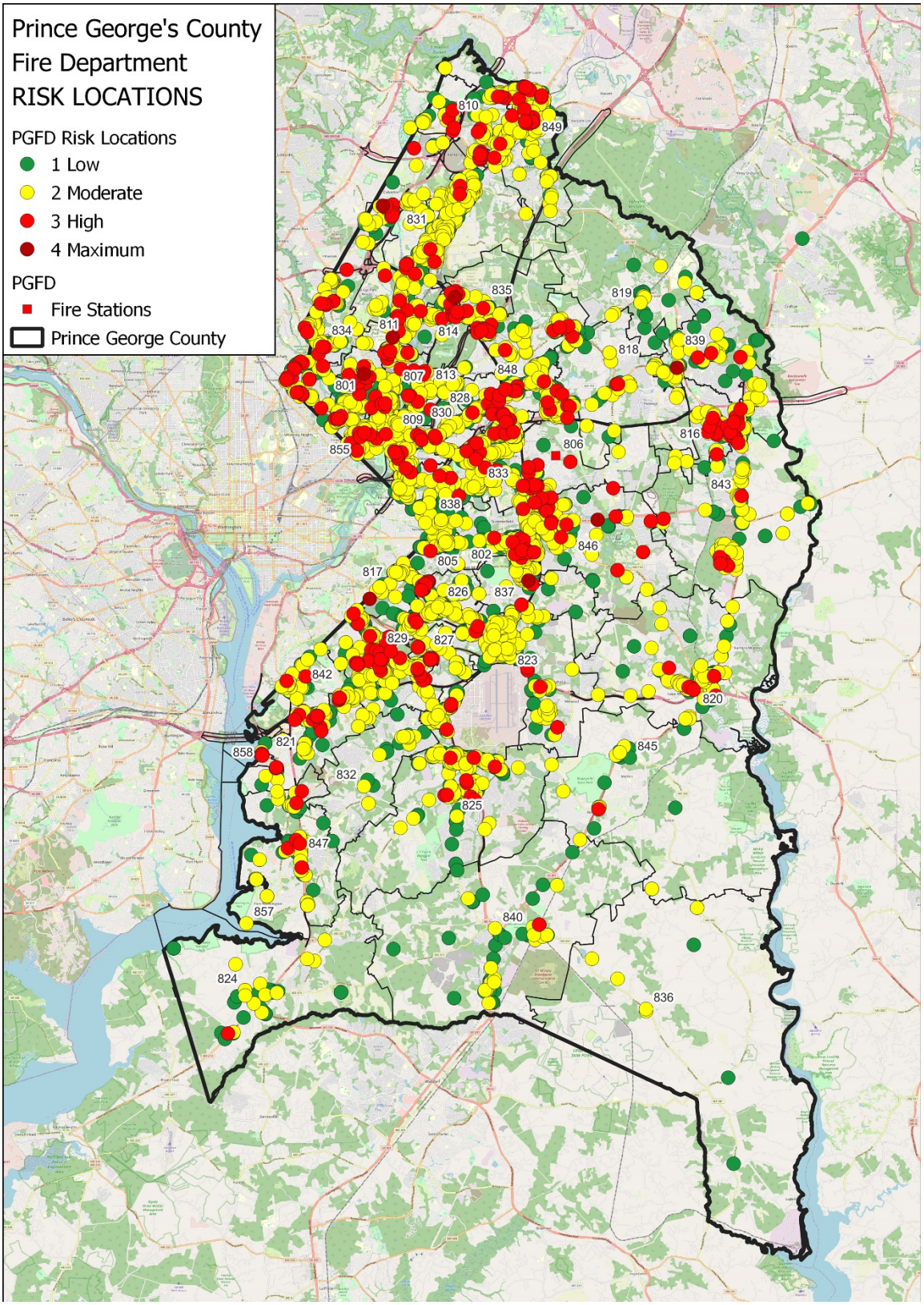
Table 1: Risk Scoring – Number of Moderate-, High-, and Maximum-Risk Structures

	Range

Value	Minimum	Maximum
1	0	10
2	> 10	20
3	> 20	30
4	> 30	40
5	> 40	50
6	> 50	60
7	> 60	70
8	> 70	80
9	> 80	90
10	> 90	N/A

First Due Station	Risk Level				
	Low	Moderate	High	Maximum	Total
801	37	67	15	1	120
802	53	21	3	0	77
805	42	17	1	0	60
806	4	27	10	0	41
807	63	65	7	0	135
809	165	188	11	0	364
810	41	71	20	0	132
811	85	69	8	0	162
812	66	43	9	1	119
813	32	38	5	0	75
814	28	21	10	0	59
816	31	70	23	0	124
817	45	22	0	1	68
818	54	88	12	0	154
819	14	13	0	0	27
820	84	71	6	0	161
821	70	58	12	0	140
823	146	149	7	0	302
824	38	13	1	0	52
825	259	118	10	0	387
826	89	87	18	0	194
827	28	40	8	0	76
828	101	70	22	0	193
829	196	152	47	0	395
830	27	27	3	0	57
831	212	246	7	0	465
832	19	12	0	0	31

First Due Station	Risk Level				
	Low	Moderate	High	Maximum	Total
833	91	133	10	0	234
834	45	95	10	0	150
835	12	36	8	1	57
836	4	5	0	0	9
837	99	106	11	1	217
838	97	80	4	0	181
839	55	38	3	1	97
840	46	19	1	0	66
841	24	33	11	1	69
842	51	33	2	0	86
843	33	69	7	0	109
844	32	27	18	0	77
845	22	10	1	0	33
846	40	81	15	1	137
847	67	35	6	0	108
848	82	64	10	0	156
849	208	242	20	0	470
855	98	99	8	0	205
858	2	1	9	0	12
Unknown	17	18	1	0	36
Total	3,154	3,087	430	8	6,679


Prince George's County
Fire Department
RISK LOCATIONS
PGFD Risk Locations
1 Low
2 Moderate
3 High
4 Maximum
PGFD
Fire Stations
Prince George County
810
849
831
835
819
811
834
814
818
839
807
813
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801
828
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830
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836

First Due Station Zones (FDZs)

In an effort to study the unique features of Prince George's County, the community was geographically divided into 45 demand zones based on the closest fire station. The station response areas serve as the outline for the distribution of equipment and resources for initial intervention.

The Department carefully and comprehensively evaluated community risk by using geographical zones. Results from the FDZ risk assessment were combined with occupancy level data and additional socioeconomic and demographic variables to provide a quantifiable risk value for each FDZ. Therefore, the FDZ risk assessment included the following variables in the expanded geographic area:

- Population Density
- Square Miles per FDZ
- Median Age
- Median Household Income
- Unemployment Rate
- Age of Building Stock > 50 years
- Occupancy Risk
- Community Demand
- Call Concurrency

Ultimately, 3 stations (823, 826, and 829) were rated as maximum-risk stations; 31 stations were rated as high-risk stations; 11 stations were rated as moderate-risk stations; and zero stations were calculated as low-risk stations.

Table 2: Risk Scoring by First Due Station – Component and Average Scores for Census Variables, Community Demand Data and Scores, Call Concurrency Data and Scores, and Final Scores

First Due Station	Population Density	Median Household Income	Unemployment Rate	Square Miles	Median Age	Percentage of Homes > 50 Years	Number of Moderate-, High-, and Maximum-Risk Occupancies	Census Average Score	Total Number of Calls	Average Number of Calls per Reporting Period	Demand Risk Score	Call Concurrency Rate	Call Concurrency Risk Score	Final Risk Score	Final Risk Level
833	10	9	6	3	4	10	10	7.43	29,093	5,818.6	10	49.3	10	102.56	Maximum
826	10	9	5	2	4	10	10	7.14	28,069	5,613.8	10	48.0	10	100.51	Maximum
829	9	8	5	4	4	10	10	7.14	44,317	8,863.4	10	60.1	10	100.51	Maximum
834	10	8	4	2	4	10	10	6.86	25,563	5,112.6	10	40.6	10	98.50	High
848	8	6	5	4	4	10	8	6.43	21,526	4,305.2	10	39.8	10	95.56	High
849	8	7	4	5	4	7	10	6.43	27,708	5,541.6	10	45.9	10	95.56	High
801	10	6	3	2	4	10	9	6.29	21,102	4,220.4	10	37.9	10	94.61	High
821	8	6	5	4	5	9	7	6.29	20,986	4,197.2	10	37.2	10	94.61	High
825	4	1	5	10	6	7	10	6.14	34,838	6,967.6	10	58.1	10	93.67	High
842	9	8	6	2	4	10	4	6.14	28,952	5,790.4	10	45.0	10	93.67	High
828	10	7	7	2	4	10	10	7.14	19,086	3,817.2	9	33.2	10	93.10	High
823	4	4	6	5	4	8	10	5.86	24,431	4,886.2	10	45.5	10	91.82	High
846	6	1	4	6	6	2	10	5.00	34,549	6,909.8	10	59.3	10	86.60	High
844	10	9	4	1	4	10	5	6.14	18,178	3,635.6	9	34.2	10	86.40	High
838	8	8	7	2	4	10	9	6.86	15,011	3,002.2	7	29.7	10	77.16	High
805	10	8	5	2	5	10	2	6.00	14,357	2,871.4	7	30.4	10	71.64	High
847	3	1	4	8	6	5	5	4.57	16,869	3,373.8	8	30.0	10	70.10	High
827	9	6	5	2	4	9	5	5.71	14,314	2,862.8	7	29.1	10	69.88	High
837	4	4	5	4	6	7	10	5.71	15,157	3,031.4	7	30.1	10	69.88	High
809	10	9	4	2	4	10	10	7.00	14,012	2,802.4	7	23.3	8	65.85	High
816	5	1	4	4	6	5	10	5.00	14,744	2,948.8	7	30.8	10	65.67	High
841	6	4	4	3	6	7	5	5.00	15,189	3,037.8	7	31.8	10	65.67	High
832	5	1	5	4	6	9	2	4.57	15,581	3,116.2	7	30.6	10	63.30	High
817	10	9	7	1	4	10	3	6.29	12,768	2,553.6	6	26.3	9	61.40	High
818	4	1	5	7	6	3	10	5.14	13,335	2,667.0	6	27.6	10	59.99	High
830	10	8	5	1	4	10	3	5.86	12,141	2,428.2	6	24.2	9	58.86	High

First Due Station	Population Density	Median Household Income	Unemployment Rate	Square Miles	Median Age	Percentage of Homes > 50 Years	Number of Moderate-, High-, and Maximum-Risk Occupancies	Census Average Score	Total Number of Calls	Average Number of Calls per Reporting Period	Demand Risk Score	Call Concurrency Rate	Call Concurrency Risk Score	Final Risk Score	Final Risk Level
855	10	7	4	2	4	10	10	6.71	11,880	2,376.0	6	22.5	8	58.36	High
839	5	1	3	4	6	10	5	4.86	12,727	2,545.4	6	28.5	10	58.35	High
820	2	1	4	10	4	3	8	4.57	12,572	2,514.4	6	27.9	10	56.75	High
802	10	5	6	2	4	6	3	5.14	11,279	2,255.8	6	26.1	9	54.82	High
810	8	3	4	3	4	4	10	5.14	12,000	2,400.0	6	24.3	9	54.82	High
806	5	1	5	4	6	3	4	4.00	12,431	2,486.2	6	28.5	10	53.74	High
831	3	1	4	6	4	9	10	5.29	11,444	2,288.8	6	21.7	8	50.49	High
812	10	10	2	1	3	9	6	5.86	10,307	2,061.4	5	22.9	8	48.24	High
843	2	1	3	10	6	3	8	4.71	9,555	1,911.0	5	21.4	8	42.30	Moderate
814	9	6	4	2	4	10	4	5.57	10,422	2,084.4	5	18.9	7	41.96	Moderate
845	2	1	4	10	6	3	2	4.00	9,291	1,858.2	5	21.8	8	38.88	Moderate
840	1	1	3	10	6	4	2	3.86	9,794	1,958.8	5	23.3	8	38.24	Moderate
811	7	4	4	2	4	10	8	5.57	9,452	1,890.4	5	17.5	6	37.37	Moderate
813	10	7	4	1	4	10	5	5.86	8,461	1,692.2	4	16.7	6	34.35	Moderate
835	5	5	3	2	6	10	5	5.14	8,312	1,662.4	4	17.1	6	31.24	Moderate
807	10	3	4	1	4	10	8	5.71	5,544	1,108.8	3	10.4	4	21.91	Moderate
824	1	1	4	10	6	5	2	4.14	6,661	1,332.2	3	13.9	5	20.11	Moderate
819	2	1	5	7	4	4	2	3.57	5,283	1,056.6	3	12.2	5	18.15	Moderate
836	1	2	4	10	6	9	1	4.71	2,923	584.6	2	10.4	4	15.95	Moderate
858	1	1	2	1	6	5	1	2.43	0	0.0	1	0.0	1	2.53	Low

Community Risk Input Factors

As defined under the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5122), a "major disaster" means any natural catastrophe (including any hurricane, tornado, storm, high water, wind-driven water, tidal wave, tsunami, earthquake, volcanic eruption, landslide, mudslide, snowstorm, or drought), or, regardless of cause, any fire, flood, or explosion, in any part of the United States, which in the determination of the President causes the damage of sufficient severity and magnitude to warrant major disaster assistance under this chapter to supplement the efforts and available resources of states, local governments, and disaster relief organizations in alleviating the damage, loss, hardship, or suffering caused thereby.[17]

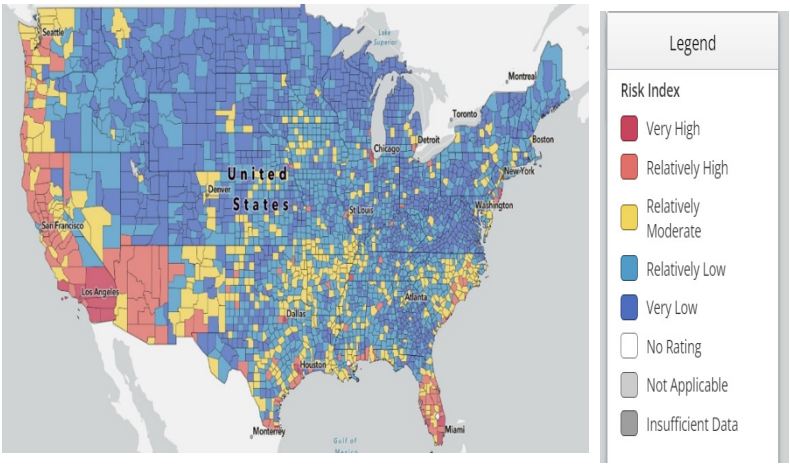
Natural hazards are defined as environmental phenomena that have the potential to impact societies and the human environment. These should not be confused with other types of hazards, such as human-made hazards. For example, a flood resulting from changes in river flows is a natural hazard, whereas flooding due to a dam failure is considered a human-made hazard.[18]

Risk factors in the community were analyzed with historical and statistical data, and trending was established based on the type of call and location of the incident. General categories of risk included overall geospatial characteristics of the community, natural hazards, and human-made hazards.

Prince George's County is vulnerable to natural hazards of tornados, flooding, and severe weather conditions. As part of Metropolitan Washington and the NCR, first responders must be prepared for terrorism, civil disturbance, and disaster potential from weapons that can create both mass casualties as well as mass disruption of society.

PGFD responders must be prepared to recognize and mitigate attacks from chemical, biological, radiological, or nuclear (CBRNE) materials that pose a threat to public safety. CBRNE incidents can be the result of both natural and human-made causes. These incidents can occur anywhere and at any time and often require a coordinated response from multiple agencies.

FEMA National Risk Index provides a holistic view of Prince George's County's holistic view of community risk to natural hazards. The FEMA Risk Index rating is relatively moderate for Prince George's County when compared to the rest of the United States.



[17] 42 USC 5122: Definitions (house.gov)

[18] https://hazards.fema.gov/nri/natural-hazards

Geospatial Risk Factors

- Political Boundaries and Growth Boundaries
- Construction Limitations
- Topography-Response Barriers
- Critical Infrastructure and Facilities
- Rural Interface

Core Competency 2B.4

The agency's risk identification, analysis, categorization, and classification methodology has been utilized to determine and document the different categories and classes of risks within each planning zone.

Performance Indicator 2B.6

The agency assesses critical infrastructure within the planning zones for capabilities and capacities to meet the demands posed by the risks.

Natural Hazards

- Flood
- Earthquake
- Severe Weather
- Landslide
- Wildfire
- Contagious Diseases

Human-made Risk Hazards

- Road Networks
- Passenger and Freight Lines
- Airports
- Population Growth
- Fires
- EMS
- Hazardous Materials
- Technical Rescue

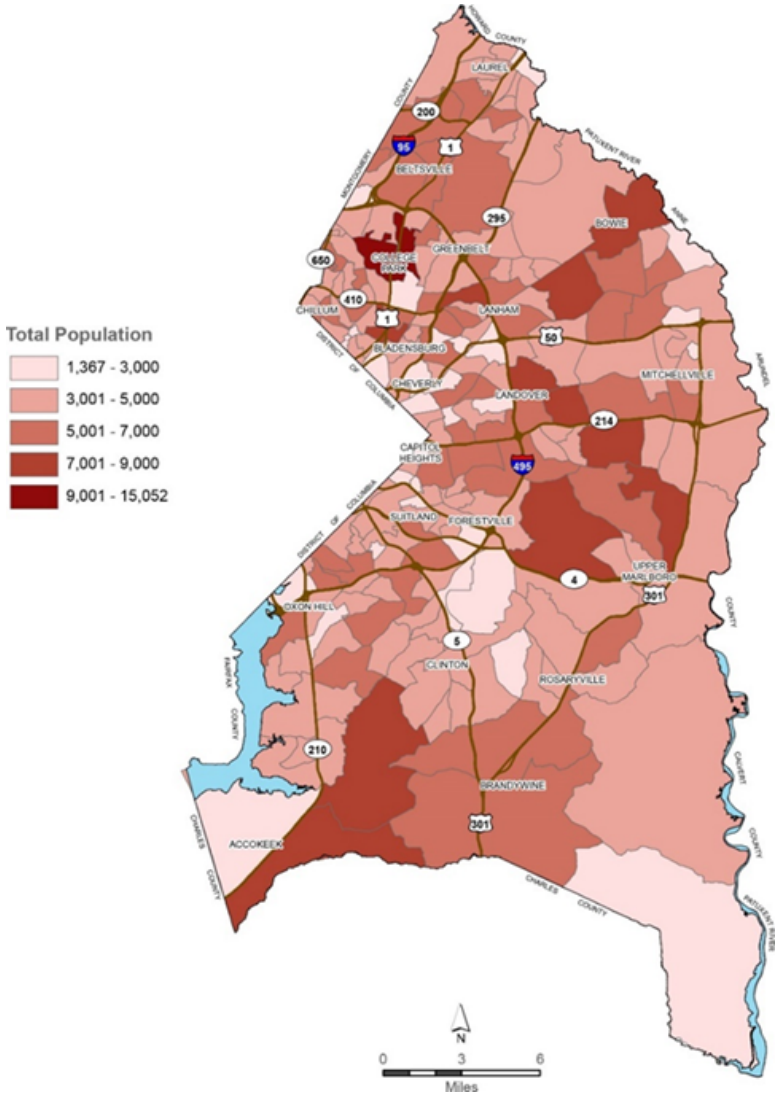
According to FEMA, the state of Maryland has had 37 federal disaster declarations since 1953.
Cause of Natural Disasters:
Floods 10
Hurricane 9
Severe Storms 8
Snow 7
Biological (COVID-19) 2
Tornado 1

Geospatial Risk Factors

Low Risk Low Probability Low Consequence	Political and Growth Boundaries

Political and Growth Boundaries

Prince George's County boundaries are not expected to change significantly other than through mergers or regional consolidation efforts. From this perspective, increases in population density may only serve to eventually require a greater concentration of resources to meet the demand rather than expanding the distribution model. In other words, if Prince George's County does not anticipate creating a larger geographic coverage area through annexations, the likely result of population growth will require additional resources within the existing distribution model rather than by expanding the number of stations.



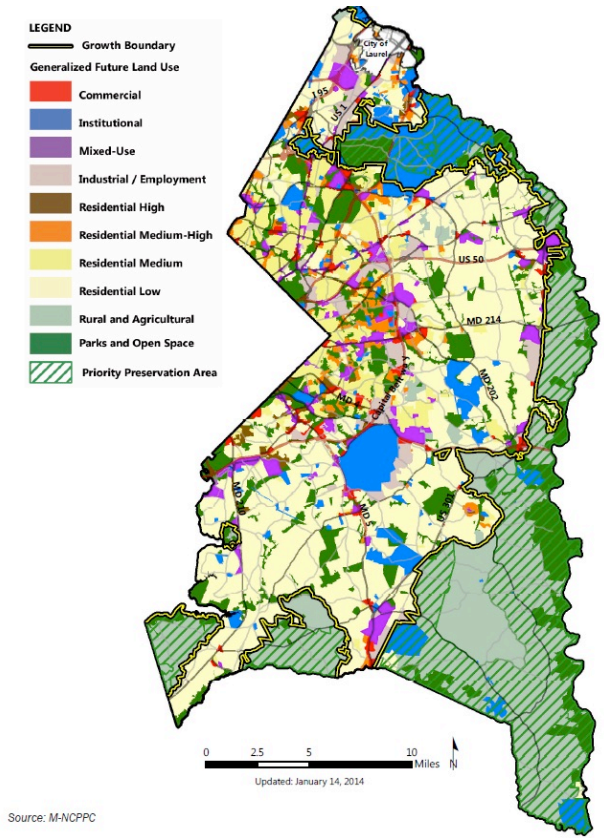
Low Risk Low Probability Low Consequence	Construction Limitations

Construction Limitations

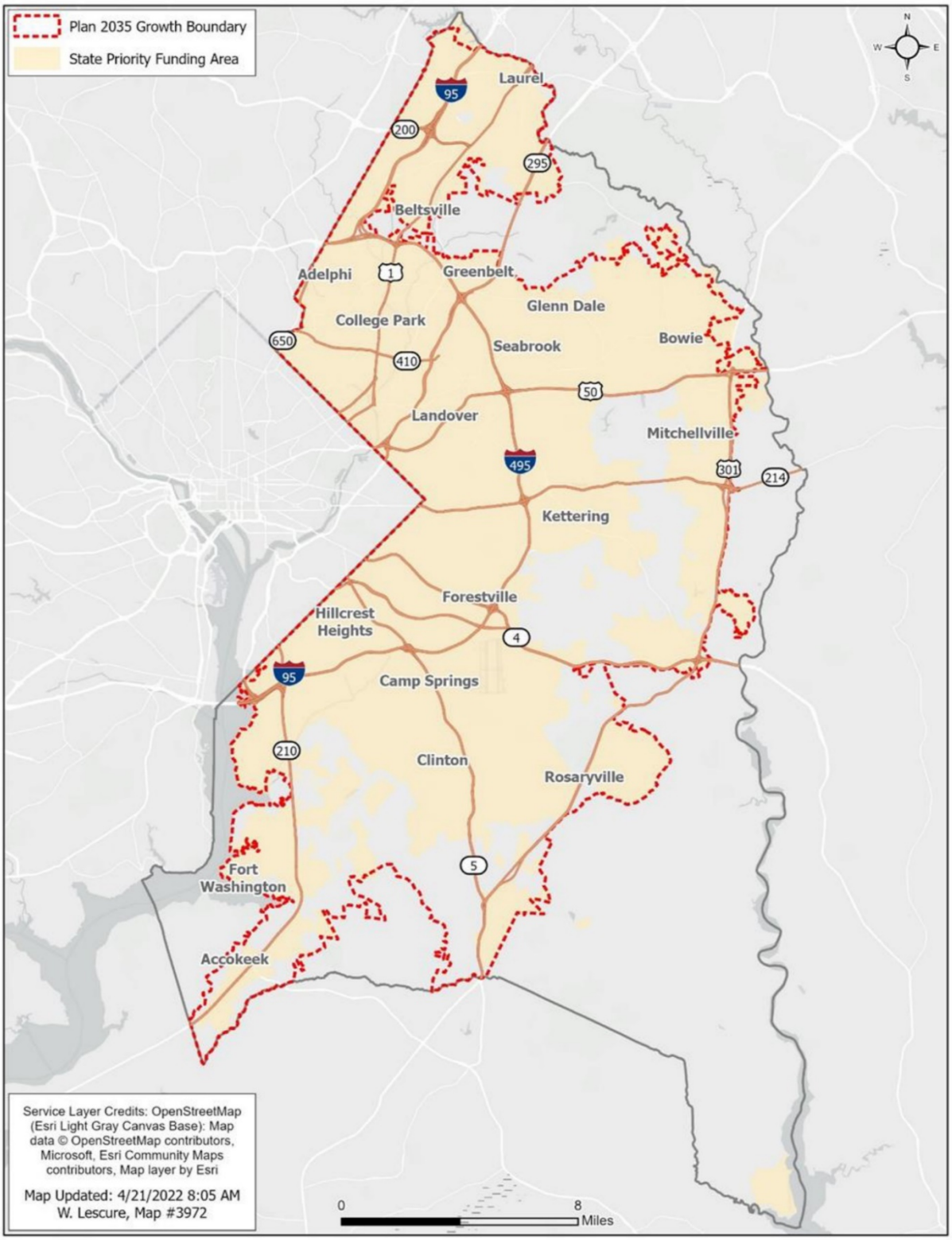
Creating a 21st Century Zoning Ordinance and Subdivision Regulations for Prince George's County was a two-phase process completed and took effect on April 1, 2022. On October 23, 2018, the County Council adopted a new Zoning Ordinance and Subdivision Regulations, ending a four-year journey to update the county's land use regulations. The Zoning Ordinance and Subdivision Regulations determine where and how the land can be developed, helping shape communities' future growth. The new code is aligned with the General Plan. Updating the county's development codes was necessary to create regulations that support the county's vision for smart growth, economic development, and improved quality of life.

The second step was implementing a Countywide Map Amendment that involved applying the zoning categories in the new Zoning Ordinance onto geographic lands. The County Council formerly initiated this process on July 23, 2019, for the last integral component for the county to begin using its new Zoning Ordinance.

The Countywide Map Amendment was a technical mapping exercise that replaced the zone on each property in the county with a similar new zone. It ensured zoning conversions were objective, transparent, fair, and consistent. Table 3 displays land area changes due to zoning reclassification.

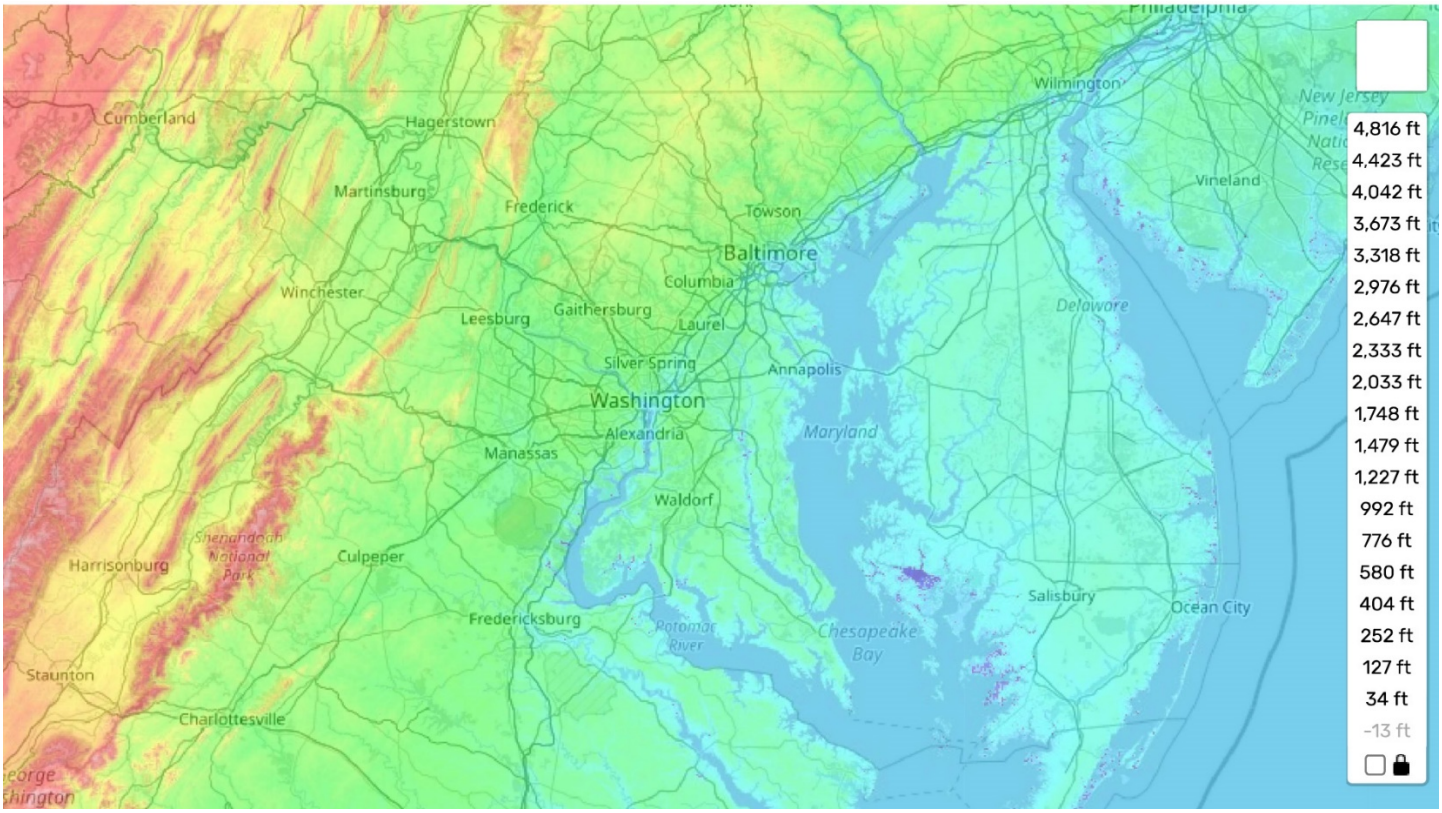


Prince George's County Growth Policy Map produced by M-NCPPC Plan 2035 designates the areas that are eligible to receive public water and service and impacts where Prince George's County will develop. Rural and agricultural areas are not eligible for public water and sewer service.



Low Risk Low Probability Low Consequence	Topography - Response Barriers

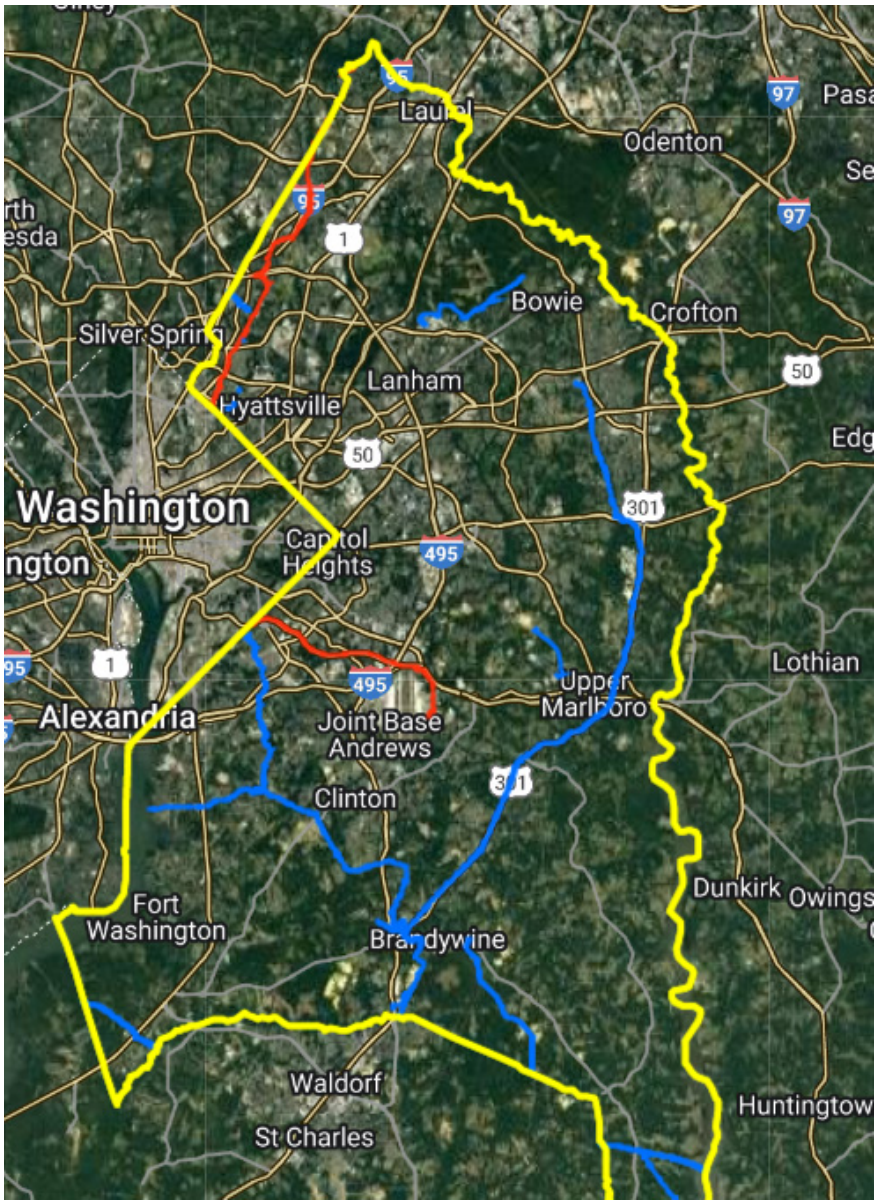
Topography – Response Barriers



Maximum Risk Low Probability High Consequence	Critical Infrastructure and Facilities

Critical Infrastructure and Facilities

Failure of critical public or private utility infrastructure or facilities can temporarily lose essential functions and/or services that last from just a few minutes to days or more at a time. Public and private utility infrastructure provides essential life-supporting services such as electric power, natural gas, heating, air conditioning, water, sewage disposal and treatment, storm drainage, communications, and transportation.



Infrastructure

Prince George's County has a strong, high-value economic base poised to capitalize on a series of competitive advantages. These advantages include numerous federal agencies, proximity to the nation's capital, a robust regional economy, and a transportation network that includes 15 Metro stations, three international airports, a network of railways, and access to interstates and highways.

To regulate public utilities and transportation companies conducting business in Maryland, the Public Service Commission was established by the General Assembly in 1910 (Chapter 180, Acts of 1910).

The Commission regulates the utilities and companies concerning electric and gas utilities and suppliers, telecommunications companies, water and sewage disposal companies, passenger motor vehicle carriers (sedans, limousines & charter buses), railroads, hazardous liquid pipelines, and other public service companies.

Electric

Prince George's County is served by three private electric utility companies: Potomac Electric Power Company (PEPCO), Baltimore Gas and Electric (BGE), and Southern Maryland Electric Company (SMECO).

Water

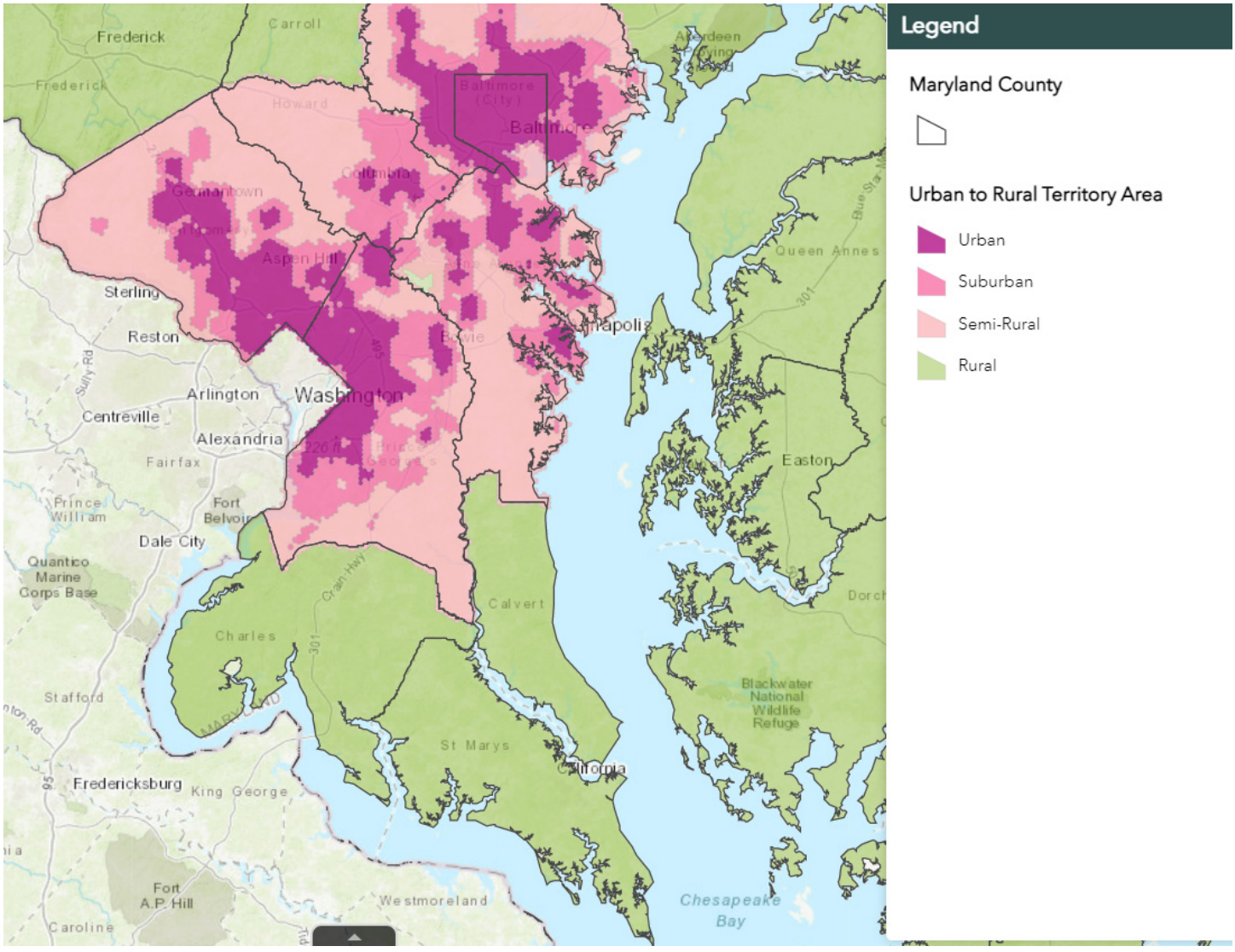
What is now known as WSSC Water began as The Washington Suburban Sanitary Commission (WSSC) on May 1, 1918. WSSC Water is currently among the nation's largest water and wastewater utilities, with a network of nearly 5,865 miles of freshwater pipelines and over 5,615 miles of sewer pipelines. The service area spans nearly 1,000 square miles in Prince George's and Montgomery counties, and it serves 1.9 million residents through approximately 475,000 customer accounts. WSSC Water drinking water has always met or exceeded federal standards.

To be sure that fire hydrants are ready when they are needed, WSSC Water crews physically inspect each hydrant regularly. Because there are so many hydrants - more than 43,000 spread out over 5,844 miles of water pipe - they are inspected on a three-year cycle, with about 13,000 inspections conducted in the two counties yearly. Most inspections are done in the summer, with more than 10,000 completed between April and September.

Low Risk Low Probability Low Consequence	Rural Interface

Rural Interface

Wildland or undeveloped lands and any surrounding urban areas (WUI - wildland-urban interface) are most at risk of fires. Potential risks include the destruction of land, property, and structures, injuries, and loss of life. Although rare, deaths and injuries usually occur at the beginning stages of wildfires when sudden flare-ups occur from high wind conditions. In most situations, however, people have the opportunity to evacuate the area and avoid bodily harm. Financial losses related to wildfires include destroyed or damaged houses, private facilities and equipment, loss of commercial timber supplies, and local and state costs for response and recovery. There are brush units stationed at stations 831, 836, 840, and 848 for the incidents that do occur.



The Rural Legacy Program was created in 1997 to protect large, contiguous tracts of Maryland's most precious cultural and natural resource lands through grants to local applicants. The Patuxent River Rural Legacy Area of Prince George's County "contains rural scenic roads, historic villages, farmland, forests, the Patuxent River Park, the Patuxent River Natural Resource Management Area, and the Merkle Wildlife Management Area at Jug Bay," totaling 34,984 acres[19].

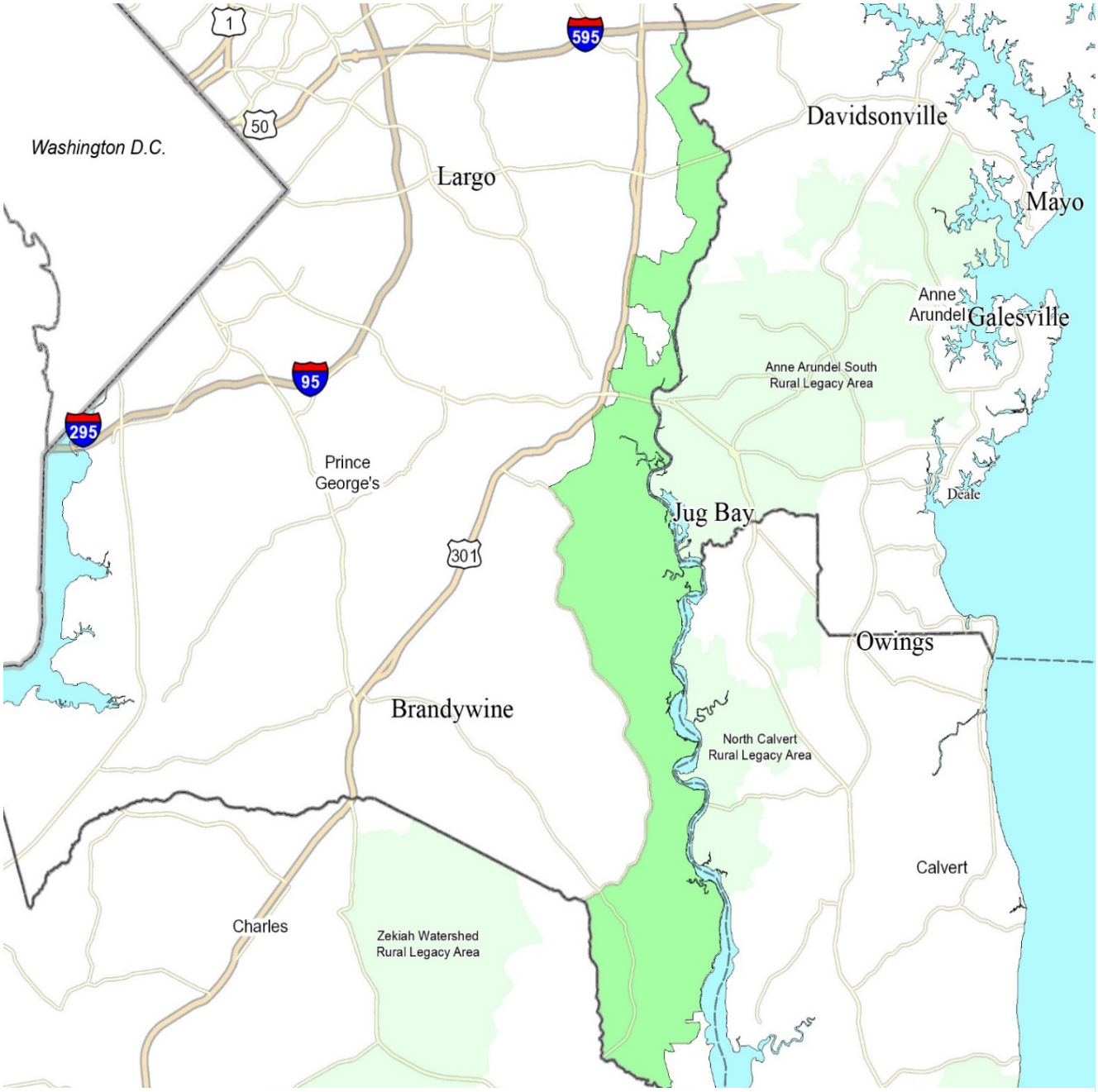


Figure 2 Patuxent River Rural Legacy Area

[19] Maryland Department of Natural Resources, Land Acquisition and Planning, Patuxent -River Prince George's, https://dnr.maryland.gov/land/pages/rurallegacy/all-rural-legacy-areas.aspx

Natural hazards

Maximum Risk Low Probability High Consequence	Flood Events

Flood Events

Flooding, the most frequent and costly natural hazard in the United States, has caused more than 10,000 deaths nationwide since 1900. Nearly 90% of presidential disaster declarations resulted from natural events where flooding was a major component. Notable riverine and coastal flooding has occurred several times since 1933. Prince George's County has experienced some riverine and stream flooding in recent decades, although sound management of flood hazard areas and construction of flood control projects has reduced potential losses.

Coastal flooding affects tidal bodies of water, including the tidal reaches of the Potomac River and the Patuxent River in Prince George's County. The Potomac River is subject to tidal flooding along its entire length of the county, and the Patuxent River is subject to tidal flooding up to the confluence of Western Branch.

The last major tropical storm disaster occurred in 1972. Leaving behind more than $10 million in damage in Prince George's County and the City of Laurel, Tropical Storm Agnes moved through the area on June 21-22, 1972.

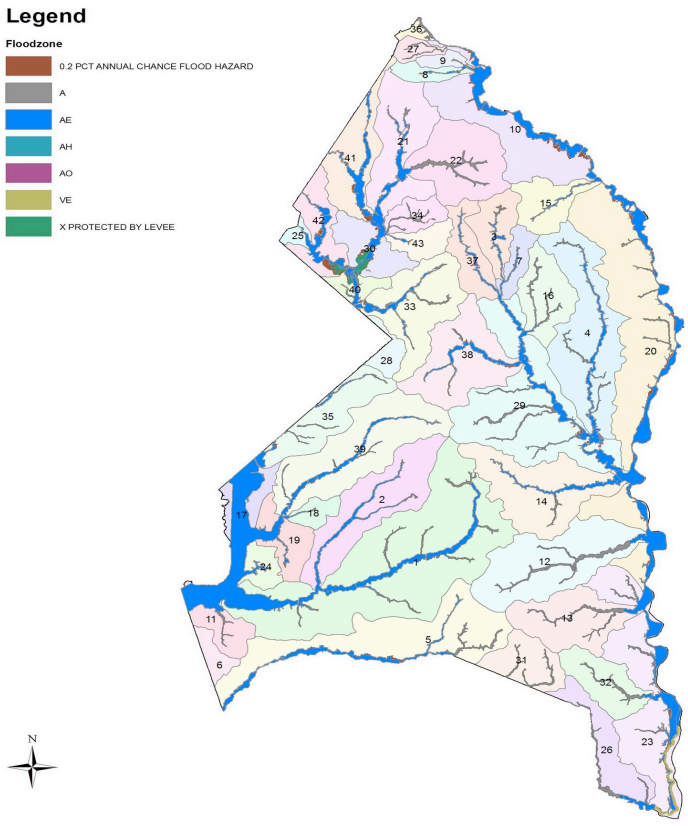


Figure 3 FEMA Flood Plain

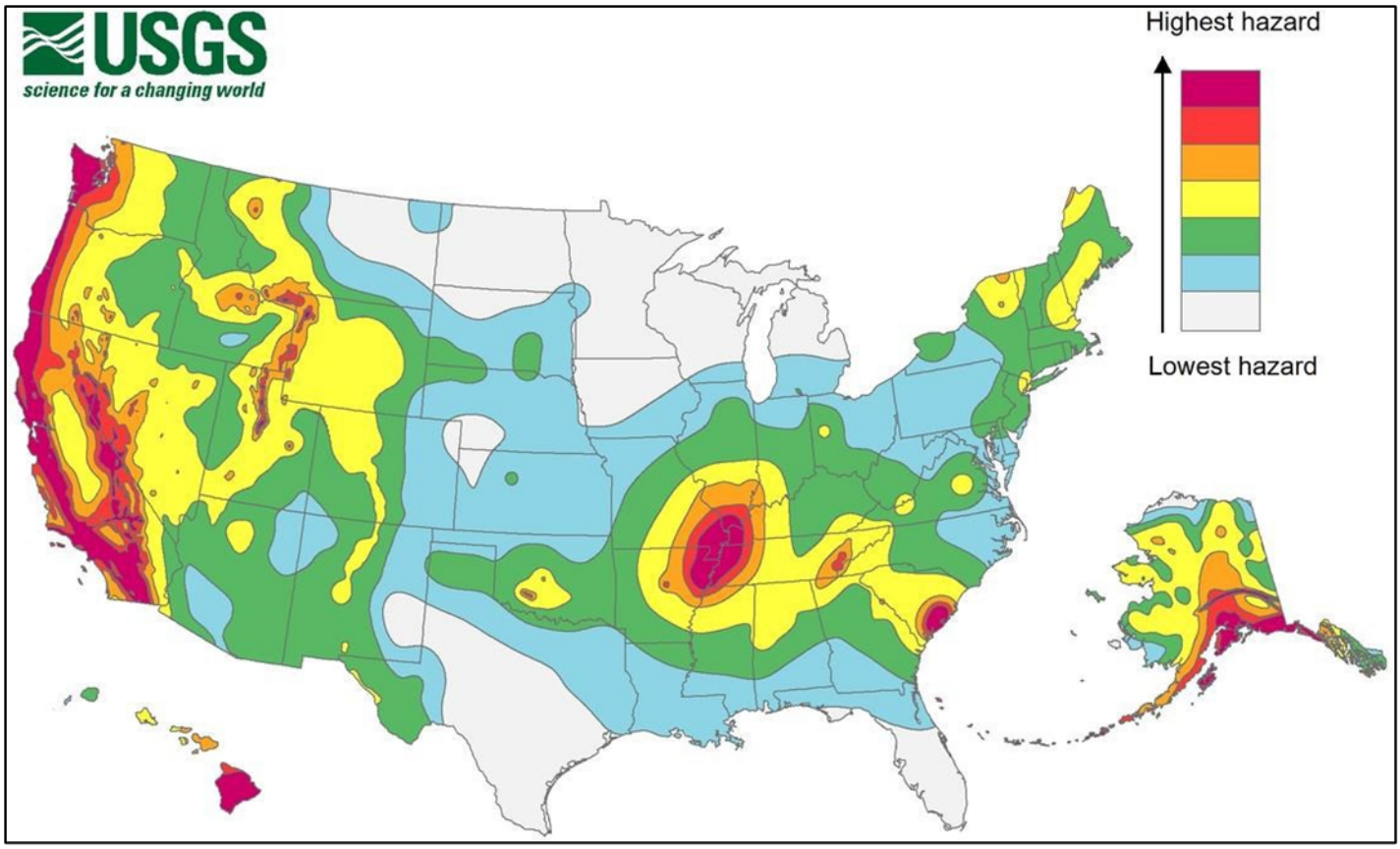
Maximum Risk Low Probability High Consequence	Earthquakes

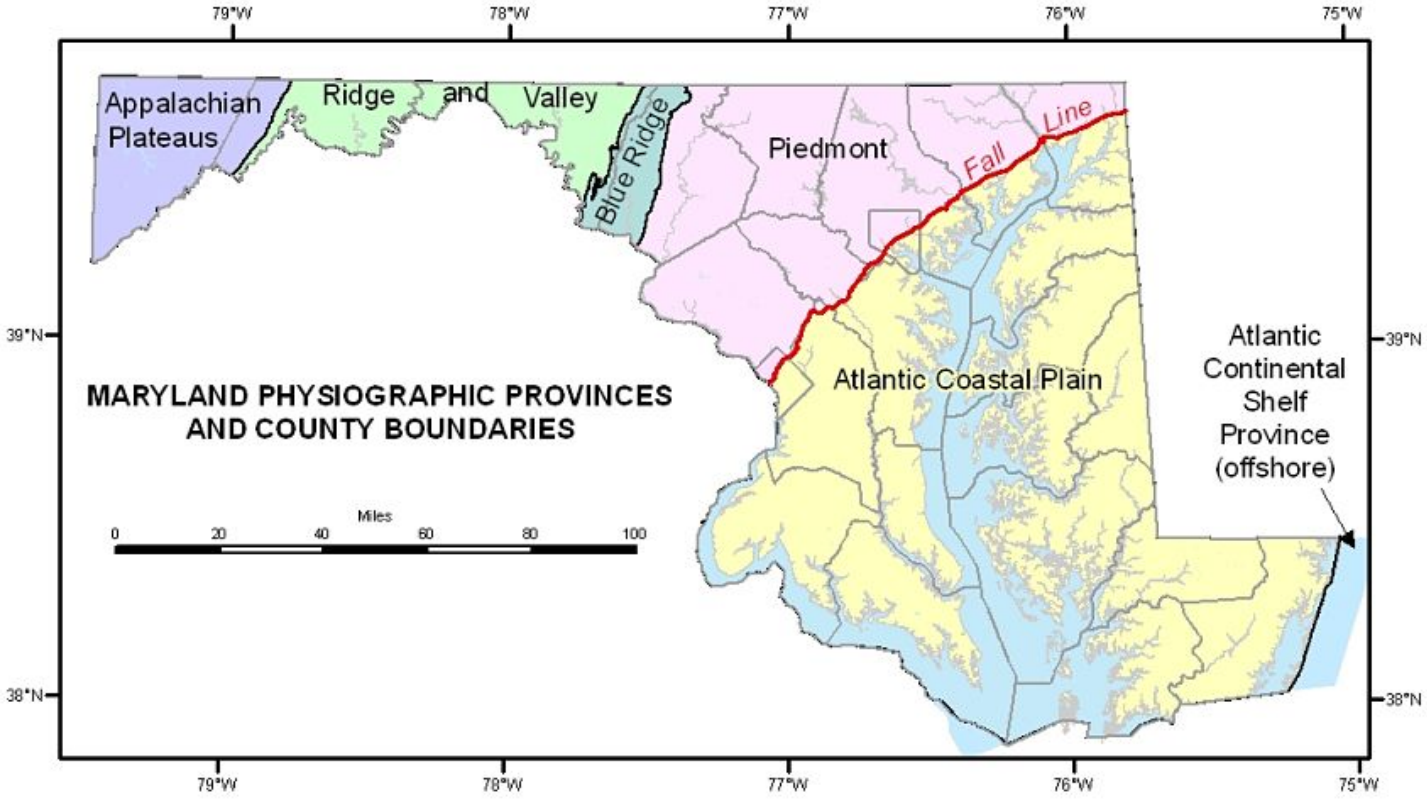
Earthquakes

The USGS hazard map below shows peak ground accelerations having a 2 percent probability of being exceeded in 50 years for a firm rock site. The map is based on the most recent USGS models for the contiguous U.S. (2018), Hawaii (1998), and Alaska (2007). The models are based on seismicity and fault-slip rates and consider the frequency of earthquakes of various magnitudes. Locally, the hazard may be greater than shown because site geology may amplify ground motions.

Major earthquakes have also occurred in the central and eastern U.S., even though the greatest seismicity in the United States occurs along the Pacific Coast (especially Alaska and Southern California). It is worth noting that Maryland seems to be part of a seismically quiet zone. Prince George's County has a very low earthquake risk. While possible, the chance of an earthquake affecting the area is historically low.

Several earthquakes in adjacent states have been felt in Maryland. Marylanders are more likely to feel one of these out-of-state earthquakes than one within Maryland. Southwestern Virginia, central Virginia, and the Atlantic seaboard northward from Wilmington, Delaware, have significantly more seismic activity than Maryland.



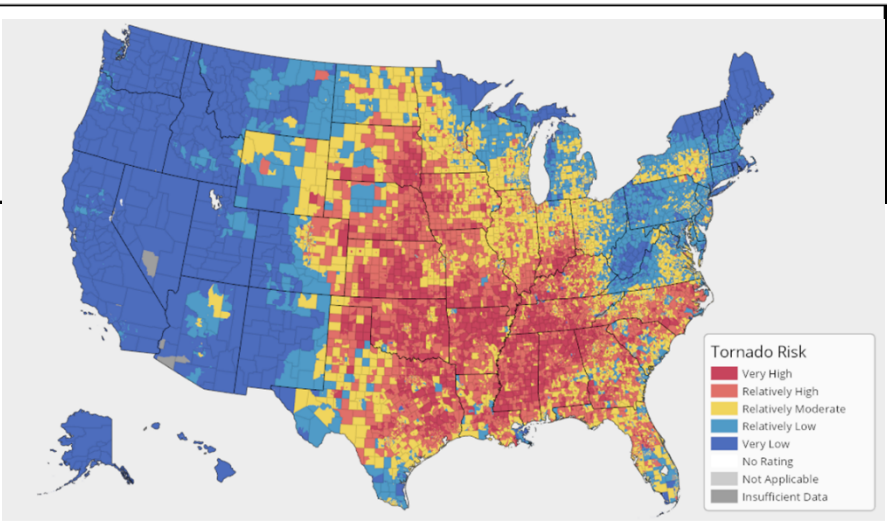

79°W
78°W
77°W
76°W
75°W
39°N
38°N
Appalachian Plateaus
Ridge and Valley
Blue Ridge
Piedmont
Fall Line
Atlantic Coastal Plain
Atlantic Continental Shelf Province (offshore)
MARYLAND PHYSIOGRAPHIC PROVINCES AND COUNTY BOUNDARIES
Miles
0
20
40
60
80
100

Severe Weather

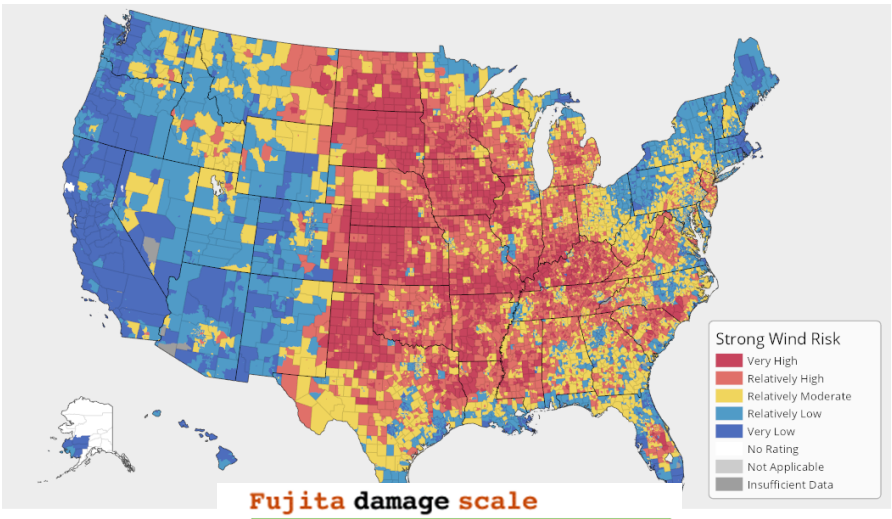
High Risk

High Probability

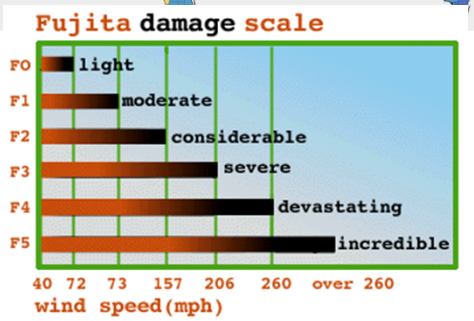
High Consequence



According to the National Centers for Environmental Information storm events database, Prince George's County has had 25 tornados that were reported between 01/01/1950 and 05/31/2022. Two of the 25 tornados were F2, and the remaining were F1 or below. Only one was an F3. The F3 tornado occurred on September 24, 2001, and was on the ground for 17.5 miles from College Park in Prince George's County to just east of Columbia in Howard County.



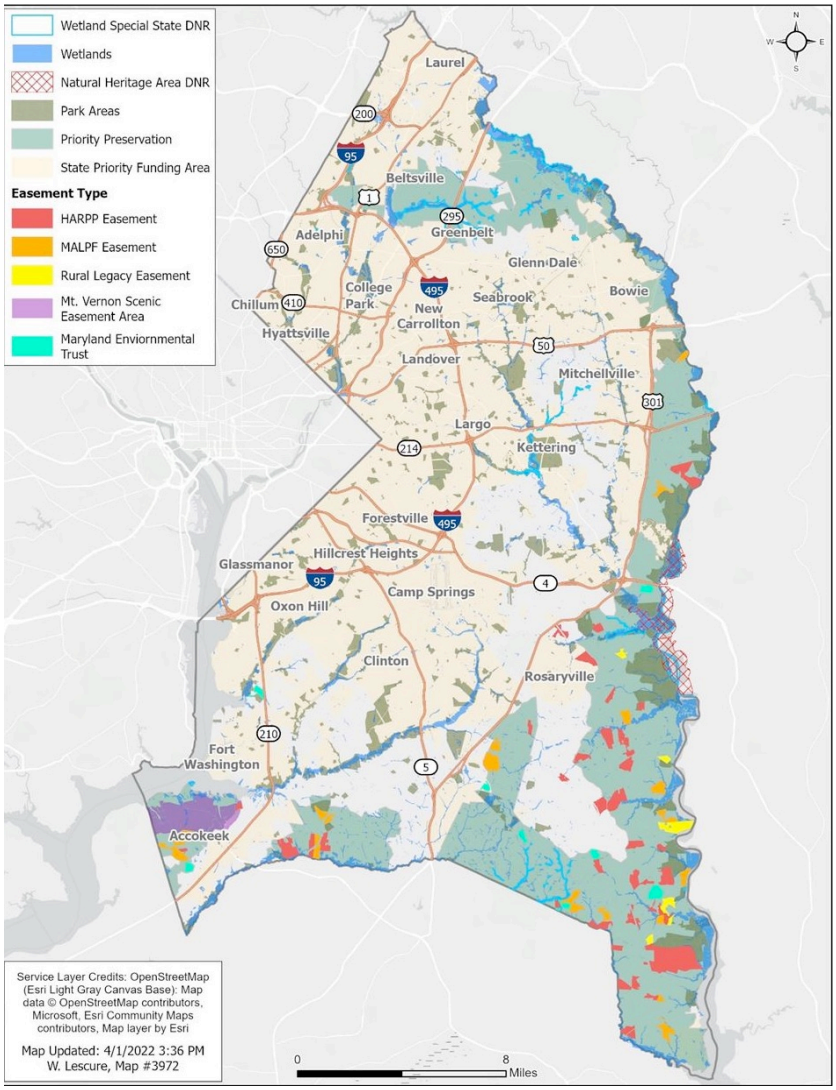
According to Federal Emergency Management Agency (FEMA), Strong Wind consists of damaging winds, often originating from thunderstorms, which are classified as exceeding 58 mph.
In the National Risk Index, a Strong Wind Risk Index score and rating represent a community's relative risk for Strong Wind when compared to the rest of the United States. A Strong Wind Expected Annual Loss score and rating represents a community's relative level of the expected building, population, and agriculture loss each year due to Strong Wind when compared to the rest of the United States.



Moderate risk **High Probability** **Low Consequence**	**Wildfire**

Wildfire

The wildland fire season in Prince George's County can occur any month but peaks in the spring and fall when leaves are off the trees. Potential risks include the destruction of land, property, and structures, injuries, and loss of life. Although rare, deaths and injuries usually occur at the beginning stages of wildfires when sudden flare-ups occur from high wind conditions. In most situations, however, people have the opportunity to evacuate the area and avoid bodily harm. Financial losses related to wildfires include destroyed or damaged houses, private facilities and equipment, loss of commercial timber supplies, and local and state costs for response and recovery. There are brush units stationed at stations 831, 836, 840, and 848 for the incidents that occur.



Contagious and Chronic Diseases

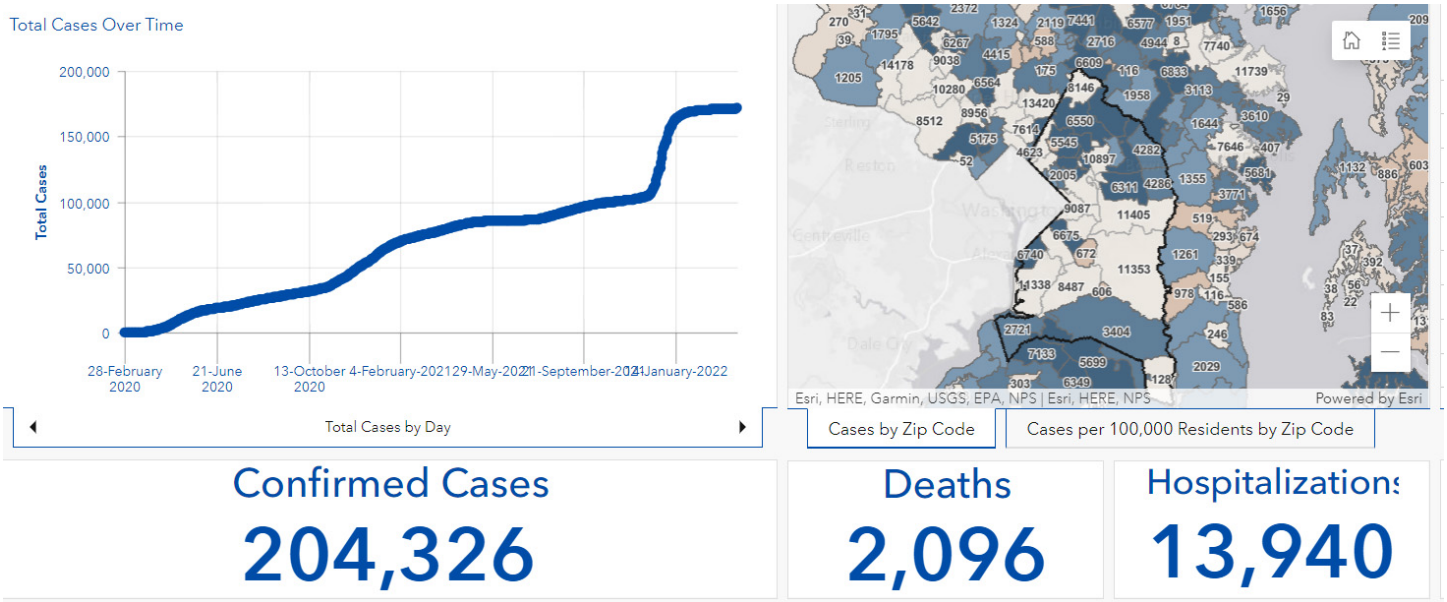
High-risk High Probability High Consequence	Contagious and Chronic Diseases

The Prince George's County Health Department's mission is to protect the public's health, assure the availability of and access to quality healthcare services, and promote individual and community responsibility for the prevention of disease, injury, and disability. The Environmental Health/Disease Control Division promotes and protects the safety of Prince George's County residents through environmental regulation, inspections, public education, emergency preparedness, and disease control.

A good example is the Child Fatality Review Team which seeks to develop an understanding of the causes and incidence of child death in Prince George's County. The Team develops plans for and recommends changes within the agencies represented on the Team to prevent child deaths and promotes compensation and coordination among agencies involved in investigations of child deaths or in providing services to surviving family members. The Team also advises the State Child Fatality Review Team on law, policy, or practice changes to prevent child deaths.

Program Chief Angela Crankfield-Edmond of the Prince George's County Health Department - Communicable and Vector-borne Disease Control states that from the program's inception at the beginning of the global pandemic, the Prince George's County Health Department, in partnership with HealthCare Dynamics (HCDI) has been at the forefront of contact tracing and efforts to mitigate and stop the spread of COVID-19. The report, JOURNEY TO 10,000, showcases how we have implemented strategies to slow and stop the spread in Prince George's County. Prince George's County contact tracing program, from the program's inception at the beginning of the global pandemic, in partnership with HealthCare Dynamics (HCDI), has been at the forefront of contact tracing and efforts to mitigate and stop the spread of COVID-19. The developed contact tracing workflow, training, data collection, and other processes evolved from a constant quality improvement directed by lessons learned and feedback from the tracers. The Prince George's County Health Department document "JOURNEY TO 10,000" verifies what the county is doing to help stop the spread of COVID-19, not only through contact tracing but through communications, community outreach, and other areas which are touched upon in the report.[20] Thanks to vaccines, medical care, clean water, and safe food sources and handling, deadly diseases are more rare in Prince George's County than ever before. International travel and trade, however, mean contagious diseases are never far away. New diseases also pose a threat, as they can develop and spread rapidly.

[20] https://www.princegeorgescountymd.gov/ArchiveCenter/ViewFile/Item/3389



Chronic Disease

Chronic diseases are defined broadly as conditions that last one year or more and require ongoing medical attention or limit activities of daily living or both. Chronic diseases such as heart disease, cancer, and diabetes are the leading causes of death and disability in the United States. They are also drivers of the nation's $4.1 trillion annual healthcare costs.[21] According to the Centers for Disease Control and Prevention (CDC), many chronic diseases are caused by a short list of risk behaviors: Tobacco use and exposure to secondhand smoke, poor nutrition, including diets low in fruits and vegetables and high in sodium and saturated fats, physical inactivity, and excessive alcohol use.

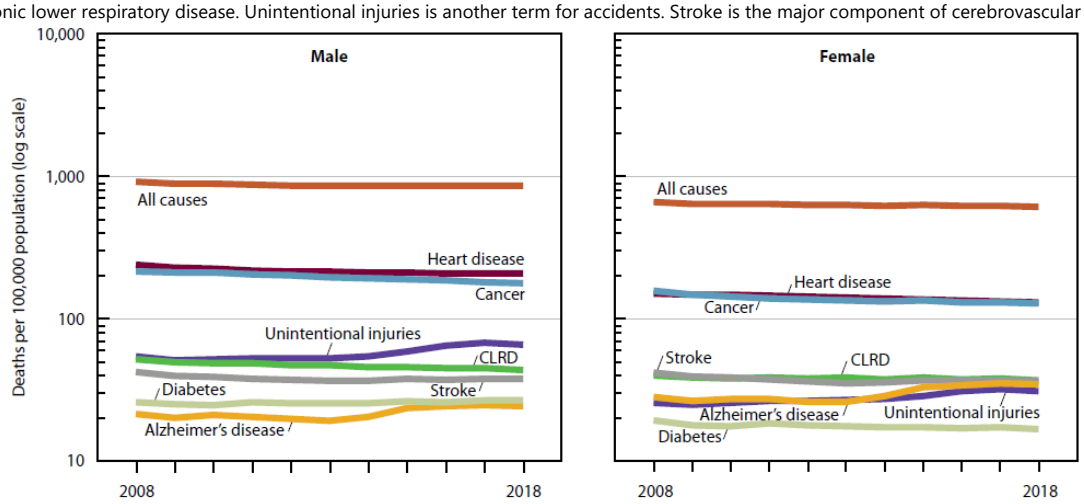
Chronic diseases, including heart disease, stroke, cancer, and diabetes, rank among the most common, costly, and preventable of all health problems throughout the United States. The leading causes of death in Maryland in 2020 were heart disease, cancer, COVID-19, stroke, accidents, chronic obstructive lower respiratory disease, diabetes Alzheimer's Disease.

Access to high-quality and affordable prevention measures, including screening and appropriate follow-up care, are also essential steps in disease prevention. For example, regular cancer screenings can diagnose new cancer cases at an early stage, which may improve the patient's prognosis.

[21] https://www.cdc.gov/chronicdisease/about/index.htm

Figure 4. Age-adjusted death rates for selected causes of death for all ages, by sex: United States, 2008–2018

NOTES: CLRD is chronic lower respiratory disease. Unintentional injuries is another term for accidents. Stroke is the major component of cerebrovascular disease. See data table for Figure



SOURCE: NCHS, National Vital Statistics System (NVSS), Mortality. Excel and PowerPoint: https://www.cdc.gov/nchs/hus/contents2019.htm#Figure-003

The annual Robert Wood Johnson Foundation County Health Rankings measures health factors and health outcomes. Health factors focus on behaviors, access to health care, the environment, and socioeconomic factors which affect the health of the population and contribute to their health outcomes, such as length and quality of life. Both health factors and health outcomes are used to "rank" the counties within each state. This document provides an overview of Prince George's County's rank compared to the other jurisdictions in Maryland and also provides information about the indicators used to create the rankings.[22]

Rank	Jurisdiction
1	Montgomery
2	Howard
3	Carroll
4	Calvert
5	Frederick
6	St. Mary's
7	Anne Arundel
8	Harford
9	Queen Anne's
10	Talbot
11	Charles
12	Worcester
13	Baltimore
14	Prince George's
15	Garrett
16	Kent
17	Cecil
18	Washington
19	Wicomico
20	Allegany
21	Dorchester
22	Caroline
23	Somerset
24	Baltimore City

Prince George's County Health Rankings (out of 24 jurisdictions)

Multiple indicators are included in these key summary measures

	2014	2015	2016	2017	2018
Overall Ranking	**17**	**16**	**16**	**14**	**14**
Health Outcomes	**17**	**16**	**16**	**14**	**14**
Length of Life	18	19	15	15	12
Quality of Life	14	13	18	17	14
Health Factors	**14**	**15**	**16**	**16**	**16**
Health Behaviors	8	9	11	11	10
Clinical Care	21	23	23	23	22
Social & Economic Factors	15	16	17	16	16
Physical Environment	12	13	8	6	7

2018 Rankings: Prince George's County Successes

Indicator	Rank (out of 24)	PGC Value	MD Value
Residents with Access to Exercise Opportunities	3	99%	93%
Injury Death Rate	3	47 per 100,000	64 per 100,000
Adults who Smoke	3	12%	14%
Adult Excessive Drinking	3	15%	17%
Adult Average Poor Mental Health Days per Month	4	3.3 Days	3.5 Days
Income Inequality Ratio	4	3.8	4.6

Produced by the Office of Assessment and Planning
March 2018

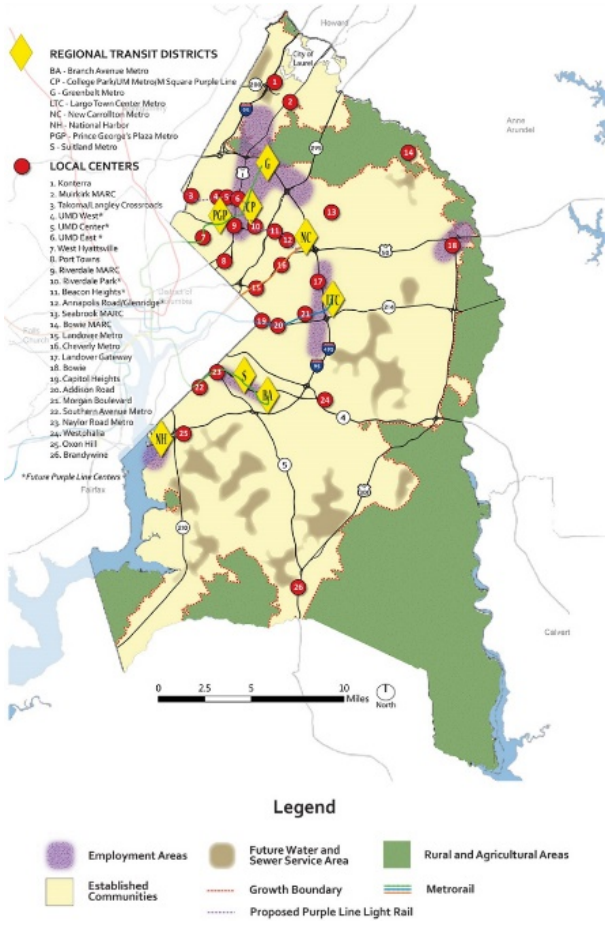
[22] https://www.princegeorgescountymd.gov/ArchiveCenter/ViewFile/Item/3033

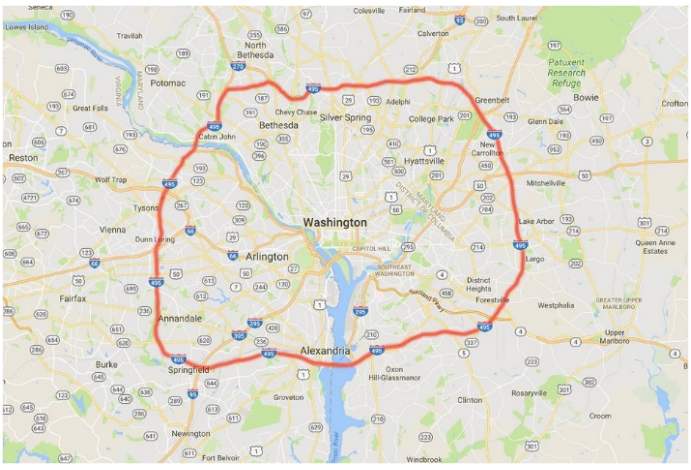
Human-made risk hazards

Moderate Risk High Probability Low Consequence	Transportation Network

Highway

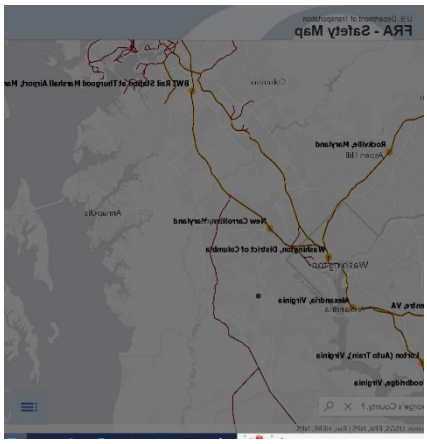
Significant road structures, including highways and interstates, provide access for the population of Prince George's County. Prince George's County contains a 28-mile portion of the 65-mile-long Capital Beltway. The east–west toll freeway, the Intercounty Connector ("ICC"), which extends Interstate 370 in Montgomery County to connect I-270 with Interstate 95 and U.S. 1 in Laurel, opened in 2012. An 11.5-mile portion of the 32.5-mile-long Baltimore–Washington Parkway runs from the county's border with Washington, D.C., to its border with Anne Arundel County near Laurel. Therefore, the inherent risk of vehicle accidents, vehicle fires, and hazardous materials releases exists.





Moderate Risk **High Probability** **Low Consequence**	**Transportation Network**

Railroad



The principal rail transportation risk for the area centers on the Port of Baltimore. Norfolk Southern and CSX Transportation provide service to most of the states east of the Mississippi from the port, connecting service to the western part of the United States, Mexico, and Canada. The Canton Railroad provides switching services to private facilities located in the port area. The connection with these railroads allows port customers to use one of the most efficient, affordable, and environmentally responsible freight systems for the movement of international cargo.[23]

The exact volume of hazardous materials rail shipments is elusive as a result of railroad security concerns. The freight cargoes are diverse and include coal, ore, automobiles, machinery, pulp, paper products, and much more. Based upon local observations of railroad freight activity, it appears that there is sufficient evidence that the hazardous nature and volume of these cargoes introduce some risk.

Metrorail provides service for more than 600,000 customers daily throughout the Washington, D. C. area. The system is the second busiest in the United States, serving 91 stations in Virginia, Maryland, and the Department of Columbia. There are currently 15 Metrorail stations in Prince George's County, with four of them as terminus stations.

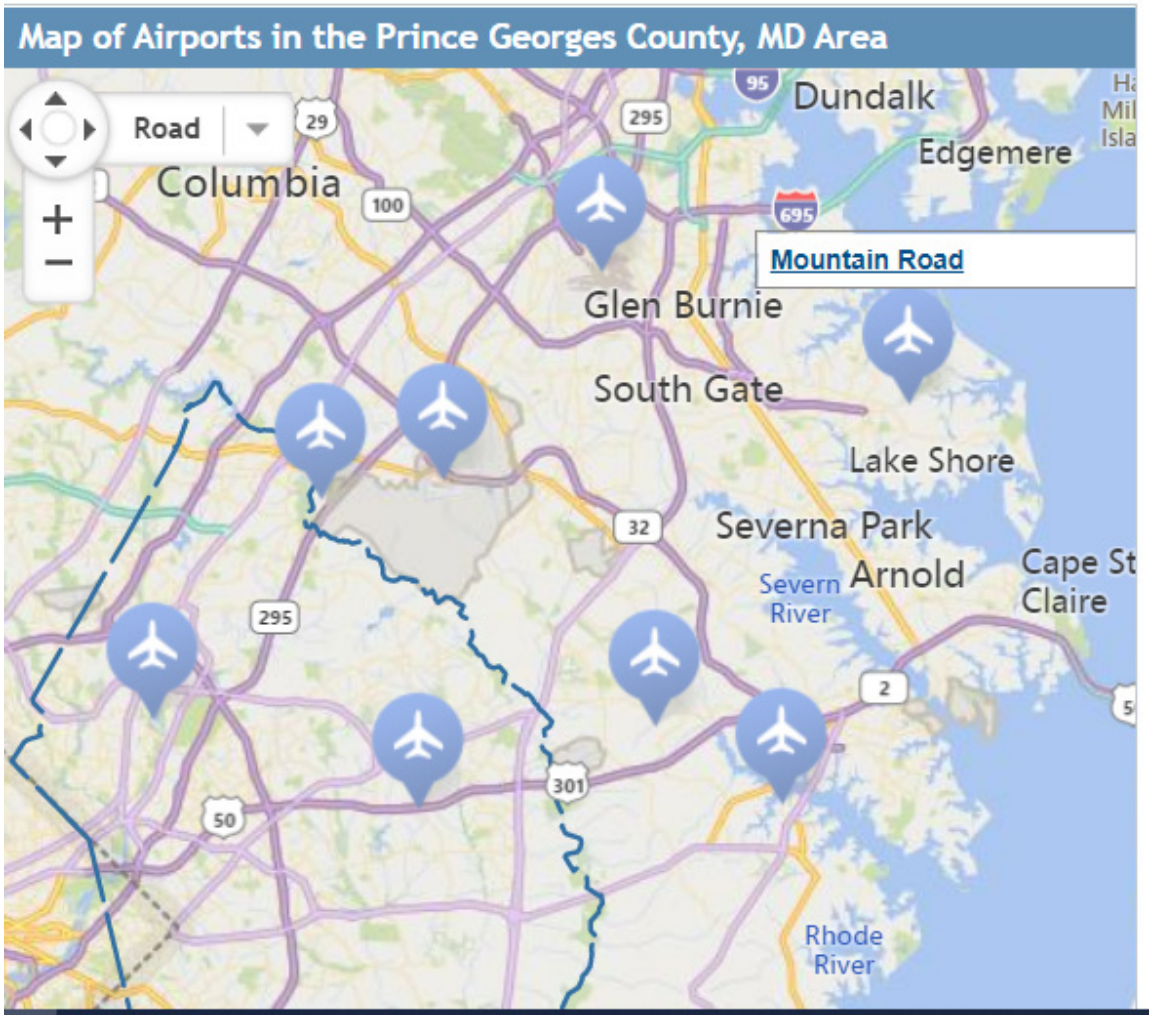
Prince George's County Commuter Rail - The MARC Train (Maryland Area Rail Commuter) train service has two lines that traverse Prince George's County. The Camden Line runs between Baltimore Camden Station and Washington Union Station and has six stops in the county at Riverdale, College Park, Greenbelt, Muirkirk, Laurel, and Laurel Racetrack. The Penn Line runs between Pennsylvania and Washington Union stations on the Amtrak route. It has three stops in the county: Bowie, Seabrook, and New Carrollton.

[23] https://mpa.maryland.gov/Pages/cargo-rail.aspx

Moderate Risk High Probability Low Consequence	Transportation Network

Aviation

There are five public-use, general aviation airports with flight patterns over Prince George's County. These airports are Freeway Airport in Mitchellville, Washington Executive Airpark in Clinton, Potomac Airfield in Friendly, College Park Airport, and Suburban Airport in Anne Arundel County.
Joint Base Andrews Airport is located in Prince George's County. Often called the military's premier joint base, Andrews is home to Air Force, Army, Navy, and Marine units and even hosts a chapter of the Civil Air Patrol. Many missions are being accomplished here by numerous units from various branches of the military.
Three airports serve the area: Ronald Reagan Washington National Airport (DCA) in Arlington County, Virginia; Baltimore–Washington International Thurgood Marshall Airport (BWI) in neighboring Anne Arundel County; and Dulles International Airport (IAD) in Dulles, Virginia.



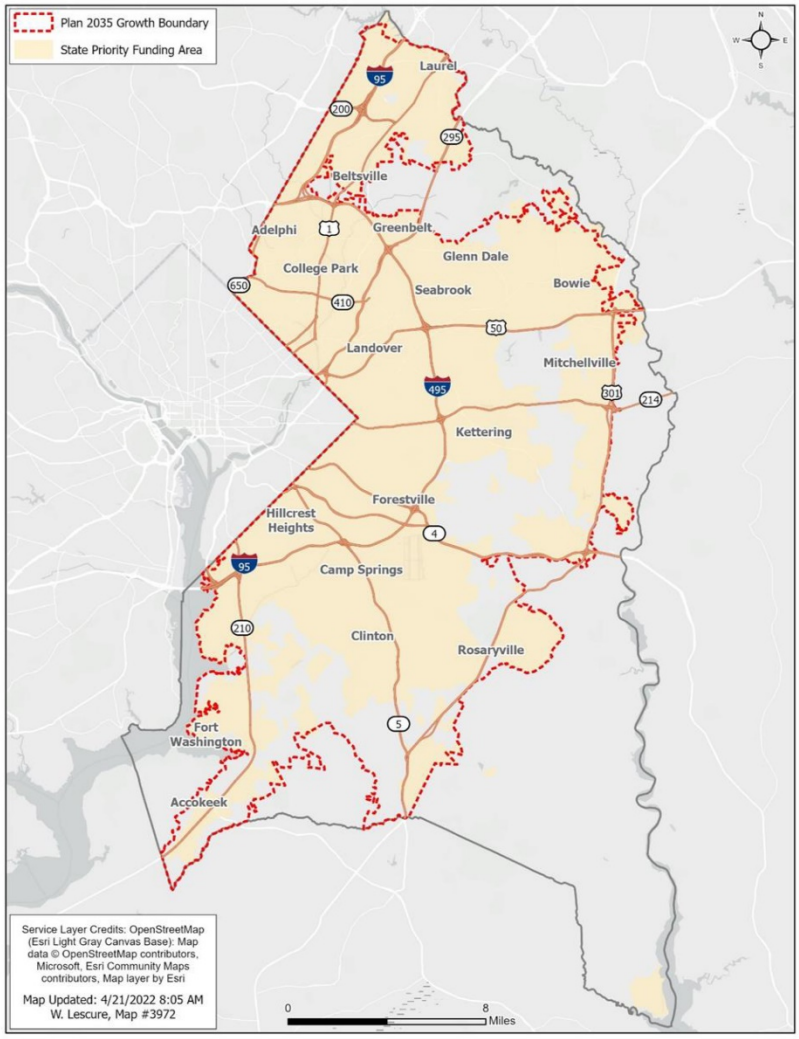
Moderate Risk High Probability Low Consequence	Population Growth

Population Growth

Prince George's County manages its growth and strives for sustainable development via comprehensive planning as a maturing jurisdiction in the Washington, D.C., metropolitan region. As a comprehensive 20-year general plan, Plan 2035 is a blueprint for long-term growth and development in Prince George's County. It charts a new course for our future and communicates our shared vision, priorities, and changes. The purpose of Plan 2035 is to make Prince George's County a competitive force in the regional economy, a leader in sustainable growth, a community of strong neighborhoods and municipalities, and a place where residents are healthy and engaged.[24]

Four immigrant groups, Asian-Pacific Islander, Caribbean, Latino, and West African, account for nearly 27 percent of the county's population. The annual population growth rate is predicted at > 0.7% to 1.1% for the majority of the census block areas in Prince George's County.

[24] http://www.planpgc2035.org/


Plan 2035 Growth Boundary
State Priority Funding Area
Laurel
Beltsville
Adelphi
Greenbelt
College Park
Glenn Dale
Seabrook
Bowie
Landover
Mitchellville
Kettering
Forestville
Hillcrest Heights
Camp Springs
Clinton
Rosaryville
Fort Washington
Accokeek
95
200
295
1
650
410
50
495
301
214
4
210
5
Service Layer Credits: OpenStreetMap (Esri Light Gray Canvas Base): Map data © OpenStreetMap contributors, Microsoft, Esri Community Maps contributors, Map layer by Esri
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8
Miles

Critical Tasking Methodology for Fire, EMS, HazMat and Technical Rescue

Critical tasks are the activities and actions to be taken by the Department's effective response force in dealing with each risk that personnel must conduct in a timely manner on emergency incidents to mitigate or control the event. In creating a SOC, the capability of arriving companies and the required number of firefighters to achieve these tasks must be adequately assessed.

Core Competency 2C.4

A critical task analysis of each risk category and risk class has been conducted to determine first due and effective response force capabilities and a process is in place to validate and document the results.

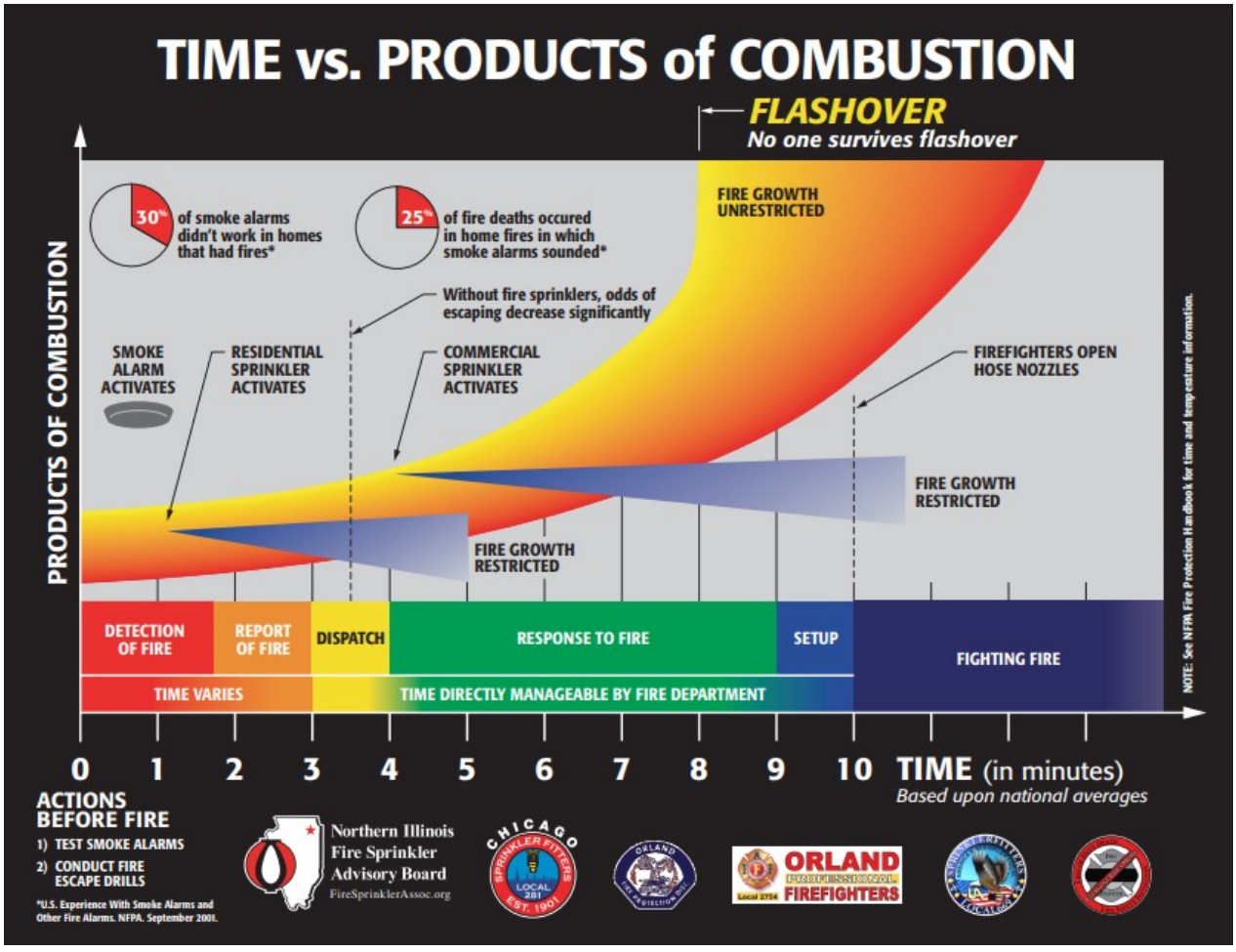
PGFD has conducted and published a critical task analysis for each response category and risk classification for first due and effective response force units. The effective response forces should be evaluated against field observations, tested in a controlled training environment, or any other method to ensure critical tasking is adequate for the related type of emergency.

High Risk High Probability High Consequence	Fire Suppression

Fire Suppression

Fire suppression is one of the most visible response services a fire department provides at the very core of our existence. As evidenced by the flashover curve and exacerbated by modern furnishings and construction methods, fires are an extremely time-sensitive emergency. The Department has classified the risk of fires into four main categories: low, moderate, high, and maximum.

Recent studies by Underwriter's Laboratories (UL) have found that flashovers occur within four minutes in a modern fire environment in compartment fires such as structure fires. In addition, the UL research has identified an updated time temperature curve due to fires being ventilation-controlled rather than fuel-controlled, as represented in the traditional time temperature curve. While this ventilation-controlled environment continues to provide a high risk to unprotected occupants to smoke and high heat, it does provide some advantages to property conservation efforts, as water may be applied to the fire prior to ventilation and the subsequent flashover.

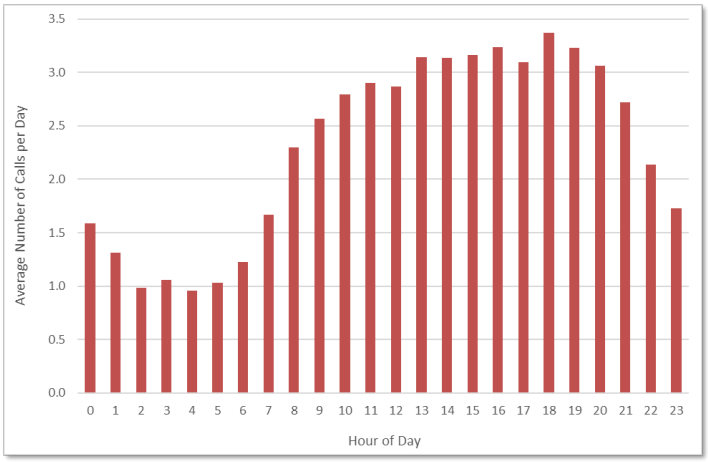


Fire-related demand in 2018-2019

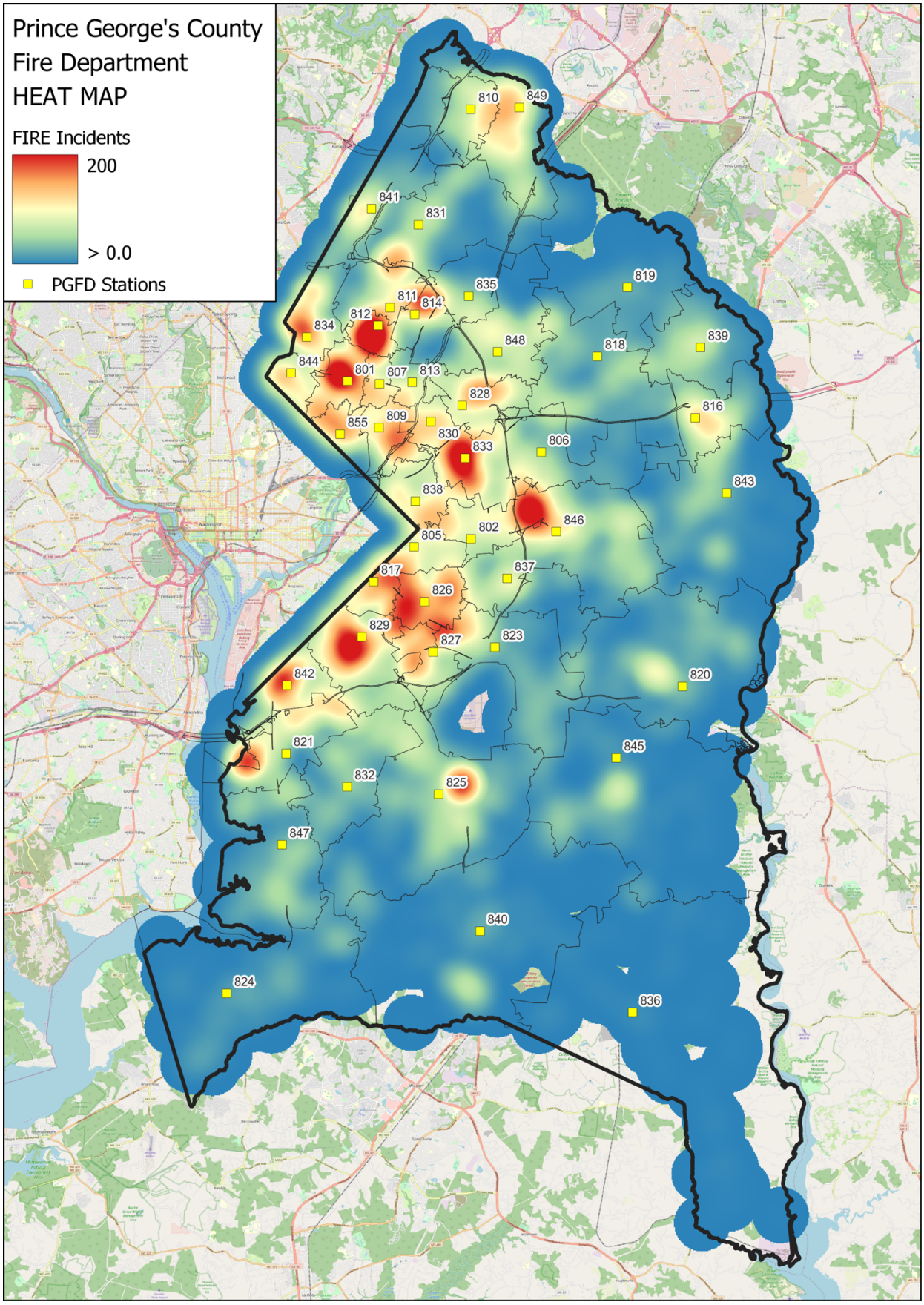
Historical analyses were conducted to evaluate patterns in community demand for fire-related services. These analyses are based on the 20,179 total fire-related requests for service received from the community during 2018-19 and examine the frequency of requests for service by month, day of the week, and hour of the day.

Month	Number of Calls	Average Calls per Day	Call Percentage
January	1,548	49.9	7.7
February	1,413	50.5	7.0
March	1,639	52.9	8.1
April	1,617	53.9	8.0
May	1,749	56.4	8.7
June	1,732	57.7	8.6
July	1,915	61.8	9.5
August	1,797	58.0	8.9
September	1,866	62.2	9.2
October	1,676	54.1	8.3
November	1,689	56.3	8.4
December	1,538	49.6	7.6
Total	**20,179**	**55.3**	**100.0**

Day of Week	Number of Calls	Average Calls per Day	Call Percentage
Sunday[25]	3,091	58.3	15.3
Monday	2,955	56.8	14.6
Tuesday	2,826	54.3	14.0
Wednesday	2,758	53.0	13.7
Thursday	2,903	55.8	14.4
Friday	2,770	53.3	13.7
Saturday	2,876	55.3	14.3
Total	**20,179**	**55.3**	**100.0**



[25] There were 53 Sundays in 2018-19, and 52 of all other days of the week in 2018-19.


Prince George's County
Fire Department
HEAT MAP
FIRE Incidents
200
> 0.0
PGFD Stations
810
849
841
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824
836

Critical Tasking and Effective Response Forces

General Description – PGFD approaches response to fires in a tiered fashion. Below is the description of a low, moderate, high, or maximum response, with corresponding critical tasking in the Effective Response Force for Fires table.

Low – This type of fire is a low-risk/value incident, such as a dumpster, car, or brush fire. It requires a single unit with pumping capability to respond and mitigate effectively.

Moderate – This is a residential or small commercial structure fire that has seven apparatus dispatched, which is typically 2 engines, 1 ladder truck, 1 rescue squad, 2 ambulances, and 1 battalion chief, for a total of 17 personnel.

High – Large structures, including high rise fires, expansive industrial occupancies, or other buildings requiring additional personnel to accomplish multiple simultaneous tasks. This type of response dispatches 13 apparatus, which is typically 4 engines, 2 ladder trucks, 1 rescue squad, 2 ambulances, 1 safety officer, 1 EMS duty officer, and 2 battalion chiefs, for a total of 29 personnel

Special – Very large industrial occupancies, hazardous materials manufacturing facilities, hospitals, or other structures such as critical infrastructure dispatches approximately 35 personnel on 5 engines, 3 ladder trucks, 1 rescue squad, 2 ambulances, 1 safety officer, 1 EMS duty officer, and 2 battalion chiefs.

Effective Response Force for Fire Incidents				
Task	**Special**	**High**	**Moderate**	**Low**
Command	**2**	**1**	**1**	**1**
Safety	**1**	**1**		
Driver/Pump Operation/Water Supply	**4**	**4**	**2**	**1**
Fire Attack Line 1	**2**	**2**	**2**	**1**
Search / Forcible Entry	**3**	**2**	**2**	
Ventilation	**3**	**2**	**2**	
Rapid Intervention Team	**5**	**2**	**2**	
Ladders	**3**	**2**	**2**	
Fire Attack Line 2	**2**	**2**		
Backup Line	**2**	**2**		
Medical Standby / Rehab	**2**	**2**		
Exposure Attack Line	**2**			
ERF Personnel	**31**	**22**	**13**	**3**

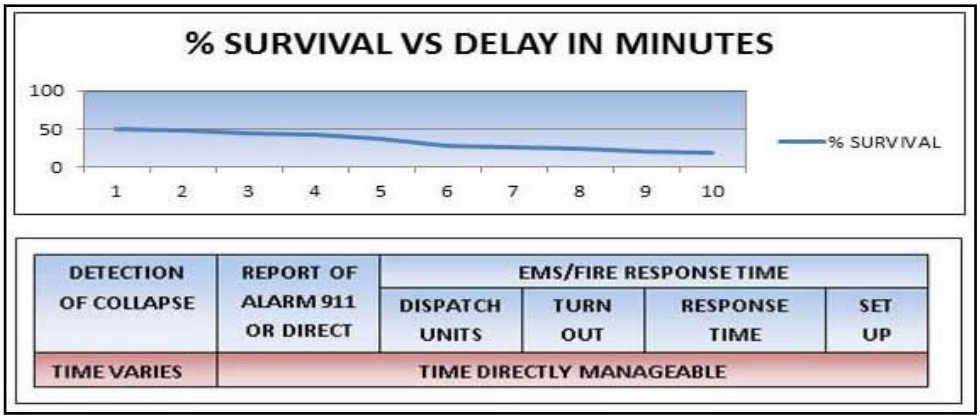
Moderate Risk High Probability Low Consequence	Emergency Medical Services

Emergency Medical Services

Historical analyses were conducted to evaluate patterns in community demand for emergency medical. These analyses are based on the 105,022 total urgent EMS-related requests for service received from the community during 2018-19 and examine the frequency of requests for service by month, day of the week, and hour of the day.

Time is a critical element when responding to true medical emergencies, with the chance of survival for a cardiac arrest dropping precipitously with every passing minute.

The potential survival rate for cardiac arrests, one of the most serious medical emergencies an individual can experience, is only 50% by the time a fire apparatus leaves the station, making prevention efforts a crucial piece of achieving positive patient outcomes.



Results found that there was some variability by month (Table 8; Figure 5). The three months with the most EMS-related calls in descending order were: May (299.8 per day), October (294.0 per day), and March (290.0 per day). The three months with the fewest EMS-related calls in ascending order were: January (277.0 per day), August (281.9 per day), and September (282.3 per day).

When evaluating the steady rise in emergency medical calls over the last few decades, it is readily apparent that the workload demand for these calls will continue to rise. The Department is actively working with community partners to reduce or eliminate many of the lower risk/severity calls for help by channeling the patient into a more appropriate method of care.

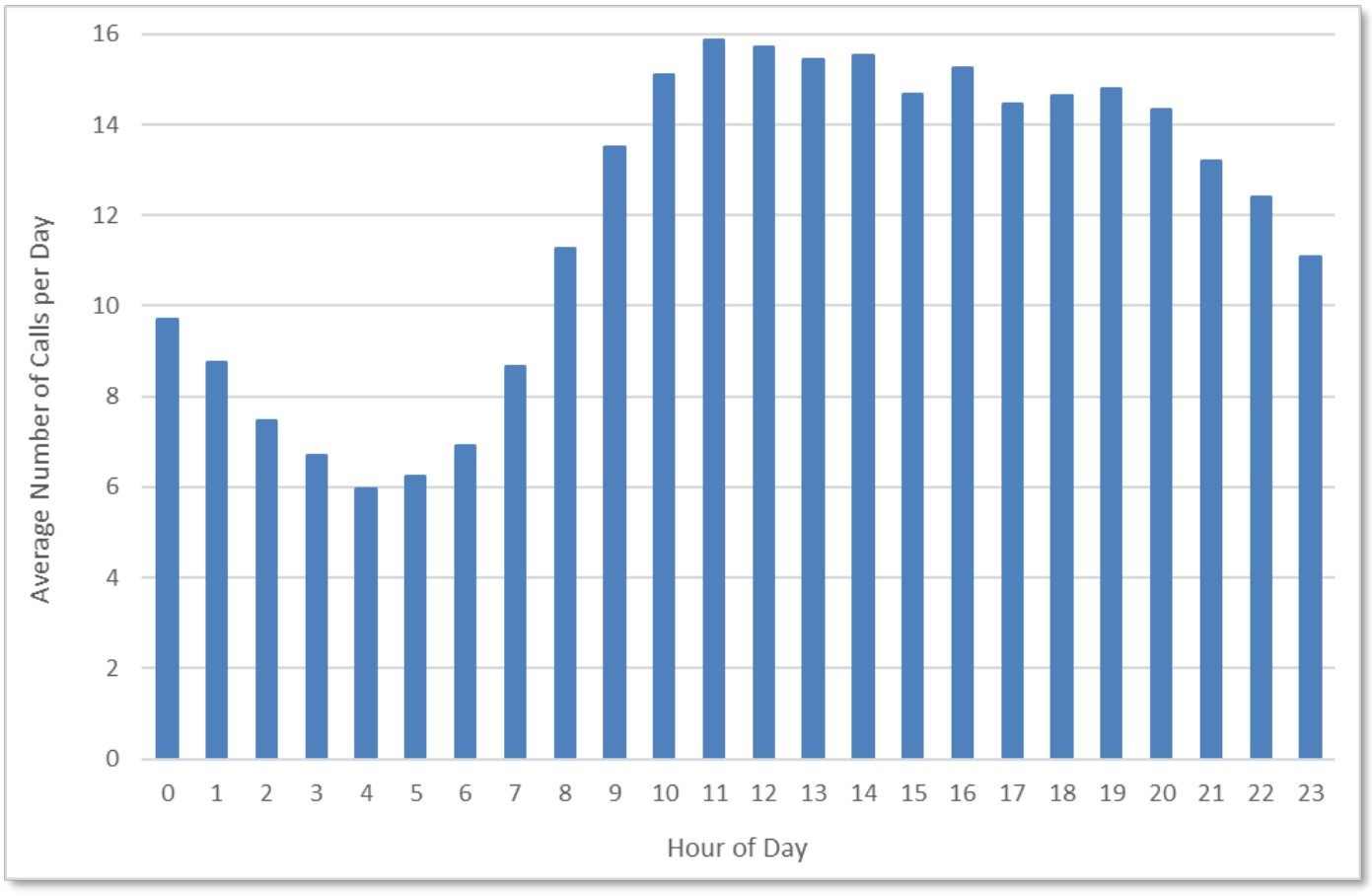
Nature of Call	Number of Calls	Percentage of Total EMS Demands
ALS1	39,733	37.8
BLS0	26,786	25.5
BLS1	13,004	12.4
BLS	7,587	7.2
ALS	2,909	2.8
ASALT	2,892	2.8
MALRM	2,855	2.7
CPR	1,802	1.7
BLS+	1,425	1.4

Nature of Call	Number of Calls	Percentage of Total EMS Demands
SUI	1,303	1.2
ALS2	795	0.8
OVERA	620	0.6
CUTT	481	0.5
OVERB	375	0.4
CPRC	361	0.3
SHOT	338	0.3
ASPD	243	0.2
BLSC	211	0.2
ALS0	184	0.2
ALSC	154	0.1
SERVI	150	0.1
ALS+	127	0.1
CKWELC	108	0.1
ASALTA	85	0.1
RAP	82	0.1
OD	80	0.1
SUICIC	51	< 0.1
TRANS	44	< 0.1
DEATHC	30	< 0.1
ASLTC	27	< 0.1
ODAC	26	< 0.1
HELPP	23	< 0.1
ELEVI	17	< 0.1
OVERDC	14	< 0.1
CUTC	13	< 0.1
DOMESC	13	< 0.1
DOAC	12	< 0.1
ASLTBC	10	< 0.1
SHOOTC	10	< 0.1
ODBC	9	< 0.1
HELPC	7	< 0.1
ANIMLC	6	< 0.1
ASLTAC	6	< 0.1
BARI	5	< 0.1
FIGHTC	3	< 0.1
RAPEC	3	< 0.1
ACTSHT	2	< 0.1
ROBBC	1	< 0.1
Total	105,022	100.0

2021 EMS Incident Data

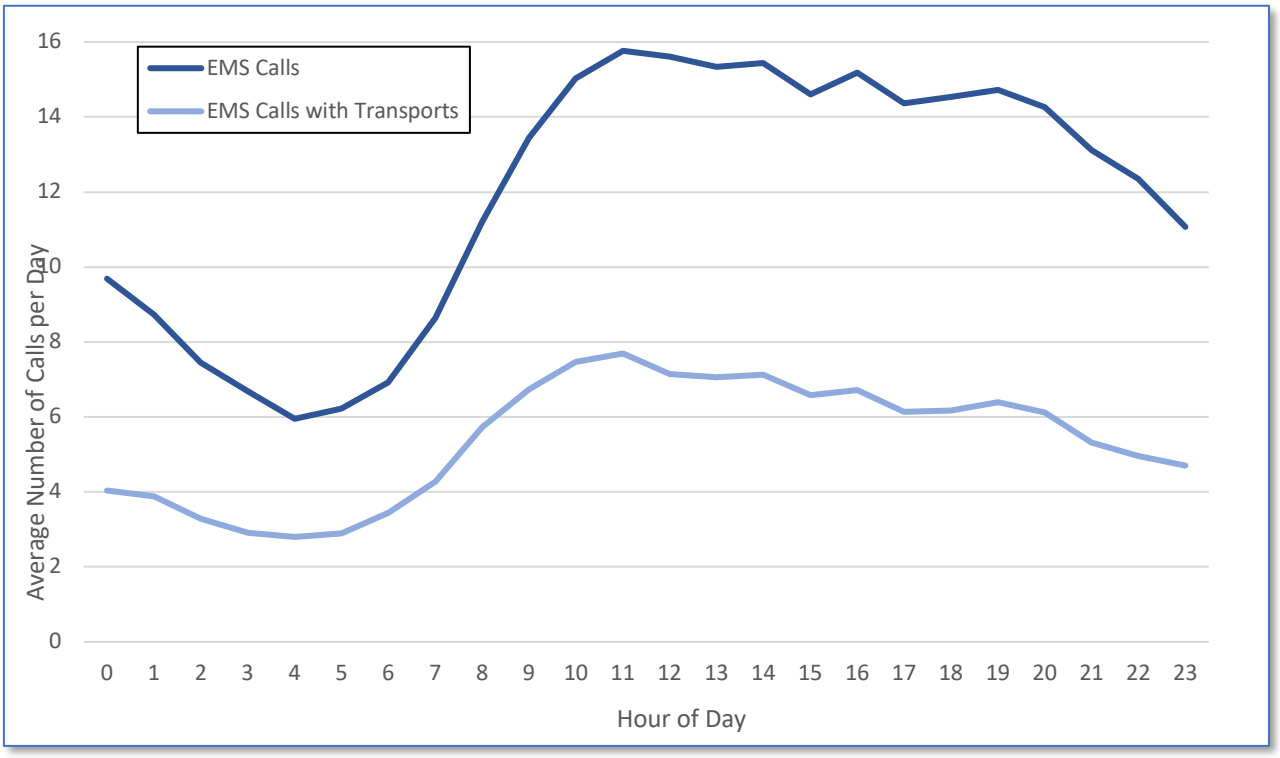
Month	Number of Calls	Average Calls per Day	Call Percentage
January	8,587	277.0	8.2
February	8,077	288.5	7.7
March	8,990	290.0	8.6
April	8,594	286.5	8.2
May	9,294	299.8	8.8
June	8,685	289.5	8.3
July	8,975	289.5	8.5
August	8,738	281.9	8.3
September	8,468	282.3	8.1
October	9,114	294.0	8.7
November	8,542	284.7	8.1
December	8,958	289.0	8.5
Total	**105,022**	**287.7**	**100.0**

Day of Week	Number of Calls	Average Calls per Day	Call Percentage
Sunday	14,921	281.5	14.2
Monday	15,247	293.2	14.5
Tuesday	14,961	287.7	14.2
Wednesday	14,951	287.5	14.2
Thursday	14,864	285.8	14.2
Friday	15,204	292.4	14.5
Saturday	14,874	286.0	14.2
Total	**105,022**	**287.7**	**100.0**



2021 Transport Rates, Call Durations, and Average Hourly Call Rates for Transports

	Non-Transport		Transport			
Call Category	Average Call Duration (Minutes)	Number of Calls	Average Call Duration (Minutes)	Number of Calls	Total Number of Calls	Transport Rate (%)
ALS0	56.9	184	--	0	184	0.0
ALS1	57.0	20,073	97.2	22,840	42,913	53.2
ALS2	61.7	2,010	110.7	988	2,998	33.0
BLS0	41.8	17,521	92.4	12,050	29,571	40.7
BLS1	42.3	12,725	90.8	9,581	22,306	43.0
Overdose	42.4	646	92.0	477	1,123	42.5
Police-Active Shooter	15.2	2	--	0	2	0.0
Police-Assault	26.3	2,473	83.3	538	3,011	17.9
Police-Assist	62.1	5	148.7	2	7	28.6
Police-Barricade	273.1	4	209.1	1	5	20.0
Police-Cutting/Stabbing	34.0	347	92.5	146	493	29.6
Police-Domestic	16.6	12	72.6	1	13	7.7
Police-Robbery	14.4	1	--	0	1	0.0
Police-Sexual Assault	34.9	70	100.9	15	85	17.6
Police-Shooting	46.2	245	108.1	103	348	29.6
Police-Suicide	41.9	816	98.3	534	1,350	39.6
Police-Welfare Check	24.9	84	111.3	23	107	21.5
Total	49.5	57,218	95.8	47,299	104,517	45.3


EMS Calls
EMS Calls with Transports
Average Number of Calls per Day
Hour of Day
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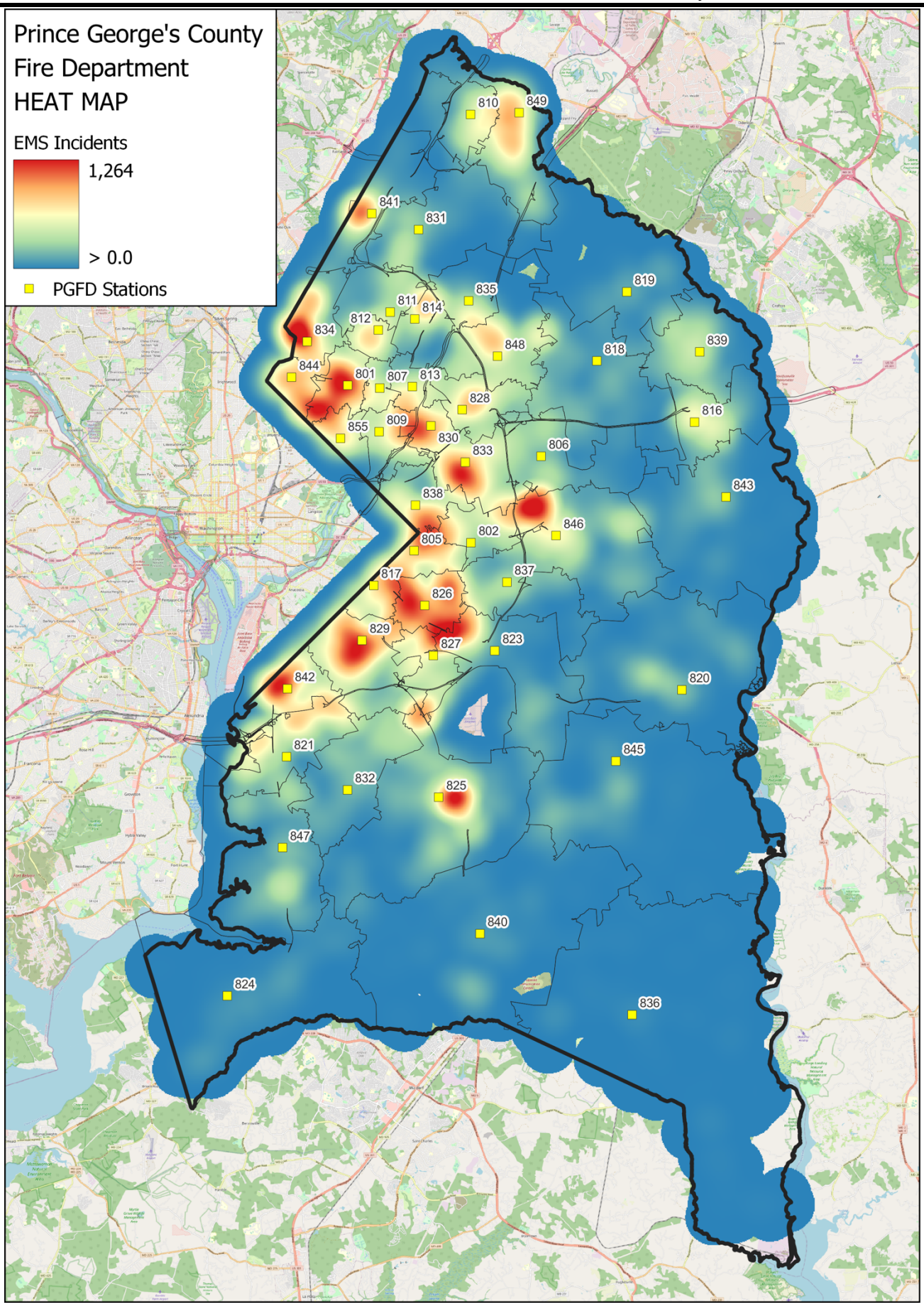
8
10
12
14
16
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23


Prince George's County
Fire Department
HEAT MAP
EMS Incidents
1,264
> 0.0
PGFD Stations
810
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841
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835
811
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Critical Tasking and Effective Response Forces

General Description – The Department approaches an emergency medical incident in a tiered fashion. Below is the description of what a low, moderate, high, or special response is, with corresponding critical tasking in the Effective Response Force for EMS table.

Low – This type of medical incident is for BLS incidents with 2 personnel serving as medical first responders. This response is typically handled by 1 BLS transport unit or 1 paramedic ambulance.

Moderate – This level of medical emergency includes difficulty breathing, chest pain, imminent childbirth, falls over 10 ft., obese patients requiring lifting assistance, or traumatic injuries (Incident Call Types ALS+, ALS0, & ALS1). PGFD dispatches 2 to 5 personnel on single unit dispatch of 1 paramedic ambulance or 1 medic unit. A double unit dispatch includes a paramedic engine and a BLS/Paramedic ambulance.

High – Incident Call Types ALS2 and CPR typically involve multiple patients as the result of a shooting or other type of catalyst that requires multiple units to respond. PGFD dispatches 5 to 7 personnel on 2 units that include 1 suppression unit and 1 medic unit or 1 paramedic ambulance, 1 paramedic engine, 1 EMS duty officer, and an additional ALS resource.

Special – This is a mass casualty type incident that involves multiple vehicles or patients and dispatches approximately 41 personnel on 2 engines, 5 BLS ambulances, 3 ALS transport units, 1 Medical Care Support Unit, 1 rescue unit, 2 EMS duty officers, 1 duty chief, 2 safety officer, 2 fire marshal investigators, 1 EMS duty officer, 2 battalion chiefs, and a mobile command unit.

Effective Response Force for EMS Incidents				
Task	**Special**	**High**	**Moderate**	**Low**
Command/Accountability	1	1	1	1
Safety	1			
BLS- Triage/Assessment/Treatment	10	2	0	1
ALS- Triage/Assessment/Treatment	6	2	1	
EMS Branch Manager	1			
Triage Group & Supervisor	1			
Treatment Group Supervisor	1			
Transport Group & Supervisor	1			
EMS Logistics & Med Comms	3			
ERF Personnel	25	5	2	2

Maximum Risk

Low Probability

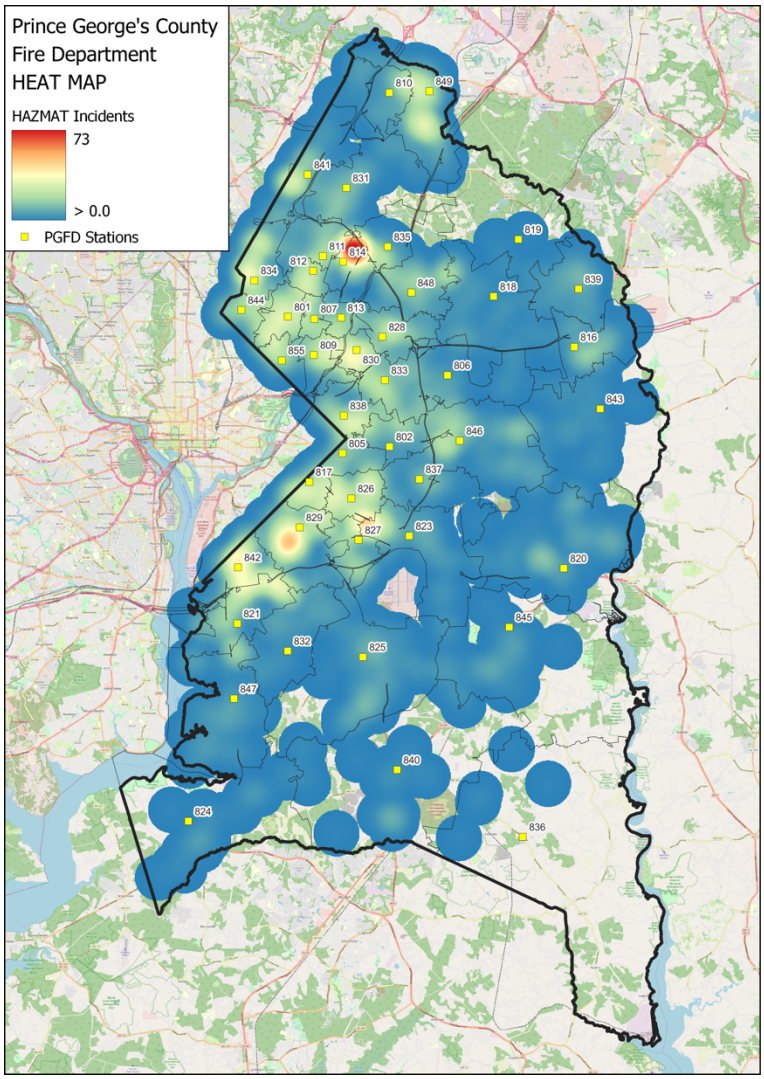
High Consequence

Hazardous Materials

Hazardous Materials

Hazardous materials are chemical substances that, if released or misused, can threaten people, property, or the environment. The potential release of hazardous materials exists wherever that material may be located. A higher potential for release coincides with storage sites at fixed facilities and along transportation routes, such as major roadways and rail lines. These chemicals are used in industry, agriculture, medicine, research, and consumer goods.

Each year, over 1,000 new synthetic chemicals are introduced. As many as 500,000 products pose physical or health hazards and can be defined as "hazardous chemicals." Hazardous materials come in the form of explosives, flammable and combustible substances, poisons, and radioactive materials. These substances are most often released due to transportation accidents or chemical accidents in manufacturing plants. Hazardous materials are contained and used at fixed sites and are shipped by all modes of transportation, including transmission pipelines.



Critical Tasking and Effective Response Forces

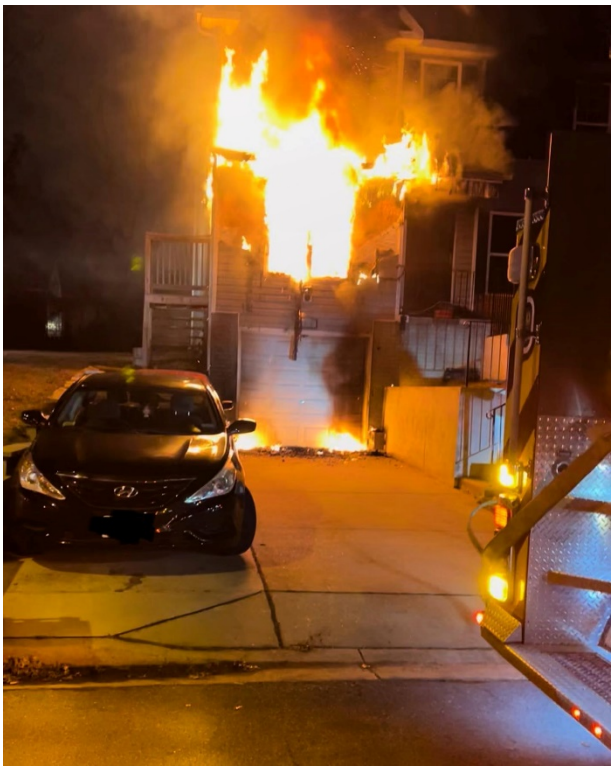
General Description – The Department approaches a hazardous materials response in a tiered fashion. Below is the description of what a low, moderate, high, or special response is, with corresponding critical tasking in the Effective Response Force table.

Low – Small spills from a passenger type vehicle of common hydrocarbon materials such as gasoline, fuel oil, or diesel fuel. The material can be diked or absorbed utilizing equipment normally carried on a first due engine or ladder truck. Small spills of antifreeze, transmission fluid, etc., at the scene of a motor vehicle accident, would also fall under this category, as well as gas leaks outside and common monoxide alarms. This response typically utilizes 1 unit and 3 personnel.

Moderate – Larger spills of common hydrocarbon materials such as gasoline, fuel oil, or diesel fuel from a large commercial vehicle and gas leaks inside. This level of response dispatches 2 to 5 personnel on single unit dispatch of 1 paramedic ambulance or 1 medic unit. A double unit dispatch includes a paramedic engine and an ALS or BLS ambulance.

High – Confirmed or unconfirmed chemical spill, leak, or release. PGFD dispatch includes 5 to 7 personnel on two units that includes 1 suppression unit and 1 medic unit or 1 paramedic ambulance, 1 paramedic engine, 1 EMS duty officer, and an additional ALS resource.

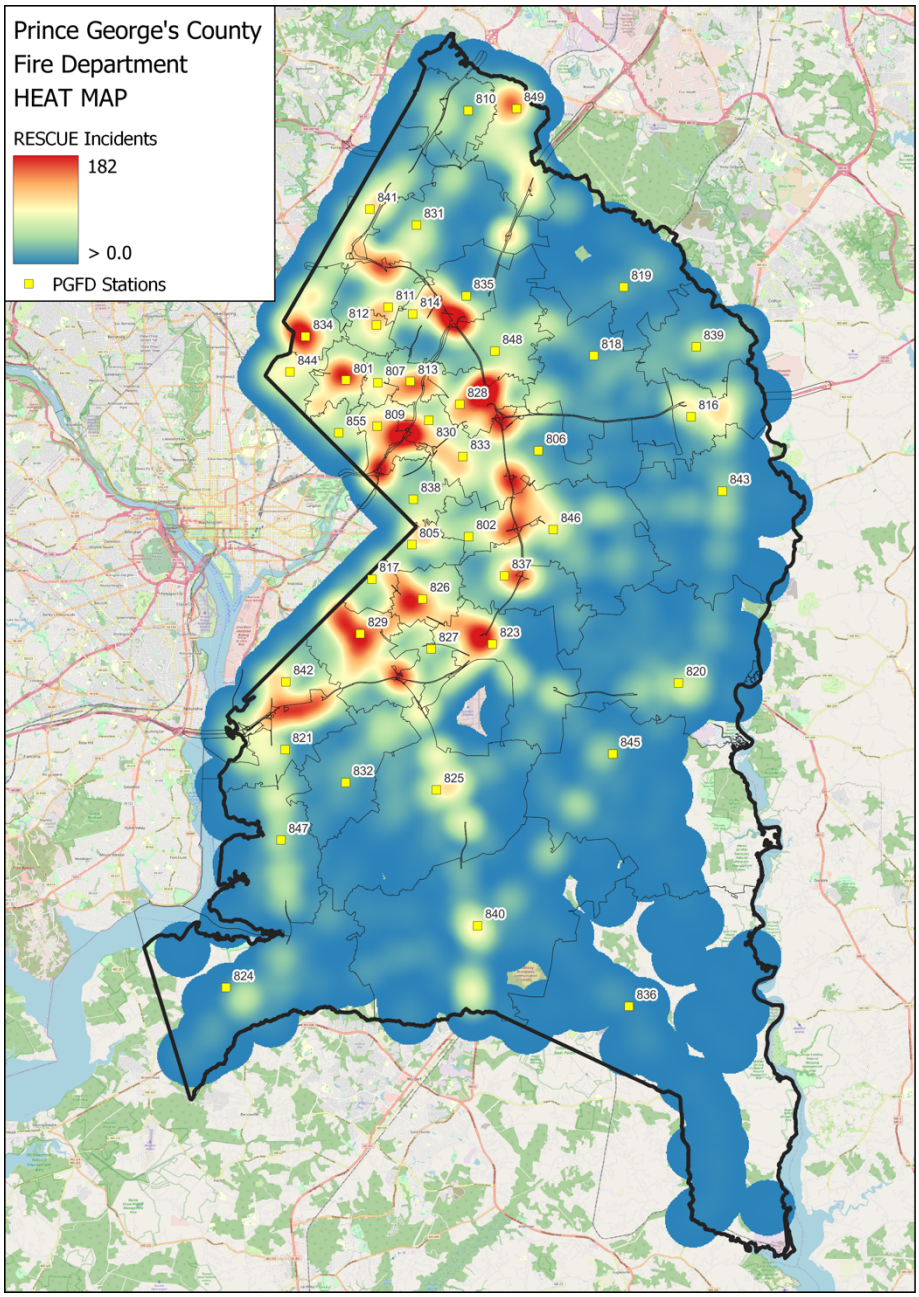
Special – Hazardous materials incidents that may include suspected Weapons of Mass Destruction (WMD) or Chemical, Biological, Radiological, Nuclear or Explosive (CBRNE) type release dispatched units includes 4 engines, 2 trucks, 1 rescue squad, 1 HazMat unit, 2 HazMat support units, 1 foam unit, 1 emergency command unit, 2 battalion chiefs, 1 BLS ambulance, 1 ALS ambulance, 1 EMS duty officer, and 1 safety officer. Approximately 43 personnel are dispatched, and the HazMat effective response force (ERF) will require at least 40 personnel.



Effective Response Force for HAZMAT Incidents				
Task	**Special**	**High**	**Moderate**	**Low**
Command	2	1	1	1
Safety	1			
Accountability	1			
Driver/Pump Operation/Water Supply	4	2	2	1
Hazard Mitigation		2	2	1
Recon	2			
Air Monitoring /Monitoring	2	2	2	
Search and Rescue	2			
Ventilation	2			
Backup hose line	2	2	2	
Rapid Intervention Team	2			
BLS- Triage/ Assessment/ Treatment/ Medical Monitoring	2	2		
Rehab	4			
ALS- Triage/ Assessment/ Treatment	2	2		
EMS Group Supervisor	1	1		
Decon	5			
Research	1			
Hazmat Branch Manager	1			
Fire Attack Line 1	2			
Fire Attack Line 2	2			
ERF Personnel	**40**	**14**	**9**	**2**

Maximum Risk **Low Probability** **High Consequence**	**Technical Rescue** **Collapse, Confined Space, High Angle, Trench, Water Rescue**

Technical Rescue



The Department has several members trained as technicians for the Technical Rescue Program, and both rely on and participate with the Countywide Technical Rescue Team. Technical rescue is a relatively broad term and includes responses to a wide variety of incidents, such as water rescue, confined space rescue, high angle rescues, and structural collapse. Similar to the analyses for hazardous materials, the demand for technical rescue services is low compared to fire or EMS calls within the service area.

The Prince George's County Fire & EMS Department has entered into the National Capital Fire Mutual Aid Agreement (NCR-MAA) and has accepted the Fire and Rescue Mutual Aid Operations Plan (MAOP). The intent of the Fire and Rescue MAOP is to ensure the maintenance of public safety and the protection of life and property within the region during a state of emergency or when the situation that require fire or rescue assistance beyond the capacity of a single signatory jurisdiction or agency. Having the ability to come together as partners to respond to a regional technical rescue incident helps to serve the jurisdiction better and protects the National Capital Region. These highly trained professionals are ready to assist with tasks associated with the following rescue disciplines: trench, rope, urban search & rescue (USAR), water/ice, and confined space. Having a Mutual Aid

Agreement combines these rescue resources and reduces duplication to provide a seamless and efficient emergency response within the NCR.

	Reporting Period				
Call Category	2016	2017	2018	2019	2020
MVA	13,132	13,144	13,126	12,852	11,998
Pedestrian Struck	860	924	850	828	172
Rescue	1,515	1,654	1,846	1,913	400
Technical Rescue	799	814	858	748	264
Water Rescue	43	36	68	49	110
Rescue Total	**16,349**	**16,572**	**16,748**	**16,390**	**12,944**

Critical Tasking and Effective Response Forces

General Description – The Department approaches a technical response incident in a tiered fashion. Below is the description of what a low, moderate, high, or special response is, with corresponding critical tasking in the ERF table.

Low – Low-risk incidents may include 1st tier (alarm) confined space, trench, and high/low angle rescues. This investigative and stabilization response requires the closest engine and a BLS ambulance for 5 personnel.

Moderate – Moderate-risk incidents include rescue swift water, non-river/swift water, and 2nd alarm high/low angle rescue and rescues within a structure. The Department dispatches 5 units, which include 1 engine, 1 BLS ambulance, 1 ALS ambulance, 1 rescue squad and a battalion chief.

High – High-risk incidents include 2nd alarm confined space and trench rescues. The Department dispatches 13 units and 28 personnel that can escalate as needed. Bomb - Hazardous Device requires 11 personnel.

Special risks – Third alarm responses for confined space, trench, high/low angle rescues, and within structures. Hazardous Device response is for confirmed, credible suspicious/unattended packages. The Department dispatches 57 personnel and has developed critical tasking at 50.

Effective Response Force for Technical Rescue Incidents				
Task	**Special**	**High**	**Moderate**	**Low**
Command	1	1	1	1
Safety	1			
Accountability	1	1		
Extrication / Rescue Team (s)	5	5	4	1
Stabilization/Shoring/Rope Team	4	4	4	2
BLS- Triage/ Assessment/ Treatment/ Medical Monitoring	2	2	2	
ALS- Triage/ Assessment/ Treatment	2	2		
Extrication/Rescue/Entry Team Supervisor	1	1		
Entry Team	2	2		
Backup Team	2	2		
Air Monitoring/Ventilation	2	2		
Air Supply	2	2		
Driver/Pump/Foam Operation/Water Supply	4	2		
Fire Attack Line 1	2	2		
Search / Forcible Entry	2			
Ventilation	2			
Rapid Intervention Team	2			
Ladders	2			
Fire Attack Line 2	2			
Backup Line	2			
Hazmat support group	7			
ERF Personnel	**50**	**28**	**11**	**5**

Maximum Risk

Low Probability

High Consequence

Bomb - Hazardous Device

Bomb - Hazardous Device

The bomb - hazardous protocols are implemented for incidents involving explosions, suspicious packages, suspected makeshift type explosive devices, and bomb threats. The unit also works with the hazardous materials team to provide support in the mitigation of chemical, biological or nuclear incidents. In addition, this unit also works in conjunction with the fire investigations unit in conducting post blast crime scene investigations, collection and preservation of bombing evidence, preparing and providing court testimony, and providing technical support for special operations.

The department requires that all certified bomb technicians attend the FBI's Hazardous Devices School at Redstone Arsenal in Huntsville. All bomb technicians are certified fire investigators and have graduated from the police academy. The Department has bomb technicians on duty 24 hours a day 7 days a week and the number increases during large special events and other high impact activities within the County.

The Department also provides and receives mutual aid resources from Federal, State, and local governments. The State of Maryland has seven federally accredited bomb squads, including the Office of the State Fire Marshal (OSFM), Bomb Squad and six locally operated squads, which are located in Prince George's County, Montgomery County, Baltimore County, Ocean City, Annapolis City and Baltimore City. These bomb squads collaborate in order to ensure safe, immediate, and effective responses to bomb threats throughout all regions of the State.

	Reporting Period				
Call Category	2016	2017	2018	2019	2020
Device / Package	50	24	67	41	24
Device / Package / Explosion	2	4	4	2	2
Bomb Total	**52**	**28**	**71**	**43**	**26**

Critical Tasking and Effective Response Forces

General Description – The department approaches an incident involving a bomb threat, suspected device, actual device, or explosion in a methodical fashion. All bomb incidents start by dispatching the on-duty fire marshal/bomb technician for incident monitoring. The fire marshal/bomb technician is the only unit allowed to escalate the call to a higher level response. After initial dispatch of the fire marshal/bomb technician and investigation, below is the escalation levels, with corresponding critical tasking in the Effective Response Force table.

Low – Low-risk incidents have an increased level of realism. The threat is direct and feasible and could be carried out. A suspicious/unattended item is located at the scene and requires a bomb technician to further evaluate it. This investigative response requires the on-duty fire marshal/bomb technician, bomb unit, and the mobile command unit.

Moderate – Moderate-risk incidents are for confirmed, credible suspicious/unattended items. The department dispatches on-duty fire marshal/bomb technician, bomb unit, the mobile command unit, an engine company, ALS transport unit, battalion chief, and the duty chief.

High – High-risk incidents are for confirmed, credible suspicious/unattended items that appear to pose an immediate and serious danger to the safety of others. The department dispatches on-duty fire marshal/bomb technician, bomb unit, the mobile command unit, an engine company, ALS transport unit, battalion chief, duty chief, and two fire investigators.

Special-risks – Special-risk incidents are actual explosions. The department dispatches on-duty fire marshal/bomb technician, bomb unit, the mobile command unit, an engine company, ALS transport unit, battalion chief, duty chief, and two fire investigators. In addition, a single alarm unit is dispatched, which is typically two engines, one ladder truck, one rescue squad, two ambulances, and one battalion chief, for a total of 28 personnel.

Effective Response Force for Bomb Incidents				
Task	**Special**	**High**	**Moderate**	**Low**
Command	**1**	**1**	**1**	**1**
Safety	**1**	**1**	**1**	**1**
Entry	**1**	**1**	**1**	**1**
Back-up	**1**	**1**	**1**	**1**
Driver/Pump Operation/Water Supply	**4**	**1**	**1**	
Fire Attack Line 1	**2**	**2**	**2**	
ALS Medical	**2**	**2**	**2**	
HDT-Operations	**1**	**1**	**1**	
Evidence collection & Processing	**1**	**1**		
Search / Forcible Entry	**2**			
Ventilation	**2**			
Rapid Intervention Team	**2**			
Ladders	**2**			
Fire Attack Line 2	**2**			
Back-up Line	**2**			
Medical Standby / Rehab	**2**			
ERF Personnel	**28**	**11**	**10**	**4**

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Section D – Community Feedback

Strategic Planning Process

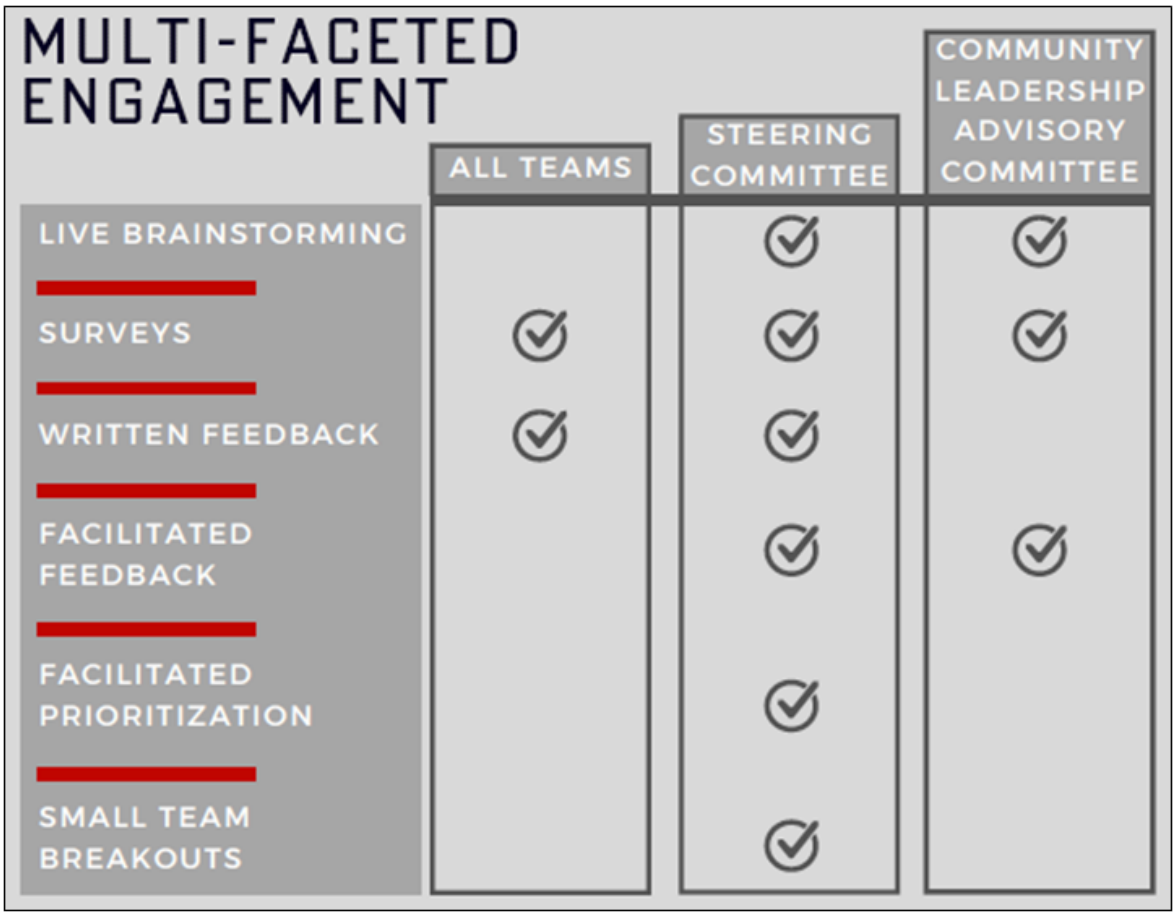
Performance Indicator 2B.7

The agency engages other disciplines or groups within its community to compare and contrast risk assessments in order to identify gaps or future threats and risks.

As PGFD embarked on the strategic planning journey, the focus was placed on where the Department was going in the next five years to ensure that the program goals and objectives aligned with the desired outcomes identified by not only our internal personnel but the communities that PGFD serves. This alignment facilitated the creation of strong and action-oriented goals, objectives, and critical tasks. The process began with a set of guiding principles, a place to return to when or if the process inadvertently took a detour. One of the guiding principles, inclusion, required PGFD to carefully consider the team and balance the size of the group making decisions, including a much broader constituency of engaged individuals providing input than in the past. With the guiding principles in place and a clear plan for multifaceted engagement, the organization was able to incorporate many voices in the creation of the refreshed Mission, Vision, and Values.

The process included a review of the value of strategic planning,, a review of the community stakeholders' perception of the Prince George's County Fire/EMS Department before and after the facilitated process, an analysis of the agency's strengths, weaknesses, opportunities and challenges (SWOC), an introduction to the Commission on Fire Accreditation International fire agency accreditation process, plus, a review of the agency's desired strategic planning statements for final inclusion into a strategic plan.

As seen below, the engagement took place with several groups, including the community leadership advisory committee, on several occasions throughout the process. The input gleaned from the community members was invaluable in shaping the next several years of work for PGFD.



Community Members

Fire Chief Tiffany D. Green worked to develop a team of external stakeholders to provide community input and feedback on our proposed strategic plan. The process included three days of onsite meetings with the Fire Chief, agency support staff, and community stakeholders between September 17 and 20, 2022. On September 17th, the agency hosted a "town hall" style meeting where a forty-two-member group of internal and external stakeholders completed the strategic visioning process. The group's feedback proved valuable as we sought to understand the community's needs better and to ensure that our Department's mission, vision, values, goals, and objectives aligned with the expectations of our community members.

Performance Indicator 2D.10

The agency interacts with external stakeholders and the AHJ at least once every three years to determine the stakeholders' and AHJ's expectations for types and levels of services provided by the agency.

Community Feedback Results

The Community Stakeholder team met in a "town hall" style meeting where a 22-member group of internal and external stakeholders discussed the strengths, weaknesses, opportunities, and challenges (SWOC) experienced by the community. The aggregated data was brought back to the strategic planning steering committee to review and incorporate into the plan. After the alignment check, the SWOC feedback was incorporated into the goals and objectives section of the strategic plan. Stakeholders were asked to develop a broad list of items from each category, which was then summarized as follows:

Core Competency 3B.3

The agency solicits feedback and direct participation from internal and external stakeholders in the development, implementation and evaluation of the agency's goals and objectives.

Strengths (areas to leverage)

- Resilient workforce
- Health and wellness programs are improving over time
- Good customer service
- Good community relations
- Good fire and EMS equipment
- Good relationships with surrounding fire and other emergency service agencies
- Great staff, invested in the community
- Good teamwork and support among staff
- Prince George's County Fire attracts volunteer firefighters from other regions due to opportunities for fire service experience

Weaknesses (areas to invest)

- Need to improve the health of fire apparatus
- Lack of reserve apparatus
- Lack of after-hours assistance to 24-hour operations
- Need to review and improve the smoke alarm installation program
- Need to improve internal communications and coordination
- Only 23% of career fire employees live in the county
- Accurately tracking the actual residences of volunteer firefighters
- Lack of staffing to address the growing severity and frequency of emergency events
- Recruitment from county residents
- Retention of volunteer and career firefighters
- Inexperience of staff due to rapid turnover
- Lack of support staff
- Outdated policies and procedures
- Challenged to keep up with changing technology in the industry
- Call handling/processing time with dispatch
- Need to distribute the updated professional development plan, currently in County Human Resources
- Need better promotional preparation training
- Cardiac survival percentage lower than the national average? (CARES, 16%)
- Community speaking/engagement events/meetings
- Maintaining morale
- Inefficiency with the return to duty processes

Opportunities (areas to prioritize)

- Fire administration to report on citizen complaints and root causes
- Evaluate the proper number of support staff members necessary to accomplish goals
- Explore efficiency opportunities, such as new technologies
- Explore additional revenue opportunities
- Improve cardiac survival percentage
- Achieve accreditation from the Commission on Fire Accreditation International
- Expand the public education program
- Expand opportunities for lower-ranking employees to take on special projects for professional development
- Expand diversity within ranks and the station bid process
- Develop an ESG plan
- Explore public/private partnerships
- Expand the officer development program

Threats (areas to mitigate)

- Confusion between law enforcement and fire when dealing with patients suffering from mental or behavioral health issues
- Unfunded government mandates
- Mandates from other county agencies without regard to the mission of the fire department
- Need better coordination between County Planning processes and fire department facilities placement
- Maintaining service levels over time
- Achieving adequate levels of funding
- Communicating service level impacts to the community
- Economic downturn
- High levels of inflation
- Supply chain issues
- Hospital patients “drop off” times
- Increasing inappropriate use of the 911 system by a segment of the public

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Section E – Program Goals and Objectives

Strategic Plan Goals and Objectives

Annual Program Appraisal

Program Goals and Objectives

The major programmatic goals and objectives for PGFD have been captured in the latest strategic plan, which covers 2022-2027. The goals, objectives, and associated sub-tasks have been organized into three themes:

Goal 1: How do we continue to improve on saving lives, property, and the environment during and prior to emergency events?

Objective 1.1: Improve Survivability for Victims of Fire, Hazardous Material Release, Entrapment, or other Crisis Events.

Objective 1.2: Improve Survivability of Patients Experiencing Acute Medical Emergencies.

Objective 1.3: Improve Firefighter Safety and Survival.

Objective 1.4: Improve Agency Resiliency During Crisis-Level Events.

Goal 2: How do we meet the increasing service demands over the coming years?

Objective 2.1: Reduce Financial and Legal Risk/Liability to the Fire Department and Prince George's County.

Objective 2.2: Improve Efficiency within the Current Budget Process.

Objective 2.3: Prepare for Population Growth within the Jurisdiction.

Goal 3: How do we better explain our services and demonstrate our value to our community?

Objective 3.1: Promote a Positive Agency Reputation within the Community.

Objective 3.2: Mitigate Fire-Related Damage to Allow Occupants to Remain in the Impacted Structure after Suppression Operations.

Objective 3.3: Provide Downward Pressure on Fire Insurance Costs within the Community.

Objective 3.4: Provide Value to the Community Beyond the 911 Call

Annual Program Appraisal

The annual program appraisal is to ensure PGFD remains focused on continuous improvement for each service delivery program. The goals, summarized in this section, will be reviewed and addressed by goal owners in regular leadership reviews, including a quarterly review conducted with the executive leadership team. The annual reviews will identify any gaps in current capabilities, capacity, and the level of service provided within each service delivery area. Additionally, program goals to mitigate identified risks within the service area will also be discussed. Annually, the Fire Chief will create a documented report to share with all Department members and the county executive staff (including the Deputy Chief Administrative Officer). Executive staff and program/goal owners will work collaboratively to ensure an accurate and useful annual appraisal process is performed, documented, and presented, ensuring transparency and trust is maintained between PGFD and the communities they serve.

Core Competency 5A.7

The agency conducts a formal and documented program appraisal, at least annually, to determine the program's impacts and outcomes, and to measure performance and progress in reducing risk based on the community risk assessment/ standards of cover.

Core Competency 5E.3

The agency conducts a formal and documented program appraisal, at least annually, to determine the impacts, outcomes, and effectiveness of the program, and to measure its performance toward meeting the agency's goals and objectives.

The annual program appraisal report will include, at a minimum, the following specific elements:

- Program name, program owner, and backup personnel
- Strategic goals, objectives, and critical tasks
- Metrics and outcomes of the program
- Risk assessment and critical tasking, if applicable
- Self-assessment manual review and performance indicator gaps
- Applicable policy and SOG review
- Program Budget Review
- Report-outs/notes from strategic planning meetings, annual report
- Submissions, program meetings, etc., as an appendix.

Core Competency 8B.6

The agency conducts a formal and documented program appraisal, at least annually, to determine the program's effectiveness and compliance with meeting the needs of the organization.

Core Competency 2C.6

The agency identifies outcomes for its programs and ties them to the community risk assessment during updates and adjustments of its programs, as needed.

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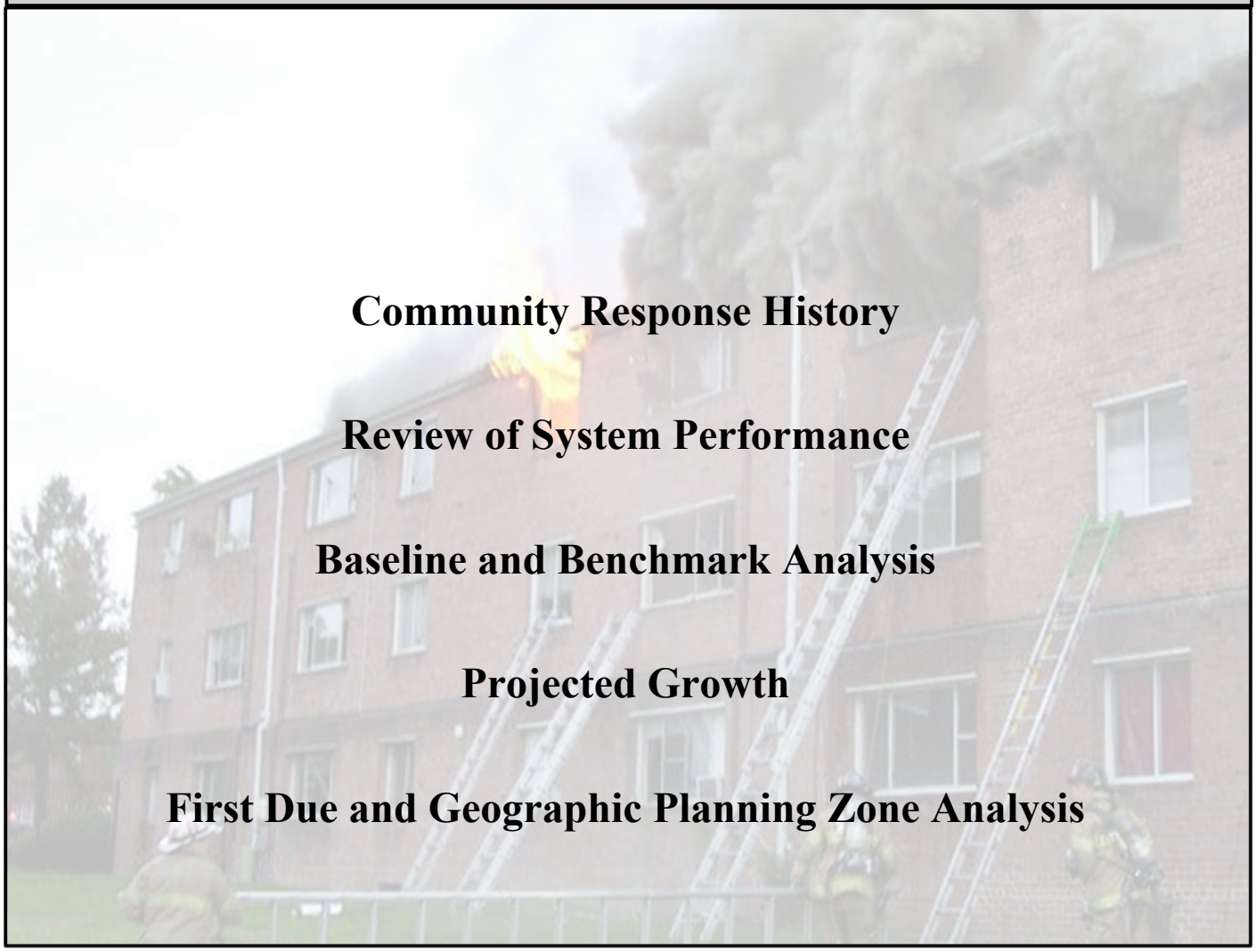
Section F – Current Deployment and Performance



Community Response History

Review of System Performance

Baseline and Benchmark Analysis

Projected Growth

First Due and Geographic Planning Zone Analysis

Community Response History

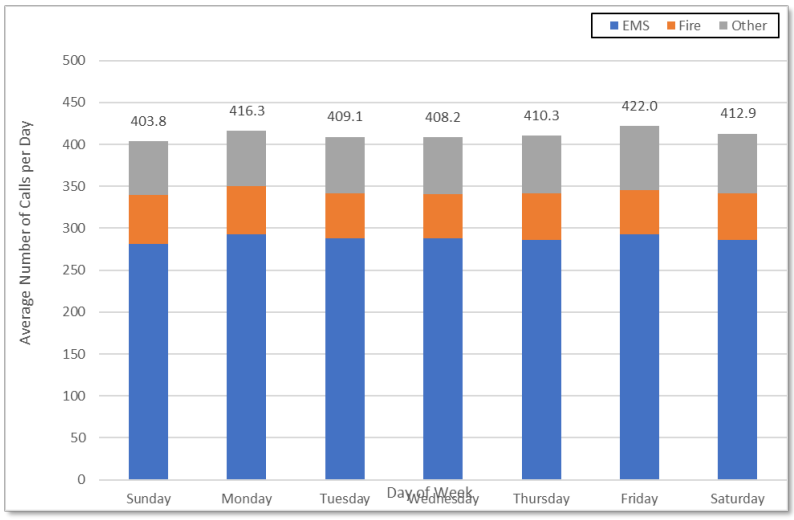
Community Response History Discussion

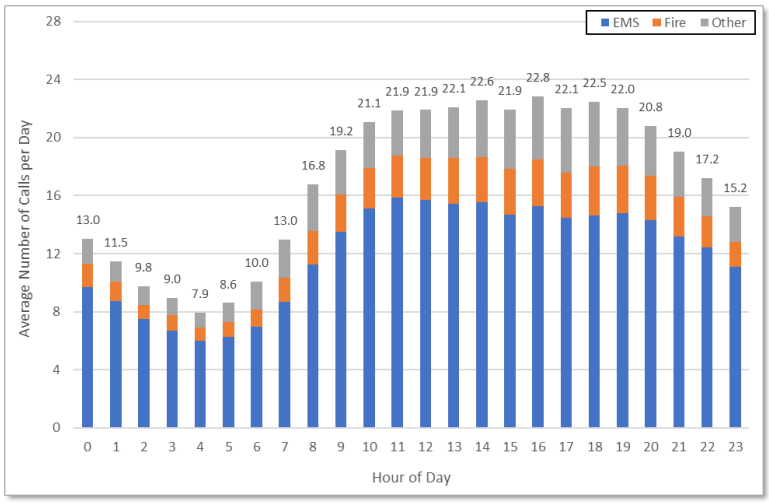
PGFD answered over 146,000 emergency calls in 2021, with a fairly even dispersion with regard to the type of call and month or year. The peak period of the day has approximately three calls per hour, with the majority being EMS. Saturdays and Sundays are the lowest call volume days for fires, EMS, and other calls.

Performance Indicator 2B.2

The historical emergency and nonemergency service demands frequency for a minimum of three immediately previous years and the future probability of emergency and nonemergency service demands, by service type, have been identified and documented by planning zone.

	Number of Calls				
Program	2016	2017	2018	2019	2020
EMS	**105,405**	**105,669**	**104,427**	**105,840**	**104,293**
Fire Suppression	**19,288**	**18,665**	**20,732**	**20,552**	**18,017**
Hazmat	**2,987**	**2,759**	**2,913**	**2,843**	**2,399**
Technical Rescue	**16,349**	**16,572**	**16,748**	**16,390**	**12,944**
Bomb & explosive	52	28	71	43	26
Non-Emergency	**5,016**	**5,001**	**6,163**	**5,856**	**8,924**
Total	**149,097**	**148,694**	**151,054**	**151,524**	**146,603**
Calls per Day	**407.4**	**407.4**	**413.8**	**415.1**	**400.6**
YoY Growth	**N/A**	**-0.3%**	**1.6%**	**0.3%**	**-3.2%**





Current Deployment and Performance as it relates to Criterion 2C:

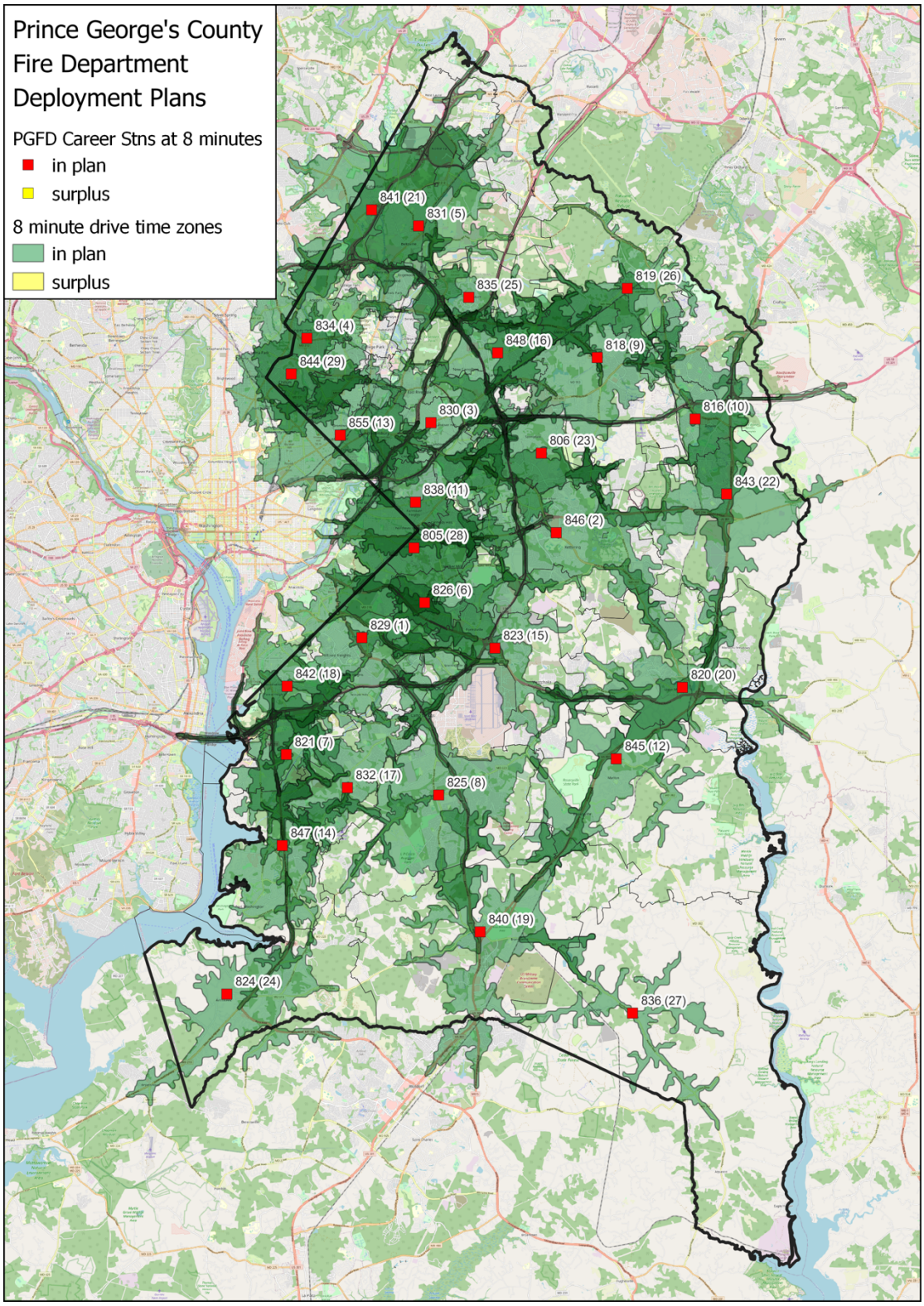
The agency identifies and documents the nature and magnitude of the service and deployment demands within its jurisdiction. Based on risk categorization and service impact considerations, the agency's deployment practices are consistent with jurisdictional expectations and with industry research. Efficiency and effectiveness are documented through quality response measurements that consider overall response, consistency, reliability, resiliency, and outcomes throughout all services areas. The agency develops procedures, practices, and programs to appropriately guide its resource deployment.

Core Competency 2C.1

Given the levels of risks, area or responsibility, demographics, and socioeconomic factors, the agency has determined, documented, and adopted a methodology for the consistent provision of service levels in all service program areas through response coverage strategies.

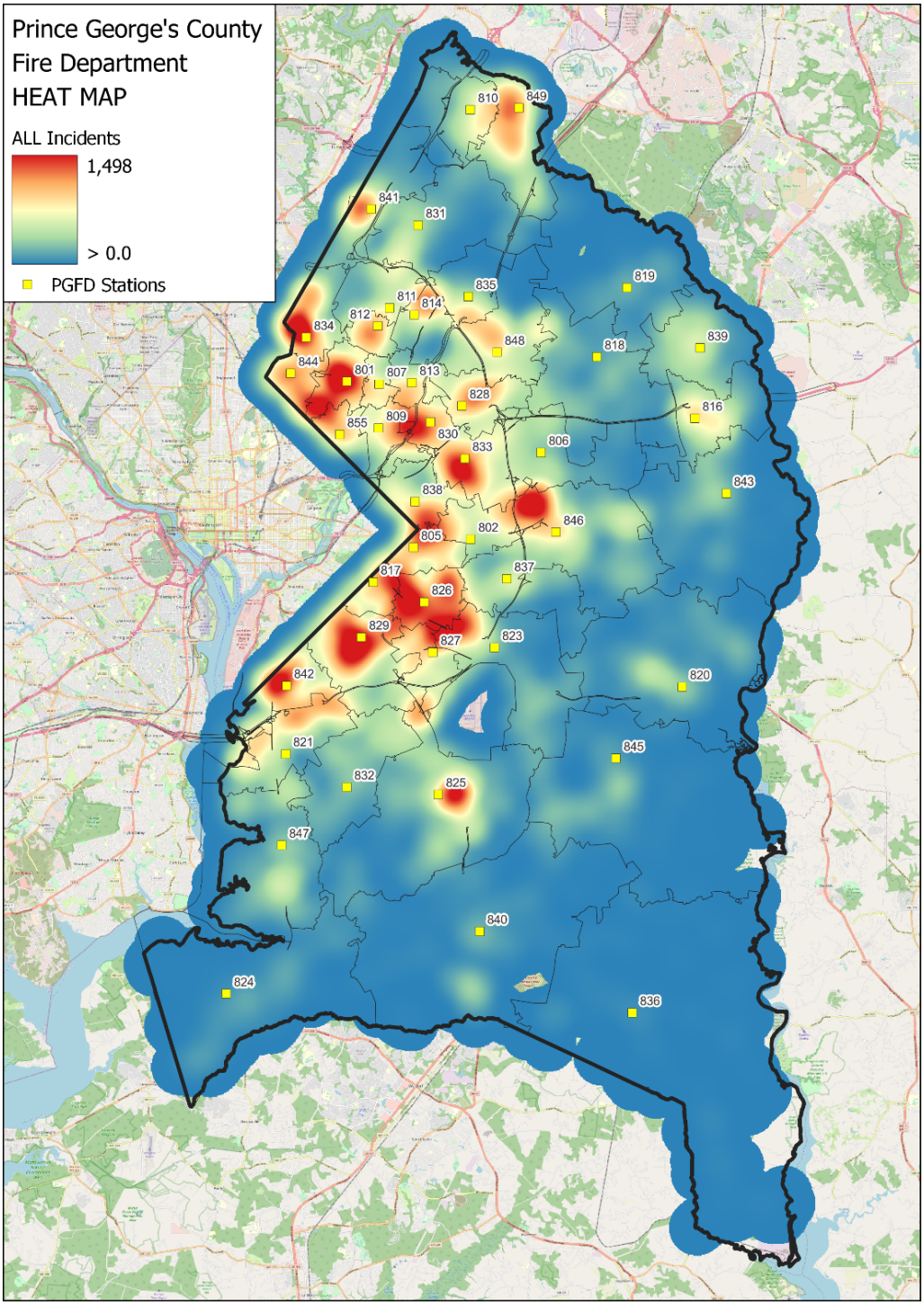
Distribution

Distribution – Geographical Drive Time Analysis shows an 8-minute drive time giving a good visual depiction of who can get where within a specified amount of time.



Distribution – Percent of Incidents Captured by Station. Historical performance demonstrated a travel time of 8.8 minutes or less for 90% of the incidents within the county. EMS-related incidents had a travel time of 8.9 minutes or less for 90% of the incidents, and fire service-related incidents had a travel time performance of 8.5 minutes or less for 90% of the incidents for incidents within the county. The table below demonstrates the validity of the career only station distribution model at 80%.

Rank	Station	Travel Time	Station Capture	Total Capture	Percent Capture
1	826	8	16,399	16,399	11.10%
2	846	8	11,782	28,181	19.08%
3	830	8	10,678	38,859	26.31%
4	834	8	10,595	49,454	33.49%
5	829	8	9,195	58,649	39.71%
6	825	8	6,320	64,969	43.99%
7	838	8	6,157	71,126	48.16%
8	841	8	5,573	76,699	51.93%
9	848	8	5,267	81,966	55.50%
10	855	8	4,949	86,915	58.85%
11	842	8	4,916	91,831	62.18%
12	816	8	4,517	96,348	65.24%
13	847	8	3,314	99,662	67.48%
14	818	8	2,420	102,082	69.12%
15	823	8	2,080	104,162	70.53%
16	832	8	1,808	105,970	71.75%
17	845	8	1,711	107,681	72.91%
18	831	8	1,472	109,153	73.91%
19	840	8	1,400	110,553	74.86%
20	820	8	1,192	111,745	75.66%
21	835	8	1,089	112,834	76.40%
22	843	8	1,026	113,860	77.10%
23	821	8	1,016	114,876	77.78%
24	806	8	858	115,734	78.36%
25	805	8	831	116,565	78.93%
26	824	8	745	117,310	79.43%
27	819	8	684	117,994	79.89%
28	836	8	179	118,173	80.02%
29	844	8	23	118,196	80.03%



Distribution – Heat Map Analysis Indicating Frequency of Incidents.

Concentration Study- Effective Response Force Assembly

There are two prevailing recommendations for the time to assemble an ERF for structure fires. First, NFPA 1710 suggests that the ERF should arrive in 8 minutes travel time or less. Second, CFAI provides a baseline travel time performance objective of 10 minutes and 24 seconds 90% of the time or less as well as a 13-minute travel time ERF for suburban areas.

ERF analyses were completed to evaluate the capability of PGFD 24-hour units only as well as the inclusion of all resources as deployed during the peak periods. All scenarios were based on an ERF of 13 personnel (moderate-risk fire).

Table 3: Comparisons of Effective Response Force Configurations – 13 Personnel

Travel Time Objective	24-Hour Resources Only	All Daytime Resources
8-Minute	15.15%	20.44%
10-Minute	35.39%	41.03%
12-Minute	54.50%	59.12%
14-Minute	67.72%	69.60%
16-Minute	75.47%	76.21%
18-Minute	80.04%	80.44%
20-Minute	84.35%	84.60%

Overall, the ERF has more robust coverage in the core of the county where the greatest concentric station areas are located. The border areas to the parameter and to the southeast of the jurisdiction are less robust since they do not benefit from concentric response zones.

Mapping for 15- and 20-minute travel times are provided below for the 24-hour units and all daytime resources, respectively.

Figure 5: 15-Minute ERF from All Current Stations – 24-Hour Units Only

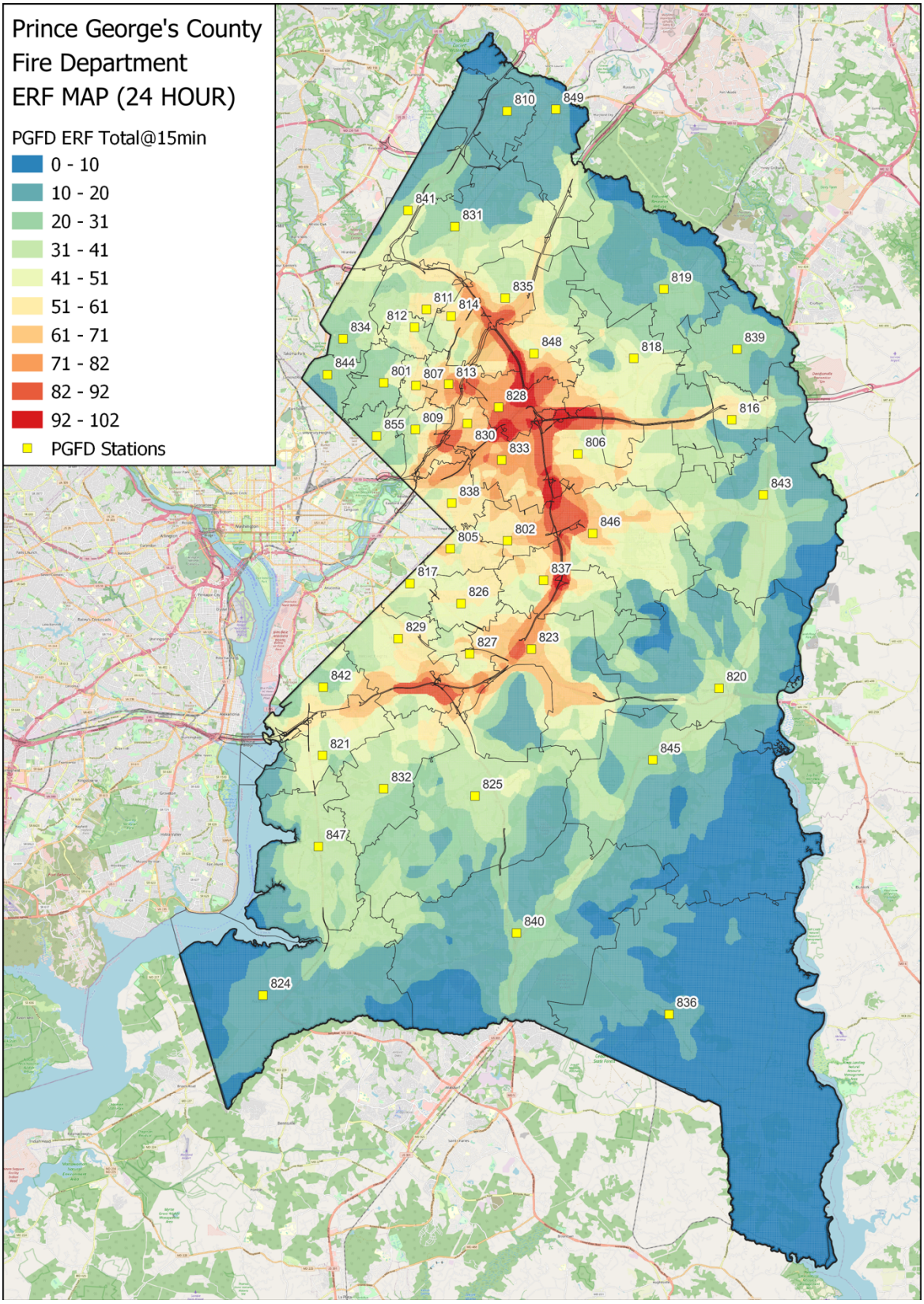


Figure 6: 20-Minute ERF from All Current Stations – 24 Hour Units Only

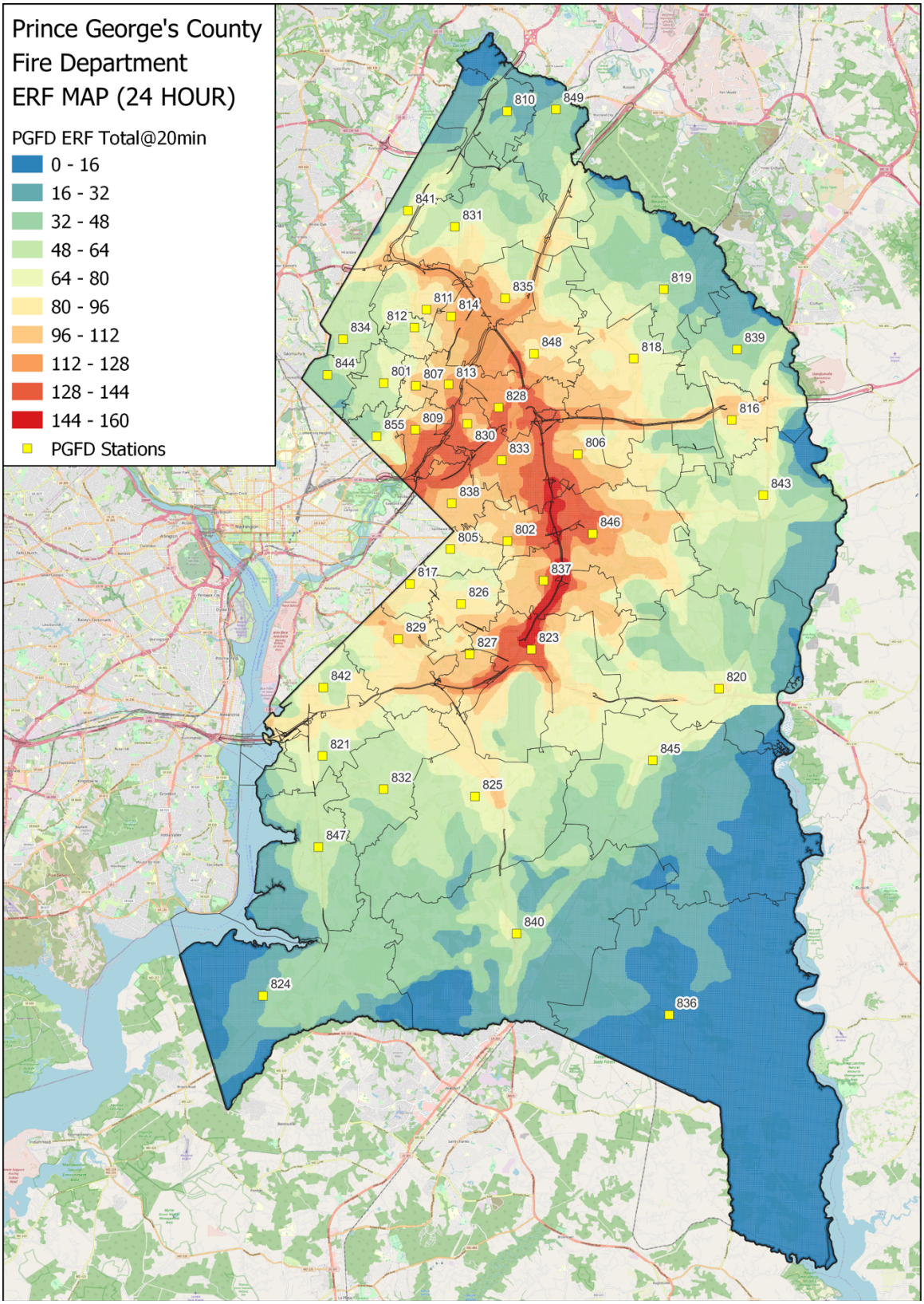


Figure 7: 15-Minute ERF – All Daytime Resources

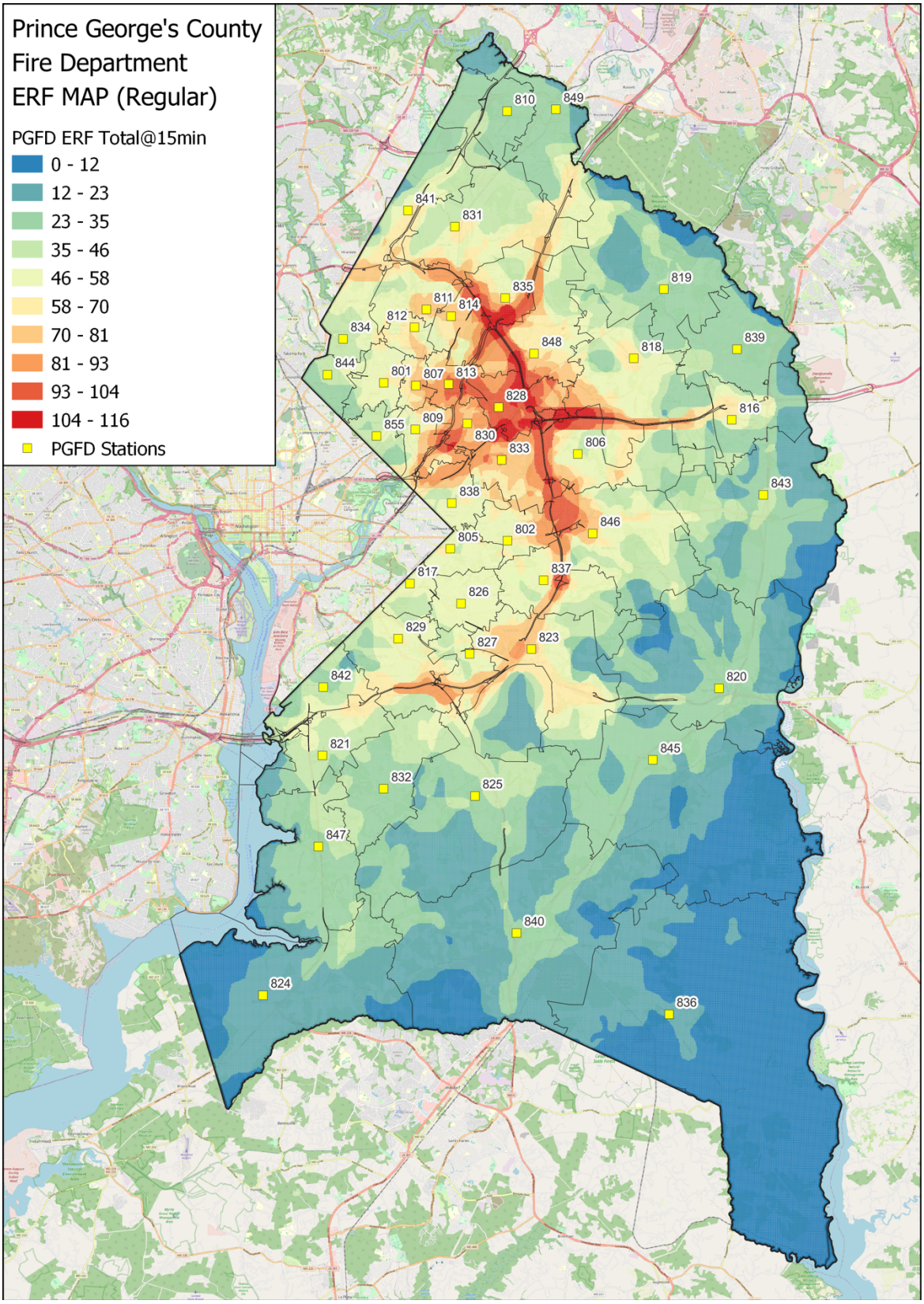
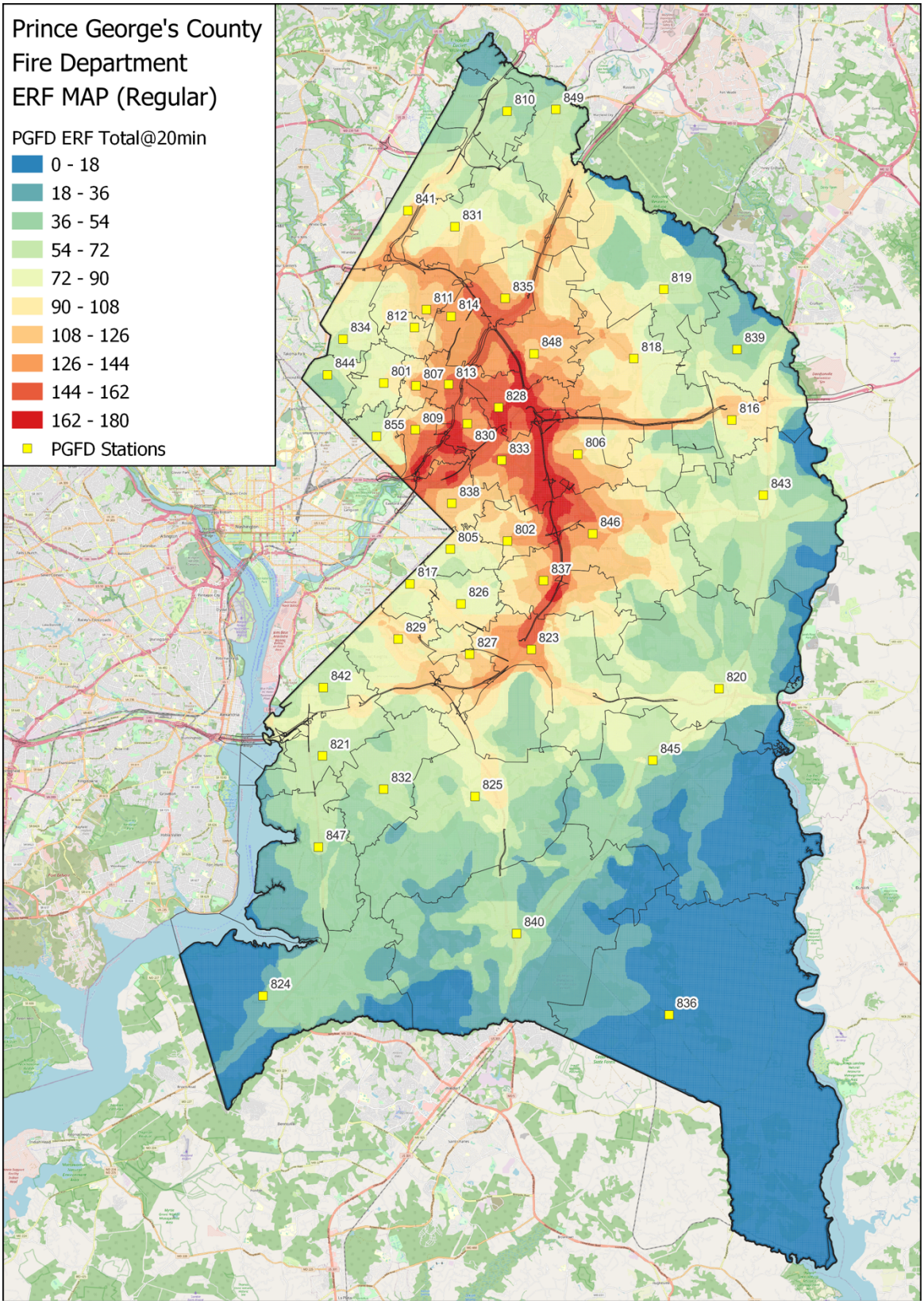


Figure 8: 20-Minute ERF – All Daytime Resources



Reliability Analysis -Department Wide

The first step in assessing the reliability of the deployment model or system performance is to understand the county's availability to handle the requests for service and respond to a call within the assigned demand zone. Overall, all units assigned to outside agencies responding to calls within PGFD's jurisdiction made 6,597 responses and were busy on calls for a total of 3,958.3 hours during 2018-19. Overall, the average busy minutes per response was 36.3 minutes, and the average number of responses per call was 1.4.

Program	Number of Calls[26]	Number of Responses[27]	Average Responses per Call	Total Busy Hours	Responses with Time Data[28]	Average Busy Minutes per Response	Average Calls per Day	Average Responses per Day
Bomb	1	2	2.0	0.9	2	28.4	< 0.1	< 0.1
EMS	2,186	2,323	1.1	1,962.3	2,313	50.9	6.0	6.4
Fire	1,168	2,131	1.8	1,153.2	2,110	32.8	3.2	5.8
Hazmat	343	505	1.5	140.6	501	16.8	0.9	1.4
Non-Emergency	74	78	1.1	55.2	77	43.0	0.2	0.2
Rescue	1,091	1,558	1.4	646.1	1,540	25.2	3.0	4.3
Total	4,863	6,597	1.4	3,958.3	6,543	36.3	13.3	18.1

Figure 9 Number of Calls, Number of Responses, and Total Busy Time by Program – Outside Agency Units in PGFD's Jurisdiction

Reliability Analysis – First Due Area

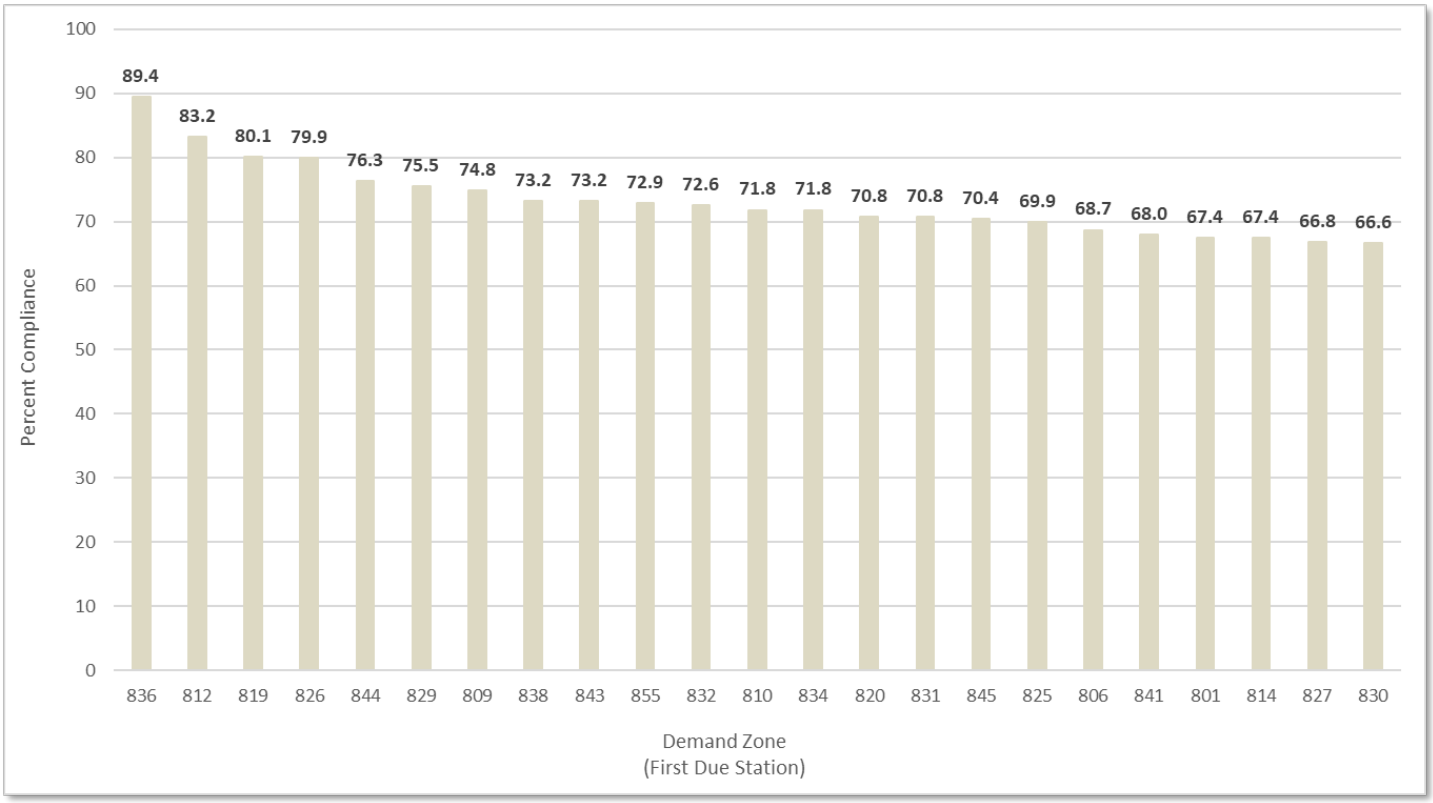
The reliability of the distribution model is a factor of how often the response model is available and able to respond to the call within the assigned demand area. If at least one unit from the first due area is able to respond to a call, we consider the station can respond to the call within the assigned area. Utilizing the Department's Fire Demand Areas (FDA), analyses reveal that no stations are capable of meeting their demand for services at the 90th percentile. Units assigned to Stations 836, 812, and 819 arrived first at the scene to calls within their respective demand zones over 80% of the time

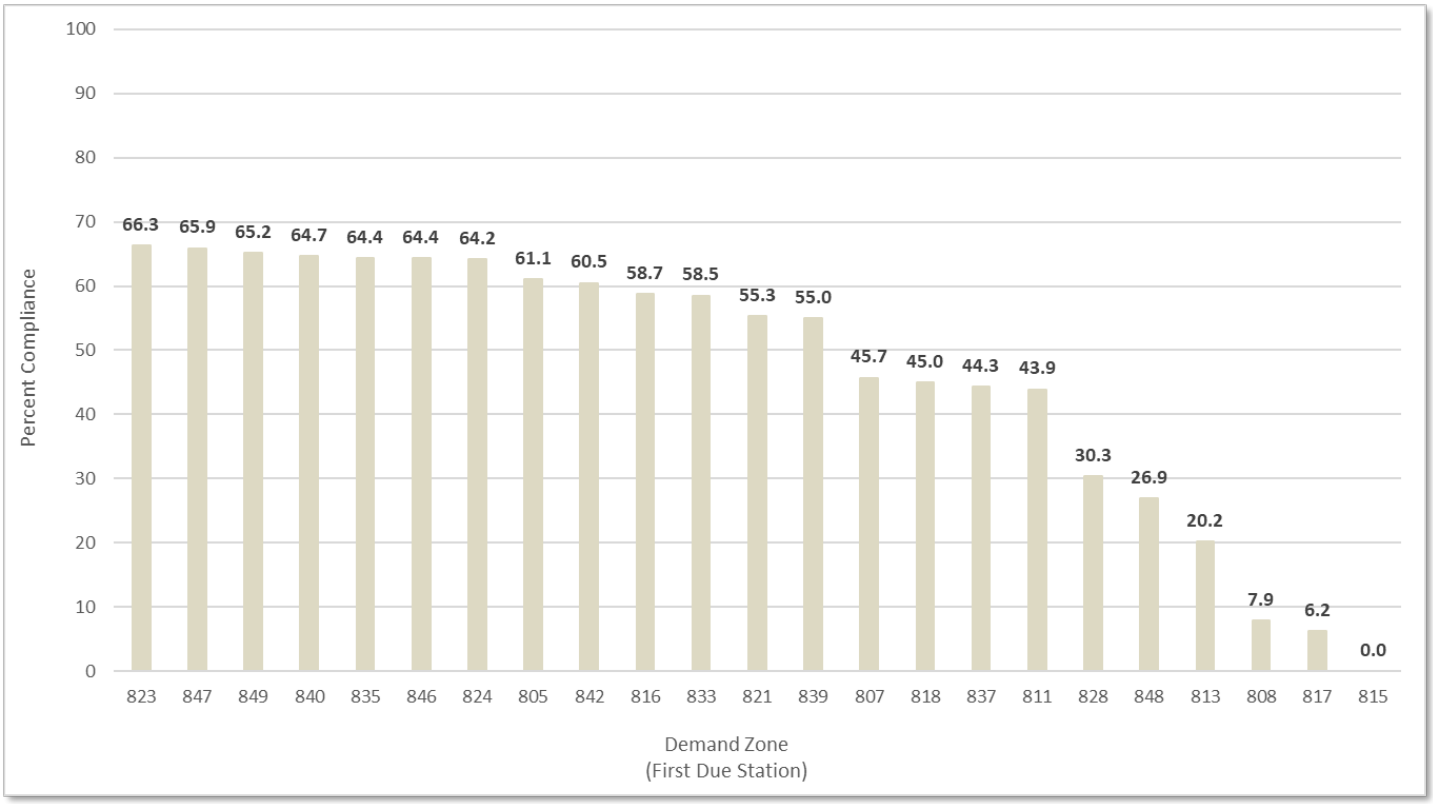
[26] Number of Calls" reflects an adjusted number of calls following any exclusion activity to align with responses made by units assigned to outside agencies.

[27] Responses with Time Data" reflects the number of records in the data file associated with responses made by units assigned to outside agencies with calculated busy time not otherwise excluded.

[28] Responses with Time Data" reflects the number of records in the data file associated with responses made by units assigned to outside agencies with calculated busy time not otherwise excluded.

Station Demand Area Reliability





Overlapped (Simultaneous) Incidents

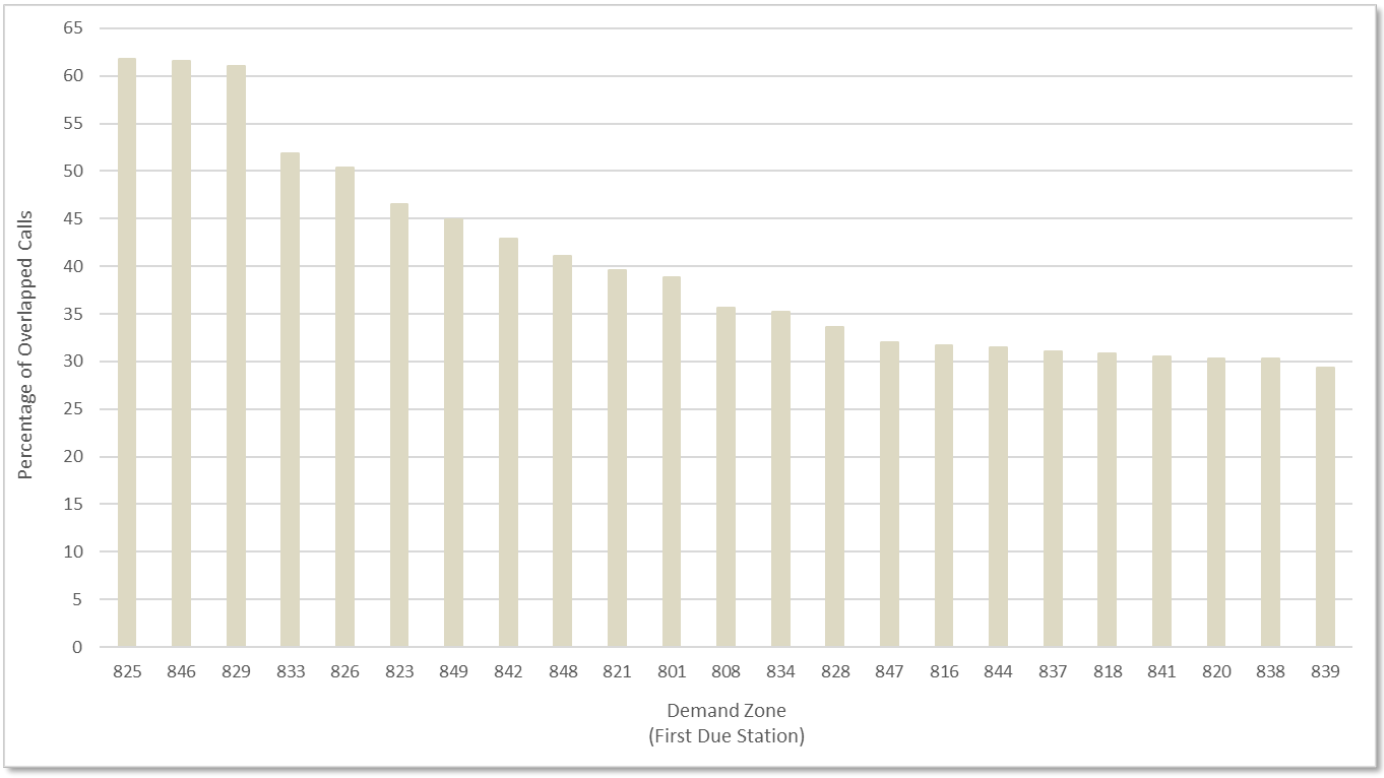
Overlapped or simultaneous calls are defined as another call received in a demand zone (or first due station's area) while one or more calls are already ongoing for the same demand zone (or first due station's area). For example, if there is an ongoing call in Station 801's demand zone wherein all PGFD units have not yet been cleared, and one or more requests for service subsequently occur in Station 801's demand zone, the subsequent call or calls would be captured as overlapping.

Understanding the percentage of overlapped calls may help to determine the number of units to staff for each station. In general, the larger the call volume for a demand zone, the greater the likelihood of overlapped calls occurring. The demand distribution throughout the day will impact the chance of overlapped calls. Additionally, the duration of a call plays a significant role; the longer it takes to clear a request, the greater the likelihood of having an overlapping request.

First due station 825 experienced the highest percentage of overlapped calls during 2018-19 at 61.8% (4,630/7,489), followed by first due station 846 at 61.6% (4,462/7,244), and first due station 829 at 61.1% (5,449/8,921; see below tables and figures).

Demand Zone (First Due Station)	Overlapped Calls	Total Calls	Percentage of Overlapped Calls
801	1,762	4,535	38.9
805	283	1,624	17.4
806	723	2,463	29.4
807	87	1,021	8.5
808	1,206	3,382	35.7
809	554	2,618	21.2
810	553	2,382	23.2
811	355	1,903	18.7
812	492	2,163	22.7
813	254	1,604	15.8
814	408	2,146	19.0
815	0	2	0.0
816	957	3,014	31.8
817	726	2,645	27.4
818	873	2,826	30.9
819	116	1,028	11.3
820	801	2,645	30.3
821	1,747	4,410	39.6
823	2,247	4,826	46.6
824	162	1,230	13.2
825	4,630	7,489	61.8
826	2,873	5,698	50.4
827	641	2,484	25.8
828	1,286	3,824	33.6
829	5,449	8,921	61.1

Demand Zone (First Due Station)	Overlapped Calls	Total Calls	Percentage of Overlapped Calls
830	674	2,599	25.9
831	495	2,270	21.8
832	837	2,876	29.1
833	3,114	6,001	51.9
834	1,656	4,701	35.2
835	308	1,715	18.0
836	68	599	11.4
837	958	3,086	31.0
838	894	2,954	30.3
839	765	2,606	29.4
840	487	2,050	23.8
841	897	2,935	30.6
842	2,349	5,476	42.9
843	453	2,003	22.6
844	1,071	3,406	31.4
845	415	1,931	21.5
846	4,462	7,244	61.6
847	1,092	3,412	32.0
848	1,786	4,342	41.1
849	2,449	5,447	45.0
855	502	2,254	22.3



Workload Demand

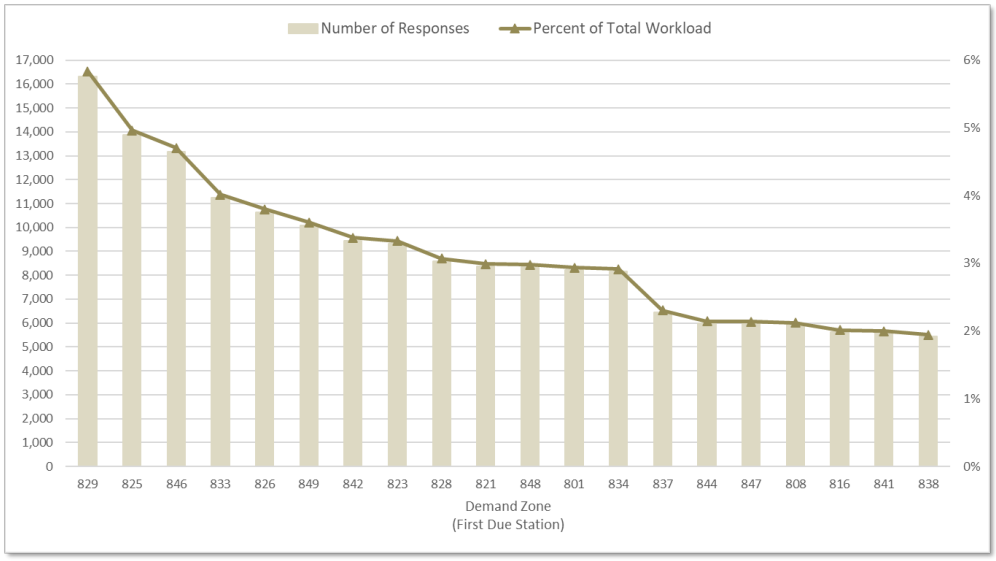
Another method for assessing the effectiveness of the distribution model is to analyze the demand for services across the Department, wherein workload is assessed at the demand zone level (i.e., PGFD "Calculated Incident Area" as a first due station). Station 829's demand zone had the highest volume of responses made by departmental units to the area (16,324 responses), requiring 5.8% of PGFD's total responses during 2018-2019.

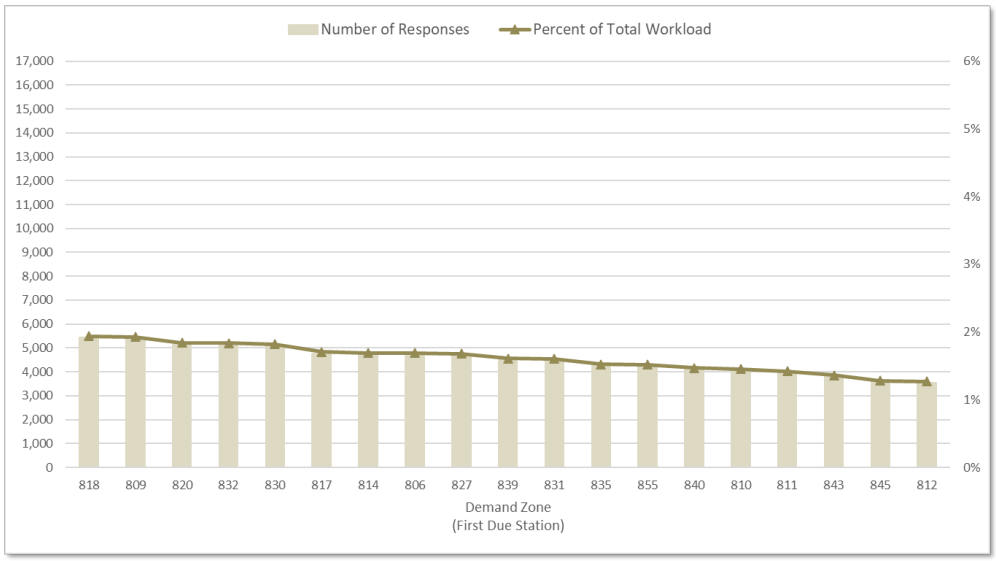
Demand Zone (First Due Station)	Number of Calls Incoming to Demand Zone	Number of Responses Made by Department in Demand Zone[29]	Percent of Department Workload[30]
801	4,538	8,219	2.9
805	1,626	2,829	1.0
806	2,468	4,726	1.7
807	1,021	1,935	0.7
808	3,385	5,939	2.1
809	2,621	5,393	1.9
810	2,388	4,062	1.5
811	1,904	3,976	1.4
812	2,173	3,561	1.3
813	1,606	3,264	1.2
814	2,150	4,732	1.7
815	2	4	< 0.1
816	3,015	5,635	2.0
817	2,648	4,772	1.7
818	2,830	5,431	1.9
819	1,029	1,839	0.7
820	2,648	5,148	1.8
821	4,416	8,367	3.0
823	4,833	9,316	3.3
824	1,231	2,280	0.8
825	7,492	13,883	5.0
826	5,702	10,629	3.8
827	2,489	4,704	1.7
828	3,831	8,593	3.1
829	8,937	16,324	5.8
830	2,601	5,092	1.8
831	2,275	4,481	1.6
832	2,886	5,131	1.8
833	6,015	11,236	4.0

[29] "Number of Responses" reflects the total number of records in the data file associated with responses made by valid units assigned to PGFD, regardless of calculated busy time.

[30] "Percent of Department Workload" is based on "Number of Responses Made by Department in Demand Zone."

Demand Zone (First Due Station)	Number of Calls Incoming to Demand Zone	Number of Responses Made by Department in Demand Zone[29]	Percent of Department Workload[30]
834	4,709	8,159	2.9
835	1,718	4,259	1.5
836	600	1,171	0.4
837	3,091	6,446	2.3
838	2,959	5,446	1.9
839	2,609	4,503	1.6
840	2,052	4,111	1.5
841	2,939	5,586	2.0
842	5,486	9,456	3.4
843	2,007	3,806	1.4
844	3,413	5,991	2.1
845	1,936	3,586	1.3
846	7,254	13,167	4.7
847	3,416	5,978	2.1
848	4,346	8,333	3.0
849	5,460	10,084	3.6
855	2,258	4,254	1.5
Alexandria	34	64	< 0.1
Anne Arundel	924	1,265	0.5
Arlington	2	2	< 0.1
Calvert	18	32	< 0.1
Charles	637	1,254	0.4
D.C.	20	30	< 0.1
Fairfax	1	2	< 0.1
Howard	220	270	0.1
Joint AFB Andrews	9	13	< 0.1
Montgomery	548	712	0.3
Saint Mary's	14	15	< 0.1
Not Reported	172	227	0.1
Total	149,612	279,723	100.0


Number of Responses
Percent of Total Workload
17,000
16,000
15,000
14,000
13,000
12,000
11,000
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
6%
5%
4%
3%
2%
1%
0%
829 825 846 833 826 849 842 823 828 821 848 801 834 837 844 847 808 816 841 838
Demand Zone
(First Due Station)


Number of Responses
Percent of Total Workload
17,000
16,000
15,000
14,000
13,000
12,000
11,000
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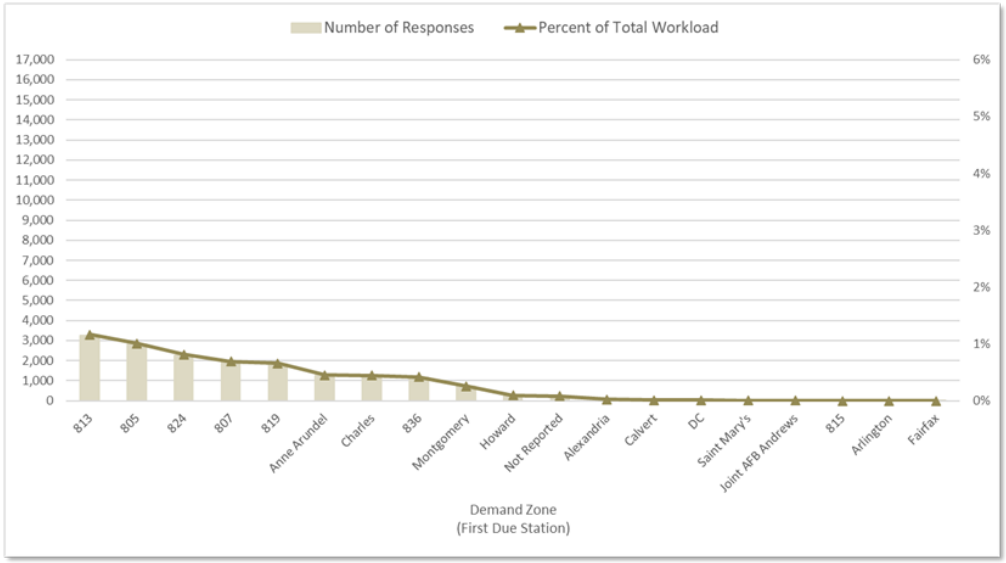
818 809 820 832 830 817 814 806 827 839 831 835 855 840 810 811 843 845 812
Demand Zone
(First Due Station)


Number of Responses
Percent of Total Workload
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0%
813 805 824 807 819 Anne Arundel Charles 836 Montgomery Howard Not Reported Alexandria Calvert DC Saint Mary's Joint AFB Andrews 815 Arlington Fairfax
Demand Zone
(First Due Station)

2021 Incidents by First Due Area and Program

As with most organizations, the majority of emergency incidents are EMS related.

	Program						
Demand Zone (First Due Station)	Bomb	EMS	Fire	Hazmat	Non-Emergency	Rescue	Total
801	0	5,477	1,341	310	233	858	8,219
805	0	2,025	431	52	68	253	2,829
806	5	2,872	661	169	80	939	4,726
807	0	1,092	414	119	34	276	1,935
808	2	4,240	905	138	124	530	5,939
809	0	2,754	1,147	222	66	1,204	5,393
810	0	2,673	695	142	135	417	4,062
811	3	1,703	716	158	99	1,297	3,976
812	2	2,175	798	228	41	317	3,561
813	0	1,959	458	87	41	719	3,264
814	3	2,418	1,104	486	79	642	4,732
815	0	1	0	0	0	3	4
816	4	3,287	761	187	164	1,232	5,635
817	3	3,171	732	304	112	450	4,772
818	1	3,244	1,106	200	119	761	5,431
819	0	1,193	247	25	35	339	1,839
820	1	2,812	1,119	231	155	830	5,148
821	4	4,890	1,167	417	171	1,718	8,367
823	6	5,473	1,230	350	194	2,063	9,316
824	0	1,151	410	62	41	616	2,280
825	7	9,728	1,900	290	276	1,682	13,883
826	4	7,150	1,732	484	167	1,092	10,629
827	14	2,932	665	185	223	685	4,704
828	3	4,224	1,341	261	194	2,570	8,593
829	7	9,963	2,589	670	615	2,480	16,324
830	1	3,060	777	261	100	893	5,092
831	1	2,334	946	199	76	925	4,481
832	1	3,336	999	149	158	488	5,131
833	2	7,370	1,754	428	181	1,501	11,236
834	0	5,300	1,173	294	122	1,270	8,159
835	1	1,757	516	123	60	1,802	4,259
836	0	677	232	20	43	199	1,171
837	11	3,681	1,017	190	95	1,452	6,446
838	0	3,419	867	268	84	808	5,446
839	2	3,089	674	100	162	476	4,503
840	4	2,055	609	78	56	1,309	4,111
841	2	3,027	730	220	78	1,529	5,586

Demand Zone (First Due Station)	Program						
	Bomb	EMS	Fire	Hazmat	Non-Emergency	Rescue	Total
842	2	6,263	1,491	368	105	1,227	9,456
843	2	2,203	691	85	105	720	3,806
844	8	4,332	777	169	126	579	5,991
845	2	2,043	723	121	144	553	3,586
846	3	8,666	1,987	492	297	1,722	13,167
847	3	3,691	977	184	259	864	5,978
848	4	5,653	1,370	254	222	830	8,333
849	18	6,177	1,584	408	236	1,661	10,084
855	2	2,715	773	170	100	494	4,254
Alexandria	0	10	3	0	1	50	64
Anne Arundel	0	569	364	105	20	207	1,265
Arlington	0	2	0	0	0	0	2
Calvert	0	2	23	3	1	3	32
Charles	0	266	721	132	14	121	1,254
D.C.	0	8	7	0	3	12	30
Fairfax	0	0	0	0	0	2	2
Howard	1	60	91	30	0	88	270
Joint AFB Andrews	0	7	0	0	1	5	13
Montgomery	0	305	253	26	4	124	712
Saint Mary's	0	8	7	0	0	0	15
Not Reported	0	206	6	0	4	11	227
Total	139	170,898	45,811	10,654	6,323	45,898	279,723

Unique incident level demand, stratified by program area and risk severity, was evaluated. This specific analysis was restricted to the PGFD jurisdiction for 2016-20201. Over the five-year reporting period, the predominant demand was for low-risk incidents between 47.9% and 52.5%, followed by moderate-risk events between 43.6% and 47.3%. High-risk incidents were between 3.7% and 4.8%. Over 84% of the fire risk in all years was categorized as low risk.

Reporting Period[1]	Program[2]	Number of Incidents Risk Rating					Percentage of Incidents[3] Risk Rating				
		Low	Moderate	High	Special	Total	Low	Moderate	High	Special	Total
2016	Bomb	0	49	0	2	51	0	96.1	0	3.9	100
	EMS	27,700	42,994	2,990	5	73,689	37.6	58.3	4.1	< 0.1	100
	Fire	14,886	1,726	1,063	13	17,688	84.2	9.8	6	0.1	100
	Hazmat	1,053	1,708	8	0	2,769	38	61.7	0.3	0	100
	Rescue	14,035	1,655	33	0	15,723	89.3	10.5	0.2	0	100
	Total	**57,674**	**48,132**	**4,094**	**20**	**109,920**	**52.5**	**43.8**	**3.7**	**< 0.1**	**100**
2017	Bomb	3	17	0	2	22	13.6	77.3	0	9.1	100
	EMS	28,241	43,032	3,178	1	74,452	37.9	57.8	4.3	< 0.1	100
	Fire	14,657	1,522	1,073	10	17,262	84.9	8.8	6.2	0.1	100
	Hazmat	918	1,623	9	0	2,550	36	63.6	0.4	0	100
	Rescue	14,102	1,938	30	0	16,070	87.8	12.1	0.2	0	100
	Total	**57,921**	**48,132**	**4,290**	**13**	**110,356**	**52.5**	**43.6**	**3.9**	**< 0.1**	**100**
2018	Bomb	0	5	5	3	13	0	38.5	38.5	23.1	100
	EMS	26,974	44,074	2,979	3	74,030	36.4	59.5	4	< 0.1	100
	Fire	16,616	1,551	1,081	10	19,258	86.3	8.1	5.6	0.1	100
	Hazmat	883	1,814	7	0	2,704	32.7	67.1	0.3	0	100
	Rescue	14,352	1,928	34	0	16,314	88	11.8	0.2	0	100
	Total	**58,825**	**49,372**	**4,106**	**16**	**112,319**	**52.4**	**44**	**3.7**	**< 0.1**	**100**
2019	Bomb	0	1	1	1	3	0	33.3	33.3	33.3	100
	EMS	27,095	44,182	3,137	1	74,415	36.4	59.4	4.2	< 0.1	100
	Fire	16,734	1,537	1,082	3	19,356	86.5	7.9	5.6	< 0.1	100
	Hazmat	862	1,770	2	0	2,634	32.7	67.2	0.1	0	100
	Rescue	14,101	1,851	32	0	15,984	88.2	11.6	0.2	0	100
	Total	**58,792**	**49,341**	**4,254**	**5**	**112,392**	**52.3**	**43.9**	**3.8**	**< 0.1**	**100**
2020	Bomb	0	1	3	1	5	0	20	60	20	100
	EMS	24,651	45,849	3,600	0	74,100	33.3	61.9	4.9	0	100
	Fire	14,696	1,032	1,394	79	17,201	85.4	6	8.1	0.5	100
	Hazmat	743	1,496	1	0	2,240	33.2	66.8	< 0.1	0	100
	Rescue	10,681	1,766	43	7	12,497	85.5	14.1	0.3	0.1	100
	Total	**50,771**	**50,144**	**5,041**	**87**	**106,043**	**47.9**	**47.3**	**4.8**	**0.1**	**100**
All	Bomb	3	73	9	9	94	3.2	77.7	9.6	9.6	100
	EMS	134,661	220,131	15,884	10	370,686	36.3	59.4	4.3	< 0.1	100
	Fire	77,589	7,368	5,693	115	90,765	85.5	8.1	6.3	0.1	100
	Hazmat	4,459	8,411	27	0	12,897	34.6	65.2	0.2	0	100
	Rescue	67,271	9,138	172	7	76,588	87.8	11.9	0.2	< 0.1	100
	Total	**283,983**	**245,121**	**21,785**	**141**	**551,030**	**51.5**	**44.5**	**4**	**< 0.1**	**100**

[1]Reporting periods reflect calendar years spanning January 1 to December 31 of each respective reporting period.
[2]Select incident types related to BLS0, Investigation, Overdose, Police, and Service calls, including "HAZMAT SERVICE CALL" were excluded from analyses related to risk, per PGFD leadership.
[3]Percentage of Incidents" values reflect percentages within each program row, using the number of incidents per relevant risk rating category as the numerator and the total number of incidents in the corresponding program row as the denominator.

Workload and Time on Task

All units assigned to PGFD made 279,723 responses and were busy on calls for a total of 182,111.3 hours during 2018-19. Overall, the average busy minutes per response was 39.1 minutes, and the average number of responses per call was 1.9. The EMS program area was the busiest program in the Department, accounting for 77.8% of the Department's total busy hours. The below table presents these metrics by determinant, as extracted from the "Incident ProQA" variable values in the data file, where available.

Jurisdiction	Program	Number of Calls[1]	Number of Responses[2]	Average Responses per Call	Total Busy Hours	Responses with Time Data[3]	Average Busy Minutes per Response	Average Calls per Day	Average Responses per Day
All Incident Areas	Bomb	66	139	2.1	127.7	139	55.1	0.2	0.4
	EMS	104,517	170,898	1.6	141,594.50	170,768	49.7	286.3	468.2
	Fire	20,073	45,811	2.3	17,169.20	45,743	22.5	55	125.5
	Hazmat	2,840	10,654	3.8	2,912.60	10,640	16.4	7.8	29.2
	Non-Emerg	5,528	6,323	1.1	2,485.50	6,321	23.6	15.1	17.3
	Rescue	16,588	45,898	2.8	17,822.00	45,832	23.3	45.4	125.7
	Total	**149,612**	**279,723**	**1.9**	**182,111.30**	**279,443**	**39.1**	**409.9**	**766.4**
Within PGFD	Bomb	65	138	2.1	121.5	138	52.8	0.2	0.4
	EMS	103,242	169,455	1.6	140,381.90	169,329	49.7	282.9	464.3
	Fire	19,411	44,336	2.3	16,675.20	44,269	22.6	53.2	121.5
	Hazmat	2,655	10,358	3.9	2,837.40	10,344	16.5	7.3	28.4
	Non-Emerg	5,483	6,275	1.1	2,446.10	6,273	23.4	15	17.2
	Rescue	16,157	45,275	2.8	17,566.70	45,210	23.3	44.3	124
	Total	**147,013**	**275,837**	**1.9**	**180,028.90**	**275,563**	**39.2**	**402.8**	**755.7**
Outside of PGFD[4]	Bomb	1	1	1	6.2	1	369.7	< 0.1	< 0.1
	EMS	1,275	1,443	1.1	1,212.60	1,439	50.6	3.5	4
	Fire	662	1,475	2.2	493.9	1,474	20.1	1.8	4
	Hazmat	185	296	1.6	75.1	296	15.2	0.5	0.8
	Non-Emerg	45	48	1.1	39.3	48	49.2	0.1	0.1
Outside of PGFD[4]	Rescue	431	623	1.4	255.3	622	24.6	1.2	1.7
	Total	**2,599**	**3,886**	**1.5**	**2,082.40**	**3,880**	**32.2**	**7.1**	**10.6**

[1]"Number of Calls" reflects an adjusted number of calls following any exclusion activity to align with responses made by valid units assigned to PGFD.
[2]"Number of Responses" reflects the total number of records in the data file associated with responses made by valid units assigned to PGFD, regardless of calculated busy time.
[3]"Responses with Time Data" reflects the number of records in the data file associated with responses made by valid units assigned to PGFD with calculated busy time not otherwise excluded.
[4]Responses that were missing a value reported for "Calculated Incident Area" were included in "Outside of PGFD."

Unique incidents, apparatus responses, and time on task were evaluated for each program area. This analysis is for all incidents regardless of jurisdiction. Once again, results demonstrate that EMS incidents are the most frequently requested demand from the community at 468 responses per day on average. Fire-related incidents averaged approximately 125 responses per day. The average duration of responses was approximately 39 minutes, which is well aligned with industry experience.

Program	Number of Calls[1]	Number of Responses[2]	Average Responses per Call	Total Busy Hours	Responses with Time Data[3]	Average Busy Minutes per Response	Average Calls per Day	Average Responses per Day
Bomb	66	139	2.1	127.7	139	55.1	0.2	0.4
EMS	104,517	170,898	1.6	141,594.50	170,768	49.7	286.3	468.2
Fire	20,073	45,811	2.3	17,169.20	45,743	22.5	55	125.5
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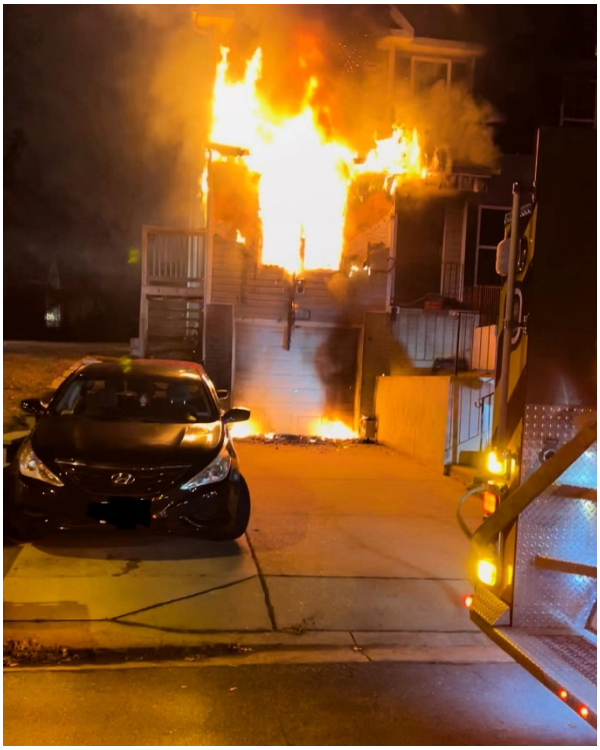


Unit Hour Utilization—Time on Task of Workload

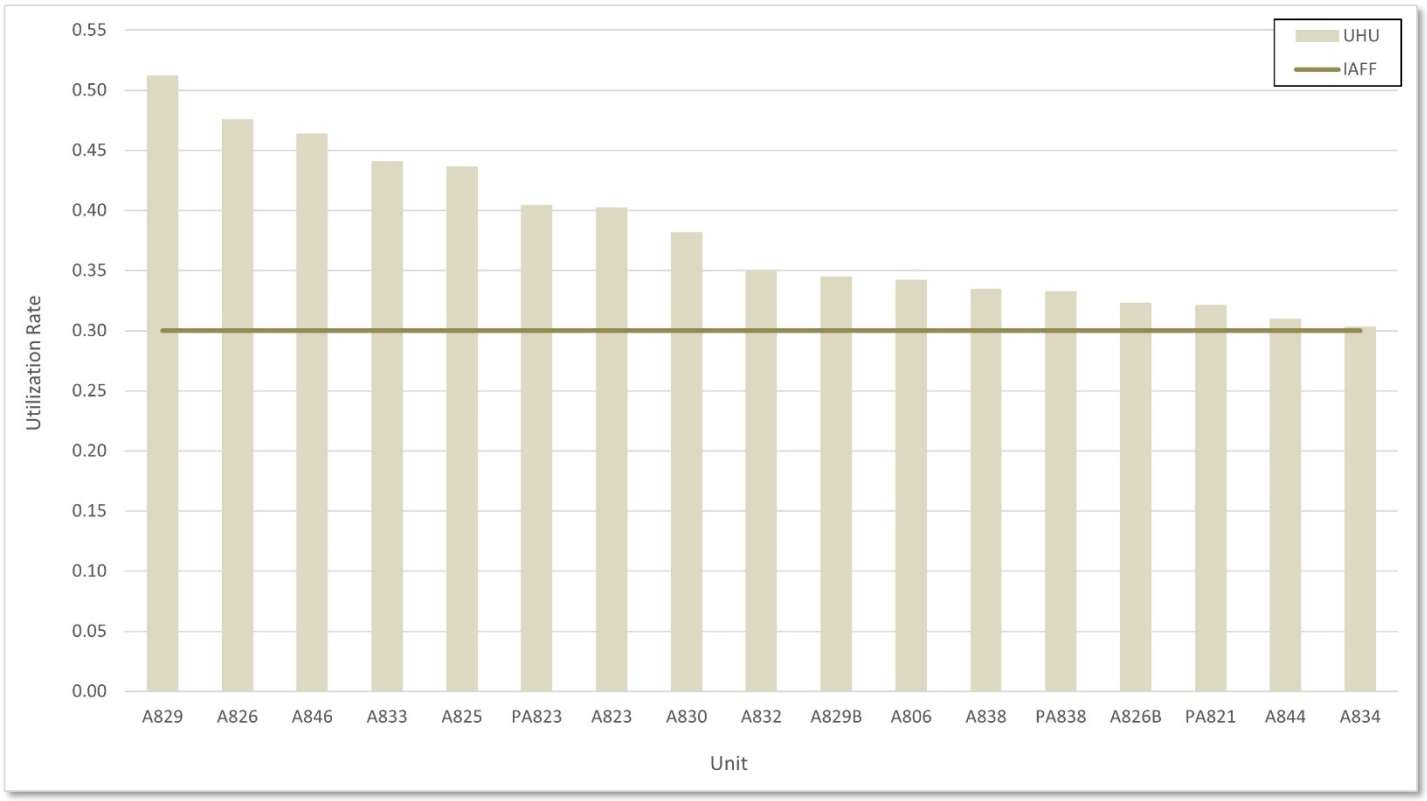
Another measure, time on task, is necessary to evaluate best practices in efficient system delivery and consider the impact workload has on personnel. Unit Hour Utilization (UHU) values represent the proportion of the work period (*e.g.,* 24 hours) that is utilized to respond to requests for service.

The International Association of Fire Fighters (IAFF) has historically recommended that 24-hour units utilize 0.30, or 30%, workload as an upper threshold. In other words, this recommendation would have personnel spend no more than 7.2 hours per day on emergency incidents. These thresholds take into consideration the necessity to accomplish non-emergency activities such as training, health and wellness, public education, and fire inspections. The 4th edition of the IAFF EMS Guidebook no longer specifically identifies an upper threshold. However, *FITCH* recommends that an upper unit utilization threshold of approximately 0.30, 0r 30%, would be considered best practice. In other words, units and personnel should not exceed 30%, or 7.2 hours, of their workday responding to calls. These recommendations are also validated in the literature. For example, in their review of the City of Rolling Meadows, the Illinois Fire Chiefs Association[31] utilized a UHU threshold of 0.30 as an indication to add additional resources. Similarly, in a SOC study facilitated by the Center for Public Safety Excellence, the Castle Rock Fire and Rescue Department[32] utilizes a UHU of 0.30 as the upper limit in their SOC due to the necessity to accomplish other non-emergency activities.

UHU analyses included all PGFD units designated by the PGFD leadership team as valid units. The figures below present units by staffing model, and the units are sorted alphabetically by their ID within each station. The units are sorted by UHU/total busy hours in descending order to facilitate comparison of busy time across units at the departmental level. Identical data is presented in each figure, but unit IDs are sorted alphabetically as one list across the entire Department to permit quick look-up of an individual unit. All units were treated as 24-hour-per-day units, and no units had their busy time values combined to account for cross-staffing or for changes in unit IDs (*e.g.,* changes across time or due to naming convention in the CAD system). Updated values for units with alternative staffing schedules and for unit combinations are available upon request.

[31] Illinois Fire Chiefs Association. (2012). An Assessment of Deployment and Station Location: Rolling Meadows Fire Department. Rolling Meadows, Illinois: Author. (pp. 54-55)

[32] Castle Rock Fire and Rescue Department. (2011). Community Risk Analysis and Standards of Cover. Castle Rock, Colorado: Author. (p. 58)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Utilization Rate
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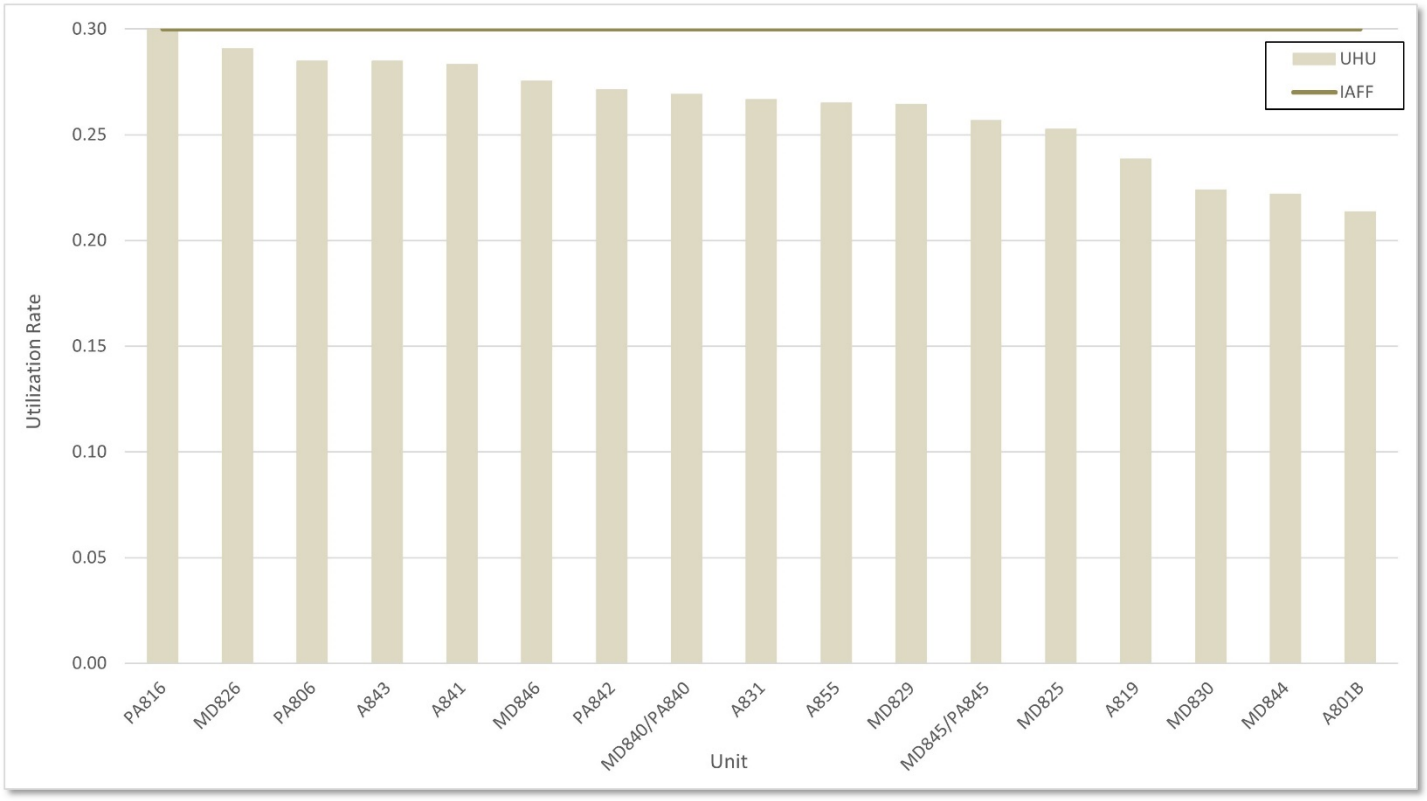
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Utilization Rate
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IAFF
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MD826
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A843
A841
MD846
PA842
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A831
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MD825
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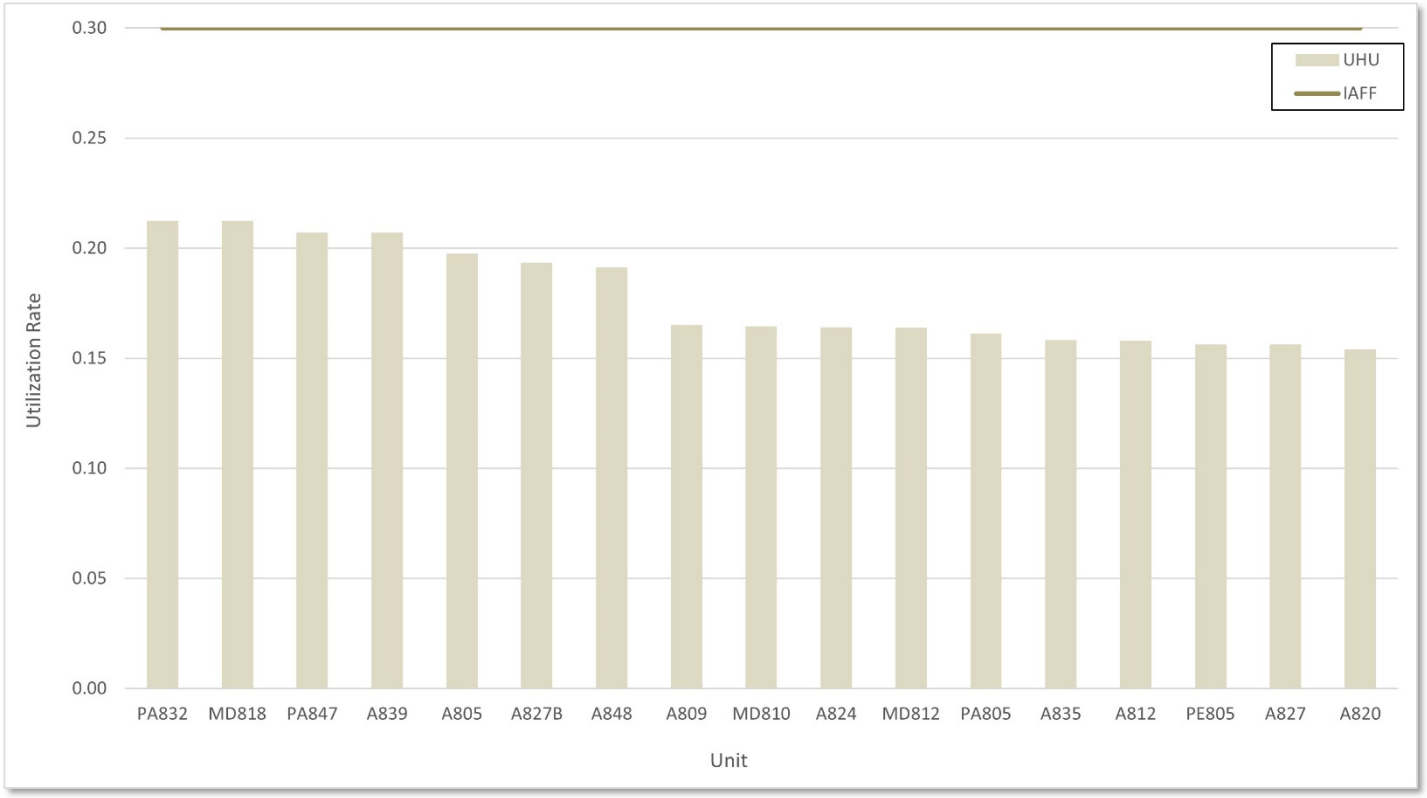
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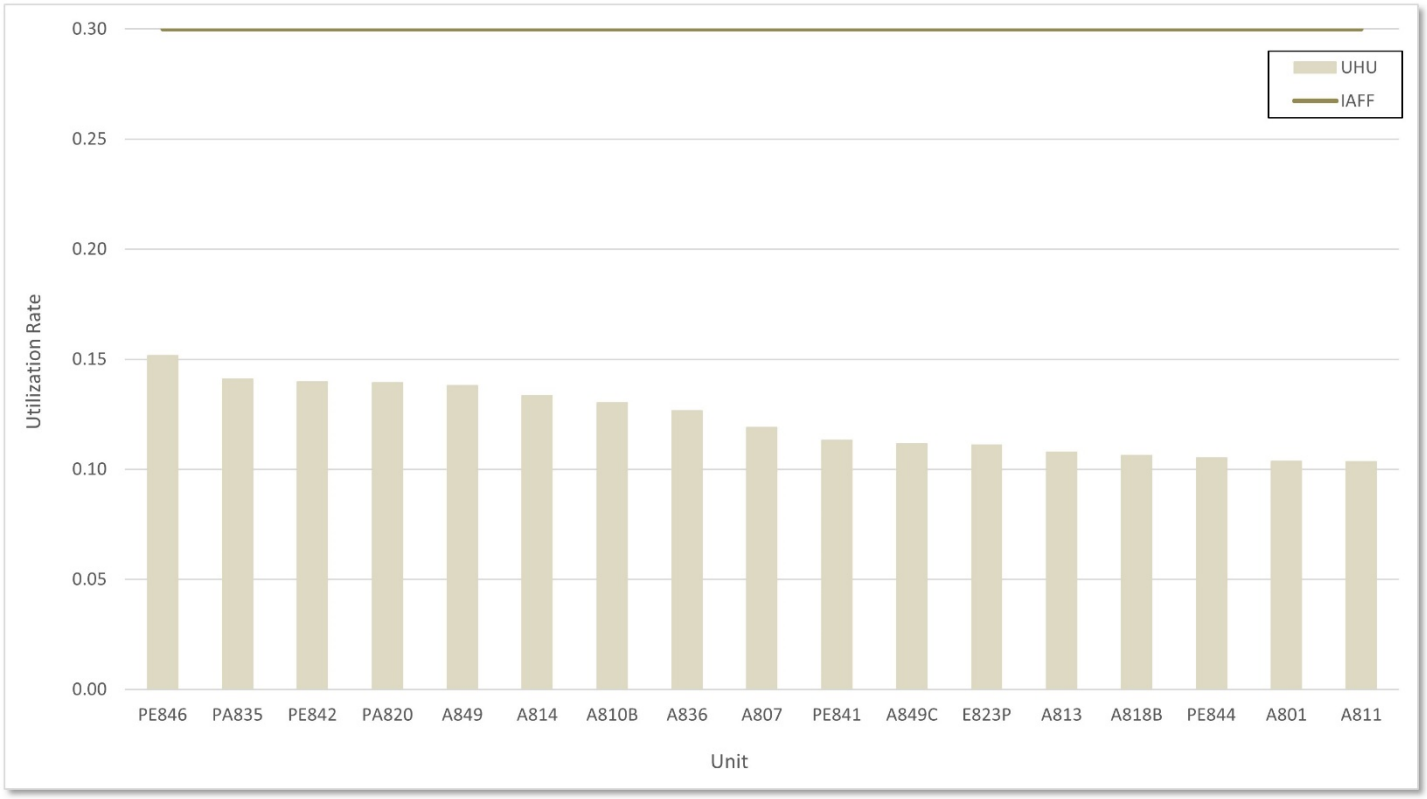
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Utilization Rate
UHU
IAFF
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PE842
PA820
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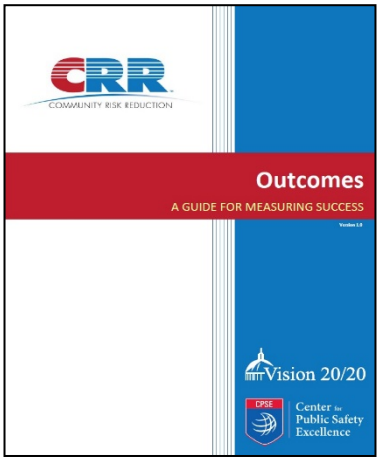
A814
A810B
A836
A807
PE841
A849C
E823P
A813
A818B
PE844
A801
A811
Unit

Event Outcomes

Performance Indicator 2B.3

Event outputs and outcomes are assessed for three (initial accrediting agencies) to five (currently accredited agencies) immediately previous years.

Outcome measures tell us if our ultimate goals of public safety have been reached by documenting changes in fire, EMS, hazmat, technical rescue, or community risk reduction efforts. As this is PGFD's first formal Standards of Cover, many of the outcome measures are still in process. The Department utilized *CRR Outcomes: A guide for measuring success,* published by Vision 20/20 and the Center for Public Safety Excellence, as a guide to identifying core measures in each major program area. Refinement of the data to ensure accuracy is in process and will be finalized as of the first annual compliance report, providing a solid view of the county.



Fire

One of the most visible outcomes of a fire and rescue service is the percentage of property and contents saved during the course of a structural fire. PGFD is analyzing fire data for the past three years including property and contents lost, property and contents saved, and overall save rate %.

EMS

Many factors contribute to the survival of out-of-hospital cardiac arrest including EMS response time, experience/ case volume of the paramedic, layperson CPR, age/health of patient, type of rhythm encountered, etc. However, one outcome has generally been accepted as a positive marker of EMS system performance; Return of Spontaneous Circulation (ROSC). Global rates of ROSC for out of hospital arrests hover just under 30%.

Technical Rescue

Much like hazardous materials incidents, fortunately technical rescue incidents are rare as compared to EMS or Fire calls, but usually people's lives are on the line during these low frequency, high-risk events. Over the past three years, PGFD responded to 83 technical rescue incidents, potentially saving numerous lives from injuries sustained during these incidents.

Hazmat

Fortunately, hazardous materials incidents are generally a relatively rare occurrence, although when they do occur, the impacts can be devastating to not only the people involved but the environment as well. PGFD responded to nearly 13,000 hazardous materials events over the last three years. PGFD is currently analyzing the gallons of product that were successfully stopped from exiting their containers or entering storm drains.

Community Risk Reduction

There is not a single CRR measure that defines program success, but generally speaking the number and severity of fires (including dollar loss as measured above in the Fire outcome area) and injuries or deaths are the ultimate outcomes of a program. PGFD is actively analyzing several measures for code compliance, FLS Education, plan review, and fire investigation programs from page 8-9 from the Outcome guide.

Benchmark and Baseline Statements and Tables

The agency has established benchmark performance objectives and baseline measurements for four major categories of emergency responses, including fires, emergency medical services, hazardous materials, and technical rescue incidents. These objectives and measures are also tailored by risk level classification for low, moderate, high and special risks, including the amount of personnel required (effective response force) to perform the required critical tasking that aligns with both the needs of the incident and Department policies and standard operating guidelines.

Core Competency 2C.5

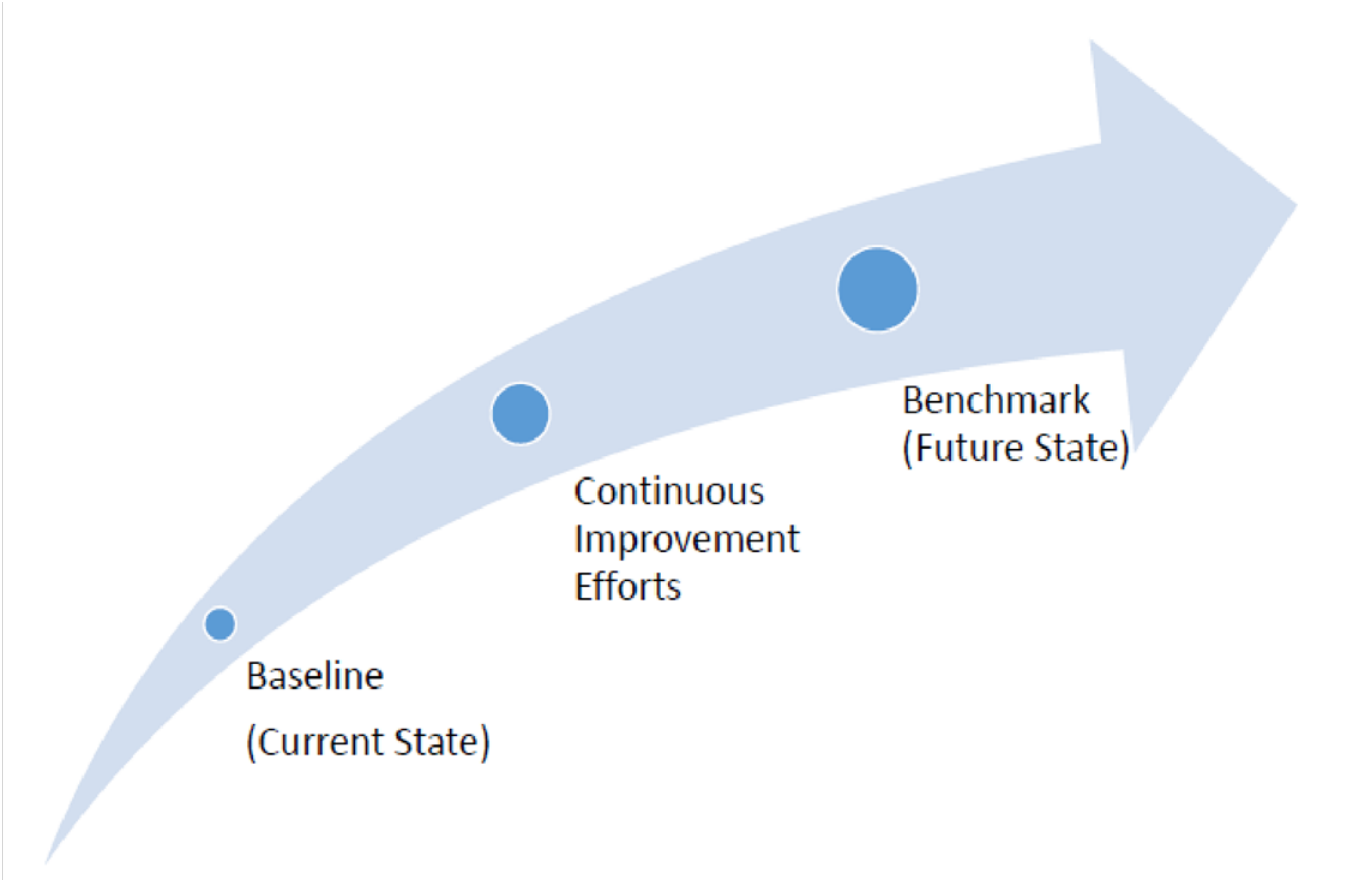
The agency has identified the total response time components for delivery of services in each service program area and found those services consistent and reliable within the entire response area.

In simple terms, the benchmark is the desired level of performance, and the baseline is the current level of performance. Rather than using averages for response times, these goals are measured against 90% fractals, aligning with best practices in the fire industry for both the Center for Public Safety Excellence and National Fire Protection Association standards. This measurement style affords a much more accurate view of performance.

Performance Indicator 2C.7

The agency has identified the total response time components for delivery of services in each service program area and assessed those services in each planning zone.

The benchmark statements and baseline charts all reflect current Department practices. Historic data presented in the baseline charts represent actual incident data from 2016-2020. Automatic Baseline data is only available for certain risk levels for each of the four incident types due to some risk levels not happening frequently enough to produce valid data. These are clearly noted within each table and the corresponding baseline statements.



Performance Statements – Fires

Benchmark Statements

For **all fire incidents** (low, moderate, high, and maximum risk), the 90th percentile of total response time for the arrival of the first due unit, staffed with a minimum of 3 firefighters, shall be 8 minutes and 0 seconds (urban) or 12 minutes and 0 seconds (rural). The first due unit shall be capable of establishing command, sizing up the incident, utilizing appropriate tactics in accordance with department standard operating guidelines, developing an initial action plan, extending an appropriate hose line, and begin an initial fire attack or rescue.

For **moderate-risk fires**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 13 personnel, shall be 10 minutes (urban) or 14 minutes (rural). The ERF shall have the capability to establish command, provide an uninterrupted water supply, advance an attack line and backup line for fire control, establish a rapid intervention crew, complete forcible entry, and ventilation, conduct primary and secondary searches, control utilities and perform salvage and overhaul operations. These critical tasks shall be done in a safe manner in accordance with department standard operating guidelines.

For **high-risk fires**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 22 personnel, shall be 12 minutes (urban) or 16 minutes (rural). The ERF shall have the capability to establish command, provide an uninterrupted water supply, advance an attack line and backup line for fire control, place elevated streams into service, establish a rapid intervention crew, complete forcible entry, and ventilation, conduct primary and secondary searches, control utilities and perform salvage and overhaul operations. These critical tasks shall be done in a safe manner in accordance with department standard operating guidelines.

For **special-risk fires**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 31 personnel, shall be 21 minutes (urban) or 24 minutes (rural). The ERF shall have the capability to establish command, provide an uninterrupted water supply, advance multiple attack lines and backup lines for fire control, place elevated streams into service, establish a rapid intervention crew, complete multiple forcible entry and ventilation procedures, conduct primary and secondary searches, control utilities, perform occupant evacuation and perform salvage and overhaul operations. These critical tasks shall be done in a safe manner in accordance with department standard operating guidelines.

Performance Statements – Fires (restricted to within jurisdiction performance)

Baseline Statements

For 90 percent of all **low-risk fire responses**, the total response time for the arrival of the first due unit, with a minimum of 2 firefighters and 1 officer, is 12 minutes and 56 seconds within urban areas and 16 minutes and 29 seconds in rural areas. The first arriving unit is capable of: establishing command; completing an initial size up; establishing water supply; and initiating fire attack and/or rescue. These operations are performed utilizing safe operational procedures.

Low-Risk Fire – 90th Percentile Times – Baseline Performance			2016-2020	2016	2017	2018	2019	2020
Alarm Handling	Pick-up to Dispatch	Urban	4:32	4:36	4:39	4:38	4:25	4:20
		Rural	4:41	4:49	4:56	4:58	4:06	5:06
Turnout Time	Turnout Time 1st Unit	Urban	2:02	2:10	2:06	2:01	1:57	1:53
		Rural	2:14	2:26	2:20	2:14	2:07	2:02
Travel Time	Travel Time 1st Unit Distribution	Urban	7:35	7:40	7:22	7:34	7:43	7:36
		Rural	10:34	10:16	10:41	11:02	10:08	10:05
	Travel Time ERF Concentration	Urban	N/A	N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A	N/A
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	12:56	13:18	12:48	12:46	13:00	12:46
			n=55,282	*n*=10,994	*n*=10,815	*n*=11,874	*n*=11,711	*n*=9,888
		Rural	16:29	16:53	16:45	16:37	15:18	17:00
			n=5,382	*n*=1,021	*n*=1,021	*n*=1,208	*n*=1,145	*n*=987
	Total Response Time ERF Concentration	Urban	N/A	N/A	N/A	N/A	N/A	N/A
			N/A	N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A	N/A
			N/A	N/A	N/A	N/A	N/A	N/A

Performance Statements – Fires

Baseline Statements

For 90 percent of all **moderate-risk fire responses**, the total response time for the arrival of the first due unit, with a minimum of 2 firefighters and 1 officer, is 11 minutes and 13 seconds within urban areas and 14 minutes and 43 seconds in rural areas. The first arriving unit is capable of: establishing command; completing an initial size up; establishing water supply; and initiating fire attack and/or rescue. These operations are performed utilizing safe operational procedures

For 90 percent of all **moderate-risk fire responses**, the total response time for the arrival of the ERF, with 13 firefighters and officers, is 19 minutes and 39 seconds within urban areas. The ERF is capable of establishing command; providing a water supply; advancing an attack line and a backup line for fire control; complying with the requirements of two in-two out; searching and rescuing at-risk victims. These operations are performed utilizing safe operational procedures.

PGFD did not have enough moderate-risk fire responses in rural areas, which required an effective response force to be assembled for 2016-2020 to provide reliable data. There are, therefore, no baseline service level performance statements provided for ERFs for urban areas.

Table 1: Baseline 90th Percentile Performance of Primary Front-Line Arriving Units for Emergency Fire Incidents

Moderate-Risk Fire – 90th Percentile Times – Baseline Performance			2016-2020	2016	2017	2018	2019	2020
Alarm Handling	Pick-up to Dispatch	Urban	4:12	4:10	4:21	4:17	4:05	4:04
		Rural	4:15	4:45	4:04	3:57	6:27	4:22
Turnout Time	Turnout Time 1st Unit	Urban	1:48	1:49	1:53	1:51	1:45	1:37
		Rural	2:12	2:07	2:09	2:24	1:56	2:15
Travel Time	Travel Time 1st Unit Distribution	Urban	6:47	6:58	6:36	6:43	7:03	6:41
		Rural	10:11	10:49	9:36	10:56	10:06	10:13
	Travel Time ERF Concentration	Urban	12:45	12:37	11:28	13:24	17:58	22:27
		Rural	N/A	N/A	N/A	N/A	N/A	N/A
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	11:13	11:33	11:22	11:00	11:19	10:57
			n=6,076	*n*=1,258	*n*=1,483	*n*=1,289	*n*=1,243	*n*=803
		Rural	14:43	15:29	15:45	15:15	15:14	14:23
			n=328	*n*=66	*n*=68	*n*=76	*n*=54	*n*=64
	Total Response Time ERF Concentration	Urban	19:39	19:28	18:00	18:46	25:07	26:53
			n=298	*n*=81	*n*=83	*n*=70	*n*=51	*n*=13
		Rural	N/A	N/A	N/A	N/A	N/A	N/A
			n=5	*n*=4	*n*=1	*n*=0	*n*=0	*n*=0

Performance Statements – Fires

Baseline Statements

For 90 percent of all **high-risk fire responses**, the total response time for the arrival of the first due unit, with a minimum of 2 firefighters and 1 officer, is 10 minutes and 31 seconds within urban areas and 14 minutes and 43 seconds in rural areas. The first arriving unit is capable of: establishing command; completing an initial size up; establishing water supply; and initiating fire attack and/or rescue. These operations are performed utilizing safe operational procedures

For 90 percent of all **high-risk fire responses**, the total response time for the arrival of the ERF, with 22 firefighters and officers, is 28 minutes and 36 seconds within urban areas and 36 minutes and 25 seconds in rural areas. The effective response force has the capability to establish command; provide an uninterrupted water supply; advance an attack line and backup line for fire control; place elevated streams into service; establish a rapid intervention crew; complete forcible entry and ventilation; conduct primary and secondary searches; control utilities; and perform salvage and overhaul operations. These critical tasks are done in a safe manner in accordance with department standard operating guidelines.

Table 2: Baseline 90th Percentile Performance of Primary Front-Line Arriving Units for Emergency Fire Incidents

High-Risk Fire – 90th Percentile Times – Baseline Performance			2016-2020	2016	2017	2018	2019	2020
Alarm Handling	Pick-up to Dispatch	Urban	3:54	4:17	3:59	3:45	3:56	3:35
		Rural	4:02	4:59	3:58	4:34	3:19	3:53
Turnout Time	Turnout Time 1st Unit	Urban	1:48	1:52	1:56	1:52	1:42	1:40
		Rural	2:19	2:34	2:07	2:07	2:24	2:15
Travel Time	Travel Time 1st Unit Distribution	Urban	6:36	6:34	6:22	6:50	7:10	6:10
		Rural	9:41	9:38	9:53	9:00	10:18	10:37
	Travel Time ERF Concentration	Urban	21:15	16:00	24:35	23:45	23:25	24:38
		Rural	29:13	28:33	N/A	23:53	N/A	N/A
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	10:31	10:40	10:30	10:46	10:44	10:04
			n=4,686	*n*=892	*n*=895	*n*=857	*n*=851	*n*=1,191
		Rural	14:43	16:42	14:40	14:25	13:53	15:49
			n=535	*n*=96	*n*=99	*n*=125	*n*=108	*n*=107
	Total Response Time ERF Concentration	Urban	28:36	24:37	30:25	36:54	30:50	26:01
			n=282	*n*=60	*n*=58	*n*=47	*n*=46	*n*=71
		Rural	36:25	N/A	N/A	N/A	N/A	N/A
			n=48	*n*=12	*n*=9	*n*=11	*n*=7	*n*=9

Performance Statements – Fires

Baseline Statements

For 90 percent of all **special-risk fire responses**, the total response time for the arrival of the first due unit, with a minimum of 2 firefighters and 1 officer, is 11 minutes and 51 seconds within urban areas. PGFD did not have enough special-risk fire responses in rural areas for 2016-2020 to provide reliable data. The first arriving unit is capable of: establishing command; completing an initial size up; establishing water supply; and initiating fire attack and/or rescue. These operations are performed utilizing safe operational procedures

PGFD did not have enough high-risk fire responses that required an effective response force to be assembled for 2016-2020 to provide reliable data. There are, therefore, no baseline service level performance statements provided for effective response force.

Table 3: Baseline 90th Percentile Performance of Primary Front-Line Arriving Units for Emergency Fire Incidents

Special-Risk Fire – 90th Percentile Times – Baseline Performance			2016-2020	2016	2017	2018	2019	2020
Alarm Handling	Pick-up to Dispatch	Urban	5:43	N/A	N/A	N/A	N/A	4:39
		Rural	N/A	N/A	N/A	N/A	N/A	N/A
Turnout Time	Turnout Time 1st Unit	Urban	1:54	N/A	N/A	N/A	N/A	1:26
		Rural	N/A	N/A	N/A	N/A	N/A	N/A
Travel Time	Travel Time 1st Unit **Distribution**	Urban	5:39	N/A	N/A	N/A	N/A	5:29
		Rural	N/A	N/A	N/A	N/A	N/A	N/A
	Travel Time ERF **Concentration**	Urban	N/A	N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A	N/A
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	11:51	N/A	N/A	N/A	N/A	9:56
			n=99	*n*=10	*n*=8	*n*=7	*n*=3	*n*=71
		Rural	N/A	N/A	N/A	N/A	N/A	N/A
			n=4	*n*=1	*n*=2	*n*=1	*n*=0	*n*=0
	Total Response Time ERF Concentration	Urban	N/A	N/A	N/A	N/A	N/A	N/A
			n=2	*n*=0	*n*=0	*n*=0	*n*=0	*n*=2
		Rural	N/A	N/A	N/A	N/A	N/A	N/A
			n=0	*n*=0	*n*=0	*n*=0	*n*=0	*n*=0

Performance Statements – Emergency Medical Services (EMS)

Benchmark Statements

For all **emergency medical services incidents** (low, moderate, high, and maximum risk), the 90th percentile of total response time for the arrival of the first due unit, staffed with a minimum of two firefighters, shall be 7 minutes and 40 seconds (urban) and 11 minutes and 40 seconds (rural). The first due unit shall be capable of: establishing command; sizing up the incident; conducting an initial patient assessment; obtaining vitals and patient medical history; initiating basic life support measures in accordance with department standard operating guidelines; and transporting to an appropriate health care facility.

For **low and moderate-risk EMS incidents**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 2 personnel, shall be 7 minutes and 40 seconds (urban) and 11 minutes and 40 seconds (rural). The units shall be capable of: establishing command; sizing up the incident; conducting an initial patient assessment; obtaining vitals and patient medical history; initiating advanced life support efforts in accordance with department standard operating guidelines; and transporting to an appropriate health care facility.

For **high-risk EMS incidents**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 5 personnel, shall be 9 minutes and 40 seconds (urban) and 13 minutes and 40 seconds (rural). The units shall be capable of: establishing command; sizing up the incident; conducting an initial patient assessment; obtaining vitals and patient medical history; initiating advanced life support efforts in accordance with department standard operating guidelines; and transporting to an appropriate health care facility.

For **Special-Risk EMS incidents**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 25 personnel, shall be 11 minutes and 40 seconds (urban) and 15 minutes and 40 seconds (rural). The units shall be capable of: establishing command; sizing up the incident; conducting initial patient assessments for multiple patients; obtaining vitals and patient medical history; initiating advanced life support efforts in accordance with department standard operating guidelines; and transporting several patients to an appropriate health care facility.

Performance Statements – Emergency Medical Services (EMS)

Baseline Statements

For 90 percent of all **low-risk emergency medical services incidents,** the total response time for the arrival of the first due unit, with a minimum of 2 firefighters, is 19 minutes and 27 seconds within urban areas and 19 minutes and 40 seconds in rural areas. The first due unit shall be capable of: establishing command; sizing up the incident; conducting an initial patient assessment; obtaining vitals and patient medical history; initiating basic life support measures in accordance with department standard operating guidelines; and transport to an appropriate health care facility.

Table 1: Baseline 90th Percentile Performance of Primary Front-Line Arriving Units for Emergency EMS Incidents

Low-Risk EMS – 90th Percentile Times – Baseline Performance			2016-2020	2016	2017	2018	2019	2020
Alarm Handling	Pick-up to Dispatch	Urban	6:40	9:06	8:19	9:36	9:45	11:19
		Rural	9:32	7:11	6:28	6:51	6:03	6:56
Turnout Time	Turnout Time 1st Unit	Urban	2:17	2:23	2:23	2:15	2:11	2:08
		Rural	2:24	2:36	2:28	2:24	2:20	2:12
Travel Time	Travel Time 1st Unit Distribution	Urban	9:55	9:29	9:24	9:35	9:57	11:12
		Rural	12:05	11:10	11:20	11:46	11:54	13:41
	Travel Time ERF Concentration	Urban	N/A	N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A	N/A
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	19:27	18:37	18:09	18:51	19:59	22:02
			n=90,664	*n*=18,812	*n*=19,062	*n*=18,196	*n*=18,267	*n*=16,327
		Rural	19:40	20:31	18:26	19:19	19:12	20:58
			n=6,618	*n*=1,227	*n*=1,330	*n*=1,330	*n*=1,325	*n*=1,406
	Total Response Time ERF Concentration	Urban	N/A	N/A	N/A	N/A	N/A	N/A
			N/A	N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A	N/A
			N/A	N/A	N/A	N/A	N/A	N/A

Performance Statements – Emergency Medical Services (EMS)

Baseline Statements

For 90 percent of **moderate-risk EMS incidents,** the total response time for the arrival of the first due unit, with a minimum of 2 firefighters is 12 minutes and 34 seconds within urban areas and 15 minutes and 13 seconds in rural areas. The first due unit shall be capable of: establishing command; sizing up the incident; conducting an initial patient assessment; obtaining vitals and patient medical history; initiating basic life support measures in accordance with department standard operating guidelines; and transporting to an appropriate health care facility.

Table 2: Baseline 90th Percentile Performance of Primary Front-Line Arriving Units for Emergency EMS Incidents

Moderate-Risk EMS – 90th Percentile Times – Baseline Performance			2016-2020	2016	2017	2018	2019	2020
Alarm Handling	Pick-up to Dispatch	Urban	4:18	4:28	4:13	4:29	4:07	4:14
		Rural	4:03	4:23	3:56	4:12	3:50	4:03
Turnout Time	Turnout Time 1st Unit	Urban	2:13	2:20	2:13	2:17	2:08	2:04
		Rural	2:24	2:36	2:24	2:28	2:18	2:16
Travel Time	Travel Time 1st Unit Distribution	Urban	7:51	7:40	7:33	7:28	7:44	8:38
		Rural	10:28	10:19	10:20	10:24	10:25	10:50
	Travel Time ERF Concentration	Urban	N/A	N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A	N/A
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	12:34	12:34	12:12	12:23	12:14	13:17
			n=189,169	*n*=37,404	*n*=37,995	*n*=37,171	*n*=38,002	*n*=38,597
		Rural	15:13	15:28	14:56	15:16	14:58	15:21
			n=15,230	*n*=2,919	*n*=3,103	*n*=2,857	*n*=3,184	*n*=3,167
	Total Response Time ERF Concentration	Urban	N/A	N/A	N/A	N/A	N/A	N/A
			N/A	N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A	N/A
			N/A	N/A	N/A	N/A	N/A	N/A

Performance Statements – Emergency Medical Services (EMS)

Baseline Statements

For 90 percent of **high-risk EMS incidents,** the total response time for the arrival of the first due unit, with a minimum of 2 firefighters, is 11 minutes and 21 seconds within urban areas and 14 minutes and 6 seconds in rural areas. The first due unit shall be capable of: establishing command; sizing up the incident; conducting an initial patient assessment; obtaining vitals and patient medical history; initiating basic life support measures in accordance with department standard operating guidelines; and transporting to an appropriate health care facility.

For 90 percent of all **high-risk EMS incidents,** the total response time for the arrival of the ERF, with 5 firefighters and officers, is 14 minutes and 25 seconds within urban areas and 18 minutes and 40 seconds in rural areas. The units shall be capable of: establishing command; sizing up the incident; conducting initial patient assessments for multiple patients; obtaining vitals and patient medical history; initiating advanced life support efforts in accordance with department standard operating guidelines; and transporting several patients to an appropriate health care facility

Table 3: Baseline 90th Percentile Performance of Primary Front-Line Arriving Units for Emergency EMS Incidents

High-Risk EMS – 90th Percentile Times – Baseline Performance			2016-2020	2016	2017	2018	2019	2020
Alarm Handling	Pick-up to Dispatch	Urban	4:00	4:30	4:19	4:10	4:12	4:05
		Rural	4:16	4:16	4:21	3:58	4:10	3:32
Turnout Time	Turnout Time 1st Unit	Urban	2:10	2:19	2:14	2:05	2:04	2:02
		Rural	2:21	2:37	2:33	2:17	2:14	2:15
Travel Time	Travel Time 1st Unit Distribution	Urban	6:50	6:50	6:35	6:43	6:59	7:03
		Rural	9:38	9:18	9:43	9:29	10:51	9:27
	Travel Time ERF Concentration	Urban	9:11	9:18	8:50	9:14	9:31	9:08
		Rural	13:13	12:00	13:07	13:12	14:07	13:05
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	11:21	11:44	11:07	11:11	11:27	11:28
			n=14,329	*n*=2,715	*n*=2,879	*n*=2,695	*n*=2,811	*n*=3,229
		Rural	14:06	13:53	14:46	13:35	15:24	13:58
			n=1,251	*n*=226	*n*=237	*n*=238	*n*=258	*n*=292
	Total Response Time ERF Concentration	Urban	14:25	14:27	13:53	14:28	14:12	15:20
			n=12,845	*n*=2,482	*n*=2,635	*n*=2,448	*n*=2,497	*n*=2,783
		Rural	18:40	17:54	19:56	18:01	19:41	19:36
			n=1,083	*n*=204	*n*=215	*n*=212	*n*=212	*n*=240

Performance Statements – Emergency Medical Services (EMS)

Baseline Statements

PGFD did not have enough Special-Risk EMS responses to provide reliable data. There are, therefore, no baseline service level performance statements provided for effective response force.

Table 4: Baseline 90th Percentile Performance of Primary Front-Line Arriving Units for Emergency EMS Incidents – Special

Special-Risk EMS – 90th Percentile Times – Baseline Performance			2016-2020	2016	2017	2018	2019	2020
Alarm Handling	Pick-up to Dispatch	Urban	N/A	N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A	N/A
Turnout Time	Turnout Time 1st Unit	Urban	N/A	N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A	N/A
Travel Time	Travel Time 1st Unit Distribution	Urban	N/A	N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A	N/A
	Travel Time ERF Concentration	Urban	N/A	N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A	N/A
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	N/A	N/A	N/A	N/A	N/A	N/A
			n=1	*n*=1	*n*=0	*n*=0	*n*=0	*n*=0
		Rural	N/A	N/A	N/A	N/A	N/A	N/A
			n=0	*n*=0	*n*=0	*n*=0	*n*=0	*n*=0
	Total Response Time ERF Concentration	Urban	N/A	N/A	N/A	N/A	N/A	N/A
			n=0	*n*=0	*n*=0	*n*=0	*n*=0	*n*=0
		Rural	N/A	N/A	N/A	N/A	N/A	N/A
			n=0	*n*=0	*n*=0	*n*=0	*n*=0	*n*=0

Performance Statements – Hazardous Materials

Benchmark Statements

For all **hazardous materials incidents** (low, moderate, high, and maximum risk), the 90th percentile of total response time for the arrival of the first due unit, staffed with a minimum of three firefighters and an officer, shall be 8 minutes and 0 seconds (urban) or 12 minutes and 0 seconds (rural). The first due unit shall be capable of: establishing command; sizing up the incident; developing an incident action plan in accordance with department standard operating guidelines; isolating the hazard; and calling for appropriate assistance if needed.

For **moderate-risk hazardous materials incidents**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 9 firefighters and officers, shall be 10 minutes and 0 seconds (urban) or 14 minutes and 0 seconds (rural). The units will be capable of: establishing command; sizing up the incident; developing an incident action plan in accordance with department standard operating guidelines; isolating the hazard; initiating mitigation efforts - including containment and/or offloading of common hydrocarbon materials and calling for appropriate assistance if needed.

For **high-risk hazardous materials incidents**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 14 firefighters and officers, including a minimum of 5 hazardous materials technicians, shall be 12 minutes and 0 seconds (urban) or 18 minutes and 0 seconds (rural). The units will be capable of: establishing command; sizing up the incident; developing an incident action plan in accordance with department standard operating guidelines; researching the hazard; isolating the hazard; initiating mitigation efforts; establishing decontamination actions; and acting as a liaison with other agencies and private sector businesses or residents involved.

For **special-risk hazardous materials incidents**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 40 firefighters and officers, shall be 21 minutes (urban) or 24 minutes (rural). The units will be capable of: establishing command; sizing up the incident; developing an incident action plan in accordance with department standard operating guidelines; researching the hazard; isolating the hazard; initiating mitigation efforts; establishing decontamination actions; and acting as a liaison with other agencies and private sector businesses or residents involved.

Performance Statements – Hazardous Materials

Baseline Statements

For 90 percent of all **low-risk hazardous materials incidents,** the total response time for the arrival of the first due unit, with a minimum of 2 firefighters and 1 officer, is 13 minutes and 29 seconds within urban areas and 17 minutes and 4 seconds in rural areas. The first due unit is capable of: establishing command; sizing up the incident; developing an incident action plan in accordance with department standard operating guidelines; isolating the hazard; assisting with an evacuation; ventilating a structure; and calling for additional resources if needed.

Table 1: Baseline 90th Percentile Performance of Primary Front-Line Arriving Units for Emergency Hazmat Incidents

Low-Risk Hazmat – 90th Percentile Times – Baseline Performance			2016-2020	2016	2017	2018	2019	2020
Alarm Handling	Pick-up to Dispatch	Urban	5:16	5:37	5:28	4:57	4:51	5:34
		Rural	5:09	8:08	5:17	7:15	5:18	4:09
Turnout Time	Turnout Time 1st Unit	Urban	2:02	2:10	2:01	2:00	1:55	1:56
		Rural	2:06	2:32	2:17	2:01	1:59	1:59
Travel Time	Travel Time 1st Unit Distribution	Urban	8:36	7:46	8:41	8:45	8:53	8:47
		Rural	12:17	10:19	15:01	12:17	12:26	12:00
	Travel Time ERF Concentration	Urban	N/A	N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A	N/A
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	13:29	13:12	13:43	13:45	13:11	14:02
			n=3,438	*n*=834	*n*=715	*n*=673	*n*=646	*n*=570
		Rural	17:04	16:47	18:54	16:16	17:04	17:11
			n=295	*n*=62	*n*=70	*n*=70	*n*=46	*n*=47
	Total Response Time ERF Concentration	Urban	N/A	N/A	N/A	N/A	N/A	N/A
			N/A	N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A	N/A
			N/A	N/A	N/A	N/A	N/A	N/A

Performance Statements – Hazardous Materials

Baseline Statements

For 90 percent of all **moderate-risk hazardous materials incidents,** the total response time for the arrival of the first due unit, with a minimum of 3 firefighters and officers, is 11 minutes and 17 seconds within urban areas and 14 minutes and 54 seconds in rural areas. The first due unit is capable of: establishing command; sizing up the incident; developing an incident action plan in accordance with department standard operating guidelines; isolating the hazard; assisting with an evacuation; ventilating a structure; and calling for additional resources if needed.

For 90 percent of all **moderate-risk hazardous materials incidents,** the total response time for the arrival of the ERF, with 9 firefighters and officers, is 14 minutes and 20 seconds within urban areas and 19 minutes and 10 seconds in rural areas. The units are capable of: establishing command; sizing up the incident; developing an incident action plan in accordance with department standard operating guidelines; isolating the hazard; initiating mitigation efforts – including containment and/or offloading of common hydrocarbon materials; and calling for additional resources if needed. These critical tasks are done in a safe manner in accordance with department standard operating guidelines.

Table 2: Baseline 90th Percentile Performance of Primary Front-Line Arriving Units for Emergency Hazmat Incidents

Moderate-Risk Hazmat – 90th Percentile Times – Baseline Performance			2016-2020	2016	2017	2018	2019	2020
Alarm Handling	Pick-up to Dispatch	Urban	3:38	3:50	3:58	3:35	3:30	3:21
		Rural	3:56	4:34	3:47	4:11	4:16	3:32
Turnout Time	Turnout Time 1st Unit	Urban	1:54	2:01	1:56	1:54	1:51	1:45
		Rural	2:15	2:19	2:14	2:15	2:24	1:57
Travel Time	Travel Time 1st Unit Distribution	Urban	7:09	7:01	6:53	7:13	7:40	6:59
		Rural	10:41	8:52	10:51	11:00	10:54	10:47
	Travel Time ERF Concentration	Urban	9:44	9:48	9:18	9:43	9:54	11:53
		Rural	15:04	14:23	13:56	19:09	12:51	18:20
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	11:17	11:12	11:25	11:27	11:33	10:50
			n=6,985	*n*=1,508	*n*=1,416	*n*=1,544	*n*=1,356	*n*=1,161
		Rural	14:54	14:12	15:11	16:02	15:02	14:31
			n=400	*n*=92	*n*=79	*n*=84	*n*=75	*n*=70
	Total Response Time ERF Concentration	Urban	14:20	14:38	14:02	14:10	14:01	15:41
			n=2,598	*n*=705	*n*=675	*n*=612	*n*=353	*n*=253
		Rural	19:10	18:42	17:39	22:45	N/A	N/A
			n=84	*n*=22	*n*=23	*n*=19	*n*=10	*n*=10

Performance Statements – Hazardous Materials

Baseline Statements

For 90 percent of all **high-risk hazardous materials incidents,** the total response time for the arrival of the first due unit, with a minimum of 2 firefighters an officer, is 12 minutes and 36 seconds within urban areas. PGFD did not have any high-risk hazardous materials incidents in rural areas for 2016-2020 to provide data. The first due unit is capable of: establishing command; sizing up the incident; developing an incident action plan in accordance with department standard operating guidelines; isolating the hazard; assisting with an evacuation; ventilating a structure; and calling for additional resources if needed.

PGFD did not have enough **high-risk hazardous materials incidents** that required an ERF to be assembled for 2016-2020 to provide reliable data. There are, therefore, no baseline service level performance statements provided for effective response force.

Table 3: Baseline 90th Percentile Performance of Primary Front-Line Arriving Units for Emergency Hazmat Incidents

High-Risk Hazmat – 90th Percentile Times – Baseline Performance			2016-2020	2016	2017	2018	2019	2020
Alarm Handling	Pick-up to Dispatch	Urban	6:35	N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A	N/A
Turnout Time	Turnout Time 1st Unit	Urban	2:52	N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A	N/A
Travel Time	Travel Time 1st Unit Distribution	Urban	6:53	N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A	N/A
	Travel Time ERF Concentration	Urban	18:52	N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A	N/A
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	12:36	N/A	N/A	N/A	N/A	N/A
			n=18	*n*=6	*n*=6	*n*=4	*n*=0	*n*=0
		Rural	N/A	N/A	N/A	N/A	N/A	N/A
			n=7	*n*=1	*n*=3	*n*=2	*n*=0	*n*=1
	Total Response Time ERF Concentration	Urban	N/A	N/A	N/A	N/A	N/A	N/A
			n=13	*n*=4	*n*=5	*n*=3	*n*=1	*n*=0
		Rural	N/A	N/A	N/A	N/A	N/A	N/A
			n=3	*n*=0	*n*=1	*n*=1	*n*=0	*n*=1

PGFD did not have enough **maximum-risk hazardous materials incidents** that required an effective response force to be assembled for 2016-2020 to provide reliable data. There are, therefore, no baseline service level performance statements provided for ERF.

Performance Statements – Technical Rescue

Benchmark Statements

For all **technical rescue incidents** (low, moderate, high, and maximum risk), the 90th percentile of total response time for the arrival of the first due unit, staffed with a minimum of two firefighters and an officer, shall be 8 minutes and 0 seconds (urban) or 12 minutes and 0 seconds (rural). The first due unit shall be capable of: establishing command; sizing up the incident; developing an incident action plan in accordance with department standard operating guidelines; denying access to bystanders; and calling for appropriate assistance from outside agencies if needed.

For **low-risk technical rescue incidents**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 5 firefighters and officers, shall be 10 minutes (urban) or 14 minutes (rural). The units will be capable of: establishing command; performing an assessment of the incident; and initiating mitigation activities - such as isolating the hazard, de-energizing equipment, conducting lockout/tag-out procedures, and denying access to bystanders.

For **moderate-risk technical rescue incidents**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 11 firefighters and officers, shall be 10 minutes (urban) or 14 minutes (rural). The units will be capable of: establishing command; performing an assessment of the incident; and initiating mitigation activities - such as isolating the hazard, de-energizing equipment, conducting lockout/tag-out procedures, and denying access to bystanders.

For **high-risk technical rescue incidents**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 28 firefighters and officers, shall be 14 minutes (urban) or 18 minutes (rural). The units will be capable of: establishing command; performing an assessment of the incident; and initiating mitigation activities - such as isolating the hazard, deploying primary and belay rope systems, stabilizing the trench and/or structure, and setting up a safe operating zone to perform patient assessment and treatment.

For **special-risk technical rescue incidents**, the 90th percentile of total response time for the arrival of the effective response force, consisting of 50 firefighters and officers, shall be 21 minutes (urban) or 24 minutes (rural). The units will be capable of: establishing command; sizing up the incident; developing an incident action plan in accordance with department standard operating guidelines; researching the hazard; isolating the hazard; initiating mitigation efforts; performing technical rescue operations; triaging/treating patients; and liaise with external agencies.

Performance Statements – Technical Rescue

Baseline Statement

For 90 percent of all **low-risk technical rescue incidents,** the total response time for the arrival of the first due unit, with a minimum of two firefighters and an officer, is 14 minutes and 45 seconds within urban areas and 15 minutes and 23 seconds in rural areas. The first due unit shall be capable of: establishing command; sizing up the incident; developing an incident action plan in accordance with department standard operating guidelines; denying access to bystanders; and calling for appropriate assistance from outside agencies if needed.

For 90 percent of all **low-risk technical rescue incidents** the total response time for the arrival of the ERF, with 5 firefighters and officers, is 17 minutes and 21 seconds within urban areas and 19 minutes and 4 seconds in rural areas. The units will be capable of: establishing command; performing an assessment of the incident; and initiating mitigation activities - such as isolating the hazard, de-energizing equipment, conducting lockout/tag-out procedures, and denying access to bystanders.

Table 1: Baseline 90th Percentile Performance of Primary Front-Line Arriving Units for Emergency Rescue Incidents

Low-Risk Rescue – 90th Percentile Times – Baseline Performance			2016-2020	2016	2017	2018	2019	2020
Alarm Handling	Pick-up to Dispatch	Urban	6:21	6:24	6:25	6:21	6:11	6:21
		Rural	5:40	6:37	5:37	5:11	6:04	5:06
Turnout Time	Turnout Time 1st Unit	Urban	2:03	2:12	2:07	2:01	1:57	1:53
		Rural	2:18	2:29	2:20	2:19	2:11	2:09
Travel Time	Travel Time 1st Unit Distribution	Urban	7:59	7:59	7:51	8:05	8:16	7:38
		Rural	9:18	9:00	9:00	9:40	9:32	9:11
	Travel Time ERF Concentration	Urban	9:58	10:22	9:58	9:53	10:06	9:12
		Rural	11:41	11:19	11:33	12:00	13:00	11:26
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	14:45	14:52	14:45	14:49	14:56	14:20
			n=50,237	*n*=10,595	*n*=10,662	*n*=10,595	*n*=10,457	*n*=7,928
		Rural	15:23	16:05	15:13	15:02	15:29	14:58
			n=5,390	*n*=1,212	*n*=1,106	*n*=1,150	*n*=1,103	*n*=819
	Total Response Time ERF Concentration	Urban	17:21	17:46	17:44	17:11	17:40	16:14
			n=28,973	*n*=6,323	*n*=6,172	*n*=5,920	*n*=5,730	*n*=4,828
		Rural	19:04	20:00	18:30	18:55	20:15	18:02
			n=3,289	*n*=718	*n*=726	*n*=750	*n*=615	*n*=480

Performance Statements – Technical Rescue

Baseline Statement

For 90 percent of all **moderate-risk technical rescue incidents,** the total response time for the arrival of the first due unit, with a minimum of 2 firefighters and an officer, is 12 minutes and 39 seconds within urban areas and 15 minutes and 15 seconds in rural areas. The first due unit shall be capable of: establishing command; sizing up the incident; developing an incident action plan in accordance with department standard operating guidelines;denying access to bystanders; and calling for appropriate assistance from outside agencies if needed.

For 90 percent of all **moderate-risk technical rescue incidents,** the total response time for the arrival of the ERF, with 11 firefighters and officers, is 27 minutes and 47 seconds within urban areas and 37 minutes and 49 seconds in rural areas. The units will be capable of: establishing command; assessing scene safety; performing an assessment of the incident; and initiating mitigation activities - such as isolating the hazard, de-energizing equipment, conducting lockout/tag-out procedures, providing patient care, providing transportation to the hospital, and denying access to bystanders.

Table 2: Baseline 90th Percentile Performance of Primary Front-Line Arriving Units for Emergency Rescue Incidents

Moderate-Risk Rescue – 90th Percentile Times – Baseline Performance			2016-2020	2016	2017	2018	2019	2020
Alarm Handling	Pick-up to Dispatch	Urban	5:32	6:09	5:32	5:26	5:28	5:07
		Rural	5:02	7:25	4:53	5:01	4:59	4:05
Turnout Time	Turnout Time 1st Unit	Urban	2:04	2:14	2:08	2:04	1:59	1:55
		Rural	2:19	2:37	2:22	2:20	2:16	2:10
Travel Time	Travel Time 1st Unit Distribution	Urban	6:58	6:52	6:54	6:40	7:17	7:10
		Rural	9:02	10:14	9:27	8:05	8:29	9:08
	Travel Time ERF Concentration	Urban	16:34	17:12	15:53	18:26	17:00	14:55
		Rural	20:25	28:54	16:50	27:20	21:05	22:48
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	12:39	12:50	12:40	12:33	12:35	12:45
			n=7,543	n=1,406	n=1,603	n=1,614	n=1,508	n=1,412
		Rural	15:15	16:49	14:29	14:07	14:59	14:07
			n=676	n=120	n=158	n=129	n=137	n=132
	Total Response Time ERF Concentration	Urban	27:47	28:21	26:23	31:54	27:52	25:34
			n=815	n=205	n=182	n=165	n=143	n=120
		Rural	37:49	33:34	41:43	41:49	34:49	37:37
			n=101	n=25	n=23	n=22	n=17	n=14

Performance Statements – Technical Rescue

Baseline Statement

For 90 percent of all **high-risk technical rescue incidents,** the total response time for the arrival of the first due unit, with a minimum of 2 firefighters and an officer, is 15 minutes and 0 seconds within urban areas and 20 minutes and 25 seconds in rural areas. The first due unit shall be capable of: establishing command; sizing up the incident; developing an incident action plan in accordance with department standard operating guidelines; denying access to bystanders; and calling for appropriate assistance from outside agencies if needed.

For 90 percent of all **high-risk technical rescue incidents,** the total response time for the arrival of the ERF, with 18 firefighters and officers, is 15 minutes and 0 seconds within urban areas and 20 minutes and 25 seconds in rural areas. The units will be capable of: establishing command; performing an assessment of the incident; and initiating mitigation activities - such as isolating the hazard, deploying primary and belay rope systems, stabilizing the trench and/or structure, and setting up a safe operating zone to perform patient assessment and treatment.

Table 3: Baseline 90th Percentile Performance of Primary Front-Line Arriving Units for Emergency Rescue Incidents

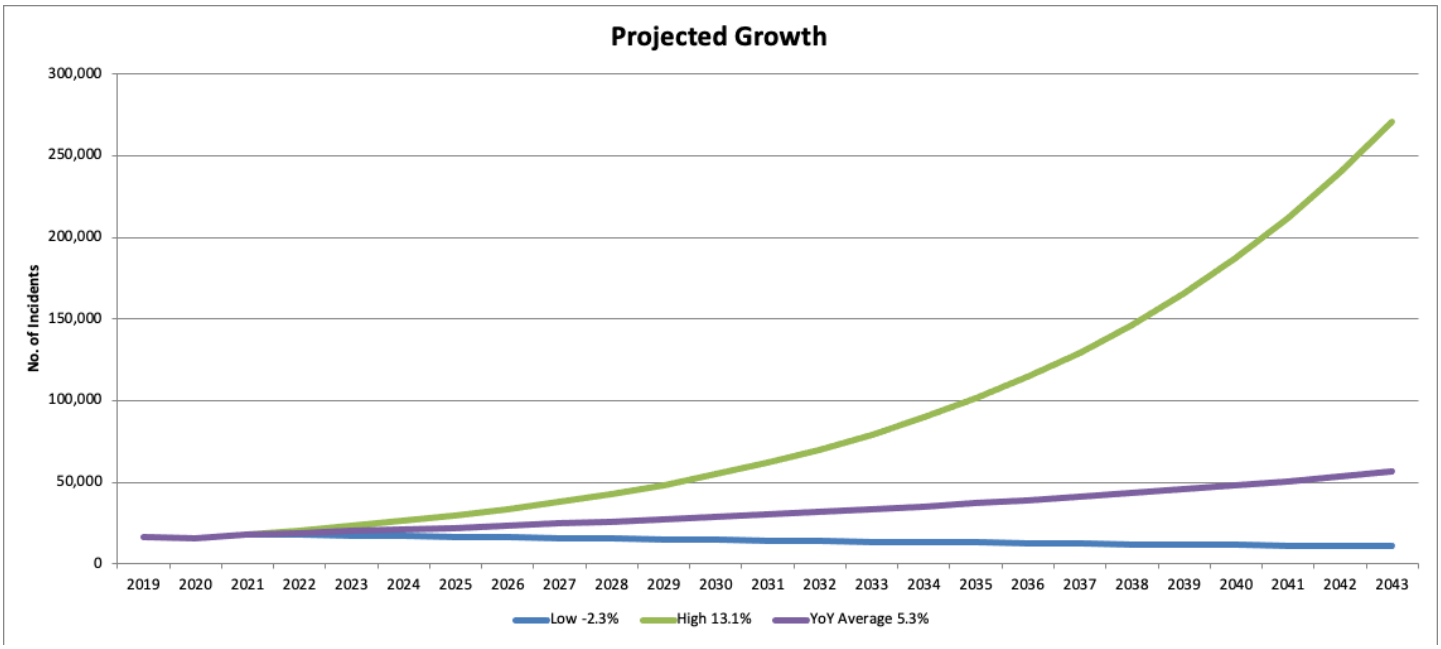
High-Risk Rescue – 90th Percentile Times – Baseline Performance			2016-2020	2016	2017	2018	2019	2020
Alarm Handling	Pick-up to Dispatch	Urban	6:48	8:18	6:05	5:45	6:27	10:41
		Rural	8:02	N/A	N/A	N/A	N/A	N/A
Turnout Time	Turnout Time 1st Unit	Urban	2:29	2:33	2:09	4:04	2:43	2:12
		Rural	2:02	N/A	N/A	N/A	N/A	N/A
Travel Time	Travel Time 1st Unit Distribution	Urban	8:50	6:01	9:00	11:30	11:09	8:10
		Rural	11:55	N/A	N/A	N/A	N/A	N/A
	Travel Time ERF Concentration	Urban	N/A	N/A	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A	N/A	N/A
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	15:00	14:02	15:16	26:17	15:30	17:05
			n=125	*n*=27	*n*=25	*n*=24	*n*=21	*n*=28
		Rural	20:25	N/A	N/A	N/A	N/A	N/A
			n=32	*n*=6	*n*=3	*n*=8	*n*=8	*n*=7
	Total Response Time ERF Concentration	Urban	N/A	N/A	N/A	N/A	N/A	N/A
			n=8	*n*=2	*n*=1	*n*=1	*n*=1	*n*=3
		Rural	N/A	N/A	N/A	N/A	N/A	N/A
			n=1	*n*=0	*n*=1	*n*=0	*n*=0	*n*=0

PGFD did not have enough **special-risk technical rescue incidents** for 2016-2020, to provide reliable data. There are therefore no baseline service level performance statements provided for ERF.

Projected Growth

The available data set included five reporting periods of data, representing reporting periods 2016-2022. During that time, calls for PGFD services increased from 148,097 to 146,603, with an average growth rate of -0.4% per year. The figure below depicts observed call volume during the last three reporting periods and various hypothetical growth scenarios over the next six reporting periods. These projections should be used with caution due to the variability in growth observed across prior calendar years. The pandemic is assumed to be the primary cause of reduced call volumes. In all cases, data should be reviewed annually to ensure timely updates to projections and utilize a five-year rolling average.

Assuming that future demands may not be reasonably distributed across the various stations in the system, the system may ultimately require a redistribution of workload and ultimately reinvestment in resources to meet the growing demand. While the system should be evaluated continuously for performance and desired outcomes, the department should specifically re-evaluate workload and performance indicators for every 1,000 -call increase to ensure system stability. The graph below reflects observed and hypothetical growth in call volume.



The long-term sustainability of the current deployment model will remain accurate for as long as the jurisdiction's overall coverage area has not expanded. In other words, if the county's square mileage remains, then the deployment strategy will be sustainable indefinitely with respect to the coverage area.
As other variables, such as population density or socioeconomic status, change over time, there may be a need for a higher concentration of resources necessary to meet the growing demand for services, but not additional stations.

The most prominent reason the geographic distribution model would need to be updated is for changes in traffic impedance that significantly limit the historical average travel speed. Monitoring travel time performance, system reliability, and call concurrency will provide timely feedback for environmental changes that could impact the distribution model.

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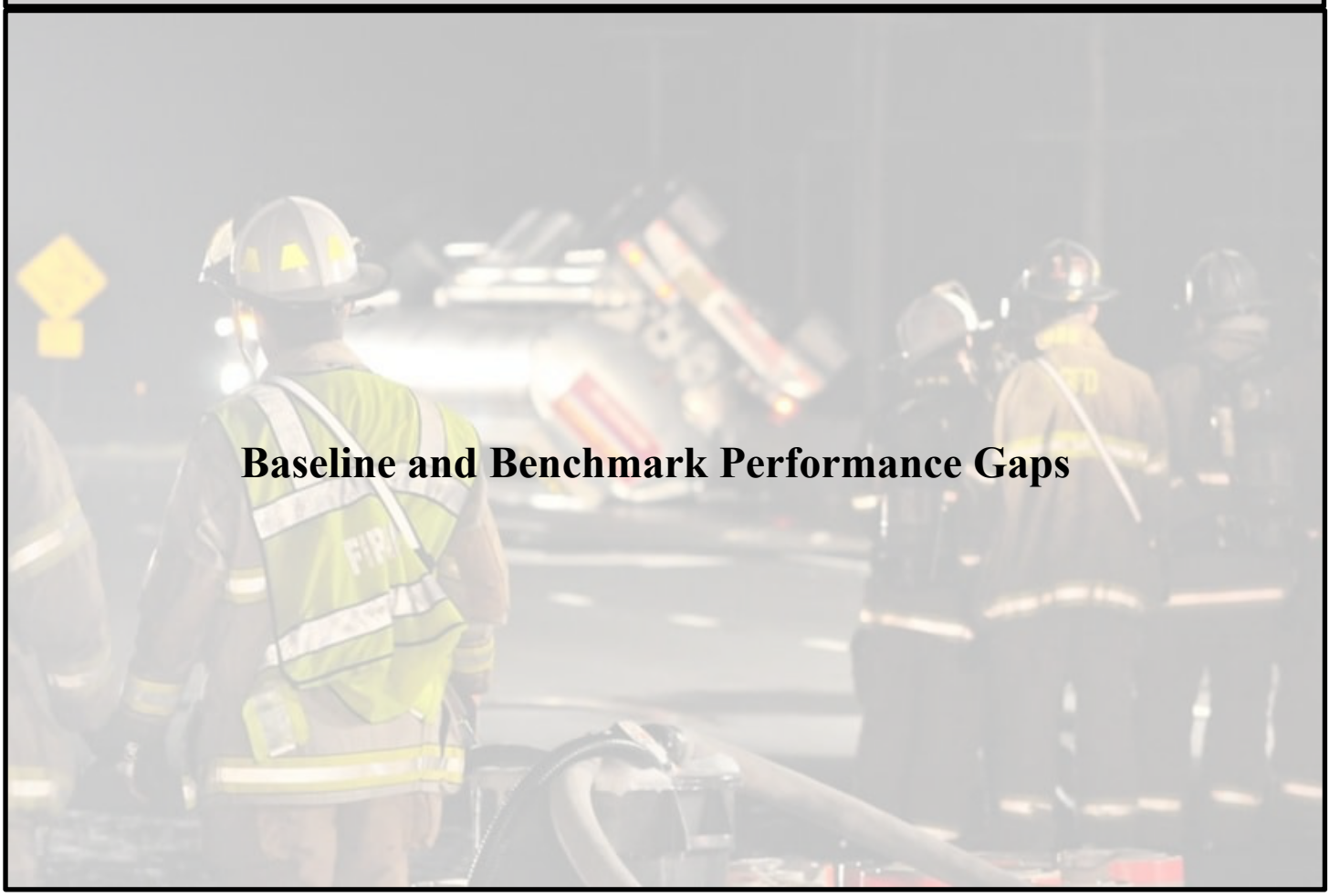
Section G – Evaluation of Current Deployment and Performance



Baseline and Benchmark Performance Gaps

Baseline and Benchmark Performance Gaps

Evaluation of Current Deployment and Performance as it relates to Criterion 2D:

The agency has assessed and provided evidence that its current deployment methods for emergency services appropriately address the risk in its service area. Its response strategy has evolved to ensure that its deployment practices have maintained and/or made continuous improvements in the effectiveness, efficiency, and safety of its operations, notwithstanding any external influences beyond its control. The agency has identified the impacts of these external influences and communicates them to the authority having jurisdiction.

Performance Gap Analysis

It is imperative that departments continuously evaluate their actual performance (baseline performance) versus their established goals (benchmark performance). This section takes a detailed look at the gaps where performance could be improved (noted in red) or is currently exceeding established goals (in green). Important trends can be discerned based on the risk level (low, moderate, high, extreme) or where the incidents are occurring (urban or rural).

Fire Suppression Gap

Criterion 5E – Fire Suppression

Almost 55,000 fire incidents in the urban setting and 5,500 in the rural setting at the low-risk level saw performance up to 0:49 over the established goals.

2016-2020 Fire Suppression Response Times Gap Analysis						
Risk Level	1st Due/ERF	Urban/Rural	n=	Baseline	Benchmark	Gap
Low	1st Due	Urban	55,282	12:56	08:00	04:56
		Rural	5,382	16:29	12:00	04:29
Moderate	1st Due	Urban	6,076	11:13	08:00	03:13
		Rural	328	14:43	12:00	02:43
	ERF	Urban	298	19:39	10:00	09:39
		Rural	N/A	N/A	14:00	N/A
High	1st Due	Urban	4,686	10:31	08:00	02:31
		Rural	535	14:43	12:00	02:43
	ERF	Urban	282	28:36	12:00	16:36
		Rural	48	36:25	16:00	20:25
Special	1st Due	Urban	99	11:51	08:00	03:51
		Rural	N/A	N/A	12:00	N/A
	ERF	Urban	N/A	N/A	21:00	N/A
		Rural	N/A	N/A	24:00	N/A

Emergency Medical Services Gap

Criterion 5F Emergency Medical Services

Almost 90,500 EMS incidents in the urban setting and 6,600 in the rural setting at the low-risk level saw performance up to 0:59 over the established goals.

2016-2020 EMS Response Times Gap Analysis						
Risk Level	1st Due/ERF	Urban/Rural	n=	Baseline	Benchmark	Gap
Low	1st Due	Urban	90,664	19:27	07:40	11:47
		Rural	6,612	19:40	11:40	08:00
Moderate	1st Due	Urban	189,169	12:34	07:40	04:54
		Rural	15,230	15:13	11:40	03:33
	ERF	Urban	N/A	N/A	N/A	N/A
		Rural	N/A	N/A	N/A	N/A
High	1st Due	Urban	14,329	11:21	07:40	03:41
		Rural	1,251	14:06	11:40	02:26
	ERF	Urban	12,845	14:25	09:40	04:45
		Rural	1,083	18:40	13:40	05:00
Special	1st Due	Urban	N/A	N/A	07:40	N/A
		Rural	N/A	N/A	11:40	N/A
	ERF	Urban	N/A	N/A	11:40	N/A
		Rural	N/A	N/A	15:40	N/A

Technical Rescue Gap

Criterion 5G Technical Rescue

Almost 50,000 technical rescues in the urban setting and 5,400 in the rural setting at the low-risk level saw performance up to 0:46 over the established goals. Only a handful of incidents saw an ERF at the high-risk level, not providing enough data for a gap analysis.

2016-2020 Technical Rescue Response Times Gap Analysis						
Risk Level	1st Due/ERF	Urban/Rural	n=	Baseline	Benchmark	Gap
Low	1st Due	Urban	50,237	14:45	08:00	06:45
		Rural	5,390	15:23	12:00	03:23
	ERF	Urban	28,973	17:21	10:00	07:21
		Rural	3,289	19:04	14:00	05:04
Moderate	1st Due	Urban	7,543	12:39	08:00	04:39
		Rural	676	15:15	12:00	03:15
	ERF	Urban	815	27:47	12:00	15:47
		Rural	101	37:49	16:00	21:49
High	1st Due	Urban	125	15:00	08:00	07:00
		Rural	32	20:25	12:00	08:25
	ERF	Urban	N/A	N/A	14:00	N/A
		Rural	N/A	N/A	18:00	N/A
Special	1st Due	Urban	N/A	N/A	08:00	N/A
		Rural	N/A	N/A	12:00	N/A
	ERF	Urban	N/A	N/A	21:00	N/A
		Rural	N/A	N/A	24:00	N/A

Hazardous Materials Gap

Criterion 5H Hazardous Materials

Almost 3,500 hazardous materials incidents in the urban setting and 300 in the rural setting at the low-risk level saw performance up to 1:24 over the established goals.

2016-2020 Hazmat Response Times Gap Analysis						
Risk Level	1st Due/ERF	Urban/Rural	n=	Baseline	Benchmark	Gap
Low	1st Due	Urban	3,438	13:29	08:00	05:29
		Rural	295	17:04	12:00	05:04
Moderate	1st Due	Urban	6,985	11:17	08:00	03:17
		Rural	400	14:54	12:00	02:54
	ERF	Urban	2,598	14:20	10:00	N/A
		Rural	84	19:10	14:00	N/A
High	1st Due	Urban	18	12:36	08:00	04:36
		Rural	N/A	N/A	12:00	N/A
	ERF	Urban	N/A	N/A	12:00	N/A
		Rural	N/A	N/A	16:00	N/A
Special	1st Due	Urban	N/A	N/A	08:00	N/A
		Rural	N/A	N/A	12:00	N/A
	ERF	Urban	N/A	N/A	21:00	N/A
		Rural	N/A	N/A	24:00	N/A

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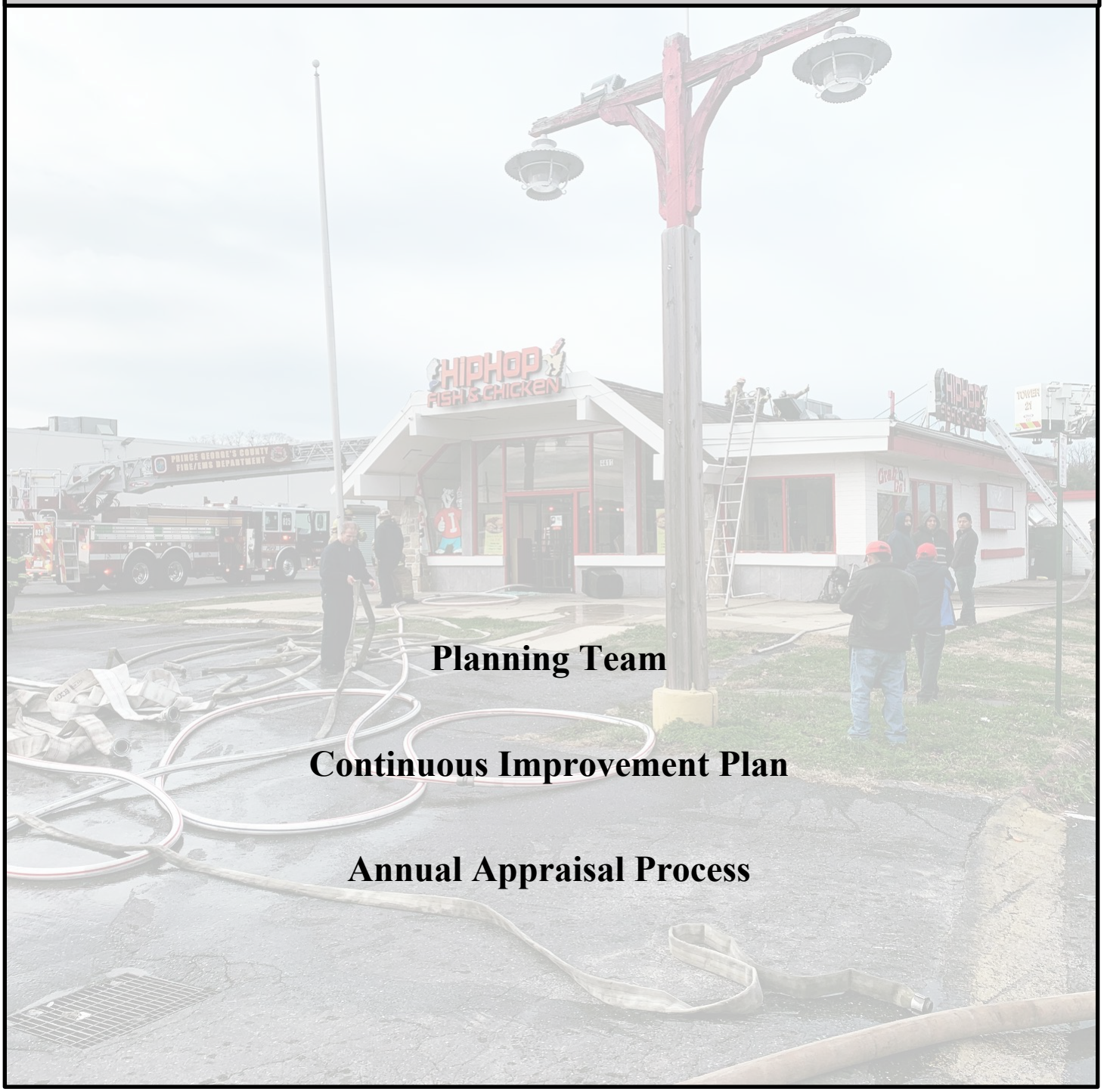
Section H – Plan for Maintaining and Improving Response Capabilities



Planning Team

Continuous Improvement Plan

Annual Appraisal Process

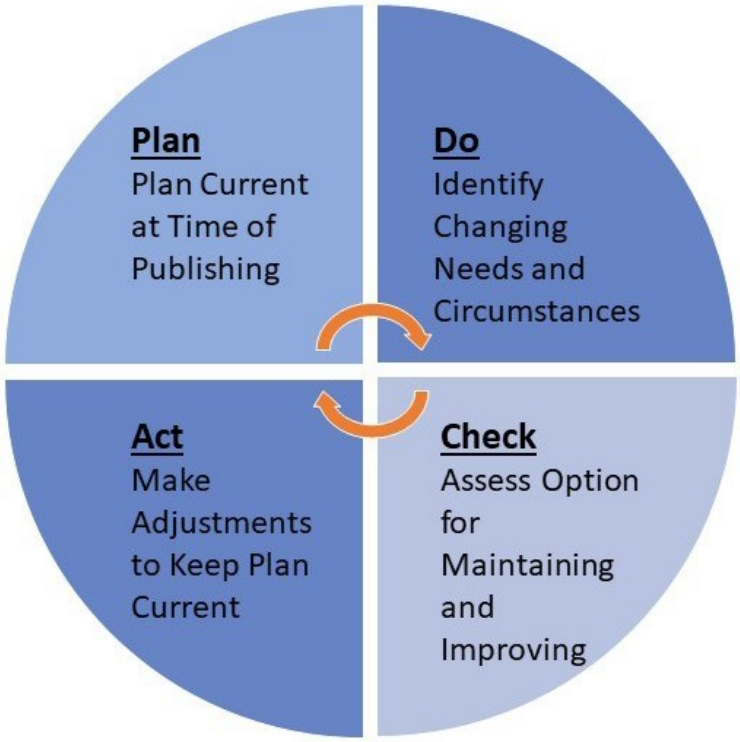
Performance Evaluation and Compliance Strategy

A strategic plan, on paper, is a commitment to action. A commitment to action requires an execution strategy. PGFD does this by including the development of specific, measurable, attainable, relevant, and time-bound goals in the strategic plan. The goals, objectives, and associated sub-tasks have been organized into three main themes:

1. How do we continue to improve on saving lives, property, and the environment during and prior to emergency events?

2. How do we meet the increasing service demands over the coming years?

3. How do we better explain our services and demonstrate our value to our community? The goals are grouped into three functional areas: Emergency Response, Fire and Life Safety Services, People and Culture, Business Practices, and Facilities and Equipment.



Planning Team

The planning process utilized a team of external stakeholders to provide community input and feedback on our proposed strategic plan. The process included three days of onsite meetings with the Fire Chief, agency support staff, and community stakeholders between September 17 and 20, 2022. On September 17th, the agency hosted a "town hall" style meeting where a twenty-two-member group of internal and external stakeholders completed the strategic visioning process. The group's feedback proved valuable as we sought to better understand the needs of the community and to ensure that our Department's mission, vision, values, goals, and objectives aligned with the expectation of our community members

Core Competency 2D.1

The agency has a documented and adopted methodology for assessing performance adequacy, consistency, reliability, resiliency and opportunities for improvement for the total response area.

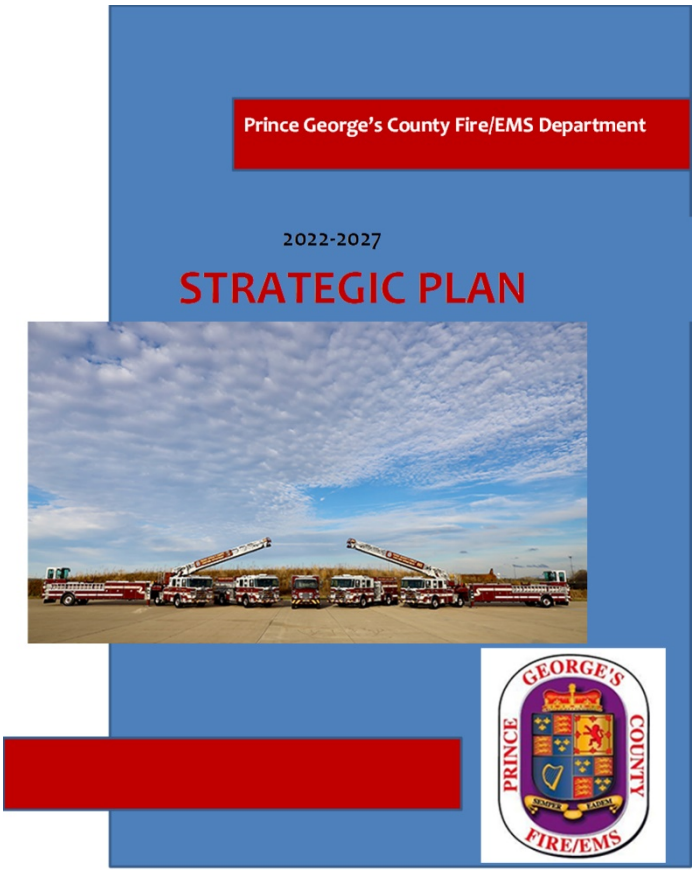
Performance Indicator 2D.2

The agency continuously monitors, assesses, and internally reports at least quarterly, on the ability of the existing delivery system to meet expected outcomes and identifies and prioritizes remedial actions.

Core Competency 2D.3

The performance monitoring methodology identifies, at least annually, future external influences, altering conditions, growth and development trends, and new or evolving risks, for purposes of analyzing the bal- ance of service capabilities with new conditions or demands.

Continuous Improvement Plan



Core Competency 2D.7

The agency has systematically developed a continuous improvement plan that details actions to be taken within an identified timeframe to address existing gaps and variations.

The timing was perfect to chart a new course for PGFD. The strategic plan was developed to provide an inclusive continuous improvement framework to address existing gaps and variations for each functional area of the Department.

Performance Indicator 2D.8

The agency has systematically developed a continuous improvement plan that details actions to be taken within an identified timeframe to address existing gaps and variations.

Prince George's County Fire/EMS Department
2022 - 2027 Strategic Plan

Action Item	Description	Staff Assigned	Status	Comments
Goal 1:	How do we continue to improve on saving lives, property, and the environment during and prior to emergency events?			
Objective 1.1:	Improve Survivability for Victims of Fire, Hazardous Material Release, Entrapment, or other Crisis Events.			
Critical Task 1.1.1				
Critical Task 1.1.2				
Objective 1.2:	Improve Survivability of Patients Experiencing Acute Medical Emergencies.			
Critical Task 1.2.1				
Critical Task 1.2.2				
Objective 1.3:				
Critical Task 1.3.1				
Critical Task 1.3.2				
Objective 1.4:				
Critical Task 1.4.1				
Critical Task 1.4.2				

Action Item	Description	Staff Assigned	Status	Comments
Goal 2:	How do we meet the increasing service demands over the coming years?			
Objective 2.1:	Reduce Financial and Legal Risk/Liability to the Fire Department and Prince George's County			
Critical Task 2.1.1				
Critical Task 2.1.2				
Objective 2.2:	Improve Efficiency within the Current Budget Process.			
Critical Task 2.2.1				

Action Item	Description	Staff Assigned	Status	Comments
Goal 3:	**Goal 3: How do we better explain our services and demonstrate our value to our community?**			
Objective 3.1:	Promote a Positive Agency Reputation within the Community.			
Critical Task 3.1.1				
Critical Task 3.1.2				
Objective 3.2:	Mitigate Fire Related Damage to Allow Occupants to Remain in the Impacted Structure after Suppression Operations.			
Critical Task 3.2.1				
Critical Task 3.2.2				
Objective 3.3:	Provide Downward Pressure on Fire Insurance Costs within the Community.			
Critical Task 3.31				
Critical Task 3.3.2				
Objective 3.4:	Provide Value to the Community Beyond the 911 Call			
Critical Task 3.4.1				
Critical Task 3.4.2				

Sustaining the work is a critical step in the implementation of a strategic plan. The plan is a living document that supports continuous improvement rather than a static document that sits on the shelf. Meeting quarterly, the planning team will assess the progress and report similar to what is shown here; areas of focus, objectives, goals, and tasks are examined to see if the target is still relevant, if more resources need to be allocated, or if adjustments to the strategy need to be undertaken; all in an effort to address existing gaps and variations between baseline and benchmark performance.

Emergency Response

PGFD's mission as an all-hazards emergency services agency is to save lives, protect property, safeguard the environment, and take care of people. The organization is well aware that emergencies can and do occur even with the best efforts of community risk reduction personnel. The strategic plan identified gaps in current performance (at least three years) and serves as a guidepost for improvement.

Fire and Life Safety Services

Engage and serve the community by providing proactive, strategic, and adaptive fire and life safety programs that prevent and mitigate risk. Public engagement is critical to prevention and preparedness, especially since PGFD serves a diverse and rapidly growing population base.

People and Culture

Exemplify PGFD's mission of taking care of people physically, mentally, and emotionally while creating a robust and diverse culture. Embody and convey the Department's core values with a renewed focus on accountability, integrity, and respect.

Business Practices

Operate sustainably and responsibly while maintaining transparency by strengthening established business practices.

Facilities and Equipment

Provide and maintain contemporary facilities and equipment for PGFD's workforce to enable the mission of saving lives, protecting property, safeguarding the environment, and taking care of people. Without proper, well-maintained facilities and equipment, PGFD's teams are unable to proficiently meet the needs of the communities they serve.

Annual Appraisal Process

The goals will be reviewed and addressed in regular leadership reviews, including a quarterly review conducted with the executive leadership team. A documented report-out will be created by the Fire Chief to share with all Department members and the county executive staff. The annual reviews will identify any gaps in current capabilities, capacity, and the level of service provided within each service delivery area. Executive staff and program/goal owners will work collaboratively to ensure an accurate and useful annual appraisal process is performed, documented, and presented, ensuring transparency and trust in maintained between PGFD and the communities they serve.

Core Competency 2C.8

The agency has identified efforts to maintain and improve its performance in the delivery of its emergency services for the past three (initial accreditation agencies) to five (currently accredited agencies) immediately previous years.

Performance Indicator 2C.9

The agency's resiliency has been assessed through its deployment policies, procedures, and practices.

Performance Indicator 2D.4

The performance monitoring methodology supports the assessment of the efficiency and effectiveness of each service program at least annually in relation to industry research.

Performance Indicator 2D.5

Impacts of incident mitigation program efforts, such as community risk reduction, public education, and community service programs are considered and assessed in the monitoring process.

Core Competency 2D.6

Performance gaps for the total response area, such as inadequacies, inconsistencies, and negative trends, are determined at least annually.

Core Competency 2D.9

On at least an annual basis, the agency formally notifies the AHJ of any gaps in current capabilities, capacity, and the level of service provided within its delivery system to mitigate the identified risks within its service area, as identified in its community risk assessment/standards of cover.

Performance Indicator 2D.10

The agency interacts with external stakeholders and the AHJ at least once every three years to determine the stakeholders' and AHJ's expectations for types and levels of services provided by the agency.

Section I – Conclusion and Recommendations

Conclusion

Recommendations

Conclusion

Overall Evaluation and Recommendations

The overall evaluation is the final component of the SOC process. As a risk-based process that incorporates risk, mitigation, and outcomes measures, both the Department and the county leadership can more easily discuss service levels, outcomes, and the associated cost allocations based on community risk.

Overall, the Department is performing well within the current system. The community enjoys high-quality services from a professional and well-trained Department. Predominantly, the Department's distribution and concentration delivery models are appropriately aligned with the county's unique risks. However, some areas have been identified that the Department could make incremental system adjustments to improve.

General Observations

Total Response Time

The Department has established baseline and benchmark performance objectives during the development of this SOC. While it is up to the Department to establish policy related to meeting or exceeding community expectations, there are opportunities to better align goals and baseline objectives.

Internal Performance Objectives

Historically, the Department did not utilize formally adopted performance objectives, but rather these were adopted as part of the SOC process. A gap analyses between baseline and benchmark performance is fully evaluated in Section G of the SOC. In addition, a per-station comparison is provided below in Section F – Station Analyses.

Table 5: 90th Percentile Performance Times by Staffing Model and Program – First Arriving PGFD Units in All Incident Areas

Staffing Model	Program	Dispatch Time (Minutes)	Turnout Time (Minutes)	Travel Time (Minutes)	Response Time (Minutes)	Sample Size[1]
Career	Bomb	--	--	--	--	2
	EMS	4.6	2.2	8.9	14.0	47,637
	Fire	4.3	2.0	8.5	13.1	10,059
	Hazmat	4.0	2.0	8.6	12.5	1,419
	Rescue	6.0	2.0	8.5	14.8	9,305
	Total	**4.8**	**2.1**	**8.8**	**14.0**	**68,422**
Combination	Bomb	--	--	--	--	2
	EMS	4.9	2.2	7.7	12.8	10,546
	Fire	4.6	2.1	6.5	12.0	2,906
	Hazmat	3.7	2.0	6.8	10.9	516
	Rescue	6.3	2.1	8.0	14.7	2,290
	Total	**5.0**	**2.2**	**7.5**	**12.9**	**16,260**
Volunteer	Bomb	--	--	--	--	1
	EMS	5.2	2.3	7.8	13.4	6,146
	Fire	4.5	1.9	6.9	11.5	2,072
	Hazmat	3.7	1.8	7.7	11.2	358
	Rescue	6.3	2.0	7.4	14.4	1,991
	Total	**5.2**	**2.2**	**7.6**	**13.2**	**10,568**
Other	Bomb	--	--	--	--	0
	EMS	4.9	3.0	8.0	14.6	187
	Fire	--	--	--	--	4
	Hazmat	--	--	--	--	1
	Rescue	--	4.2	16.3	--	11
	Total	**4.9**	**3.0**	**8.0**	**14.6**	**203**
Total		**4.9**	**2.1**	**8.5**	**13.8**	**95,453**

[1]Sample sizes reflect the number of responses to emergency calls made by first arriving primary front-line units assigned to PGFD; due to missing or excluded time data, sample sizes corresponding to individual table metrics may be smaller.

Dispatch Time

Throughout the development of the SOC, the Department understands the relative opportunity to improve the citizen's experience by improving dispatch time. NFPA 1710, NFPA 1221/1225 recommend a 60 and 64-second dispatch time.

Currently, the performance is 4.9 minutes. In an environment that utilizes a call triage or prioritization process could be better aligned with national recommendations of approximately 1.5 to 2 minutes.

Turnout Time

Throughout the development of the SOC, the Department understands the relative opportunity to improve the citizen's experience by improving turnout time. The CFAI and NFPA 1710 recommend a 60-second turnout time for EMS events and either 90 seconds or 80 seconds for non-EMS events, respectively.

Currently, EMS performance is 2.2 minutes and Fire is 2.0 minutes. The improvement of turnout time provides a substantive return on investment to the citizens' overall total response time experience. A one-minute improvement to turnout time at little to no cost would have a fiscal equivalency of a multi-million-dollar investment in response capability.

Observation:
A one-minute improvement between the dispatch and turnout times, at little to no cost, would have a fiscal equivalency of a multi-million-dollar investment in response capability.

Travel Time

Utilizing the Department or jurisdiction level analysis, the travel time is 8.5 minutes. The travel time for EMS incidents was 8.9 minutes and for fire-related events was 8.5 minutes. However, when examining the first arrival of ambulance (BLS and ALS) performance, the travel time was 9.6 minutes.

While the NFPA 1710 recommendations suggest a 4-minute travel time at the 90th percentile, *FITCH*'s experience is that most jurisdictions perform between 5- and 9 minutes. Therefore, the county's current performance is well aligned with the national experience. Any changes would remain solely a local policy choice.

Observation:
The county's current performance is well aligned with the national experience. Any changes would solely remain a local policy choice.

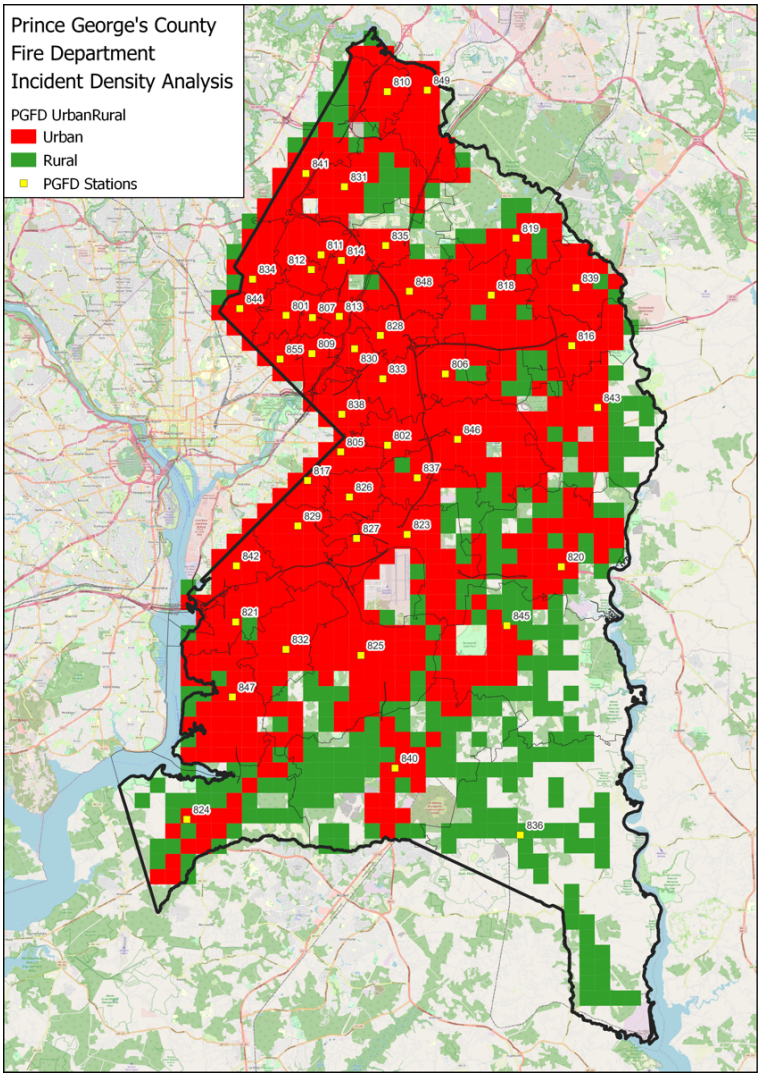
Recommendation:
It is recommended that the county consider an 8-minute travel time to guide planning and investment strategies.

Consideration for a Commensurate Risk Model

Urban/Rural call density is calculated based on the relative concentration of incidents based on approximately 0.5-mile geographic areas as well as the adjacent 0.5-mile areas. The results demonstrate an urban and rural designation based on call density for services and not based on population. The red areas are designated as urban service areas and the green areas are designated as rural service areas. Any area that is not colored has less than one call every six months in the 0.5-mile area and the adjacent areas.

When referring to the figure below, nearly universally each of the fire station response areas has a mix of urban and rural call densities with Station 836 exclusively rural. Therefore, the consideration of staffing all stations in a consistent manner would provide a commensurate risk model across all areas of the jurisdiction. This strategy is well aligned, and more responsive, as a commensurate risk model than the current census definition of urban and rural.

Figure 10: Urban and Rural Call Density Map – All Incidents



Additionally, the individual stations were evaluated to provide insight into the relative ability to provide a commensurate level of service across each of the station areas. Focusing on the travel time, the overall countywide performance is 8.5 minutes at the 90th percentile. Station 807 has the best performance at 5.9 minutes and Station 836 has the longest travel time at 13.9 minutes, both at the 90th percentile. However, the majority of stations provide a travel time of between 6 and 9 minutes.

Figure 11: 90th Percentile Performance Times by PGFD Demand Zone (First Due Station) – First Arriving PGFD Units I

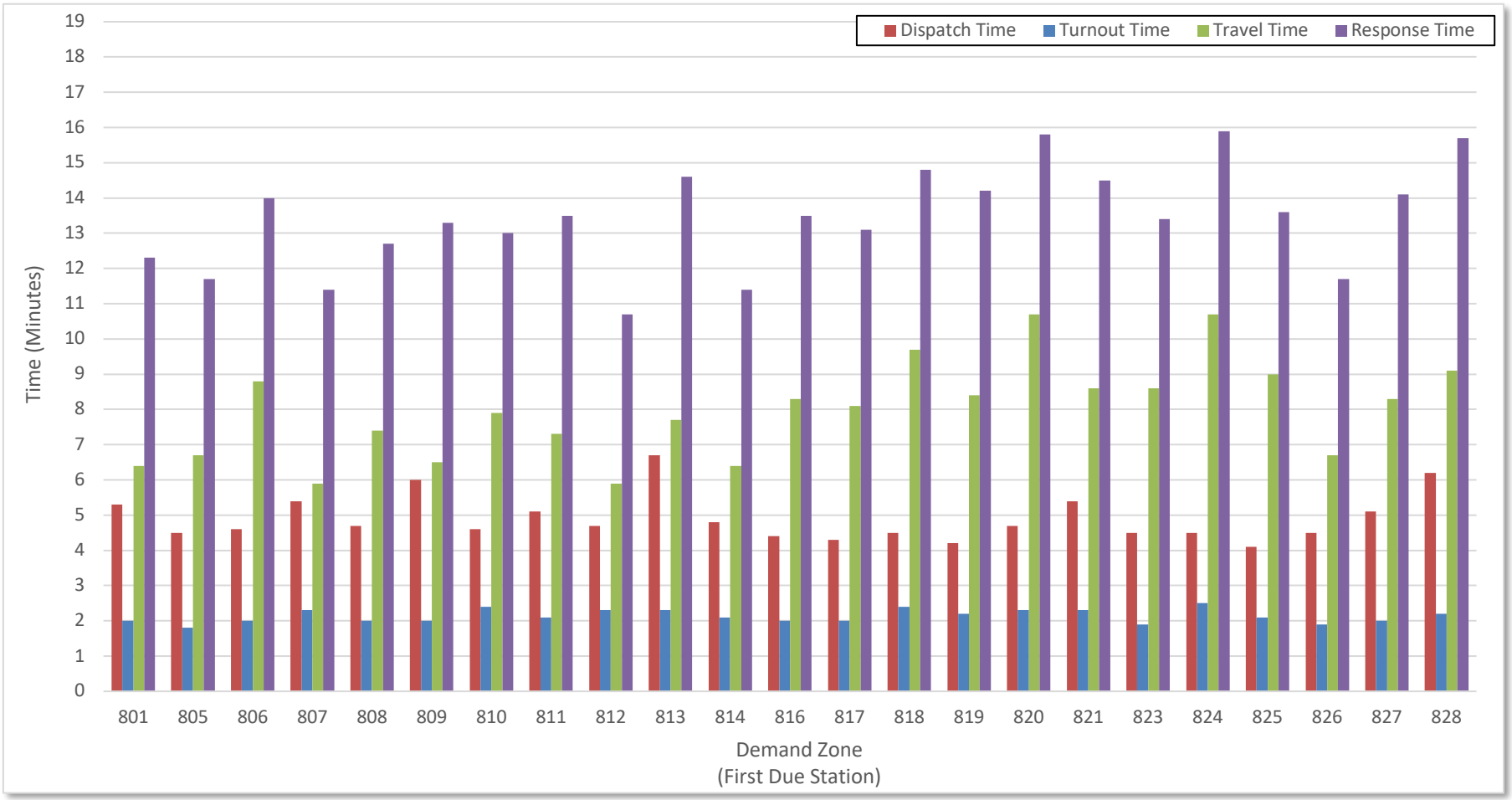
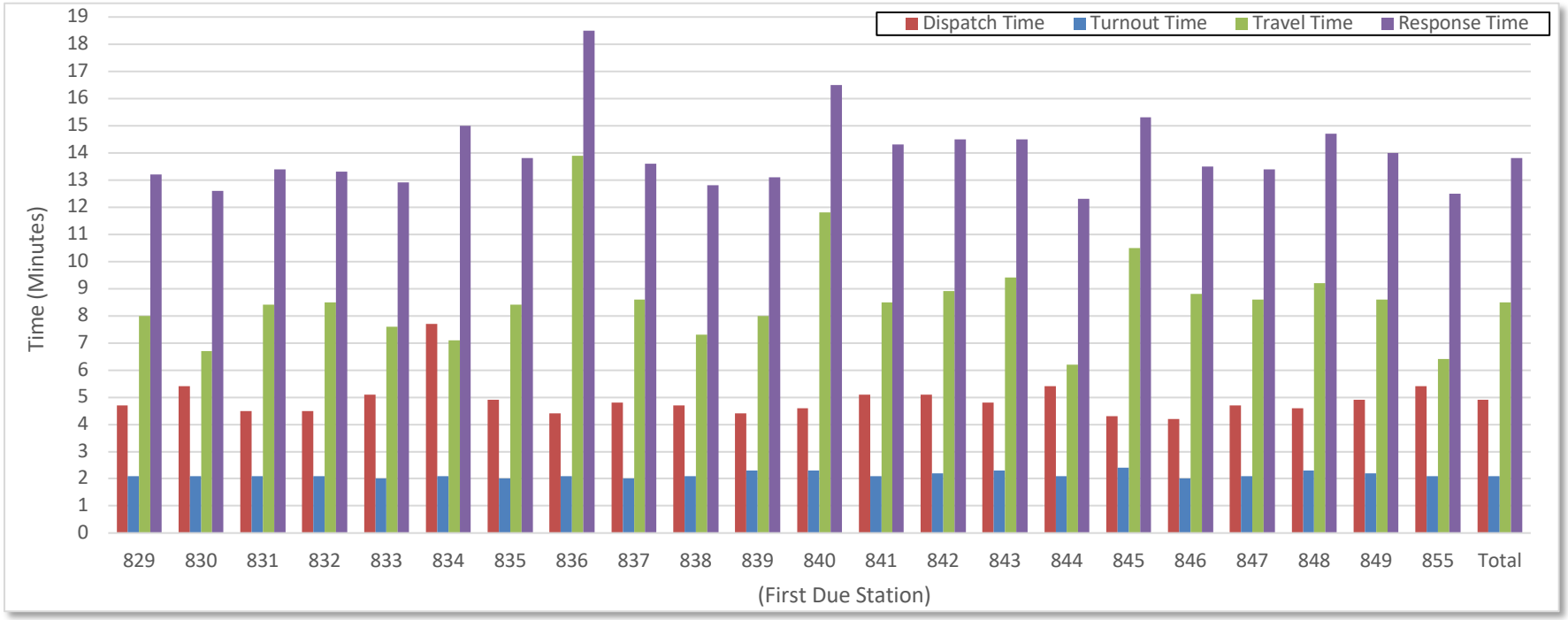


Figure 12: 90th Percentile Performance Times by PGFD Demand Zone (First Due Station) – First Arriving PGFD Units II



In other words, the Department's deployment strategies follow a commensurate risk model as most stations only vary approximately 3 minutes in travel time at the 90th percentile. Following a system of measures, the Department will be well-positioned to adjust the deployment models to meet changes in development, workload, and risks.

Observation:
The Department's deployment strategies follow a commensurate risk model as the majority of stations only vary approximately 3 minutes in travel time at the 90th percentile.

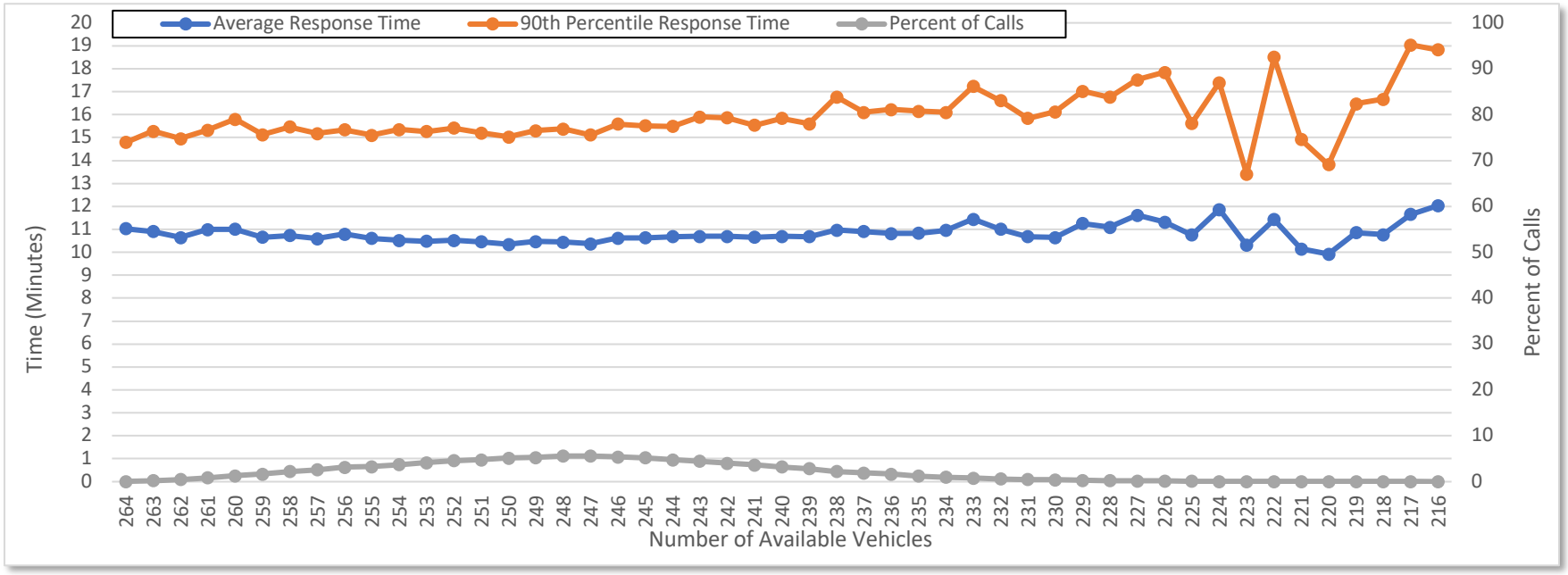
Observation:
Following a system of measures, the Department will be well-positioned to adjust the deployment models to meet changes in development, workload, and risks.

Response Time Performance by Available Vehicles

We investigated whether response time performance deteriorated when there were fewer 24-hour per day primary front-line vehicles available to respond to calls. In this analysis, we only included calls with PGFD units that responded in the response time calculation. PGFD units considered to be 24-hour-per-day primary front-line units for the purposes of available vehicles analyses included units presented in the table below. As such, a maximum of 264 full-time personnel teams (units) were considered to be available across the Department from the fiscal year spanning July 1, 2018, to June 30, 2019.

Caution when interpreting metrics associated with small sample sizes; limited figure data are presented for this reason.

Figure 13: Average and 90th Percentile Response Times by Number of Available Units



System Reliability

Percentage of First Due Compliance

The reliability of the distribution model is a factor of how often the response model is available and able to respond to the call within the assigned demand zone. If at least one unit from the first due zone can respond to a call, we consider the station can respond to the call within the assigned demand zone. Utilizing the Department's Fire Station Demand Zones (FDZs), analyses reveal that Station 836 is capable of meeting their demand for services at the 93rd percentile. In other words, when a request for service is received FDZ 836 is available to answer the call nine out of 10 times. Stations 808, 813, and 817 had the lowest reliability. It is considered both best practice and the most reliable measure to perform at the 90th percentile as indicated by the "line" in the figures below.

Figure 14: Percentage of First Due Compliance by Demand Zone (First Due Station) I

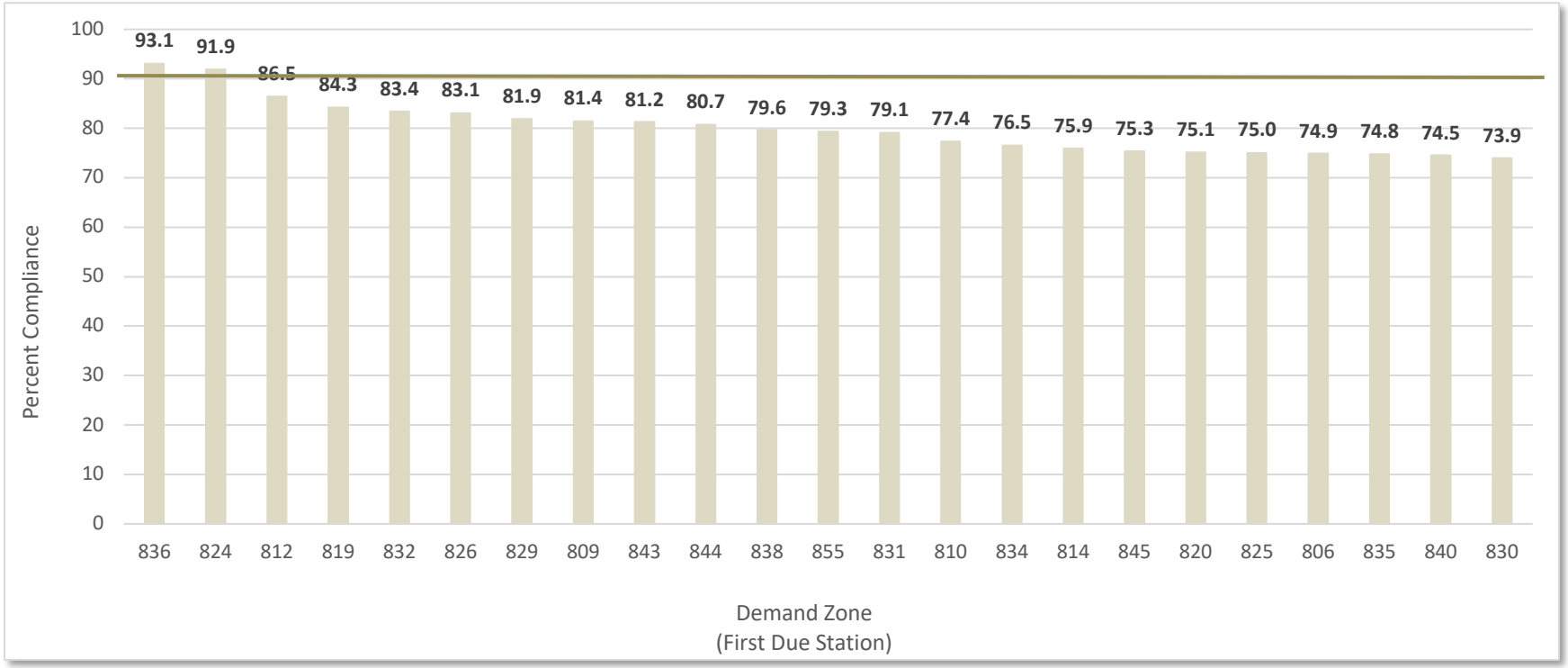
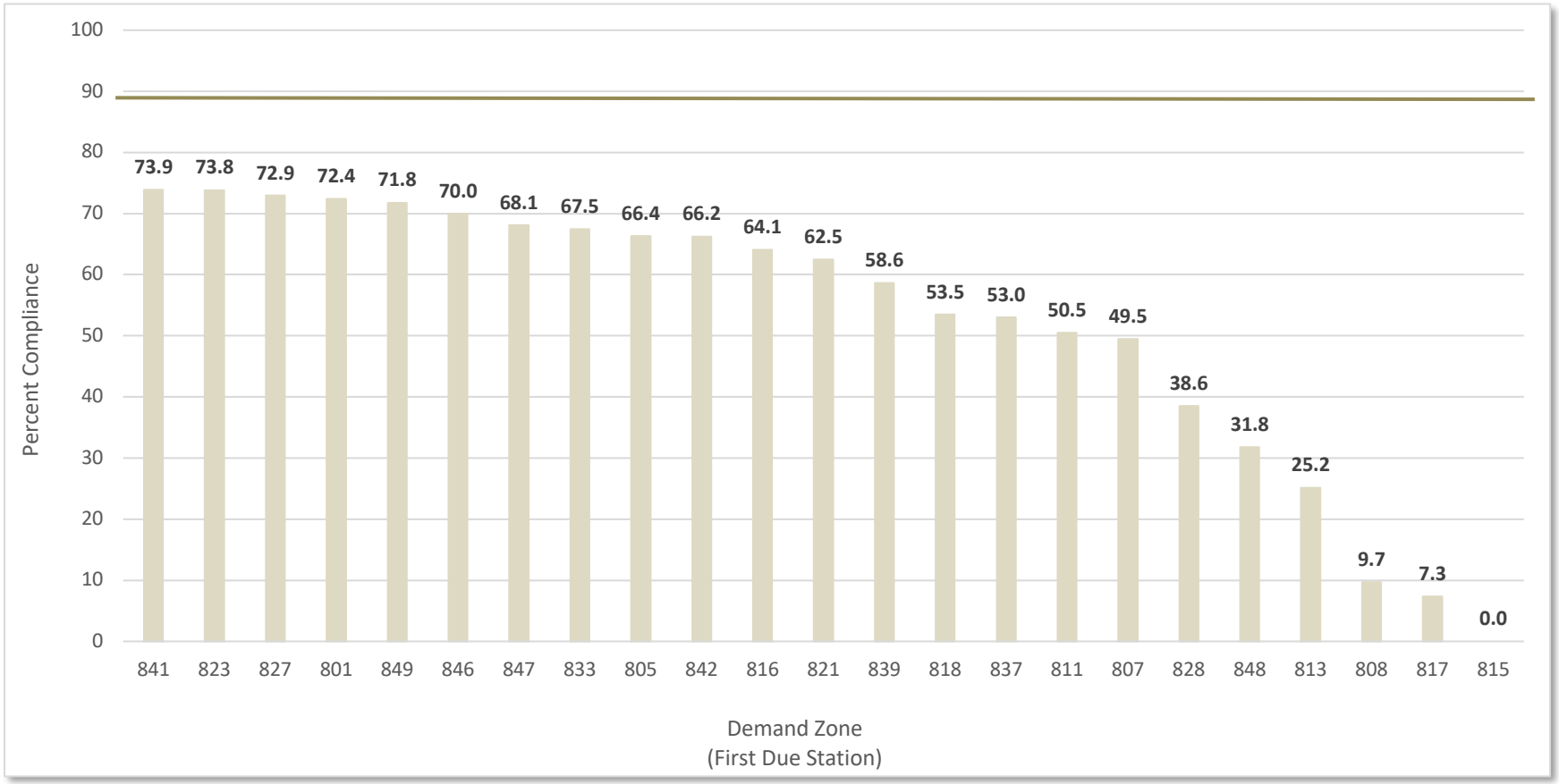


Figure 15: Percentage of First Due Compliance by Demand Zone (First Due Station) II



Overlapped Call Analysis

Overlapped calls are defined as the rate at which another call was received for the same first due zone while there were one or more ongoing calls in the same first due zone. For example, if there is one call in station 1's zone before the call was cleared another request in station 1's zone occurred, and the second call would be captured as an overlapped call. If there is a long structure fire call ongoing, all calls that occurred after the structure fire started, but before the structure fire call was cleared would be counted as overlapped calls. Understanding the probability of overlapped calls occurring will help to determine the number of units to staff for each station. In general, the larger the call volume a first due zone has, it is more likely to have overlapped or simultaneous calls. The distribution of the demand throughout the day will impact the chance of having overlapped or simultaneous calls. The duration of a call will also have major influence, since the longer time it takes to clear a request, the more likely to have an overlapped request.

First due station 825 experienced the highest percentage of overlapped calls from the fiscal year spanning July 1, 2018, to June 30, 2019 at 61.8% (4,630/7,489), followed by first due station 846 at 61.6%, and first due station 829 at 61.1% in the figures below.

Figure 16: Percentage of Overlapped Calls by Demand Zone (First Due Station) I

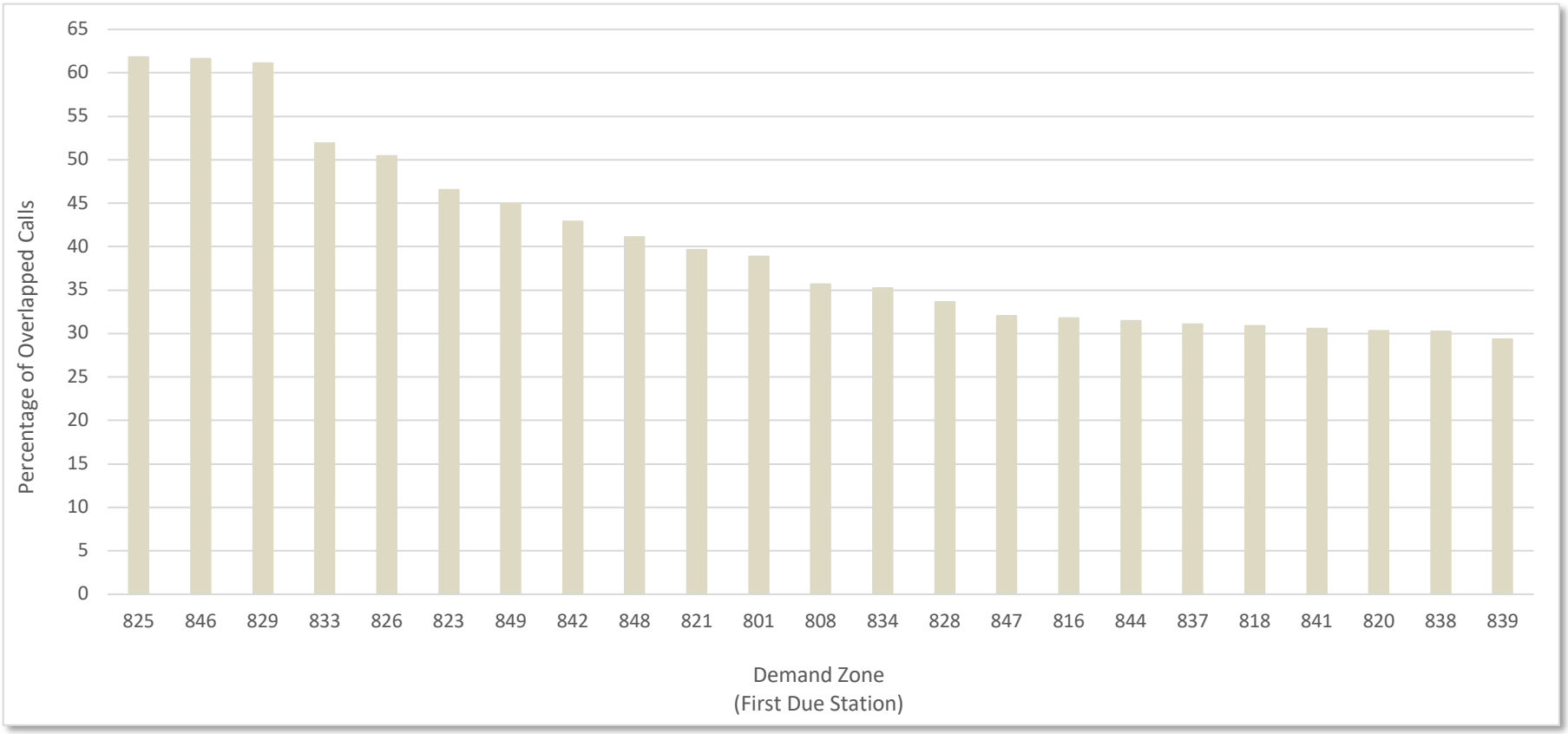
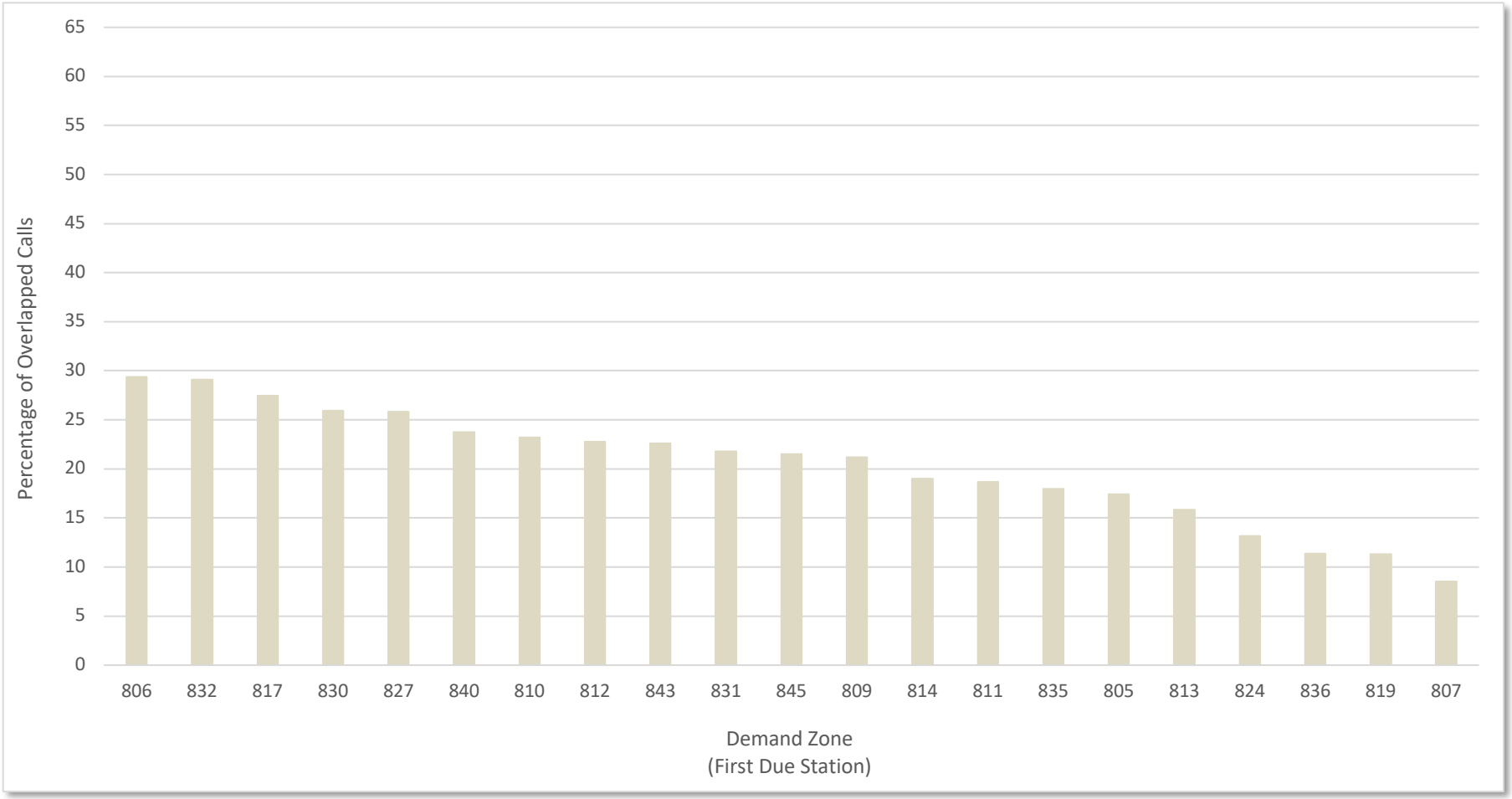


Figure 17: Percentage of Overlapped Calls by Demand Zone (First Due Station) II



Observation:
Station 825 has the highest call concurrency of all of the deployed stations at 61%.

Consideration for a System of Measures to Direct Reinvestment

It is still important to measure and manage the efficiencies of a well-run operation using a system of measures as presented in the table below. In this manner, the daily management continues in place, but the strict adherence to system design performance is secondary to the outcome measures. For example, if response time increases and there is no change in outcomes then it would be purely a policy choice to act. Conversely, if the outcomes change, then the Department leadership will turn to the system of measures and attempt to discern which of the variables or combination of variables may be contributing to the change in outcomes.

The summary of measures provided below includes all aspects of time by apparatus staffing by type, relative risk ratings, and system resiliency measures such as reliability, call concurrency, workload, and unit hour utilization. For example, reliability should be at least 70% for each station, and only if the reliability drops below the 70% threshold before considering a mitigation reaction. Similarly, call concurrency is credible until the call concurrency reaches 70%. In other words, only 30% of the calls are overlapping. Call concurrency is suggested as a per-unit threshold unless the majority of calls are multi-unit responses. For example, if there are two units assigned to a station, the station-level call concurrency can perform well at 60% or less for single-unit responses, as long as the two resources do not correspond to the majority of incidents. Finally, the cross-staffing strategy speaks to an upper threshold of call volume of no more than 1,500 calls per year (4 calls per day) and a call concurrency of 15% or less, units can generally be confidently cross-staffed.

The system of measures provided is not intended to be overly prescriptive for the Department. The Department should adopt the system performance objectives internally and update them as needed.

Table 6: Summary of Recommended Baseline Process Objectives

Type of Measure	Performance Metric	Recommended Performance Urban	Priority	Review Period
Station/Unit Performance	Turnout Time – EMS	≤1.0 Min at 90%	Emergent	Quarterly
	Turnout Time – All Other	≤1.5 Min at 90%	Emergent	Quarterly
	Travel Time	≤9 Min at 90%	Emergent	Quarterly
	Minimum Engine Staffing	≥3 Firefighters	All Responses	Daily
	Minimum Rescue Staffing	≥1 FF/PM ≥1 FF/EMT	All Responses	Daily
System Design and Performance	Dispatch	≤2 Min at 90%	Emergent	Monthly
	Station Risk Rating	Increases in Risk		Annually
	Reliability	≥70%		Quarterly
	Call Concurrency	≤30% Per Unit		Quarterly
	Call Volume	3,000 – Initial 1,000 – Ongoing		Annually
	Unit Hour Utilization	≤0.25 on 24-hour units ≤0.50 on 12-hour units		Quarterly
	Cross-Staffing at Unit Level	<1,500 annual calls and <15% Call Concurrency		Annually

Recommendation:

It is recommended that the Department adopt a system of measures or triggers to best manage changes in the environment.

Validation of Current Performance

The first step in this validation analysis is to utilize the historical performance to validate the planning analyses utilized by the GIS system. The 2019 historical performance demonstrated an 8.5-minute overall Department travel time performance at the 90th percentile. The planning assessments estimated 91.08% risk coverage by 46 stations within an 8-minute travel time. Therefore, there is a high degree of agreement between the planning tools and actual historical performance.

When referring to the marginal utility analyses provided in the tables on the following pages, ascending rank order is the station's capability to cover risk (incidents) for all calls in relation to the total historical call volume of the sample period. The station is the identifier for the current PGFD station; station capture is the number of calls the station would capture within the specified travel time parameter; total capture is the cumulative number of calls captured with the addition of each station; and percent capture is the cumulative percentage of risk covered with the addition of each station.

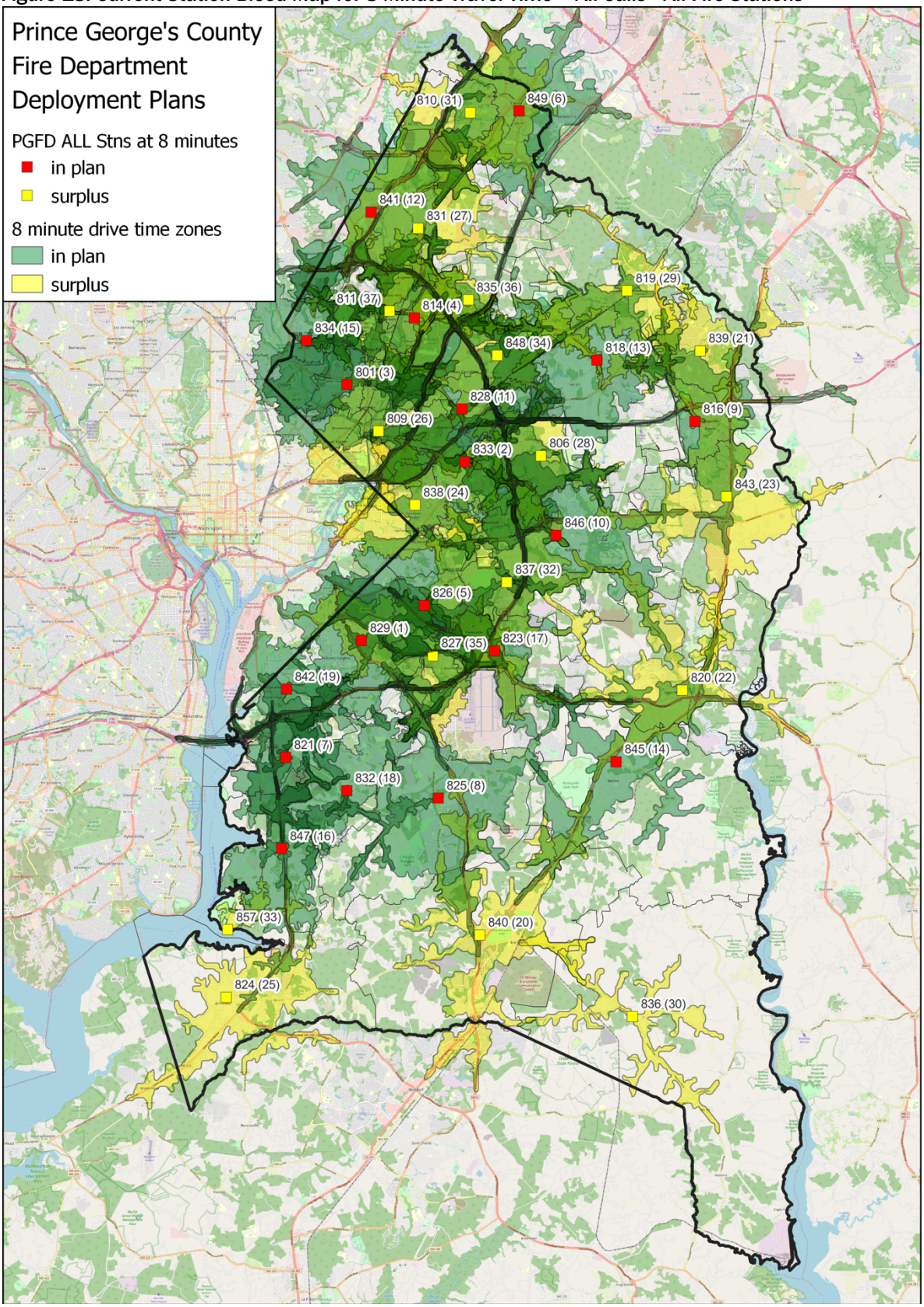
The goal would be to achieve at least 90% capture. The figure illustrates the drive time capabilities.

Table 7: Marginal Station Contribution for 8-Minute Travel Time – All Calls – All Fire Stations

Rank	Station	Travel Time	Station Capture	Total Capture	Percent Capture
1	826	8	16,399	16,399	11.10%
2	833	8	13,552	29,951	20.28%
3	801	8	13,146	43,097	29.18%
4	829	8	9,195	52,292	35.41%
5	814	8	7,711	60,003	40.63%
6	846	8	7,002	67,005	45.37%
7	810	8	6,520	73,525	49.78%
8	825	8	6,320	79,845	54.06%
9	830	8	5,783	85,628	57.98%
10	842	8	4,916	90,544	61.31%
11	834	8	4,665	95,209	64.47%
12	816	8	4,517	99,726	67.53%
13	841	8	4,327	104,053	70.46%
14	818	8	4,050	108,103	73.20%
15	847	8	3,314	111,417	75.44%
16	808	8	2,739	114,156	77.30%
17	823	8	2,080	116,236	78.70%
18	848	8	2,080	118,316	80.11%
19	832	8	1,808	120,124	81.34%
20	845	8	1,711	121,835	82.50%
21	839	8	1,584	123,419	83.57%
22	840	8	1,400	124,819	84.52%
23	820	8	1,192	126,011	85.32%
24	843	8	1,026	127,037	86.02%

25	821	8	1,016	128,053	86.71%
26	849	8	794	128,847	87.24%
27	824	8	745	129,592	87.75%
28	837	8	733	130,325	88.24%
29	809	8	625	130,950	88.67%
30	838	8	562	131,512	89.05%
31	827	8	556	132,068	89.42%
32	828	8	512	132,580	89.77%
33	819	8	483	133,063	90.10%
34	831	8	435	133,498	90.39%
35	811	8	290	133,788	90.59%
36	806	8	258	134,046	90.76%
37	836	8	179	134,225	90.88%
38	835	8	150	134,375	90.99%
39	857	8	114	134,489	91.06%
40	805	8	14	134,503	91.07%
41	855	8	3	134,506	91.08%
42	813	8	1	134,507	91.08%
43	817	8	0	134,507	91.08%
44	807	8	0	134,507	91.08%
45	812	8	0	134,507	91.08%
46	844	8	0	134,507	91.08%

Figure 18: Current Station Bleed Map for 8-Minute Travel Time – All Calls– All Fire Stations



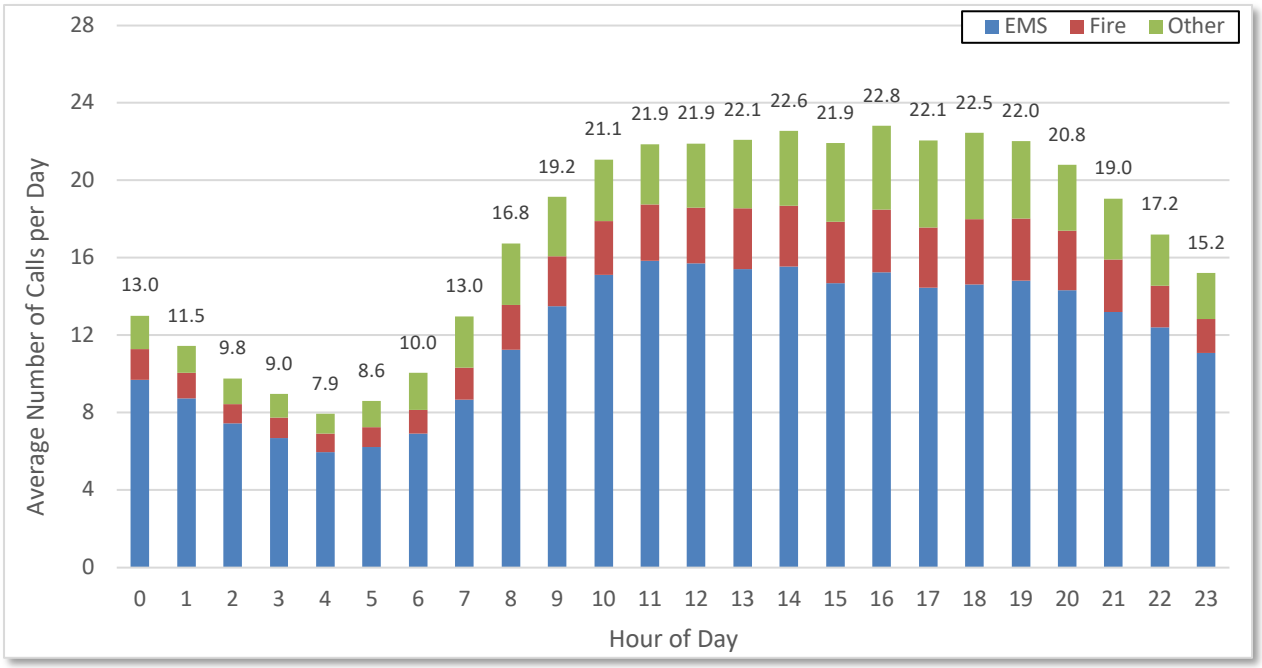
Adopting a Formalized Move-up Plan

The 8-minute marginal utility analysis validated that the current station configuration can deliver an 8-minute travel time to nearly 92% of all incidents. However, dynamically deployed systems are afforded the greatest efficiency in the utilization of their resources. A traditional fire department model is a *static* system, where each of the resources is assigned a "home" station and, after each call, the unit attempts to get back to its home station. Through the lens of direct "home" station area, it passes the common-sense test as the assigned units are assumed to be the closest.

However, from a system or county perspective, some incremental efficiencies may be found in considering that marginal utility analyses that quantitatively guide the move-up plan. Assuming an 8-minute, and 33-station deployment, the Department should have a minimum of resources in the system each day to meet both the geographic demand for services and the average hourly demand of 23 calls per hour (33 stations + 23 average demand/hour = 56). Therefore, the Department is not sufficiently resourced for the deployment. However, an opportunity for improvement may be available by utilizing a more aggressive move-up strategy as units are drawn down.

Recommendation:
Assuming an 8-minute, and 33-station deployment, the Department should have a minimum of 56 resources in the system each day to meet both the geographic demand for services and the average hourly demand of 23 calls per hour (33 stations + 23 average demand/hour = 56).

Figure 19: Overall: Average Calls per Day by Hour of Day



Following the findings of the marginal utility analysis, when the Department is resource-constrained the units should be temporarily moved up, accordingly. This progressive move-up policy will provide a more efficient capture and success in a commensurate delivery approach across the county. For example, if there were only three resources remaining in the system, they should be located at 833, 826, 813, respectively.

Recommendation:
It is recommended that the Department formalize their internal move-up strategy to maximize efficiencies and optimal performance.

Effective Response Force Assembly

There are two prevailing recommendations for the time to assemble an ERF for structure fires. First, NFPA 1710 suggests that the ERF should arrive in 8 minutes travel time or less. Second, CFAI provides a baseline travel time performance objective of 10 minutes and 24 seconds 90% of the time or less as well as a 13-minute travel time ERF for suburban areas.

ERF analyses were completed to evaluate the capability of PGFD 24-hour units only as well as the inclusion of all resources as deployed during the peak periods. All scenarios were based on an ERF of 13 personnel (moderate-risk fire).

Table 8: Comparisons of Effective Response Force Configurations – 13 Personnel

Travel Time Objective	24-Hour Resources Only	All Daytime Resources
8-Minute	15.15%	20.44%
10-Minute	35.39%	41.03%
12-Minute	54.50%	59.12%
14-Minute	67.72%	69.60%
16-Minute	75.47%	76.21%
18-Minute	80.04%	80.44%
20-Minute	84.35%	84.60%

Overall, the ERF has more robust coverage in the core of the county where the greatest concentric station areas are located. The border areas to the parameter and to the southeast of the jurisdiction are less robust since they do not benefit from concentric response zones.

Mapping for 15- and 20-minute travel times are provided below for the 24-hour units and all daytime resources, respectively.

Figure 20: 15-Minute ERF from All Current Stations – 24-Hour Units Only

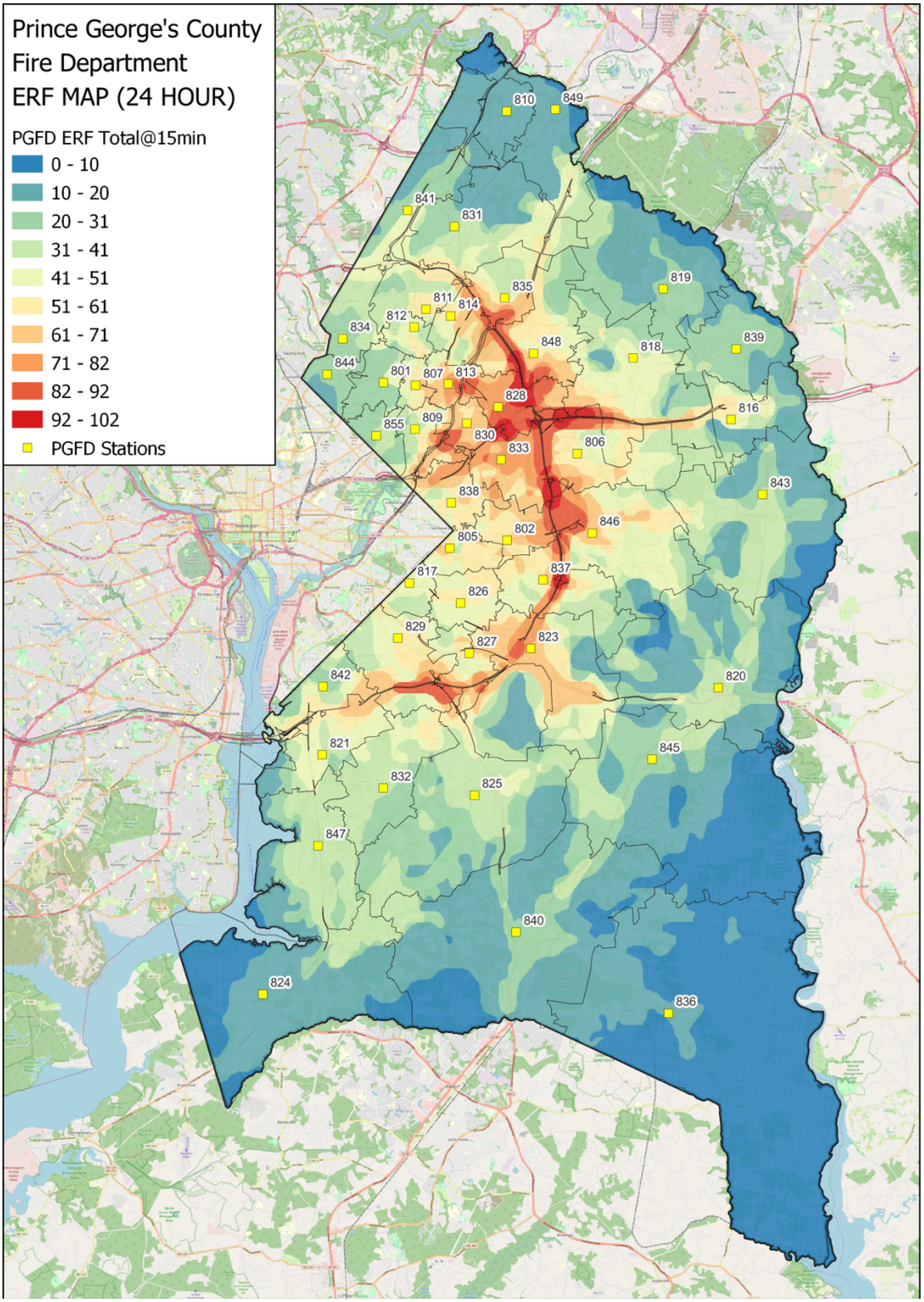


Figure 21: 20-Minute ERF from All Current Stations – 24 Hour Units Only

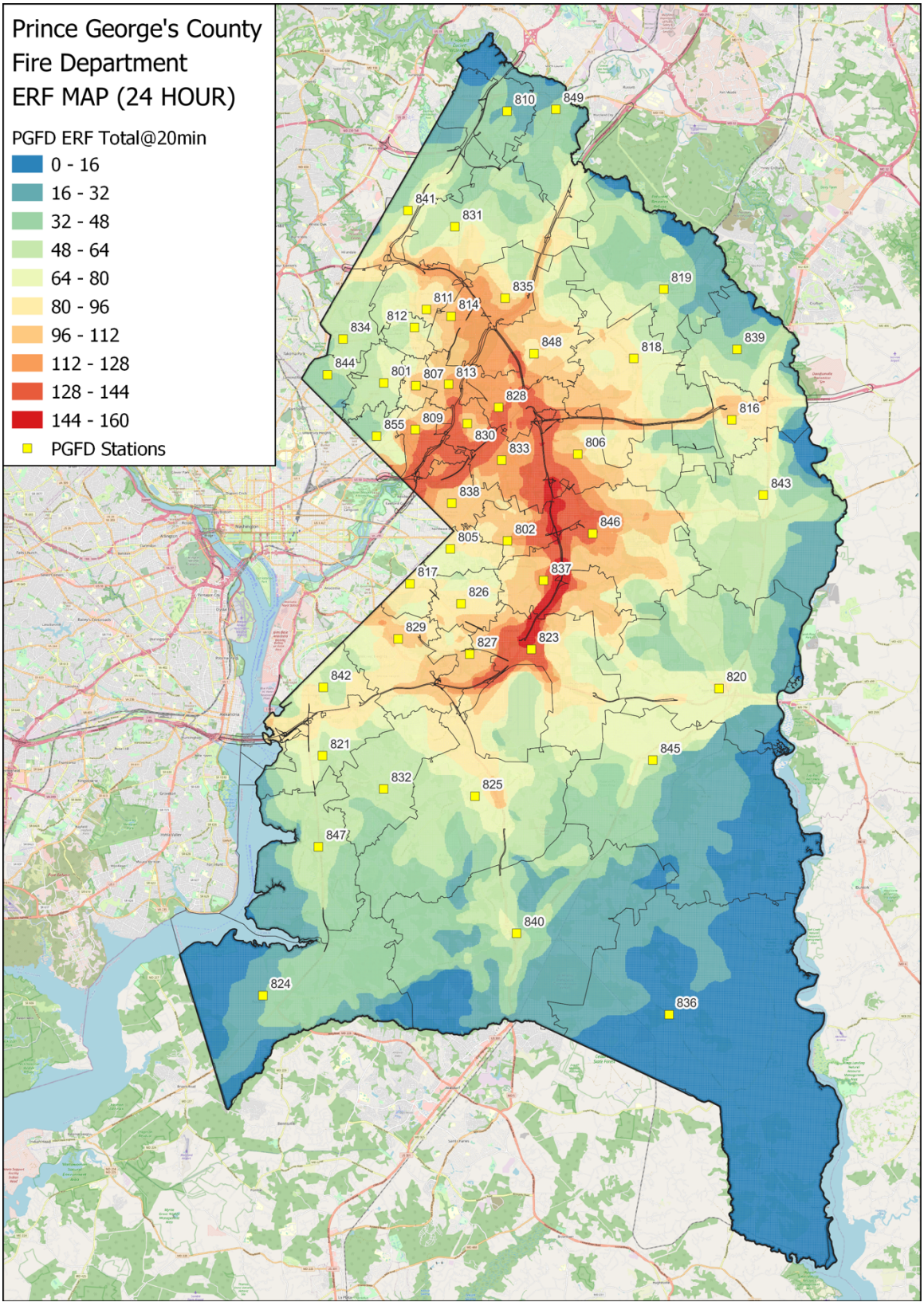


Figure 22: 15-Minute ERF – All Daytime Resources

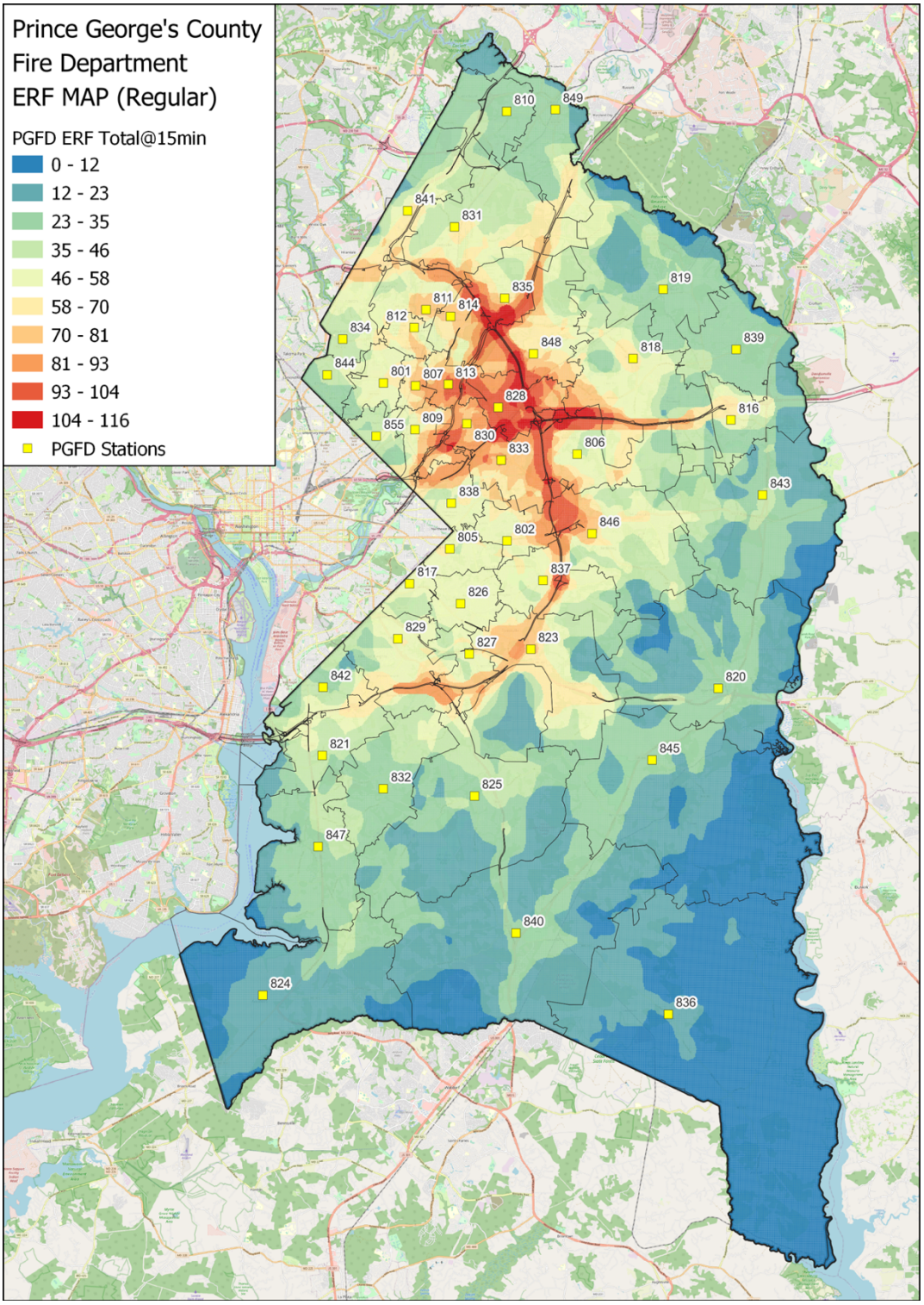
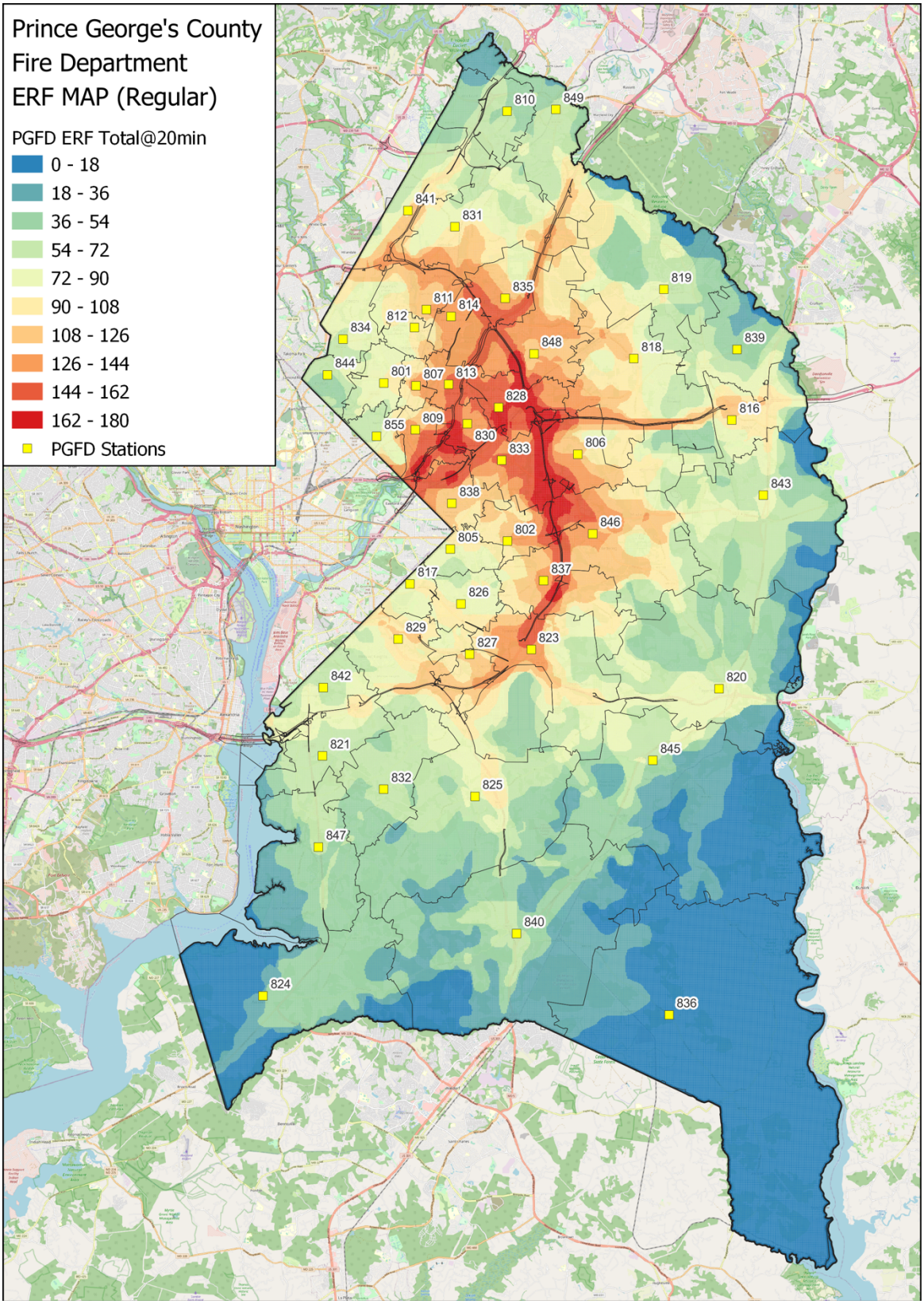


Figure 23: 20-Minute ERF – All Daytime Resources



TRANSPORT

We analyzed outcomes of calls through an examination of the "Destination" and "Transport" variables available in the data file. Calls were considered to be transport calls if at least one PGFD unit response for the call had a reported value for either variable. Because analyses in this section utilize response times, analyses were conducted using the data file following audits and exclusions based on an examination of time variables (see Appendix for more details).

The number of EMS calls with at least one PGFD response indicating a patient transport during 2018-19 totaled 47,299 (47,299 of 104,517 total EMS calls; 45.3% transport rate; averaging 129.6 transport calls per day (Table 31).

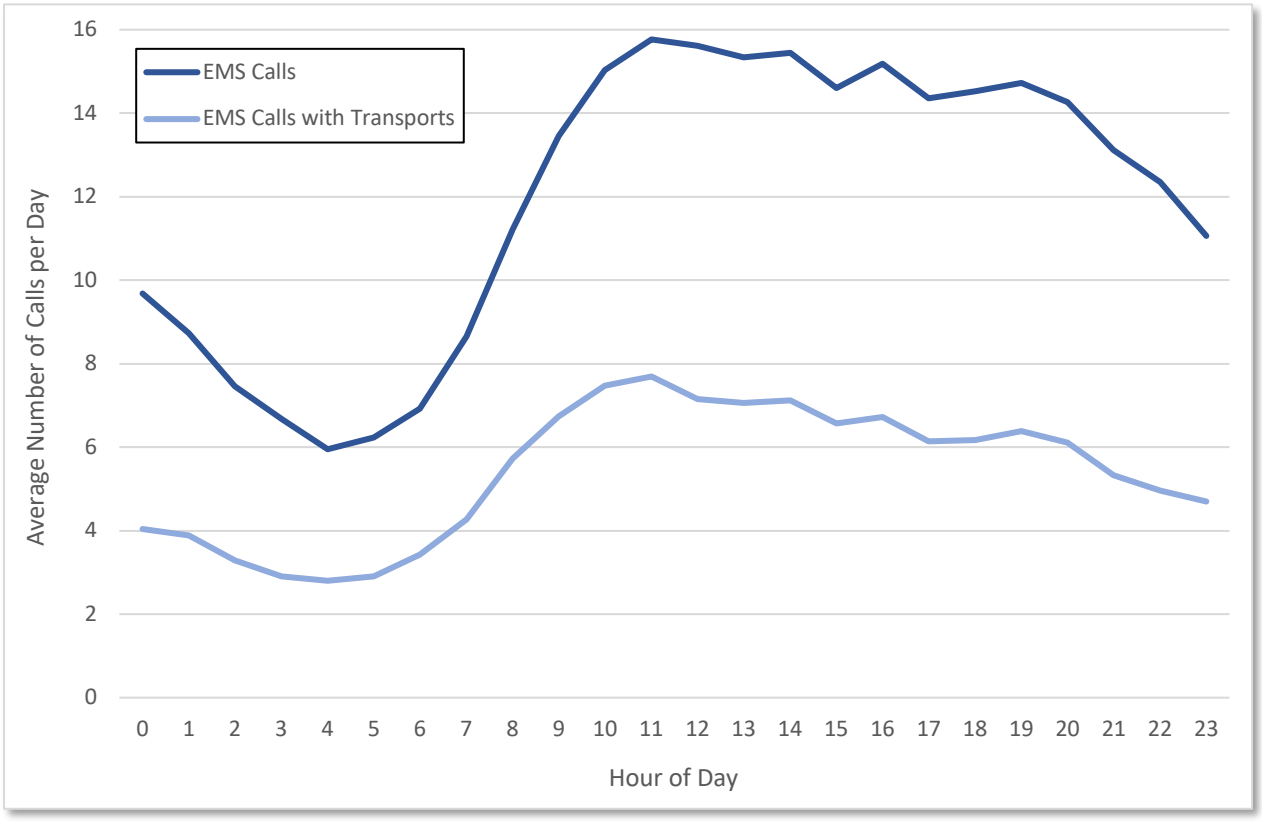
Duration of a call is defined as the difference between the call received date and time and last unit cleared date and time. The average duration of a non-transport EMS call was 49.5 minutes, and the average duration of a transport EMS call was 95.8 minutes.

Table 9: EMS Non-Transport and Transport Calls by Determinant

	Non-Transport		Transport			
Determinant	Average Call Duration (Minutes)	Number of Calls	Average Call Duration (Minutes)	Number of Calls	Total Number of Calls	Transport Rate (%)
A	52.4	10,118	92.7	10,366	20,484	50.6
B	47.5	4,293	93.6	3,399	7,692	44.2
C	57.0	9,627	95.5	10,962	20,589	53.2
D	53.6	17,132	98.1	15,686	32,818	47.8
E	57.1	1,190	110.2	356	1,546	23.0
O	48.4	419	87.8	428	847	50.5
Not Reported	33.7	14,439	92.0	6,102	20,541	29.7
Total	**49.5**	**57,218**	**95.8**	**47,299**	**104,517**	**45.3**

We analyzed variation of total EMS requests and transport requests by the hour of the day and the average hourly rate of requests. The variation of total EMS requests and EMS transport reports followed a similar pattern. The busiest period for EMS and EMS transport requests was between 1000 and 2000. Requests by hour of the day are represented below.

Figure 24: Average Calls and Calls with Transports per Day by Hour of Day



Unit Hour Utilization

The number of calls responded to primarily address the wear and tear on the apparatus. Another measure, time on task, is necessary to evaluate best practices in efficient system delivery and consider the impact workload has on personnel. Unit Hour Utilization (UHU) determinants were developed by mathematical model. This model includes both the proportion of calls handled in each major service area (fire and EMS) and the total unit time on task for these service categories in 2018-2019 The resulting UHUs represent the percentage of the work period (24 hours) that is utilized responding to requests for service. The International Association of Fire Fighters (IAFF) recommends that 24-hour units do not surpass a 0.30, or 30% workload threshold. In other words, best practice would not have units and personnel exceeding 30% of their workday responding to calls. This would equate to approximately 7.2 hours of the 24-hour period. These thresholds take into consideration the necessity to accomplish non-emergency activities such as training, health and wellness, public education, and fire inspections.

Eighteen units had UHU values > 0.30 (Figure 11). The five busiest units in the Department during 2018-19 were ambulance units A829, A826, A846, A833, and A825, with UHU values ranging from 0.51 to 0.44.

FITCH recommends using a UHU value of 0.25 as a planning threshold as it may time to work through the budget and policy approval processes to secure additional resource investments

Figure 25: Unit Hour Utilization – All Incident Areas I

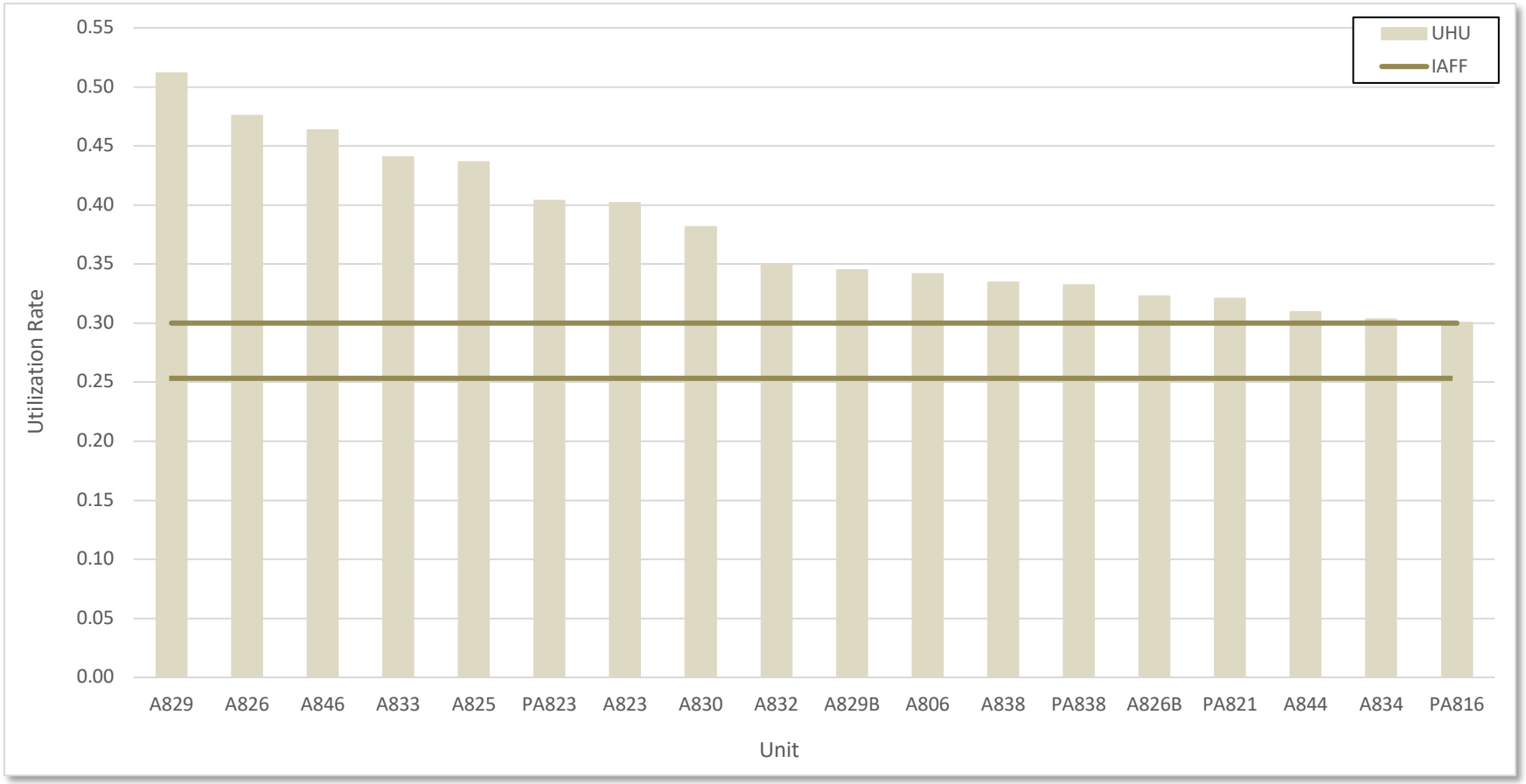


Figure 26: Unit Hour Utilization – All Incident Areas II

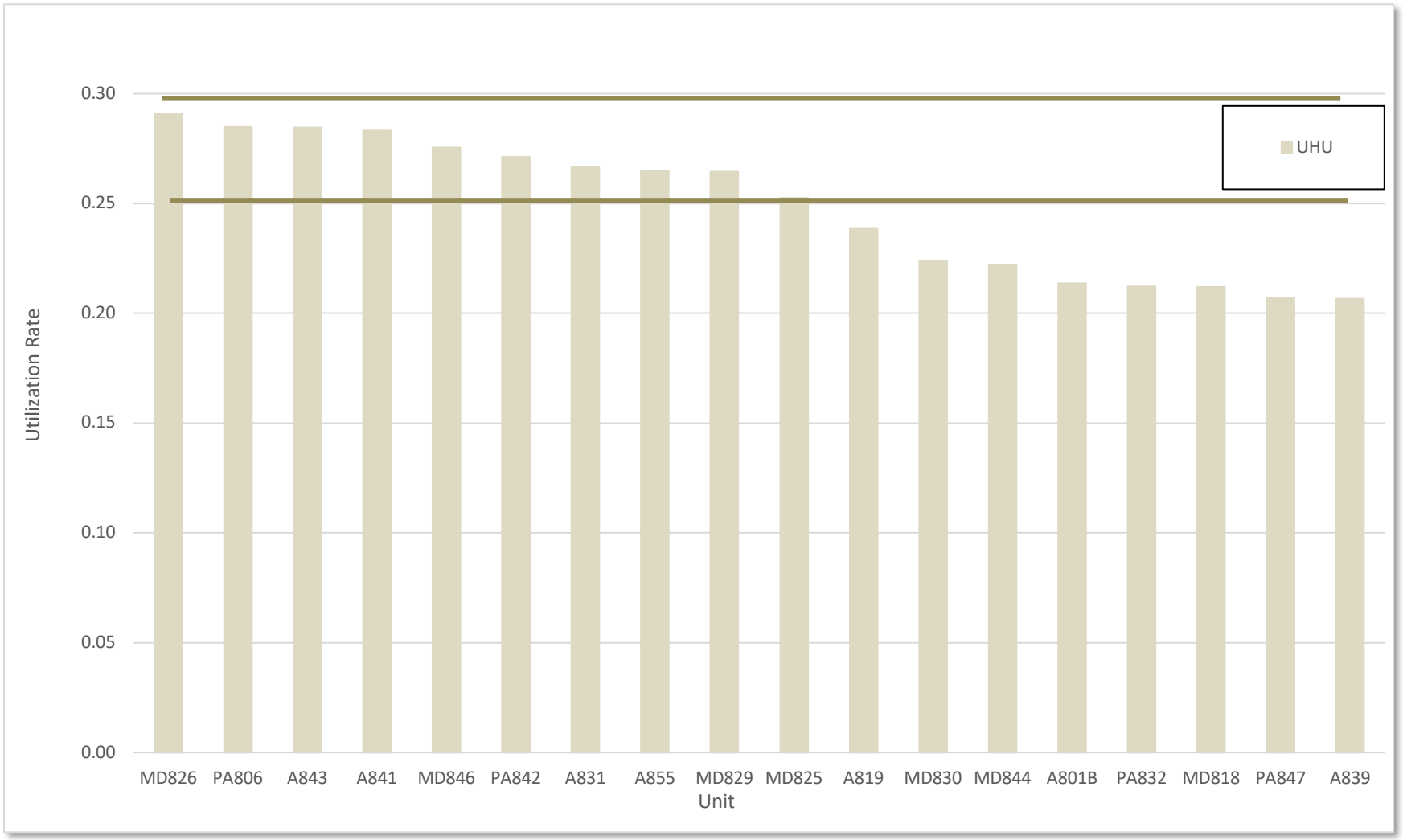


Figure 27: Unit Hour Utilization – All Incident Areas III

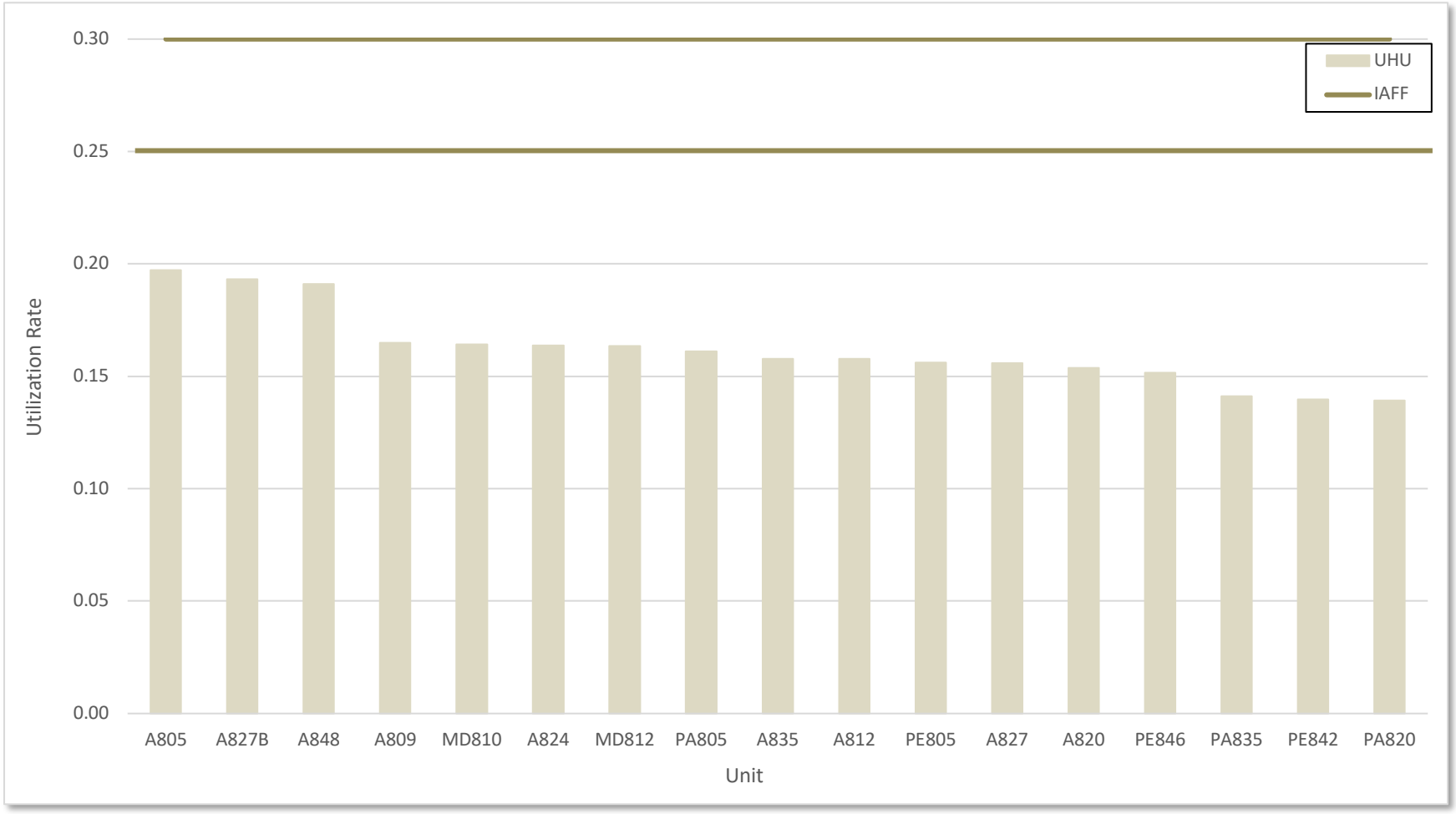
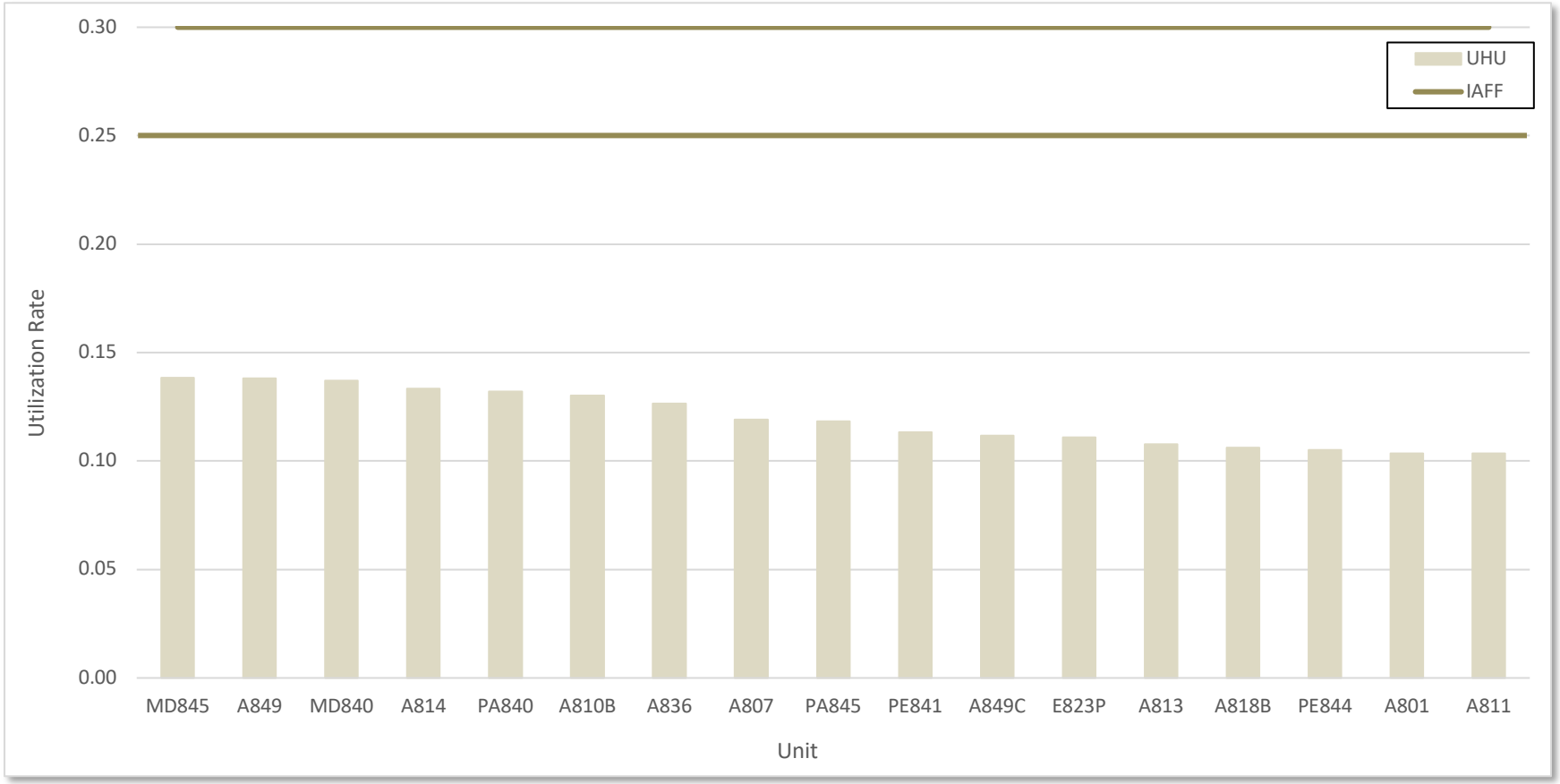


Figure 28: Unit Hour Utilization – All Incident Areas IV



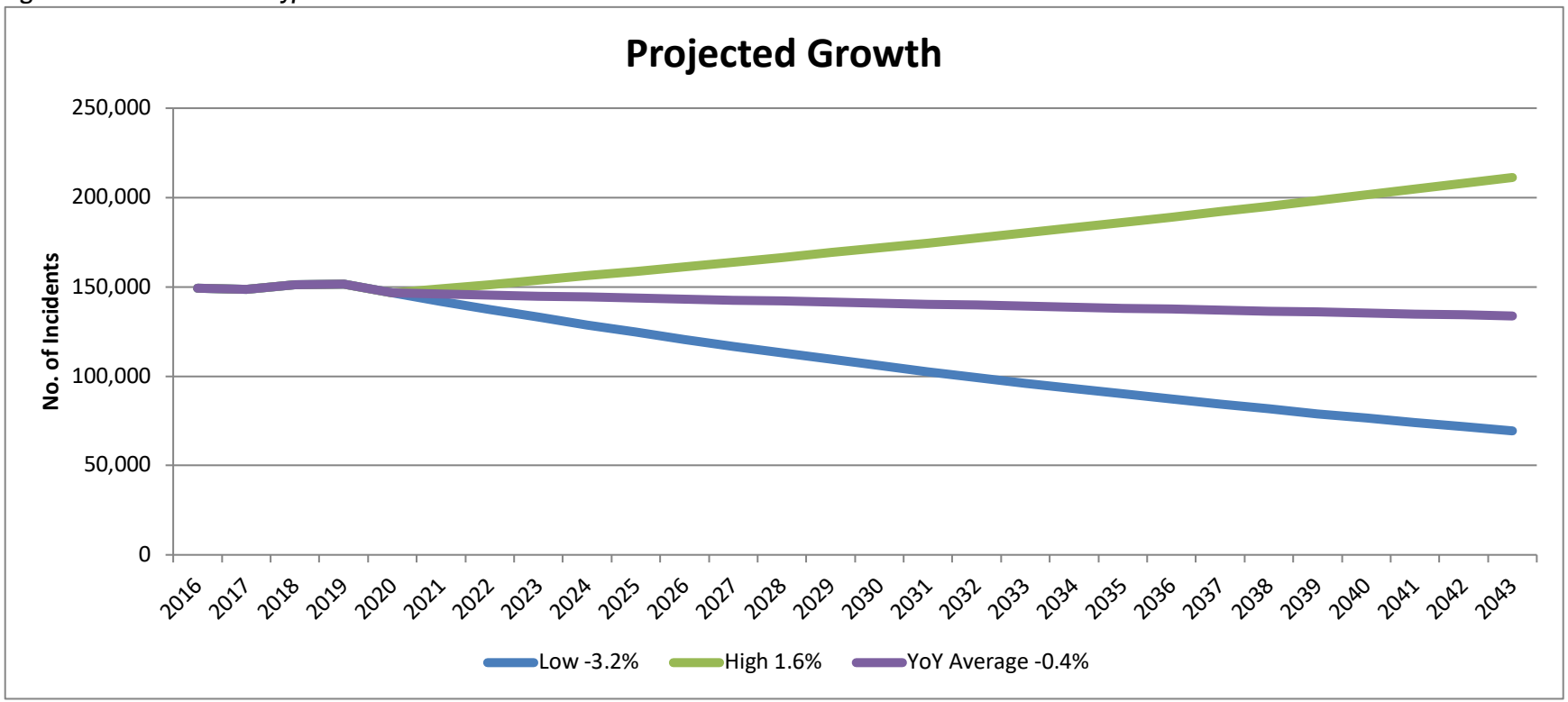
Observation:
Overall, the Department workload is well above best practices.

Recommendation:
It is recommended that the Department adopt a UHU planning threshold of 0.25, or 25%.

Projected Growth

The available data set included five reporting periods of data, representing FY 2016 - 2020. From FY 2016 to FY 2020, calls for PGFD services decreased from 148,097 to 146,603, with an average growth rate of -0.4% per year. The figure below depicts observed call volume during the last five-year reporting periods and various hypothetical growth scenarios for the next 20+ years. These projections should be used with caution due to the variability in growth observed across prior calendar years. It is assumed that the pandemic is the primary cause of reduced call volumes. In all cases, data should be reviewed annually to ensure timely updates to projections and utilize a five-year rolling average.

Figure 29: Observed and Hypothetical Growth in Call Volume



Resource Allocation Strategies

Consideration for New Stations

When contemplating future station locations, two scenarios were analyzed. First, is an optimized station location plan that uses a whiteboard approach. In this scenario, the computer models the locations with the best and most efficient capability to capture calls. Second, is through the lens of the insurance services and coverage of developed area. The distinction here is that geography and development is the primary driver of station coverage irrespective of the actual historical call volume. The positive is, it is well aligned with a commensurate risk model, the negative is that it can be less efficient under certain circumstances.

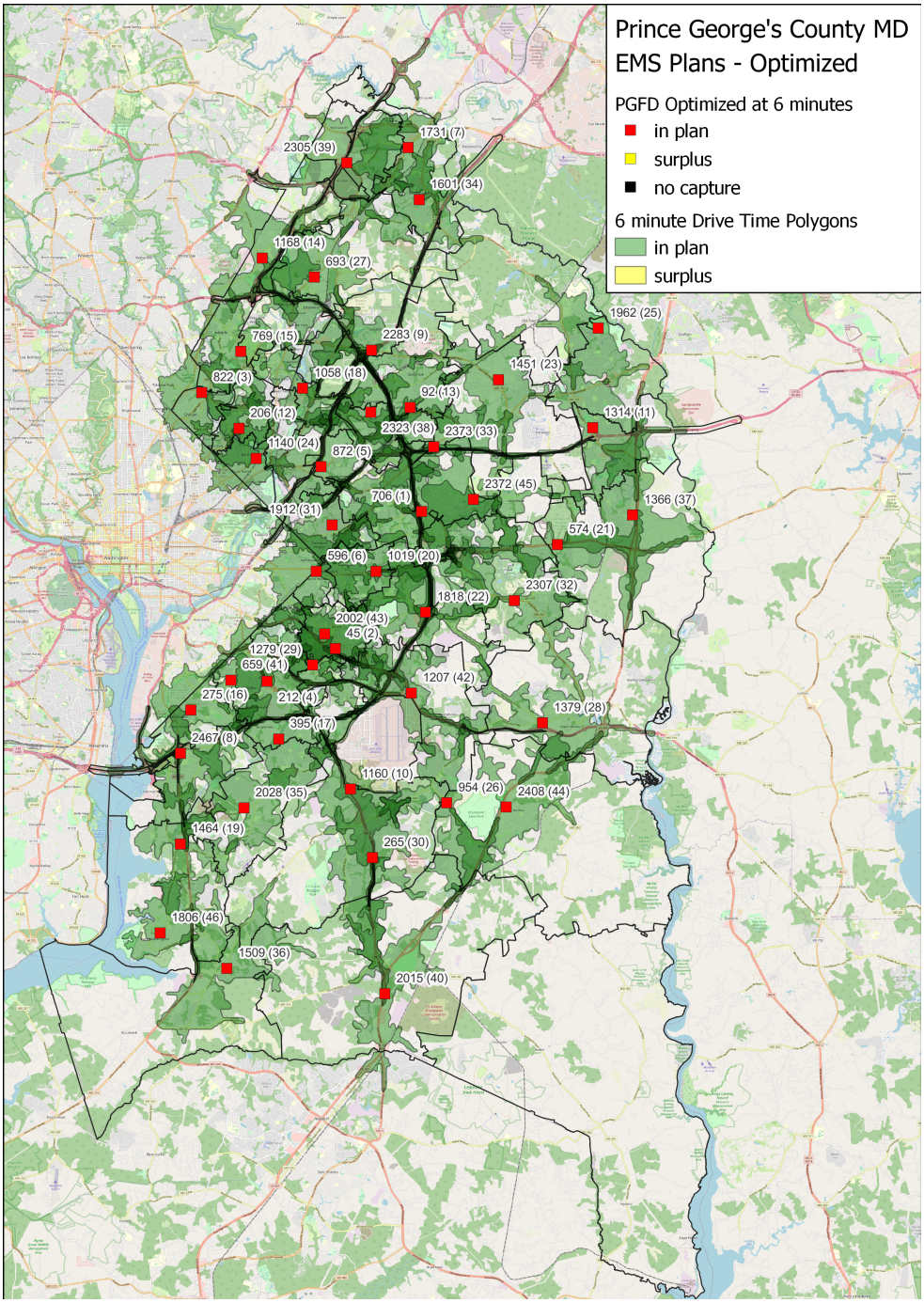
Optimized EMS Station/Post Locations

Optimized location analyses utilize a whiteboard approach of allowing the data to suggest optimal placement. It is understood that it would be difficult to relocate stations in a short period as well as there may not be land available or the land may be cost prohibitive. However, these analyses may prove beneficial in long-range planning considerations.

6-Minute Travel Times

Results suggest that with 46-posting locations, 90.15% of EMS calls could be responded to within 6-minutes or less travel time.

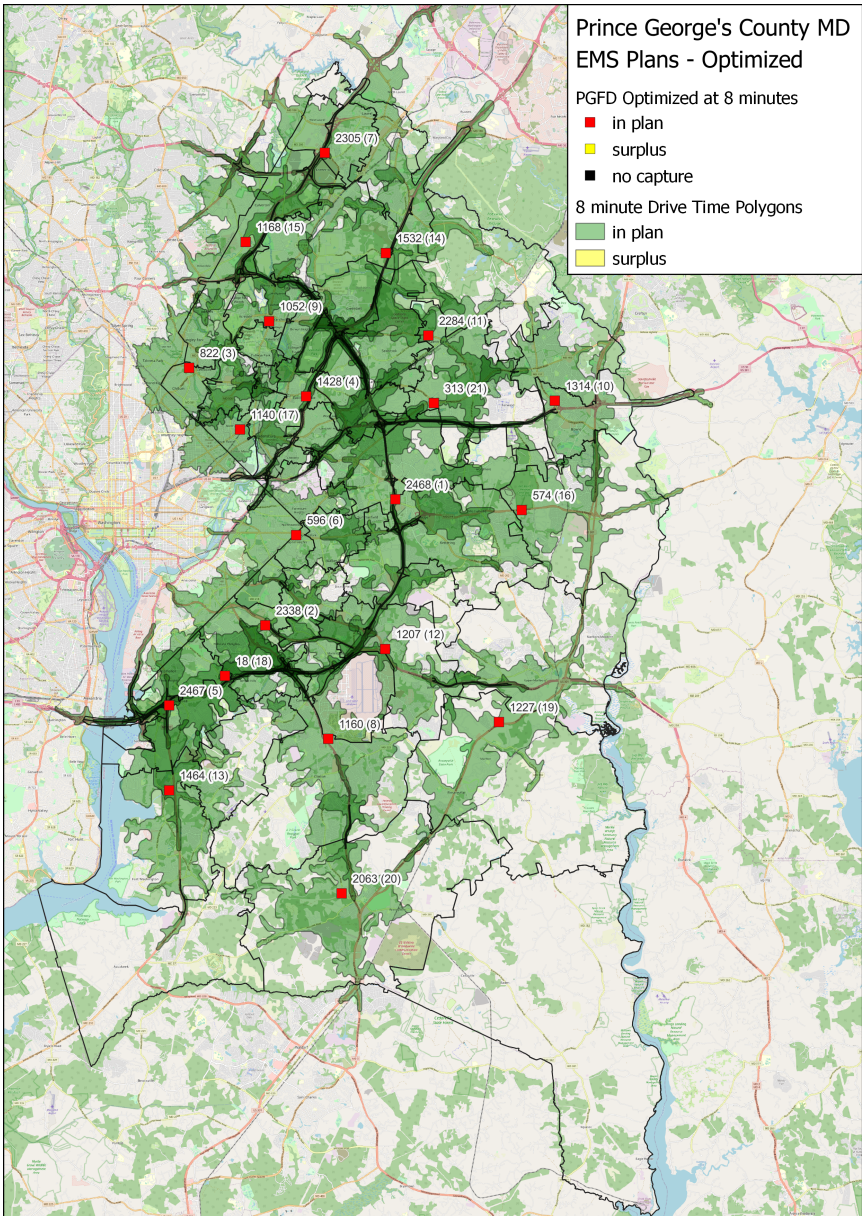
Figure 30: Optimized Post Plan - 6-Minute Urban Travel Time – EMS Incidents



8-Minute Travel Times

Results suggest that with 21-posting locations, 90.58% of EMS calls could be responded to within 8-minutes or less travel time.

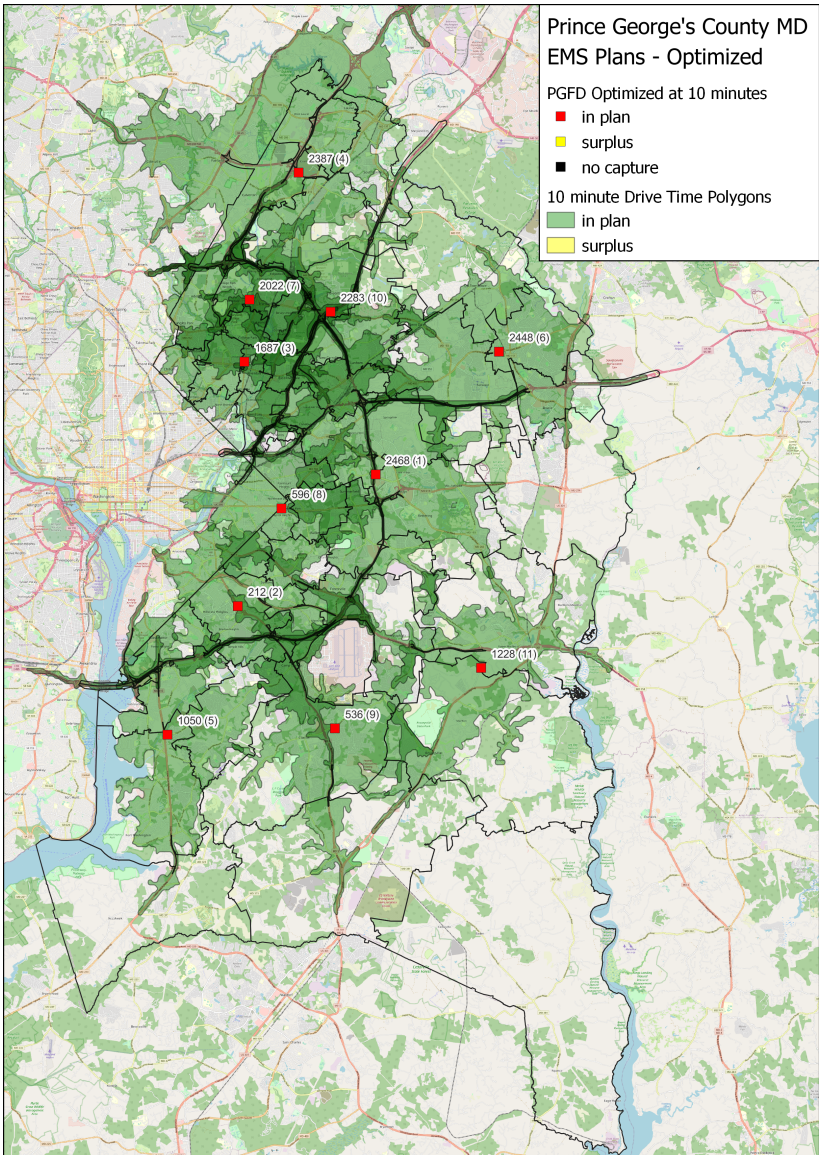
Figure 31: Optimized Post Plan - 8-Minute Urban Travel Time – EMS Incidents



10-Minute Travel Times

Results suggest that with 11-posting locations, 90.18% of EMS calls could be responded to within 10-minutes or less travel time.

Figure 32: Optimized Post Plan - 10-Minute Urban Travel Time – EMS Incidents



Consideration for ALS and BLS Tiered Service Delivery Models

Since its inception, the standard of care for EMS systems has continued to migrate toward ALS. However, the prevailing belief that ALS systems represent a gold standard by facilitating improved patient care and outcomes is being challenged in the current literature. One of the largest and most expansive studies is the Ontario Prehospital Advanced Life Support (OPALS) study which involved more than 25,000 patients over an 8-year period. OPALS examined the influence of ALS on patient outcomes over three major EMS categories: (1) major trauma, (2) cardiac arrest, and (3) respiratory distress. [33] [34]

For major trauma, the OPALS study's primary outcome measure was survival to hospital discharge for adults who had suffered major trauma. The study controlled for age, injury type, severity, and Glasgow Coma Scale (GCS). The study found that survival rates did not differ overall between patient's receiving ALS care or BLS care. In fact, among patients with a GCS <9, survival was lower among the ALS group. The study showed that, for major trauma patients, a system-wide implementation of full ALS did not decrease mortality or morbidity.[35]

For out-of-hospital cardiac arrest, OPALS focused on the rate of survival to hospital discharge. Their study found no improvement in the rate of survival with the use of ALS in any subgroup. In other words, ALS did not improve the rate of survival for out-or-hospital cardiac arrest in systems that had already optimized rapid defibrillation.[36] The study highlighted lifesaving value of bystander CPR and rapid defibrillation which can be easily delivered by Automated External Defibrillators (AEDs).

For respiratory distress, the primary outcome measure was mortality, defined as the rate of death before hospital discharge regardless of the duration of admission. Additional outcome measures considered emergency department intubation rates, aspiration, hospitalization, length of stay, and functional status after discharge. The study included patients whose primary symptom was shortness of breath related to respiratory illness. The study did show that specific ALS interventions had a positive impact on the rate of death--a change from 14.3% for BLS and 12.4% for ALS. However, endotracheal intubation was only performed in 1.4% of patients, and intravenous drugs were administered to 15% of patients. The use of medications for symptom

[33] Stiell, I.G., et al. (1998) The Ontario Prehospital Advanced Life Support (OPALS) Study: Rationale and methodology for cardiac arrest patients. Annals of Emergency Medicine. 32(2), 180-90. doi: 10.1016/s0196-0644(98)70135-0.

[34] Stiell, I.G., et al. (1999) The Ontario Prehospital Advanced Life Support (OPALS) study Part II: Rationale and methodology for trauma and respiratory distress patients. OPALS Study Group. Annals of Emergency Medicine. 34(2), 256-62. doi: 10.1016/s0196-0644(99)70241-6.

[35] Stiell, I.G., et al. (2008) The OPALS major trauma study: Impact of advanced life support on survival and morbidity. OPALS Study Group. Canadian Medical Association Journal. 178(9), 1141-1152. doi: 10.1503/cmaj.071154

[36] Stiell, I.G., et al. (2004) Advanced cardiac life support for in out-of-hospital cardiac arrest. OPALS Study Group. New England Journal of Medicine. 351(7), 647-56. doi: 10.1056/NEJMoa040325.

relief increased from 15.7 % at the BLS level to 59.4% at the ALS level.[37] Thus, ALS interventions were rarely used. Other research seems to indicate that the addition of CPAP to the BLS scope of practice can reduce the need for an ALS level of care in patients facing acute respiratory failure.[38]

The OPALS project, the largest to date at its time, provided valuable insight into the efficacy of ALS in EMS. However, the OPALS research does not stand alone. For example, another study of patients suffering out-of-hospital cardiac arrest showed that those who received BLS care had a higher survival rate at hospital discharge than those who received ALS. These patients were also less likely to experience poor neurological functioning.[39]

The research indicates that an ALS level care in the EMS environment has a limited positive impact on clinical outcomes. While some incidents may benefit by a measure of ALS care, the vast majority of EMS responses can be effectively answered with a highly functioning and proficient BLS level of care, potentially improving patient outcomes.

When evaluating the clinical differences between ALS and BLS models, we also consider the levels of paramedic staffing within ALS models. Research has consistently suggested clinical improvement with fewer paramedics per capita. Several studies show better survival rates for SCA with fewer paramedics per capita. Other research has shown that the successful execution of advanced procedures, such as endotracheal intubation, are directly correlated with the first-hand experience level of the clinician. [40] Advanced ALS level skills are inherently rare as the research shows. Thus, the limited opportunities to perform these skills and remain proficient with them is directly influenced by the concentration of paramedics within the system. Simply put, the limited opportunities to perform ALS skills are diluted with each paramedic added to the system. Therefore, the ALS staffing strategy of one paramedic and one EMT per ALS unit is firmly supported by the research.

The research indicates that EMS systems can over-staff paramedic-level providers, negatively impacting patient outcomes. The ALS staffing strategy of one paramedic and one EMT per ALS unit is firmly supported by the research.

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[37] Stiell, I.G., at al. (2007) Advanced life support for out-of-hospital respiratory distress. The New England Journal of Medicine. 356(21), 2156-64. doi: http://dx.doi.org.libproxy.troy.edu/10.1056/NEJMoa060334

[38] Williams, T. A., Finn, J., Perkins, G. D., & Jacobs, I. G. (2013). Prehospital continuous positive airway pressure for acute respiratory failure: A systematic review and meta-analysis. Prehospital Emergency Care, 17(2), 261-273. doi: 10.3109/10903127.2012.749967

[39] Sanghavi, P., et al. (November 2014). Outcomes after out-of-hospital cardiac arrest treated by basic vs. advanced life support. JAMA Internal Medicine, E1-E9. Available at http://www.jamainternalmedicine.com

[40] Wang, H.E., Balasubramani, G.K., et al. (2010). Out-of-hospital endotracheal intubation experience and patient outcomes. Annals of Emergency Medicine, 52(3): 256-262.

While there is no question regarding the clinical efficacy of a tiered ALS-BLS system, there are considerations for the efficiency and effectiveness of the model. Several policy considerations must be addressed.

At this time, it is recommended that the Department consider a single tier all ALS system as the highest level of care and the most fiscally efficient model. It is understood that other considerations such as challenges in recruitment and retention for paramedics could influence the ultimate policy decisions.

Recommendation:
It is recommended that the Department utilizes single tier all ALS system as the highest level of care and the most fiscally efficient model.

Assumptions Used for Modeling EMS Alternatives

Each model presented for consideration is based upon the two primary principles of system design, 'travel time' and 'workload' or demand. Travel time is determined by the geographic distribution of resources based upon the established road network, speed, and impedance that influence a unit's ability to respond within a desired timeframe. Workload is controlled through the concentration of resources so that enough resources are provided for each geographic location to meet its respective level of demand.

The plans presented here are based upon an 8-minute travel time distribution of resources. Each plan provides for the following objectives:

- Maintain current performance, ISO, and CFAI Accreditation benchmarks;
- Address UHU with a more equitable distribution of the workload;
- Provide a sustainable Transport model capable of handling all jurisdictional 911 demand:
    - Independent of third-party provider, or…
    - In partnership with third-party provider
- Provide fiscal sustainability and efficiency.

Financial Assumptions

Costing for alternatives were developed through an analysis of the agency's historical fiscal performance, operational liabilities, and local workforce market conditions. PGFD operates a consolidated emergency response service where administrative, support, and operational functions often contribute to all the agency's service lines, including EMS. Additionally, the Department does not maintain an independent fund for EMS services. Additionally, there is significant overlap between the agency's EMS and suppression programs. Thus, to evaluate the relative value of the proposed alternatives, the *FITCH* team established a baseline value for the current EMS system utilizing an EMS Cost Factor.

The EMS Cost Factor was established by determining what percentage of the agency's resources were primarily focused on the EMS mission. In other words, if the agency did not provide EMS services of any kind, what resources would no longer be needed. In a blended agency like PGFD, best practice requires a multifaceted approach for establishing these values. First, the EMS Cost Factor is determined by evaluating the EMS program's share of the total daily unit deployment. The agency's daily minimum staffing is 257 positions, of which 102 are EMS positions. Therefore, the EMS program accounts for 66% of the resource deployment.

Table 10: PGFD EMS Ratio

Category	Suppression Count	EMS Count	Total	EMS Ratio
Current Seats per Day	155	102	257	66%

Revenues

An evaluation of the system revenues available under the current EMS program was completed and found that actual revenue for FY 22 was $25,752,730.42. Public Emergency Medical Supplement (PEMT) payments accounted for 41% or $10,583,807.00 and transport user fees accounted for 59% or $15,168,923. Due to the uncertain nature of PEMT payments, valuations and modeling exclude these values and focus instead on the EMS user fees. Estimated revenues based off modeling were $16,655,216.78 over the same period, representing a potential $1,486,293.36 in actual revenues from transports for the fiscal period. Modeled revenues are based upon national payor mix and billing performance indicators for high performing EMS systems. The following table summarizes the actual and estimated EMS revenues by source.

Table 11: FY22 EMS Revenues

Revenues	
Values From FY22 Actuals	**FY22**
PEMT Supplement	$10,583,807.00
Emergency Transport	$15,168,923
Modeled Values based on FY22 Demand	**FY22**
EMS Transport Fees	$16,655,216.78

Expenditures

The current system expenditures were calculated as a function of overall organizational costs for EMS that include both non-personnel expenditures (services and overhead) and personnel costs. Services and overhead costs were derived from a multi-staged approach. First, EMS specific costs were identified and aggregated. Secondly, fire suppression and prevention specific costs were removed. All remaining services and overhead were aggregated and calculated against the EMS Cost Factor of 66%. Overall, the services and overhead costs for the EMS program in FY22 are estimated at $17,658,872. The table below provides details for source expenditures.

Table 12: FY22 Non-personnel Expenditure Detail (Services and Overhead)

Non-Personnel Expenditure Detail (Services/Overhead)	
Values From FY22 Actuals	**FY22**
General Fund	**$26,340,900.00**
Operating	$26,340,900
Capital Fund	**$493,659.71**
Capital	$240,000
Equipment (FY22 Actual)	$193,660
Other	$60,000
Total Services/Overhead	**$26,834,559.71**
EMS Share of All Services and Overhead	**$17,658,871.55**

Personnel costs were calculated for both administrative support functions and operational line level EMS positions. The administrative cost of the EMS program was derived by following the same multi-staged approach described above. As a result, EMS administrative costs are estimated at $22,967,342.53. Operational line level costs are based on average salaries by position, including assignment pay, and benefits for a total compensation value that includes the FY22 burden rate of 74%. Each total compensation value was applied to the required EMS seats per shift as a product of the calculated staffing multiplier. Thus, overtime was excluded since the multiplier would account for the total value of covering time off. The current EMS program line personnel costs are estimated at $62,671,904. Therefore, the total costs of the current EMS program without overtime are $103,298,118. This total expense can be calculated to a unit hour cost of $253.36 per deployed unit per hour. A summary is provided in the table below.

Table 13: FY22 Current System - EMS Program Costs

FY22 Current System - EMS Program Costs		
Cost Element		
Total Services/Overhead	$	26,834,560
EMS Cost Factor		**66%**
EMS Share of All Services/Overhead	$	17,658,872
EMS Personnel		
Administrative/Support Personnel	$	22,967,343
Line Personnel	$	62,671,904
EMS Overtime	$	-
Total EMS Program Cost w/out OT	**$**	**103,298,118**
Unit Hour Cost w/out OT	**$**	**253.36**

Within the current program, there is considerable subsidy to provide EMS services as the net costs (expenditures - revenues) is $88,129,194.43 in recurring expenses, exclusive of the PEMT subsidy. Understanding that gaining control of workload and stabilizing performance is the single highest priority issue found, solutions may require additional investment strategies and opportunities for efficiency to provide the greatest return on investment, long-term sustainability, and fiscal responsibility.

Staffing Assumptions

Compensation Values

Total compensation values for existing positions were drawn from the agency's FY23 budget and current listing of personnel. Total compensation values for the Civilian Paramedic and EMT positions were developed through a market salary analysis of the greater Prince George's County area in conjunction with the county's current civilian employee burden rate. Civilian entry level rates were designed to give PGFD a slight competitive advantage in the market space while the median value was based on the current market min/max range.

Table 14: ***Total compensation values for current and proposed positions***

Position FY23	Grade	Salary	Benefits	Total Comp
PGFD Base				
Fire Fighter	Y01	$44,658.00	$33,046.92	$77,704.92
Fire Fighter II	Y02	$46,844.00	$34,664.56	$81,508.56
Fire Fighter-Medic 3Y	Y03	$49,030.00	$36,282.20	$85,312.20
Technician	Y13	$49,030.00	$36,282.20	$85,312.20
Lieutenant	Y04	$56,746.00	$41,992.04	$98,738.04
Captain	Y05	$62,080.00	$45,939.20	$108,019.20
Battalion Chief	Y06	$68,041.00	$50,350.34	$118,391.34
Major (Assist Fire Chief)	Y07	$78,788.00	$58,303.12	$137,091.12
PGFD Average				
Fire Fighter	Y01	$49,130.75	$36,356.75	$85,487.50
Fire Fighter II	Y02	$71,251.07	$52,725.80	$123,976.87
Fire Fighter-Medic 3Y	Y03	$94,121.09	$69,649.61	$163,770.70
Technician	Y13	$107,467.06	$79,525.62	$186,992.68
Lieutenant	Y04	$121,677.75	$90,041.54	$211,719.29
Captain	Y05	$146,915.79	$108,717.69	$255,633.48
Battalion Chief	Y06	$169,134.96	$125,159.87	$294,294.83
Major (Assist Fire Chief)	Y07	$179,800.24	$133,052.18	$312,852.42
PGFD Civilian Medic Median Value				
Civilian Paramedic	N/A	$71,042.40	$52,571.38	$123,613.78
Civilian EMT	N/A	$47,018.40	$34,793.62	$81,812.02

Staffing Multiplier

Staffing needs were determined by mathematical formula based upon the required number of seats, the hours to be covered, and the annualized use of scheduled and unscheduled leave. These factors were used to determine the optimized staffing for all models and variations. The resulting 'staffing multiplier' indicates that each single position requires 4.90 FTEs to continuously staff a position 24 hours a day for 365 days a year. The same data were applied to determine the staffing required to deploy 12-hour units. Scheduling was figured as two shifts working a 3/4 schedule that averages a 42-hour work week. The resulting 'staffing multiplier' indicates that each single position would require 2.45 FTEs to continuously staff the position 12 hours a day for 365 days a year.

Baseline Attributes

To ensure all proposed models were adequately provisioned, all 911 EMS incidents within PGFD's jurisdiction were included. The data report provides totals for the fiscal year spanning from July 1, 2018, to June 30, 2019, and noted 104,517 EMS incidents, of which, 47,299 resulted in transports. Thus, the community experienced transport rate of 45.3% is applied to each proposed plan. Finally, a Time-on-Task (TOT) ratio was derived by analyzing the proportionate share of on-average time commitment for both transport and non-transport incidents with an average blended rate of 1:17:42 (H:MM:SS) per EMS incident. For the demand modeling, *FITCH* used the most recent 365-days of data, using calendar year 2020 that indicated 122,774 EMS incidents and per the billing records noted 51,652 billable transports.

Transport Assumptions

The rates used for transport calculations were built on information provided by PGFD based on their contracted billing company's data. The information provided was for fiscal years of July 2020 to June 2022 and was analyzed and provided a representation of the current payor and service level mixes for the emergent transports done by PGFD during that time. *FITCH* used the fiscal year 2022 volumes, service level mix, payor mix, and average transport miles to determine the estimated transport revenues. We then calculated the payor mixes utilizing the regional data and service level charges. This included service level charge rates for ALSE, BLSE, and ALS2. The reimbursement rates for Medicare are taken from the CMS Fee Schedule for Maryland using the urban rates. The reimbursement rates for Medicaid are taken from the Maryland Medicaid Fee Schedule and were validated using the 2022 Medicaid Rate Schedule. Reimbursement performance for Commercial Insurance and Self-Pay is based upon PGFD actual performance. Purposefully, these are conservative estimates.

As a result of these analyses, the *FITCH* team established a revenue rate per transport assumption for emergent transports. These assumptions were validated against the Agency's most current net revenue collections and therefore applied to the modeling to determine the total

value of available transport revenue within the PGFD jurisdiction based on the following models:

- Actual PGFD collections based on current charge master and payor mix
- *FITCH* evaluation of current charge master and payor mix, and expected collection rate
- *FITCH* evaluation of current charge master with a payor mix change, and expected collection rate
- *FITCH* charge master increase to 300% of Medicare allowable and payor mix change, and expected collection rate

FITCH evaluated both the current charge master and the systems payor mix. The charge master is the gross charges billed to either the insurance company or the patient. Ultimately, only a portion of this gross charge is collected. Both Medicare and Medicaid are fixed amounts and agency can collect, thus creating a large number of write-off and bad debt. However, in *FITCH*'s experience, if a charge master is based approximately at the 300% of Medicare Allowable rates an agency will see hire collection rates in from third-party insurance payors. The below figure shows the current charge master against a charge master at 300% of the Medicare Allowable rates.

Table 15: Current Charge Master & a Charge Master at 300% of Medicare Allowable

Payor Billing Codes	Payor Type	Current Charge Master	Charge Master Adj. to 300% Medicare Allowable
A0425*	MILEAGE	$ 12.00	$24.06
A0427	ALS1 EMERGENCY	$ 650.00	$1,457.10
A0429	BLS EMER BASE	$ 500.00	$1,227.03
A0433	ALS LEV 2 BASE	$ 750.00	$2,108.94

In *FITCH*'s review of the payor mix and in *FITCH*'s experience, noted a high number of Private Pay and a low number of both Medicare and Medicaid payments. In *FITCH*'s experience, this is usually due to challenges with documentation and the quality improvement/quality assurance processes. In discussions with PGFD leadership, they felt documentation was a challenge and had limited oversight for a quality assurance department. *FITCH* developed an alternative payor mix model that in our opinion better matches what PGFD should be if the documentation was corrected.

Table 16: Current and Adjusted Payor Mix

Payor Mix	Current Percentage	Adjusted Percentage
Medicare	24.0%	30.0%
Medicare HMO	2.1%	3.1%
Medicaid	17.5%	27.7%
Medicaid HMO	0.2%	1.2%
Commercial	27.5%	28.0%
Facility Contract	0.0%	0.0%
Private Pay	28.7%	10.0%

In review of PGFD fiscal year 2022 collections, *FITCH* independently evaluated and benchmarked against the current annual collections. Our independent modeling indicates that with the current documentation and billing practice, PGFD should be able to collect $273.68 per transport which is $34.30 per transport increase from current collections, increasing total collection by $1,896,952 annually. Additionally, if there was an adjustment to the current payor mix and/or an adjustment to the charge master, PGFD could experience annually an increase in NET revenue of 4,882,513 or $14,790,872 respectively.

Table 17: Transport revenue assumptions based on specified model

Total	Clients Actual	FITCH Evaluation of Current	Adjusted Payor Mix	Adjusted Payor Mix & Charge Master
ALSE	$ 309.20	$ 311.38	$ 365.78	$ 538.86
ALS2	$ 357.39	$ 397.00	$ 473.57	$ 752.14
BLSE	$ 212.25	$ 258.96	$ 305.81	$ 463.58
Total	***$ 239.38***	***$ 273.68***	***$ 322.74***	***$ 485.56***
NET Revenue	***$ 14,758,264***	***$ 16,655,217***	***$ 19,640,777***	***$ 29,549,136***
Difference from Current Per Tx Rate		***$ 34.30***	***$ 83.36***	***$ 246.18***
Difference from Current NET Revenue		***$ 1,896,952***	***$ 4,882,513***	***$ 14,790,872***

Staffing Considerations

Current Unit Staffing

The current PGFD deployment has a daily minimum staffing of 257 personnel. This provides for 24 ALS ambulances, 23 BLS ambulances, 35 engines, 4 medic units, 11 supervisors, and 1 truck/squad. A brief summary of the unit count and daily staffing commitment is provided below.

Table 18: Current Daily Unit Deployment

Unit Type	Daily Count
AMBULANCE	**23**
24	17
7a-3p	4
7a-5p M-F	2
BATTALION CHIEF	**7**
24	7
DUTY CHIEF	**1**
24	1
EMS SUPERVISOR	**3**
24	3
ENGINE	**26**
24	21
7a-3p	3
7a-5p M-F	2
MEDIC	**4**
24	4
PARAMEDIC AMB	**24**
24	24
PARAMEDIC ENG	**9**
24	9
TRUCK/SQUAD	**1**
7a-3p	1
Grand Total	**98**

Utilizing the 4.90 staffing multiplier, 1,128 FTEs are needed to staff all currently deployed PGFD units. However, the agencies current operational budgeted FTE strength is only 867. This represents an FTE shortage of 261 personnel under current conditions. It is noteworthy that 169 of the currently funded FTE positions are relegated to administrative functions, the paramedic training program, and recruit slots. While essential, these positions do not contribute

to the daily deployment needs for emergency services further exacerbating the shortage. The following tables provide a summary of current budgeted FTE counts and daily staffing needs.

Table 19: Current Budgeted Uniformed FTE Counts

Budgeted Uniformed FTEs	Count
Budgeted Uniform	991
Uniformed in Administration	124
Recruits	25
Paramedic Prog.	20
Balance for Operations (Less Recruits and PM Prog.)	912
Balance for Operations (With Recruits and PM Prog. Included)	867

Table 20: Current FTE Requirements Based on Daily Minimum Staffing

Current Staffing and Unit Deployment	Count
24hr Seats	221
10-12hr Seats	36
Minimum Per Shift	**257**
Total FTE Required by Multiplier	1128
FY22 Budgeted FTE Strength	867
Difference	**-261**

Alternative Staffing Strategies

Alternative staffing and deployment strategies were analyzed to provide the agency with a fully developed context when considering current needs against future alternatives. Thus, a summary of the comparative value of different deployment and staffing strategies is presented below.

PGFD currently deploys continuous emergency services coverage with a four-shift schedule that results in an average work week of 42-hours per line employee. As previously stated, 4.90 FTEs are required to fill each deployed seat. However, alternative shift and workweek configurations could provide increased efficiencies for the Agency and reduce the FTE requirement without altering the daily unit deployment. For instance, as demonstrated in the following table, migrating to a three-shift schedule on a 48-hour average work week reduces the staffing multiplier by .62 which translates to 136 FTEs.

Table 21: Staffing Multipliers by Shift and Workweek Configuration

Staffing Multipliers	
Peak Staffing 42-hour week	2.45
40hr wk/1 shift	1.22
42hr wk/4 shift	4.90
48hr wk/3 shift	4.28
54hr wk/3 shift	3.81
56hr wk/3 shift	3.67

FTE counts are substantially impacted when alternative schedules and workweeks are applied to all operational positions within the agency. For instance, under the current configuration, the agency is short 261 FTEs. However, by transitioning to a three-shift schedule averaging a 56-hour workweek, the agency could still deploy the same number of seats daily while eliminating the current 261 FTE shortage. Additionally, the potential fiscal impact of these alternatives is conservatively calculated using the average Firefighter II total compensation value. While it is understood that implementing any of these alternatives would require bargaining with the labor unit, they are provided and summarized for informational purposes in the table below.

Table 22: Impacts of Alternatives by Staffing Configuration, Shift, and Average Workweek

Impacts by Staffing Configuration/Shifts/Avg Workweek								
Current - 4E/4T/2A/2PA/2M	Shifts	Avg/Wk	Shifts	Avg/Wk	Shifts	Avg/Wk	Shifts	Avg/Wk
	4	42	3	48	3	54	3	56
FTE Count	1128		992		887		857	
FTE Difference from Current	-261		-125		-20		10	
Fiscal Impact from Current	$(32,357,963)		$(15,497,109)		$(2,479,537)		$1,239,769	

To provide additional granularity, the impacts on FTE counts related to schedule and workweek alternatives were also evaluated against the Agency's current EMS program deployment. Accounting for all daily deployed EMS assets, the 4.90 staffing multiplier requires 471 FTEs for the EMS mission. These analyses and comparisons are summarized in the table below.

Table 23: Current EMS Deployment by Shift and Workweek Alternatives

Current EMS Deployment by Average Work Week			
Work Week Average	24hr FTE Count	Day Staff FTE Count	Total FTE Count
FTE Count – 4 Shift 42hr wk	455	16	471
FTE Count – 3 Shift 48hr wk	398	16	414
FTE Count – 3 Shift 54hr wk	354	16	370
FTE Count – 3 Shift 56hr wk	342	16	358

Finally, a comparative value of different deployment and staffing strategies for EMS resources is provided in the table below to provide further context when considering options related to the alternative models developed.

Table 24: Personnel Costs per EMS Unit by Type, Schedule, and Workweek

EMS Unit Type	Seats	FTEs	FTE Type	Staffing Cost
BLS-Day Ambulance 40/hr. wk (Y02/Y01)	2	2.45	Sworn	$ 256,432
BLS-24hr Ambulance 42/hr. wk (Y02/Y01)	2	9.79	Sworn	$ 1,025,727
BLS-24hr Ambulance 48/hr. wk (Y02/Y01)	2	8.57	Sworn	$ 897,511
BLS-24hr Ambulance 54/hr. wk (Y02/Y01)	2	7.62	Sworn	$ 797,787
BLS-24hr Ambulance 56/hr. wk (Y02/Y01)	2	7.35	Sworn	$ 769,295
BLS-12hr Ambulance 42/hr. wk (Y02/Y01)	2	4.90	Sworn	$ 512,863
BLS-12hr Ambulance 42/hr. wk (CEMT/CEMT)	2	4.90	Civilian	$ 400,626
ALS-Day Ambulance 40/hr. wk (Y03/Y02)	2	2.45	Sworn	$ 352,268
ALS-24hr Ambulance 42/hr. wk (Y03/Y02)	2	9.79	Sworn	$ 1,409,072
ALS-24hr Ambulance 48/hr. wk (Y03/Y02)	2	8.57	Sworn	$ 1,232,938
ALS-24hr Ambulance 54/hr. wk (Y03/Y02)	2	7.62	Sworn	$ 1,095,945
ALS-24hr Ambulance 56/hr. wk (Y03/Y02)	2	7.35	Sworn	$ 1,056,804
ALS-12hr Ambulance 42/hr. wk (Y03/Y02)	2	4.90	Sworn	$ 704,536
ALS-12hr Ambulance 42/hr. wk (CPM/CEMT)	2	4.90	Civilian	$ 502,975
*At average total compensation rate of each listed classification				

Deployment Models

FITCH evaluated the current staffing to demand and three deployment options for consideration. Each model evaluates the full systems staffing to demand and *FITCH* separately evaluates both the ALS and BLS Demands. The goal was to ensure the right number and type of resource was being deployed to meet the expected response time.

Geographic coverage plus the average normalized hourly demand provides the total number of staffed ambulances required per hour. Geographic coverage is determined based on the marginal utility analysis provided within the SOC. The normalized demand considers both the number of responses per hour and the average time on task per response. This study considers distribution models for 8-, 10-, and 12-minute travel times for all 911 calls. *FITCH* used 8-minte drive times for the ALS and full system deployment and 10-mintue drivetimes for the BLS system deployment. Once distribution has been determined, the level of demand is addressed with the appropriate concentration of resources at each distribution point. The normalized demand considers both the number of responses per hour and the average time on task per response. Thus, Demand is considered both geographically and temporally.

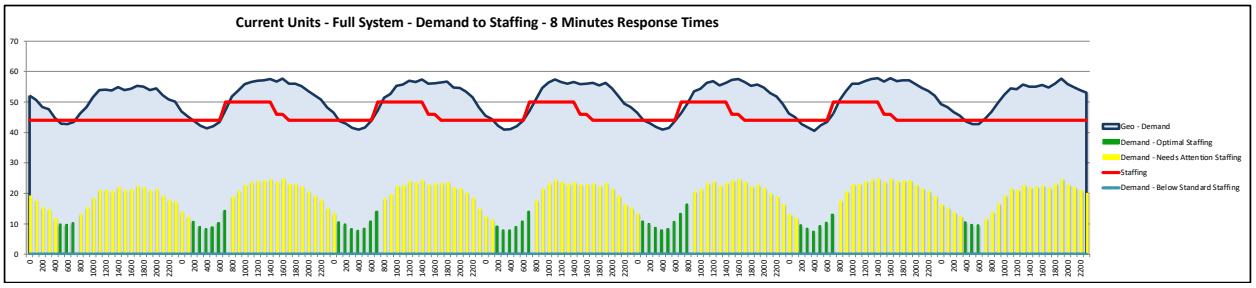
The figures below represent the current and optional staffing to demand charts. It reads left to right, from Sunday to Saturday, to display the historical demand by the hour of day and day of the week in relation to the number or resources deployed to cover the demand. The dark blue line with the light blue shaded area indicates how many geographical units are required to meet the desired response time performance. The red line indicates the total resource staffing levels for each hour of each day in the week. The bar lines indicate the average hourly demand and change colors depending on whether the staffing line is above or below the dark blue geographic line in relation to the average hourly demand. When the staffing line is above the dark blue line, and there is "space" between them, it indicates capacity within the system. If the staffing line falls below the geographic line, this indicates that there are not enough resources during that hour, and the bar lines will change from green to yellow or red.

FITCH created optional staffing models to determine the right number of resources needed for each hour of the week. *FITCH* used both PGFD current staffing and *FITCH* optimized staffing to service the response area. The goal of the review is to match the level of effort verses the level of expectation.

Current

The current station deployment with an 8-minute drive time model was created to determine if PGFD could meet these response time standards and cover the staffing to demand with the 399,104 current staffed unit hours that are geographically placed throughout the response area. *FITCH* used the most recent 365-days of data in the demand totaling 122,774 annual responses. In this model, geographic demand exceeds staffing, indicating that neither the response time expectations are being met and workload for crews are high. PGFD should consider optional models that improve system response time performance and control workload on staff.

In reviewing the current full systems combined 8-minutes ALS and BLS response time model, the full system is under resourced. Below evaluates each of the current models for current staffing and minimally required geographic staffing, which would only correct system performance and not manage workload.



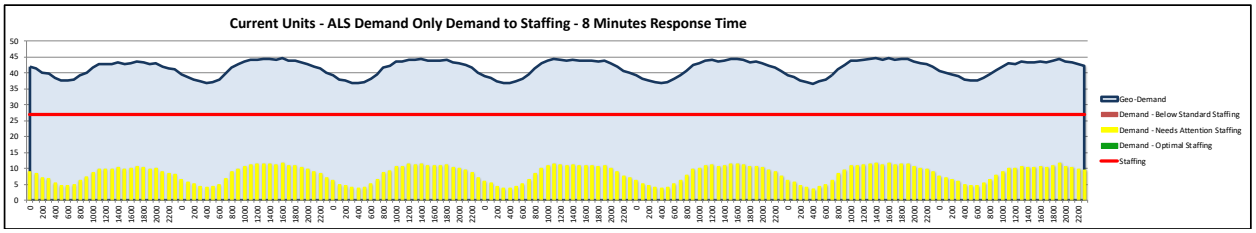
PGFD Current Scheduled Unit Hours: 399,104
Response UHU: .394
Time on Task: 1:17:42
GeoDemand Unit Hours (*FITCH* determined minimum required Unit Hours): 508,128.

The current systems' staffing schedule is provided below.

PGFD - Current Full System											
Unit	Hours Per day	Days	Wkly UH	Annual Unit Hours	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
A801	10	5	50	2624		7a-5p	7a-5p	7a-5p	7a-5p	7a-5p	
A806	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A810	8	5	40	2104		7a-3p	7a-3p	7a-3p	7a-3p	7a-3p	
A812	8	5	40	2104		7a-3p	7a-3p	7a-3p	7a-3p	7a-3p	
A814	8	5	40	2104		7a-3p	7a-3p	7a-3p	7a-3p	7a-3p	
A819	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A823	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A824	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A826	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A829	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A830	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A831	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A832	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A833	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A834	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A836	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A838	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A839	8	5	40	2104		7a-3p	7a-3p	7a-3p	7a-3p	7a-3p	
A843	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A844	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A846	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A849	10	5	50	2624		7a-5p	7a-5p	7a-5p	7a-5p	7a-5p	
A855	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD810	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD812	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD844	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD846	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA802	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA805	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA806	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA816	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA818	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA820	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA821	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA823	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA825	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA825B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA826	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA826B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA829	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA829B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA830	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA832	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA835	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA838	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA840	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA841	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA845	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA847	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA848	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a

Currently, PGFD uses a tiered response plan. A tiered response plan is when both ALS and BLS units are operating in a 911 system and being sent to response that match both the acuity level of the patient and the response type. Since PGFD uses this response model, *FITCH* evaluated both the ALS and BLS demand separately to determine if PGFD was deploying enough resources to meet the demands.

In reviewing the current ALS systems, *FITCH* found the current ALS response time model deploys unit hours that closely match the minimum number of unit hours required for geographic demand coverage. However, due to the resources deploying with only 24-hour units and not in a manner that matches peak of day volume, the system is over resourced at night and under resourced during the day.

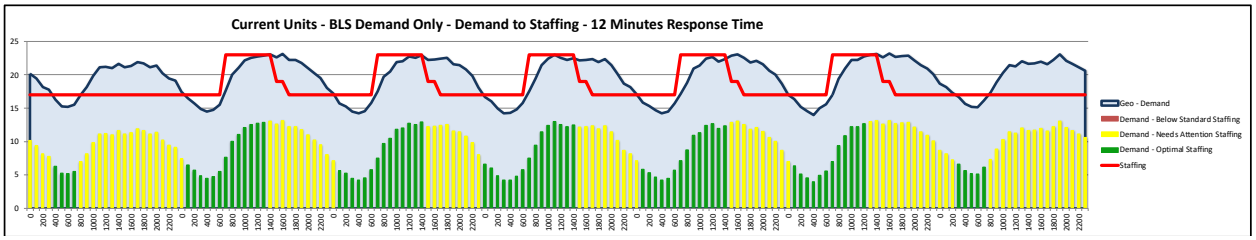


PGFD Current Scheduled Unit Hours: 236,520
Volume: 57,523
Time on Task: 1:17:42
Response UHU: .311
GeoDemand Unit Hours (*FITCH* determined minimum required Unit Hours): 394,200.

The current systems' staffing schedule is provided below.

PGFD - Current ALS System											
Unit	Hours Per day	Days	Wkly UH	Annual Unit Hours	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
MD810	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD812	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD844	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD846	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA802	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA805	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA806	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA816	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA818	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA820	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA821	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA823	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA825	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA825B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA826	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA826B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA829	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA829B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA830	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA832	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA835	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA838	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA840	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA841	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA845	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA847	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA848	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a

In reviewing the current BLS systems, *FITCH* found the current BLS response time model deploys unit hours that closely match the minimum number of unit hours required for geographic demand coverage. However, *FITCH* found that resources were not being deployed to best match when volumes were occurring and that the workload on these units was high. PGFD needs to consider reallocating current unit hours to better match demands and increasing the unit hours to control for workload on staff.



PGFD Current Scheduled Unit Hours: 162,584
Response UHU: .514
Volume: 65,252
Time on Task: 1:17:42
GeoDemand Unit Hours (*FITCH* determined minimum required Unit Hours): 210,240.

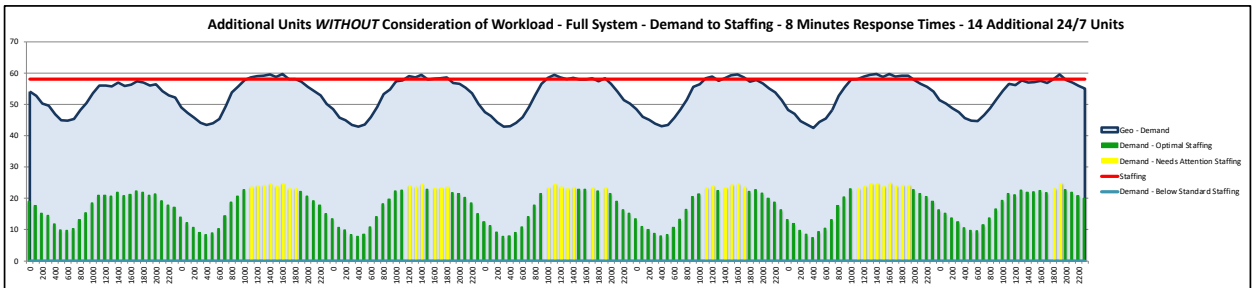
The current systems' staffing schedule is provided below.

PGFD - Current BLS System											
Unit	Hours Per day	Days	Wkly UH	Annual Unit Hours	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
A801	10	5	50	2624		7a-5p	7a-5p	7a-5p	7a-5p	7a-5p	
A806	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A810	8	5	40	2104		7a-3p	7a-3p	7a-3p	7a-3p	7a-3p	
A812	8	5	40	2104		7a-3p	7a-3p	7a-3p	7a-3p	7a-3p	
A814	8	5	40	2104		7a-3p	7a-3p	7a-3p	7a-3p	7a-3p	
A819	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A823	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A824	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A826	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A829	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A830	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A831	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A832	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A833	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A834	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A836	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A838	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A839	8	5	40	2104		7a-3p	7a-3p	7a-3p	7a-3p	7a-3p	
A843	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A844	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A846	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A849	10	5	50	2624		7a-5p	7a-5p	7a-5p	7a-5p	7a-5p	
A855	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a

Option 1: Stabilize Performance at 8-minutes

In Option 1, *FITCH* created independent models to cover for performance only, without consideration for workload on staff. Furthermore, in keeping with the spirit of 24-hour-staffed deployed units, *FITCH* only used this staffing rotation for Option 1 model consideration, thus not attempting to match supply and demand. In this model, *FITCH* ensured that staffing exceeds the geographic demand. Both the Full System and ALS model's workload was below the 0.3-UHU threshold, however, the BLS system still exceeds the 0.3 UHU threshold. Furthermore, workload is not controlled and there are considerable wasted unit hours at night and not allocated to the daytime need for coverage adding additional cost that is not allocated to the appropriate time of day. This model would be a good first step, however, it does not ensure resources are deployed correctly during peak of day volume and does not control for workload on staff. PGFD would have an annual recurring cost of $39,893,303 to implement this model.

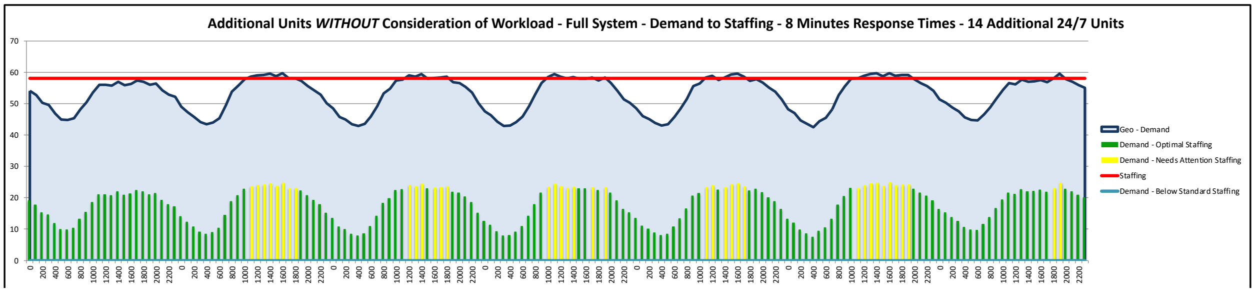
Full System – ALS and BLS Services



PGFD Current Scheduled Unit Hours: 399,104
Optional Models Unit Hours: 586,392
Response UHU: .268
Volume: 122,774
Time on Task: 1:17:42

PGFD - Full System - Stabilized 8-minutes, No Workload Control											
Unit	Hours Per day	Days	Wkly UH	Annual Unit Hours	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
A806	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A819	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A823	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A824	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A826	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A829	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A830	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A831	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A832	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A833	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A834	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A836	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A838	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A843	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A844	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A846	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A855	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD810	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD812	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD844	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD846	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA802	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA805	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA806	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA816	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA818	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA820	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA821	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA823	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA825	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA825B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA826	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA826B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA829	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA829B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA830	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA832	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA835	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA838	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA840	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA841	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA845	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA847	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA848	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a

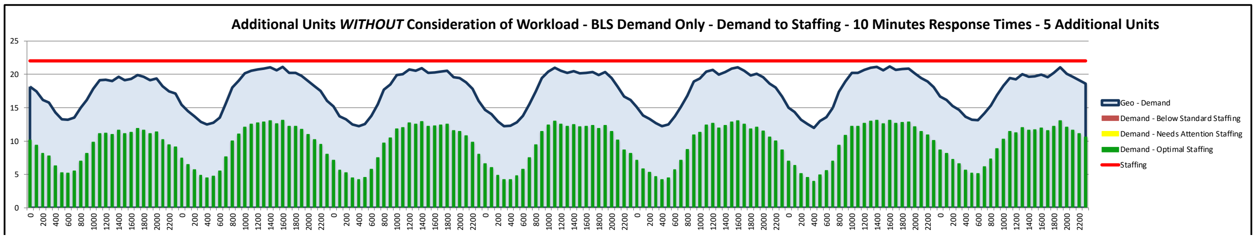
ALS System Only



PGFD Current Scheduled Unit Hours: 236,520
Optional Models Unit Hours: 394,200.
Response UHU: .187
Volume: 57,523
Time on Task: 1:17:42

PGFD - ALS System - Stabilized 8-minutes, No Workload Control											
Unit	Hours Per day	Days	Wkly UH	Annual Unit Hours	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
MD810	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD812	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD844	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD846	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA802	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA805	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA806	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA816	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA818	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA820	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA821	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA823	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA825	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA825B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA826	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA826B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA829	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA829B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA830	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA832	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA835	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA838	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA840	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA841	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA845	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA847	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA848	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a

BLS System Only



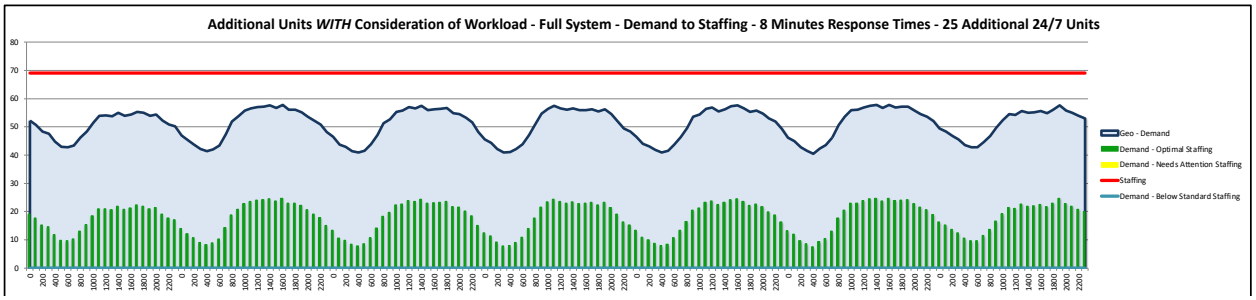
PGFD Current Scheduled Unit Hours: 162,584
Optional Models Unit Hours: 192,192
Response UHU: .435
Volume: 65,252
Time on Task: 1:17:42

PGFD - BLS System - Stabilized 8-minutes, No Workload Control											
Unit	Hours Per day	Days	Wkly UH	Annual Unit Hours	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
A806	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A819	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A823	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A824	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A826	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A829	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A830	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A831	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A832	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A833	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A834	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A836	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A838	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A843	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A844	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A846	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A855	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a

Option 2: Stabilize Performance at 8-minutes and Control Workload

In Option 2, *FITCH* created independent models to cover for both performance and workload on staff. Furthermore, in keeping with the spirit of 24-hour-staffed deployed units, *FITCH* only used this staffing rotation for Option 2 model consideration. In this model, *FITCH* ensured that staffing exceeds the geographic demand, peak of day volumes was covered, and workload was <.3 UHU threshold. As you will note, the largest cost in this model is to control for workload, which unit hour staff exceeds just the geographic demand, to ensure both system performance and workload on staff are balanced. Costing for this model only considers the use of sworn personnel. PGFD would have an annual recurring cost of $54,464,512 to implement this model.

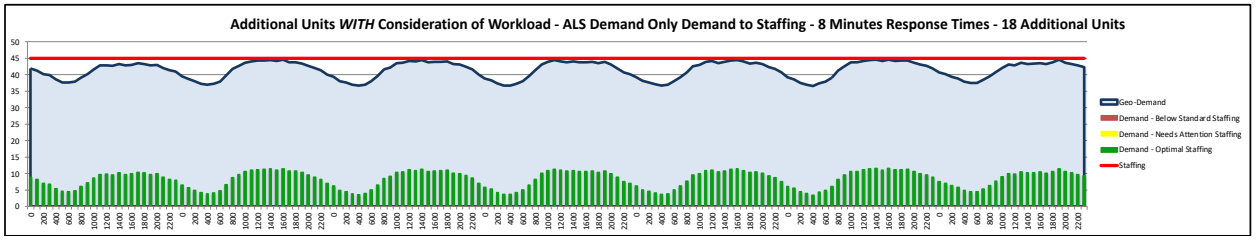
Full System – ALS and BLS Services



PGFD Current Scheduled Unit Hours: 399,104
Optional Models Unit Hours: 604,440
Response UHU: .260
Volume: 122,774
Time on Task: 1:17:42

PGFD - Full System - Stabilized 8-minutes, Workload Controlled											
Unit	Hours Per day	Days	Wkly UH	Annual Unit Hours	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
A806	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A819	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A823	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A824	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A826	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A829	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A830	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A831	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A832	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A833	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A834	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A836	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A838	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A843	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A844	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A846	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A855	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD810	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD812	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD844	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD846	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA802	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA805	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA806	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA816	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA818	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA820	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA821	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA823	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA825	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA825B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA826	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA826B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA829	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA829B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA830	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA832	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA835	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA838	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA840	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA841	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA845	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA847	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA848	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a

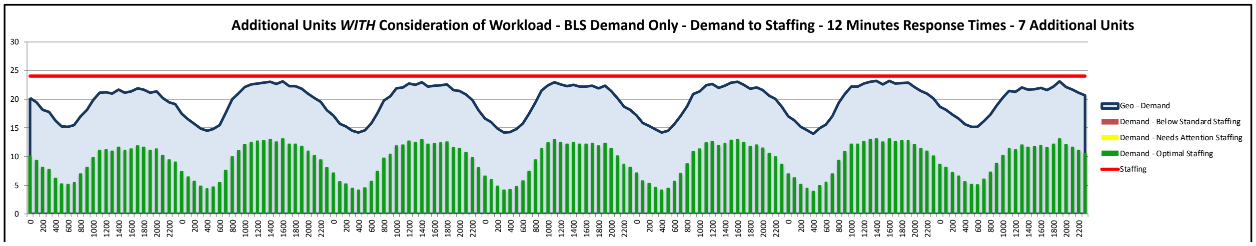
ALS System Only



PGFD Current Scheduled Unit Hours: 236,520
Optional Models Unit Hours: 394,200
Response UHU: .187
Volume: 57,523
Time on Task: 1:17:42

PGFD - ALS System - Stabilized 8-minutes, Workload Controlled											
Unit	Hours Per day	Days	Wkly UH	Annual Unit Hours	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
MD810	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD812	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD844	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD846	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA802	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA805	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA806	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA816	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA818	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA820	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA821	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA823	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA825	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA825B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA826	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA826B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA829	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA829B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA830	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA832	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA835	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA838	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA840	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA841	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA845	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA847	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA848	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a

BLS System Only



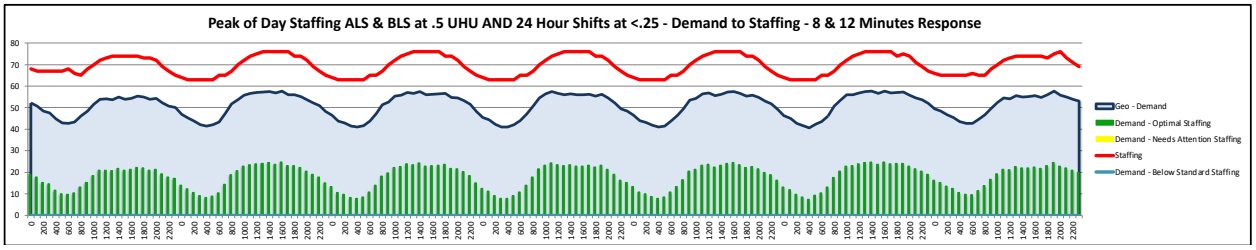
PGFD Current Scheduled Unit Hours: 162,584
Optional Models Unit Hours: 210,240
Response UHU: .397
Volume: 65,252
Time on Task: 1:17:42

PGFD - BLS System - Stabilized 12-minutes, Workload Controlled											
Unit	Hours Per day	Days	Wkly UH	Annual Unit Hours	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
A806	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A819	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A823	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A824	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A826	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A829	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A830	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A831	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A832	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A833	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A834	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A836	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A838	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A843	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A844	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A846	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A855	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a

Option 2a: Control Workload at 8-minutes ALS and 12-minutes BLS

In Option 2a, *FITCH* created independent models to cover for both performance and workload on staff. In this model, *FITCH* ensured that staffing exceeds the geographic demand, peak of day volumes was covered, and workload was <.3 UHU threshold. As you will note, the largest cost in this model is to control for workload, which unit hour staff exceeds just the geographic demand, to ensure both system performance and workload on staff are balanced. This model utilized peak of day staffing. Costing for this model only considers the use of sworn personnel. PGFD would have an annual recurring cost of $62,224,072 to implement this model.

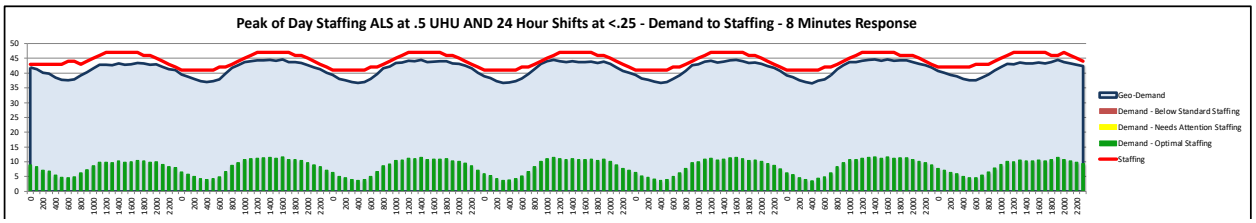
Full System – ALS and BLS Services



PGFD Current Scheduled Unit Hours: 399,104
Optional Models Unit Hours: 605,088
Response UHU: .260
Volume: 122,774
Time on Task: 1:17:42

PGFD - Full System - Stabilized 8-minutes ALS and 12-minutes BLS											
Unit	Hours Per day	Days	Wkly UH	Annual Unit Hours	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
A806	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A819	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A823	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A824	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A826	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A829	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A830	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A831	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A832	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A833	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A834	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A836	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD810	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD812	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD844	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD846	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA802	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA805	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA806	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA816	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA818	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA820	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA821	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA823	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA825	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA825B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA826	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA826B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA829	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA829B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA830	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA832	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA835	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA838	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA840	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA841	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA845	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA847	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA848	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New ALS Units	12	7	84	4392	6a-69	6a-69	6a-69	6a-69	6a-69	6a-69	6a-69
New ALS Units	12	7	84	4392	6a-69	6a-69	6a-69	6a-69	6a-69	6a-69	6a-69
New ALS Units	12	7	84	4392	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p
New ALS Units	12	4	48	2520	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	168	8760	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	168	8760	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p
New ALS Units	12	7	168	8760	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p
New ALS Units	12	7	168	8760	11a-11p	11a-11p	11a-11p	11a-11p	11a-11p	11a-11p	11a-11p
New ALS Units	12	7	168	8760	12p-12a	12p-12a	12p-12a	12p-12a	12p-12a	12p-12a	12p-12a
New ALS Units	12	7	168	8760	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New ALS Units	12	7	168	8760	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a
New ALS Units	12	7	168	8760	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	7a-7p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p
New BLS Shifts	12	7	84	4368	8a-8p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p
New BLS Shifts	12	7	84	4368	9a-9p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New BLS Shifts	12	7	84	4368	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p
New BLS Shifts	12	7	84	4368	10a-10p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p
New BLS Shifts	12	7	84	4368	11a-11p	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p
New BLS Shifts	12	6	72	3744		11a-11p	11a-11p	11a-11p	11a-11p	11a-11p	11a-11p
New BLS Shifts	12	5	60	3120		6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	
New BLS Shifts	12	5	60	3120		8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	
New BLS Shifts	12	7	84	4368	1p-1a	1p-1a	1p-1a	1p-1a	1p-1a	1p-1a	1p-1a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a
New BLS Shifts	12	7	84	4368	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New BLS Shifts	12	2	24	1248						7p-7a	7p-7a
New BLS Shifts	12	1	12	624							7p-7a

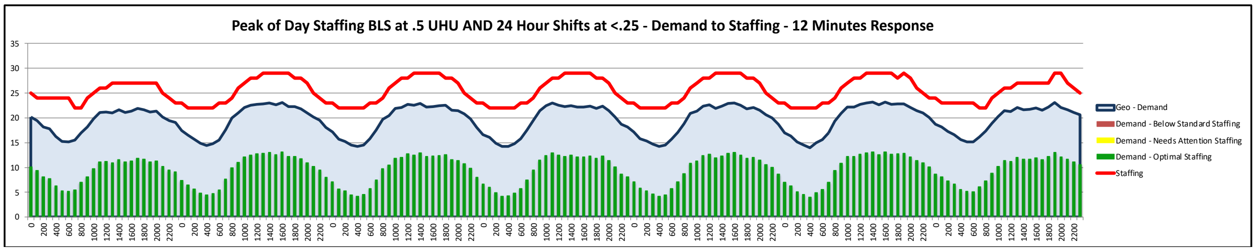
ALS System Only



PGFD Current Scheduled Unit Hours: 236,520
Optional Models Unit Hours: 385,032
Response UHU: .250
Volume: 57,523
Time on Task: 1:17:42

PGFD - ALS System - Stabilized 8-minutes											
Unit	Hours Per day	Days	Wkly UH	Annual Unit Hours	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
MD810	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD812	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD844	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD846	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA802	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA805	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA806	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA816	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA818	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA820	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA821	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA823	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA825	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA825B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA826	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA826B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA829	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA829B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA830	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA832	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA835	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA838	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA840	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA841	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA845	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA847	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA848	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New ALS Units	12	7	84	4392	6a-69	6a-69	6a-69	6a-69	6a-69	6a-69	6a-69
New ALS Units	12	7	84	4392	6a-69	6a-69	6a-69	6a-69	6a-69	6a-69	6a-69
New ALS Units	12	7	84	4392	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p
New ALS Units	12	4	48	2520	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	168	8760	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	168	8760	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p
New ALS Units	12	7	168	8760	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p
New ALS Units	12	7	168	8760	11a-11p	11a-11p	11a-11p	11a-11p	11a-11p	11a-11p	11a-11p
New ALS Units	12	7	168	8760	12p-12a	12p-12a	12p-12a	12p-12a	12p-12a	12p-12a	12p-12a
New ALS Units	12	7	168	8760	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New ALS Units	12	7	168	8760	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a
New ALS Units	12	7	168	8760	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a

BLS System Only



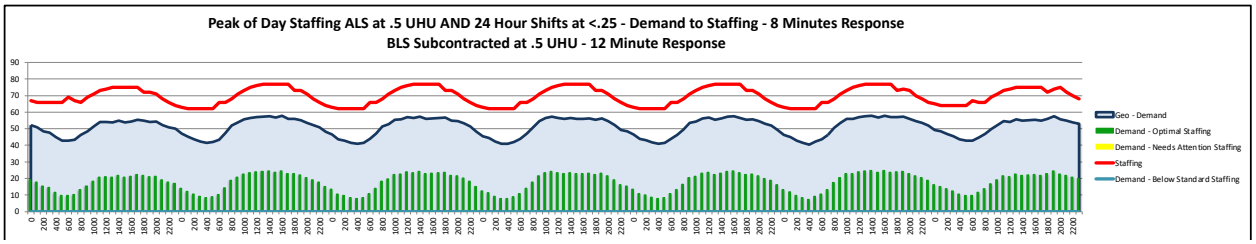
PGFD Current Scheduled Unit Hours: 162,584
Optional Models Unit Hours: 220,056
Response UHU: .250
Volume: 65,252
Time on Task: 1:17:42

PGFD - BLS System - Stabilized 12-minutes											
Unit	Hours Per day	Days	Wkly UH	Annual Unit Hours	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
A806	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A819	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A823	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A824	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A826	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A829	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A830	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A831	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A832	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A833	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A834	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A836	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	7a-7p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p
New BLS Shifts	12	7	84	4368	8a-8p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p
New BLS Shifts	12	7	84	4368	9a-9p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New BLS Shifts	12	7	84	4368	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p
New BLS Shifts	12	7	84	4368	10a-10p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p
New BLS Shifts	12	7	84	4368	11a-11p	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p
New BLS Shifts	12	6	72	3744		11a-11p	11a-11p	11a-11p	11a-11p	11a-11p	11a-11p
New BLS Shifts	12	5	60	3120		6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	
New BLS Shifts	12	5	60	3120		8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	
New BLS Shifts	12	7	84	4368	1p-1a	1p-1a	1p-1a	1p-1a	1p-1a	1p-1a	1p-1a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a
New BLS Shifts	12	7	84	4368	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New BLS Shifts	12	2	24	1248						7p-7a	7p-7a
New BLS Shifts	12	1	12	624							7p-7a
New BLS Shifts											

Option 2b: PGFD 8-minutes ALS and Outsource 12-minutes BLS

In Option 2b, *FITCH* created independent models to cover for both performance and workload on staff. In this model, *FITCH* ensured that staffing exceeds the geographic demand, peak of day volumes was covered, and workload was <.3 UHU threshold. As you will note, the largest cost in this model is to control for workload, which unit hour staff exceeds just the geographic demand, to ensure both system performance and workload on staff are balanced. This model utilizes PGFD to provide all ALS services within 8-minutes and outsources BLS services at 12-minutes. Costing for this model only considers the use of sworn personnel. PGFD would have an annual recurring cost of $22,364,426 to implement this model.

Full System – ALS Provided by PGFD and Outsourced BLS Services

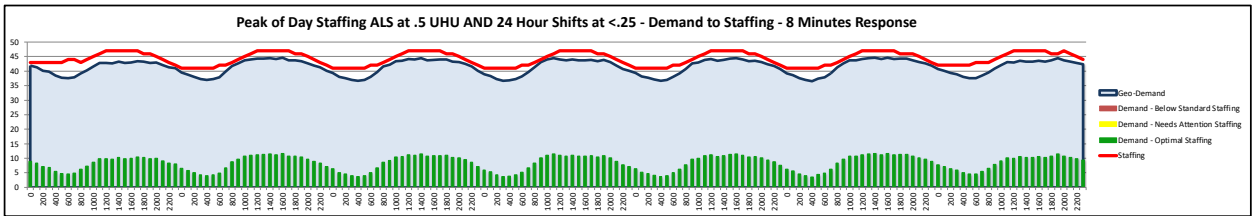


PGFD Current Scheduled Unit Hours: 399,104
Optional Models Unit Hours: 552,672
Response UHU: .284
Volume: 122,774
Time on Task: 1:17:42

PGFD - Full System - ALS 8-minutes - Outsourced BLS at 12-minutes

Unit	Hours Per day	Days	Wkly UH	Annual Unit Hours	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
MD810	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD812	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD844	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD846	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA802	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA805	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA806	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA816	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA818	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA820	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA821	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA823	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA825	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA825B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA826	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA826B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA829	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA829B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA830	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA832	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA835	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA838	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA840	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA841	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA845	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA847	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA848	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New ALS Units	12	7	84	4392	6a-69	6a-69	6a-69	6a-69	6a-69	6a-69	6a-69
New ALS Units	12	7	84	4392	6a-69	6a-69	6a-69	6a-69	6a-69	6a-69	6a-69
New ALS Units	12	7	84	4392	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p
New ALS Units	12	4	48	2520	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	168	8760	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	168	8760	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p
New ALS Units	12	7	168	8760	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p
New ALS Units	12	7	168	8760	11a-11p	11a-11p	11a-11p	11a-11p	11a-11p	11a-11p	11a-11p
New ALS Units	12	7	168	8760	12p-12a	12p-12a	12p-12a	12p-12a	12p-12a	12p-12a	12p-12a
New ALS Units	12	7	168	8760	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New ALS Units	12	7	168	8760	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a
New ALS Units	12	7	168	8760	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	7a-7p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p
New BLS Shifts	12	7	84	4368	8a-8p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p
New BLS Shifts	12	7	84	4368	9a-9p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New BLS Shifts	12	7	84	4368	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p
New BLS Shifts	12	7	84	4368	10a-10p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p
New BLS Shifts	12	7	84	4368	11a-11p	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p
New BLS Shifts	12	6	72	3744		11a-11p	11a-11p	11a-11p	11a-11p	11a-11p	11a-11p
New BLS Shifts	12	5	60	3120		6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	
New BLS Shifts	12	5	60	3120		8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	
New BLS Shifts	12	7	84	4368	1p-1a	1p-1a	1p-1a	1p-1a	1p-1a	1p-1a	1p-1a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a
New BLS Shifts	12	7	84	4368	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New BLS Shifts	12	2	24	1248						7p-7a	7p-7a
New BLS Shifts	12	1	12	624							7p-7a
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	7a-7p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p
New BLS Shifts	12	7	84	4368	8a-8p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p
New BLS Shifts	12	7	84	4368	9a-9p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New BLS Shifts	12	7	84	4368	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p
New BLS Shifts	12	7	84	4368	10a-10p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p
New BLS Shifts	12	7	84	4368	11a-11p	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p
New BLS Shifts	12	6	72	3744		11a-11p	11a-11p	11a-11p	11a-11p	11a-11p	11a-11p
New BLS Shifts	12	5	60	3120		6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	
New BLS Shifts	12	5	60	3120		8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	
New BLS Shifts	12	7	84	4368	1p-1a	1p-1a	1p-1a	1p-1a	1p-1a	1p-1a	1p-1a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a
New BLS Shifts	12	7	84	4368	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New BLS Shifts	12	2	24	1248						7p-7a	7p-7a
New BLS Shifts	12	1	12	624							7p-7a
New BLS Shifts											

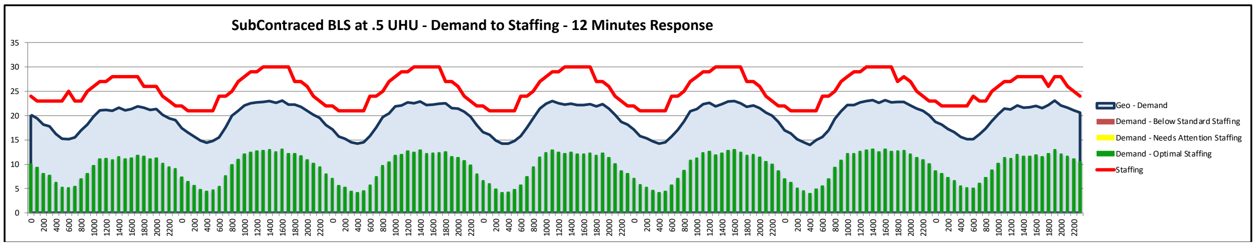
ALS System Only



PGFD Current Scheduled Unit Hours: 236,520
Optional Models Unit Hours: 385,032
Response UHU: .191
Volume: 57,523
Time on Task: 1:17:42

PGFD - ALS System - Stabilized 8-minutes											
Unit	Hours Per day	Days	Wkly UH	Annual Unit Hours	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
MD810	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD812	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD844	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD846	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA802	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA805	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA806	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA816	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA818	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA820	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA821	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA823	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA825	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA825B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA826	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA826B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA829	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA829B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA830	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA832	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA835	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA838	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA840	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA841	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA845	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA847	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA848	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New ALS Units	12	7	84	4392	6a-69	6a-69	6a-69	6a-69	6a-69	6a-69	6a-69
New ALS Units	12	7	84	4392	6a-69	6a-69	6a-69	6a-69	6a-69	6a-69	6a-69
New ALS Units	12	7	84	4392	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p
New ALS Units	12	4	48	2520	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	168	8760	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	168	8760	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p
New ALS Units	12	7	168	8760	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p
New ALS Units	12	7	168	8760	11a-11p	11a-11p	11a-11p	11a-11p	11a-11p	11a-11p	11a-11p
New ALS Units	12	7	168	8760	12p-12a	12p-12a	12p-12a	12p-12a	12p-12a	12p-12a	12p-12a
New ALS Units	12	7	168	8760	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New ALS Units	12	7	168	8760	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a
New ALS Units	12	7	168	8760	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a

BLS System Only



PGFD Current Scheduled Unit Hours: 162,584
Optional Models Unit Hours: 167,640
Response UHU: .498 (12-hour resources)
Volume: 65,252
Time on Task: 1:17:42

PGFD - BLS System - Stabilized 8-minutes - Outsourced											
Unit	Hours Per day	Days	Wkly UH	Annual Unit Hours	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
A806	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A819	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A823	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A824	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A826	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A829	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A830	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A831	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A832	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A833	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A834	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A836	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A838	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A843	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A844	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A846	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A855	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	12	7	84	4392	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p
New Unit	12	5	60	3144		7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	
New Unit	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New Unit	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New Unit	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New Unit	12	7	84	4392	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p
New Unit	12	7	84	4392	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p
New Unit	12	7	84	4392	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p
New Unit	12	7	84	4392	11a-11p	11a-11p	11a-11p	11a-11p	11a-11p	11a-11p	11a-11p
New Unit	12	7	84	4392	1p-1a	1p-1a	1p-1a	1p-1a	1p-1a	1p-1a	1p-1a
New Unit	12	7	84	4392	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a
New Unit	12	2	24	1272	7p-7a						7p-7a
New Unit	12	7	84	4392	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New Unit	12	7	84	4392	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New Unit	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New Unit	12	7	84	4392	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New Unit	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New Unit	12	7	84	4392	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New Unit	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New Unit	12	7	84	4392	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a

PGFD - BLS System - 12-minutes - Outsourced											
Unit	Hours Per day	Days	Wkly UH	Annual Unit Hours	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	7a-7p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	6a-6p
New BLS Shifts	12	7	84	4368	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p
New BLS Shifts	12	7	84	4368	8a-8p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p
New BLS Shifts	12	7	84	4368	9a-9p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New BLS Shifts	12	7	84	4368	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p
New BLS Shifts	12	7	84	4368	10a-10p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p
New BLS Shifts	12	7	84	4368	11a-11p	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p
New BLS Shifts	12	6	72	3744		11a-11p	11a-11p	11a-11p	11a-11p	11a-11p	11a-11p
New BLS Shifts	12	5	60	3120		6a-6p	6a-6p	6a-6p	6a-6p	6a-6p	
New BLS Shifts	12	5	60	3120		8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	
New BLS Shifts	12	7	84	4368	1p-1a	1p-1a	1p-1a	1p-1a	1p-1a	1p-1a	1p-1a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New BLS Shifts	12	7	84	4368	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a
New BLS Shifts	12	7	84	4368	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New BLS Shifts	12	2	24	1248						7p-7a	7p-7a
New BLS Shifts	12	1	12	624							7p-7a
New BLS Shifts											

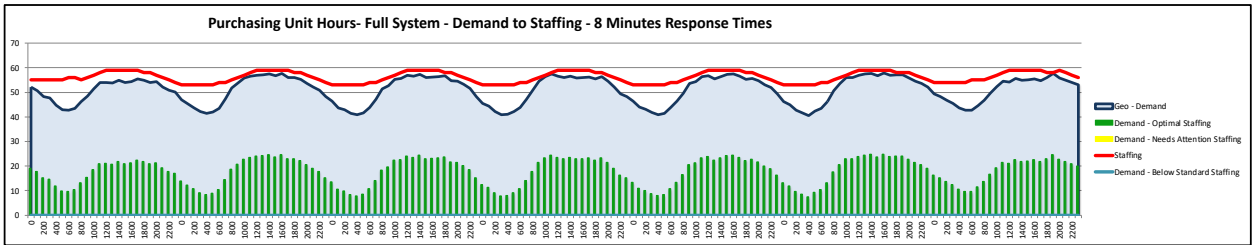
Option 3: 8-minutes Outsourced to Private, Contractor, or Third Service

In Option 3, *FITCH* created this model to evaluate other options for staffing considerations. The goal was to match both supply and demand, balance workload on 24-hour units keeping below the <.3 UHU threshold and keeping the12-hour units to a .5 UHU threshold. Irrespective of which model is chosen, the total unit hours required would be the same. The only difference would be the length of shift (12- vs 24-hour shifts) for workload control and costing to implement each model. To control for workload, *FITCH* used the current baseline unit hour schedule and adding 12-hour shifts. Costing for this model only considers the use of private ambulance staff or third-service county hired personnel. Depending on the model chosen, PGFD could experience the following for Program cost or savings:

3a: Purchased Unit Hours: Cost of $18,487,524
3b: Third Service: Savings of $1,236,449
3c: Outsourcing to a Private Provider: Savings of $21,715,675

PGFD should consider increasing unit hours to both improve performance and control workload for staff. Option 3 models provide the least investment to ensure both key items are met.

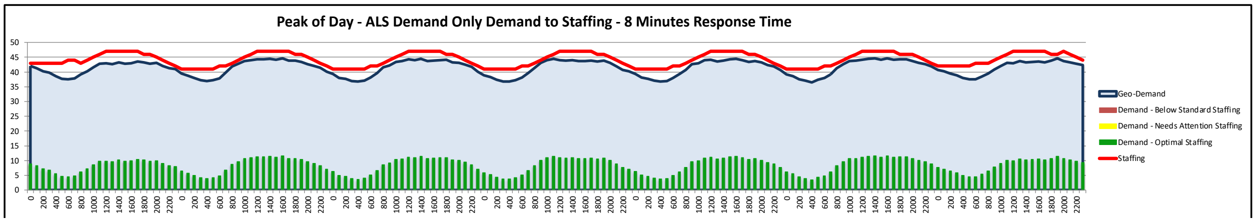
Full System – ALS and BLS Services



PGFD Current Scheduled Unit Hours: 399,104
Optional Models Unit Hours: 490,272
Response UHU: .321
Volume: 122,774
Time on Task: 1:17:42

PGFD - Full System - Stabilized 8-minutes - Outsourced											
Unit	Hours Per day	Days	Wkly UH	Annual Unit Hours	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
A806	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A819	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A823	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A824	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A826	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A829	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A830	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A831	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A832	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A833	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A834	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A836	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD810	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD812	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD844	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD846	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA802	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA805	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA806	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA816	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA818	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA820	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA821	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA823	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA825	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA825B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA826	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA826B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA829	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA829B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA830	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA832	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA835	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA838	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA840	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA841	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA845	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA847	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA848	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New ALS Units	12	7	84	4392	6a-69	6a-69	6a-69	6a-69	6a-69	6a-69	6a-69
New ALS Units	12	7	84	4392	6a-69	6a-69	6a-69	6a-69	6a-69	6a-69	6a-69
New ALS Units	12	7	84	4392	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p
New ALS Units	12	4	48	2520	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	168	8760	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	168	8760	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p
New ALS Units	12	7	168	8760	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p
New ALS Units	12	7	168	8760	11a-11p	11a-11p	11a-11p	11a-11p	11a-11p	11a-11p	11a-11p
New ALS Units	12	7	168	8760	12p-12a	12p-12a	12p-12a	12p-12a	12p-12a	12p-12a	12p-12a
New ALS Units	12	7	168	8760	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New ALS Units	12	7	168	8760	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a
New ALS Units	12	7	168	8760	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a

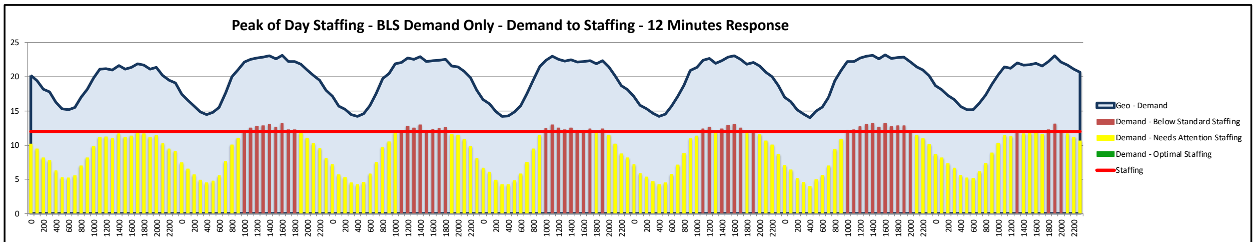
ALS System Only



PGFD Current Scheduled Unit Hours: 236,520
Optional Models Unit Hours: 385,032
Response UHU: .250
Volume: 57,523
Time on Task: 1:17:42

PGFD - ALS System - Stabilized 8-minutes - Outsourced											
Unit	Hours Per day	Days	Wkly UH	Annual Unit Hours	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
MD810	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD812	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD844	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD846	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA802	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA805	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA806	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA816	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA818	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA820	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA821	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA823	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA825	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA825B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA826	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA826B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA829	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA829B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA830	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA832	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA835	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA838	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA840	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA841	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA845	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA847	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA848	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New ALS Units	12	7	84	4392	6a-69	6a-69	6a-69	6a-69	6a-69	6a-69	6a-69
New ALS Units	12	7	84	4392	6a-69	6a-69	6a-69	6a-69	6a-69	6a-69	6a-69
New ALS Units	12	7	84	4392	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p
New ALS Units	12	4	48	2520	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	168	8760	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	168	8760	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p
New ALS Units	12	7	168	8760	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p
New ALS Units	12	7	168	8760	11a-11p	11a-11p	11a-11p	11a-11p	11a-11p	11a-11p	11a-11p
New ALS Units	12	7	168	8760	12p-12a	12p-12a	12p-12a	12p-12a	12p-12a	12p-12a	12p-12a
New ALS Units	12	7	168	8760	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New ALS Units	12	7	168	8760	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a
New ALS Units	12	7	168	8760	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a

BLS System Only



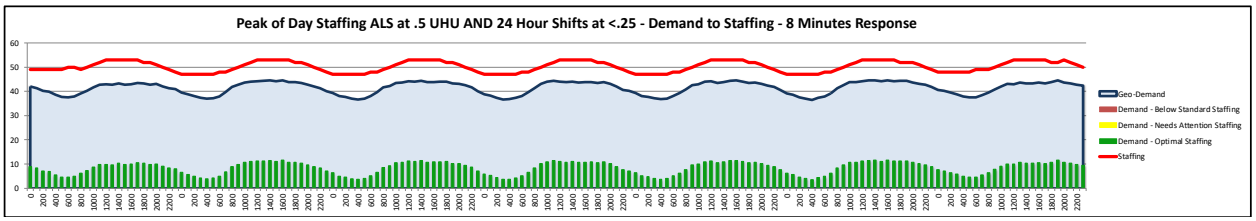
PGFD Current Scheduled Unit Hours: 162,584
Optional Models Unit Hours: 105,240
Response UHU: .483
Volume: 65,252
Time on Task: 1:17:42

PGFD - BLS System - Stabilized 8-minutes - Outsourced											
Unit	Hours Per day	Days	Wkly UH	Annual Unit Hours	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
A806	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A819	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A823	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A824	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A826	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A829	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A830	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A831	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A832	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A833	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A834	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A836	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A838	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A843	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A844	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A846	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
A855	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New Unit	12	7	84	4392	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p
New Unit	12	5	60	3144		7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	
New Unit	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New Unit	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New Unit	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New Unit	12	7	84	4392	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p
New Unit	12	7	84	4392	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p
New Unit	12	7	84	4392	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p
New Unit	12	7	84	4392	11a-11p	11a-11p	11a-11p	11a-11p	11a-11p	11a-11p	11a-11p
New Unit	12	7	84	4392	1p-1a	1p-1a	1p-1a	1p-1a	1p-1a	1p-1a	1p-1a
New Unit	12	7	84	4392	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a
New Unit	12	2	24	1272	7p-7a						7p-7a
New Unit	12	7	84	4392	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New Unit	12	7	84	4392	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New Unit	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New Unit	12	7	84	4392	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New Unit	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New Unit	12	7	84	4392	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New Unit	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New Unit	12	7	84	4392	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a

Option 4: PGFD Single Tier ALS System

In Option 4, PGFD would provide all EMS services at an ALS level and an improved response time of 8 minutes. This model utilizes a blend of 24-hour and peak load 12-hour resources. PGFD should consider increasing unit hours to both improve performance and control workload for staff. Option 4 would have an annual recurring expenditure of $14,044,213.

Full System – Single Tier ALS System



PGFD Current Scheduled Unit Hours: 399,104
Optional Models Unit Hours: 437,448
Response UHU: .250 for 24-hour and .483 for 12-hour units
Volume: 122,774
Time on Task: 1:17:42

PGFD - ALS System - 8-minutes											
Unit	Hours Per day	Days	Wkly UH	Annual Unit Hours	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
MD810	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD812	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD844	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
MD846	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA802	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA805	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA806	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA816	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA818	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA820	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA821	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA823	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA825	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA825B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA826	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA826B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA829	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA829B	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA830	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA832	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA835	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA838	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA840	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA841	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA845	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA847	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
PA848	24	7	168	8760	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a	7a-7a
New ALS Units	12	7	84	4392	6a-69	6a-69	6a-69	6a-69	6a-69	6a-69	6a-69
New ALS Units	12	7	84	4392	6a-69	6a-69	6a-69	6a-69	6a-69	6a-69	6a-69
New ALS Units	12	7	84	4392	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p
New ALS Units	12	4	48	2520	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p	7a-7p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	84	4392	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	168	8760	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p	8a-8p
New ALS Units	12	7	168	8760	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p	9a-9p
New ALS Units	12	7	168	8760	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p	10a-10p
New ALS Units	12	7	168	8760	11a-11p	11a-11p	11a-11p	11a-11p	11a-11p	11a-11p	11a-11p
New ALS Units	12	7	168	8760	12p-12a	12p-12a	12p-12a	12p-12a	12p-12a	12p-12a	12p-12a
New ALS Units	12	7	168	8760	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a	6p-6a
New ALS Units	12	7	168	8760	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a
New ALS Units	12	7	168	8760	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a	7p-7a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a
New ALS Units	12	7	168	8760	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a	8p-8a

Summary of all Models

Comparison of the models were constructed separately to show the impact on operating cost or savings to Prince Georges County. Operating expenses for using current sworn staff for an ALS unit hour are $277.23 and for a BLS unit hour at $237.78. For the Private model, *FITCH* evaluated average salaries in the local region and then applied a 34% fringe rate, then added additional direct material and overhead cost to determine an ALS unit hour would cost $155.58 and for a BLS unit hour at $123.93. For the Third-service model, *FITCH* adjusted the fringe rate to the counties current 74% and increased salaries by 5% for competitive wages. *FITCH* determined the ALS unit hour would cost $212.12 and for a BLS unit hour at $168.96, respectively.

The most cost-effective option is the contracted model (privatized), as the labor costs are reduced due to the lower fringe benefits rate and the decrease in competitive wages. The next most cost effective is for the County to create a government 3rd service EMS program that can report to the Fire Chief. The third most cost-effective option is to create a single tier ALS system (Option 4) that will improve response time by approximately 2 minutes and have appropriate controls for workload that reduce the system from 51% to 25% for the 24-hour resources. Overall, the single tier ALS system with peak load units provided by PGFD may have the easiest pathway to implementation and has the least unintended impact on the current workforce.

System Design Costs	Unit Hours			Productivity*					Program Cost (Cost) / Savings	
	Full System	ALS System	BLS System	Full System	ALS System 24/7	BLS System	ALS System POD 12/7	ALS System POD 12/7	Annual EMS Program Cost	(Investment)/ Savings
Current System Cost	399,104	236,520	162,584	0.394	0.311	0.514	N/A	N/A	$ 107,229,496	
Opt 1: Increase Staffing wo Workload Consideration	586,392	394,200	192,192	0.268	0.187	0.435	N/A	N/A	$ 147,122,798	$ (39,893,303)
Opt 2: Increase Staffing WITH Workload Consideration	604,440	394,200	210,240	0.260	0.187	0.397	N/A	N/A	$ 161,694,007	$ (54,464,512)
Opt 2a: POD for ALS and BLS goal is .25 UH on 24 and POD at .5, and cover Geo-Demand for both	605,088	385,032	220,056	0.260	0.250	0.250	0.097	0.498	$ 169,453,567	$ (62,224,072)
Opt 2b: ALS system cost, and subcontract BLS Cost	552,672	385,032	167,640	0.284	0.191	0.498		N/A	$ 129,593,922	$ (22,364,426)
Purchased Unit Hours**	490,272	385,032	105,240	0.321	0.250	0.250	0.483	N/A	$ 125,717,019	$ (18,487,524)
Third Service***	490,272	385,032	105,240	0.321	0.250	0.250	0.483	N/A	$ 105,993,046	$ 1,236,449
Private***	490,272	385,032	105,240	0.321	0.250	0.250	0.483	N/A	$ 85,513,821	$ 21,715,675
All ALS System***	437,448	437,448		0.359	0.250		0.488		$ 121,273,709	$ (14,044,213)

*Conditional formatting for all models except Third Service and Private show >.3 Red and <.3 Green

**24-hour unit workload as 12 hour units are considered at a .5 workload

***Workload increased for the models by using only 12 hour shifts

Emergency Communications Center

Fire Rescue resources are dispatched by the Public Safety Communications Division, housed under the county's Homeland Security Department. Fire rescue has no direct oversight or management control for the emergency communications center's (ECC's) operations. The ECC functions as a primary public safety answering point (PSAP) and handles 911 call intake and dispatching services for law enforcement and fire rescue. Handling approximately 1.4 million incidents per year, the ECC is triple accredited by the International Academies of Emergency Dispatch (IAED), utilizing their emergency dispatch protocols for law enforcement, fire, and EMS.

During the consultant's initial site visit, we were not allowed to visit the ECC in person, but rather conducted a virtual interview with the ECC's Director, an ECC manager, and technical staff. ECC staff indicated that there were six fire dispatch positions within the center which accommodate fire dispatch personnel and two supervisor positions. Out of the 4,000 dispatched calls per day, an estimated 460 (11.5%) were related to fire rescue. Once the incident information is entered into the CAD system, the call is sent to an ECC supervisor to review the CAD recommendations before the fire station or unit alert occurs.

As discussed more fully in the data section of this report, the table below reflects call processing performance within the ECC.

Figure 33: 90th Percentile Call Processing Times by Staffing Model & Program - First Arriving Unit

Staffing Model	Program	Dispatch Time (Minutes)
Career	Bomb	--
	EMS	4.6
	Fire	4.3
	Hazmat	4.0
	Rescue	6.0
	Total	**4.8**
Combination	Bomb	--
	EMS	4.9
	Fire	4.6
	Hazmat	3.7
	Rescue	6.3
	Total	**5.0**
Volunteer	Bomb	--
	EMS	5.2
	Fire	4.5
	Hazmat	3.7
	Rescue	6.3
	Total	**5.2**
Other	Bomb	--
	EMS	4.9
	Fire	--
	Hazmat	--
	Rescue	--
	Total	**4.9**
Total		**4.9**

The national standard NFPA 1225 recommends that for fire and EMS incidents of "the highest prioritization level emergency events . . . [call processing] shall be completed within 60 seconds, 90 percent of the time." [41] These highest priority incidents include structure fires, cardiac arrest, patients not breathing, etc. The most recent edition of the standard allows for the authority having jurisdiction (AHJ) to determine other call types that should meet this target. However,

[41] National Fire Protection Association (2022). NFPA 1225: Standard for Emergency Services Communications Systems. NFPA: Quincy, MA. This document incorporates formerly numbered Standards 1061 and 1221 into a single document.

FITCH's experience with other client sites does not align with the NFPA recommended standard. Many agencies we have reviewed for fire and EMS call processing intervals are typically between 90 and 120 seconds at the 90th percentile. Beyond that time interval, *FITCH* will typically make recommendations to assess or mitigate these performance issues. While some agencies exceed that target by quite a bit, *FITCH* rarely finds an agency aligned with the 60-second target at the 90th percentile. The figure below reflects some comparable Metro-sized fire rescue agencies and their respective call processing times. It is also noteworthy that the NFPA Research Foundation is currently reviewing its 60-second target to assess if the current provisions are reasonable[42]

Figure 34: Comparable Metro-Sized Agencies - 90th Percentile Call Processing Times in Minutes

Metro Department	Call Processing Interval
Agency A	1.8
Agency B	2.9
Agency C	3.4
Agency D	3.3
Agency E	1.7
Agency E	2.8

With an overall 90th percentile call processing interval reported as 4.9 minutes, the current call processing interval performance aligns poorly with recommended targets or those seen in comparable jurisdictions.

There are no national recommendations for call processing times by law enforcement agencies. Instead, the emphasis is given to a deliberate gathering of information that allows accurate categorization of the call and ensures the safety of the law enforcement officer and the public. As noted above, EMS and fire agencies place a premium on call processing timeliness. While the use of a primary PSAP to dispatch law enforcement, fire and EMS resources is considered a best practice – in large part because it minimizes the need to transfer citizens between disparate PSAPs – it is common to find a similar pattern as seen here. With approximately 90% of all emergency incidents requiring only a law enforcement response, telecommunicators typically perform without the sense of urgency often desired by fire rescue agencies. For these reasons, it is important for ECC's to monitor, and report, call processing intervals for fire and EMS. When call processing intervals are at the levels reported here, active steps to improve performance are warranted.

Recommendation:
The county should undertake an assessment of fire and EMS call processing within the Emergency Communications Center (ECC) with a goal to reduce call processing intervals.

[42] See https://www.nfpa.org/News-and-Research/Publications-and-media/Blogs-Landing-Page/NFPA-Today/Blog-Posts/2022/06/30/Public-Safety-Call-Answering-and-Event-Processing-Times-Survey-Requesting-Participation, accessed on October 10, 2022

Evaluation of Performance – A Shift Toward Outcomes

Evaluation of system performance occurs through various mechanisms of iterative planning and analysis, but commonly includes an examination of a system's processes, outputs, and impact. Processes (or activities) are the services or interventions provided by the system to fulfill its mission or goals; outputs are the direct products or results from the system's processes, some of which may also be referred to as process measures; and impact refers to the ultimate benefits that result from the system's activities and output, including positive effects related to short-term, intermediate, and long-term goals, and may also be referred to as outcome measures.

In systems that offer fire and EMS services:

- Processes may include training personnel; acquiring, maintaining, and inspecting vehicles and equipment; establishing community relationships; and developing communication and data management connections with a 911 center;

- Outputs or process measures may include number of calls received and number of responses made by a department, station, or unit; unit dispatch, turnout, travel, on scene, and response times; percentage of patient transports; percentage of post-seizure patients receiving a blood glucose check;[43] percentage of STEMI patients transported to a designated cardiac receiving center;[44] and number of community outreach or education events; and

- Impact or outcome measures may include reduced financial loss with structure fires; reduced number of forest or wildland fires originating from people; improved patient outcomes; and increased survival rates.

In addition to setting goals or benchmarks related to impact or outcome measures, systems typically set goals or benchmarks related to outputs or process measures due to the presumed or evidence-based relationship between the two measures. For example, research indicates that transport of Step 1 and Step 2 trauma patients to a designated trauma center (process measure) can reduce mortality (outcome measure).[45] As such, the Washington State Department of Health has set a process-related goal that ≥ 90% of Step 1 and Step 2 trauma patients be transported by EMS to a designated trauma center.

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[43] Washington State Department of Health. (2017, January 18). EMS System Key Performance Indicators / Clinical Measures. State of Washington: Author, KPI 4.1. (Available: http://ncecc.net/wp-content/uploads/2012/03/WA-State-EMS-KPI-Spreadsheet-Update-20170126.pdf).

[44] Ibid, KPI 5.6.

[45] Ibid, KPI 1.2.

Outputs or process measures are typically more easily evaluated, as the system exerts direct influence over their outputs and processes and can oversee related data collection and management. Impact or outcome measures become more difficult to evaluate when data collection and management are outside the purview of the system, and interpretation of data must account for other intervening factors.

Nevertheless, systems are encouraged to move beyond goal setting or benchmarking and evaluation related to outputs or process measures and consider ways that impact or outcome measures can be evaluated. Establishing effective partnerships with medical facilities to access data related to patient outcomes is essential for EMS-related outcomes. Internally, the Department may benefit from a refined training and quality assurance/quality improvement effort on fire reporting, estimating fire spread, and estimating fire losses.

Outcome Measures for Consideration[46]

In the context of fire suppression related outcomes, several potential outcome measures are posited for the Department's consideration. A brief description and discussion of these outcomes are provided:

Fire Spread – Degree of Confinement – All Building Fires with Fire Spread

Analyses of fire spread could not be completed with the available data provided. Future internal analyses would provide reasonable data to adopt benchmark performance outcome measures to contain all building fires to the building of origin at X%; X% of all building fires to the floor of origin; and X% of all building fires to the room of origin or less.

This capability to measure and report on fire spread is currently available to the Department through state and national fire reporting formats. However, it is recommended that a focused quality assurance and quality improvement process be adopted that ensures consistency in reporting and defines key reporting elements. For example, when is a cooking fire in a building a building fire or a cooking fire?

Fire Spread – Degree of Confinement – Residential Structure Fires

The differentiation by occupancy type can be accomplished in the fire reporting. The Department is encouraged to begin to measure the degree of confinement by residential fires and commercial occupancies separately and as the aggregate data described previously.

[46] Friedman, M. (2011). Adapted from *Fire Department performance measures.* Santa Fe, New Mexico: Fiscal Policy Studies Institute (FPSI).

Fire Controlled by Fire Suppression Systems

This measure is available in the Department's fire reporting systems. The Department is encouraged to view this outcome measure from at least two lenses. First, it may be beneficial to measure the percentage of fires controlled by fire suppression systems where a fire suppression system is present. A second lens may be to establish a long-term goal of the number of overall fires that were extinguished by suppression systems to measure the saturation of sprinkler systems in the communities building stock. While both measures are valuable, there are other mechanisms available to the Department to capture long-term sprinkler saturation. Therefore, it is recommended that the Department focuses on ensuring the present sprinkler systems are delivering the desired outcomes at a high level while continuing to further the policy discussion on required sprinkler system saturation.

Preventable Fire Incidents

Fire prevention and community risk reduction efforts generally focus on reducing the preventable fire incidents through engineering, enforcement, economic incentives, and education.[47] The last line of defense is the emergency response. Therefore, it is recommended that the Department begin to track and measure the number of preventable and unpreventable incidents of fire. The available fields for cause of fires are provided below.

Count of Incident Number Row Labels	Total
Act of nature	
Cause under investigation	
Cause undetermined after investigation	
Cause, other (Only used for additional exposures)	
Failure of equipment or heat source	
Intentional	
Unintentional	
Grand Total	

Therefore, the Department is encouraged to utilize and/or create a data point that provides insight into preventable and unpreventable fires. For example, it would be reasonable to suggest that a large percentage of "Unintentional Fires" would be preventable. This category typically accounts for large percentage of building fires. Similarly, a smaller portion of "Failure of Equipment or Heat Source" may be associated with behavioral influences that serve as proximal or inception events.

Finally, what percentage of the fires were logged with an undetermined cause? The Department is encouraged to ensure that as longer duration investigations are completed, the original fire reporting is updated and captured for analysis, where applicable. Conversely, fires where a

[47] National Fire Protection Agency. (2016). *Community risk reduction doing more with more.* Quincy, MA: NFPA Urban Fire and Life Safety Task Force.

cause may not be readily available, the Department may evaluate the process for an appropriate return on investment for a more detailed investigation.

Building Fires in Commercial Occupancies

The differentiation by occupancy type can be accomplished in the fire reporting. The Department is encouraged to begin to measure the degree of confinement by residential fires and commercial occupancies separately and as the aggregate data described previously. In addition, this section of outcomes contemplates capturing fire loss as a percentage of the total property value both with and without fire protection systems.

Property Saved in Buildings with Fires

One desired outcome of fire suppression efforts is to not just focus on fire losses but also to focus on the value and proportion of property saved. However, estimates for property saved must be completed with a high degree of transparency, consistency, and fidelity. In other words, the Department must guard against inflating value that erodes trust in the reported outcomes.

Therefore, it is recommended that a structured system be developed internally that incorporates strategies for estimating fire losses, defining, and capturing original value, and legitimately estimating the portion of the building that would have burned without intervention.

First, estimating fire losses has been a difficult proposition for most fire agencies. There is often a lack of structured methodology to estimate the actual loss experienced by insurers may be three-fold the local fire officer's estimates. The fire department may estimate the damage to the room of origin but underappreciate the value to the remainder of the house and contents. Therefore, a system should be developed, and the personnel should be educated in the system accompanied by a quality assurance / quality improvement process.

Second, it will be important to define the source material for the value of the property. For example, is it market value or assessed value? Some agencies have incorporated the tax collector's office link to the address so that completion of the fire report, personnel can have ready access to the buildings value. It is recommended to use assessed value for consistency.

Third, the estimate of property saved has to be moderated by the realistic probability of further damage. In other words, it would not be appropriate for the fire department to put out a small trash can fire in a bathroom of a mall and assume the entire mall would have been a loss without the intervention. In this example, if the bathroom were non-combustible or sprinklered, then the opportunity for fire spread would be greatly reduced. Therefore, it is recommended that a process is adopted that appropriately suggests the impact if there were no intervention similar to the following:

The probability or likelihood of loss to the remaining structure is:

- 10%
- 20%
- 30%
- 40%
- 50%
- 60%
- 70%
- 80%
- 90%
- 100%

If the building is sprinklered, then the probability may be reduced to less than 10%.
The property value can be multiplied by the percentage of estimated fire spread to determine the amount of property saved. Since the number of incidents is relatively low, each postfire report should be reviewed for accuracy and justification. When specifically contemplating fire loss as a percentage of total protected property value, the Department can measure this annually.

Finally, understanding that number of fires is relatively low in frequency, there may be merit in having a few Department members or less conduct investigations and/or cost estimates to ensure a high degree of consistency and accuracy in reporting.

Cardiac Arrest Patient Management

When contemplating EMS services, there are few better outcome measures than that of understanding the number and percentage of patients that survived cardiac arrest through hospital discharge. The Washing State Department of Health created the "System of Key Performance Indicators and Clinical Measures" that provides a framework for clinical performance and outcomes.[48]

The Washington Key Performance Indicators (KPI) suggest that greater than or equal to 50% of the patients that present in cardiac arrest prior to EMS arrival, with a witnessed collapse, and found in a shockable rhythm will survive to hospital discharge. Similarly, with none of the previous restrictions, it is suggested that greater than or equal to 10% of all cardiac arrest patients will survive to discharge from the hospital.

The recommended outcome measures are provided below for the Department's consideration. Benchmark performances are only a recommendation and items left blank will need to be developed and adopted internally. It is fully expected that the Department will continue to refine the outcome measures as well as add new measures in the future.

Recommendation:
It is recommended that the Department consider adopting outcome measures to complement the system of measures to guide performance management.

[48] Washington State Department of Health. (2017, January 18). EMS System Key Performance Indicators / Clinical Measures. State of Washington: Author. (Available: http://ncecc.net/wp-content/uploads/2012/03/WA-State-EMS-KPI-Spreadsheet-Update-20170126.pdf).

Table 25: Recommended Fire Suppression and EMS Outcome Measures

Fire Suppression		
Measure	**Benchmark Performance**	**Current Performance**
Fire Spread – Degree of Confinement – All Building Fires with Fire Spread		
Fire Confined to Building of Origin	95%	%
Fire Confined to Floor of Origin	75%	%
Fire Confined to Room of Origin	50%	%
Time to Fire Confined (from FD arrival)	10:00	mm:ss
Fire Spread – Degree of Confinement – Residential Structures with Fire Spread		
Fire Confined to Room of Origin		
Fires Controlled by Fire Suppression Systems		
Percentage of Fires Extinguished by Fire Suppression Systems in Protected Buildings	90%	%
Preventable Fire Incidents		
Percentage of Fires Unpreventable	%	%
Building Fires in Commercial Occupancies		
Confined to Room of Origin	%	%
Fire Loss as a Percentage of Total Protected Property Value with Fire Protection System	%	%
Fire Loss as a Percentage of Total Protected Property Value without Fire Protection System	%	%
Property Saved in Buildings with Fires		
Value of Property Saved in Dollars	$	$
Fire Loss as a Percentage of Total Protected Property Value	0.05%	%
Emergency Medical Services		
7. Cardiac Arrest Patient Management		
7.3 Percent of patients (in cardiac arrest before EMS arrival) with a witnessed collapse and found in an initially "shockable" rhythm, with survival to discharge from the acute care hospital	≥ 50%	%
7.4 Percent of overall cardiac arrest patients with survival to discharge from hospital	≥ 10%	%

Recommended Process (Activity) Measures

While the outcomes are the ultimate goals of the system design and performance, there are process objectives that have an assumed surrogate relationship to accomplishing and/or maintaining the ultimate outcomes. Therefore, a system of process measures is recommended for the Department to create (if not readily available), adopt, measure, and manage the building blocks toward desired outcomes.

Several process measures were identified and are provided here for consideration and/or adoption. These are presented in the table below. As with the previous presentation for Outcome Measures, any benchmark performance elements that are provided are a suggestion and are not intended to be restrictive for the agency.

Table 26: Recommended Process Measures

Process Measure	Benchmark Performance	Current Performance
Performance and Other Objectives to Accomplish Outcomes		
Percentage of Commercial Properties with Operating Fire Protection Systems	%	%
Total Number of Buildings Protected		#
Dollar Value of Buildings Protected		$
Number of Responses to Fire Alarms	#	#
Percentage of Fire Alarms that are Unwanted Alarms	10%	%
Number of Community Outreach, Training, and Education Events	#	#
Distribution of Fires by Type and Cause	%	%
Percentage of Inspections on Schedule	90%	%

Additionally, a more traditional performance-based system of baseline service measures is provided in the table below. However, the intended benefit to the county and Department of migrating toward well-defined outcome measures is that the Department can be less sensitive to incremental changes in performance as long as the outcome measures continue to be met. In other words, if the Department continues to meet greater than 50% survivability on sudden cardiac arrests, then the sensitivity to a 30-second increase in response time may receive a measured response, if at all.

Regarding EMS, the Washington State Department of Health's KPIs clearly articulates process measures that are desirable. While it was not evident that the State of Oregon has a comparable set of KPIs to use as a reference, the Multnomah County contract with AMR does include outcome related language that proves useful as well. A condensed version of the Washington KPIs is provided here for the Department's consideration. It is understood that some of the data points may not currently exist and are either in process development or may have to be fully developed.

At a high level, the Medical Director is supportive of a migration toward outcome measures and consideration of the sample KPI platform. The KPIs are categorized into 8 broad patient management categories:

1. Critical Trauma
2. Heart Failure
3. Asthma
4. Seizures
5. Acute Coronary Syndrome/Chest Pain
6. Stroke/TIA
7. Cardiac Arrest
8. Advanced Airways

Again, it is understood that some of the measures may need to be modified or adjusted based on local medical direction. In all cases, the process measures presented in this section will require administrative oversight and capacity and should be accompanied by a robust quality assurance / quality improvement effort. A condensed version of the process measures and the benchmark performances are provided below.

Table 27: Washington State Department of Health KPIs (condensed)

Process Measure	Benchmark Performance	Current Performance
1. Critical Trauma Patient Management		
Percent of Step 1 and Step 2 trauma patients		
1.1 . . . with EMS scene time < 10 minutes (arrival-to-departure of ambulance)	≥ 90%	
1.2 . . . transported to designated trauma center	≥ 90%	
2. Heart Failure Patient Management		
Percent of suspected heart failure patients who received		
2.1 . . . CPAP or had CPAP protocol documented	≥ 90%	
2.2 . . . nitroglycerine (NTG) or had NTG protocol documented	≥ 90%	
3. Asthma Patient Management		
Percent of bronchospasm patients with respiratory distress, indicative of wheezing or known history of asthma or reactive airways disease,		
3.1 . . . who received a beta-agonist or had the beta-agonist administration protocol documented by the first EMS crew able to provide such treatment	≥ 90%	
4. Seizure Patient Management		
Percent of still seizing (upon EMS arrival)		
4.1 . . . and post-seizure patients who received a blood glucose (BG) check	≥ 90%	
4.2 . . . or recurrent seizure patients treated with benzodiazepines by EMS	≥ 90%	
5. Acute Coronary Syndrome/Chest Pain Patient Management		
Percent of patients ≥ 35 years old with suspected cardiac chest pain, discomfort, or other ACS symptoms		
5.1 . . . who received aspirin (ASA) from EMS or had the aspirin protocol documented	≥ 90%	
5.2 . . . with 12-Lead ECG acquired by EMS	≥ 90%	
5.3 . . . who received a 12-Lead ECG < 10 minutes from time of arrival on scene by first 12-Lead ECG-equipped EMS unit	≥ 90%	
5.4 . . . with an EMS scene time (arrival-to-departure of ambulance) < 20 minutes	≥ 90%	
5.5 Percent of suspected STEMI patients in which a Code STEMI alert is activated prior to hospital arrival	≥ 90%	
5.6 Percent of patients identified as STEMI by EMS who are taken to a designated cardiac receiving center	≥ 90%	
6. Stroke/TIA Patient Management		
Percent of suspected CVA/TIA patients		
6.1 . . . who have a FAST exam (i.e., neuro screening) completed and documented or documentation of why an exam could not be completed	≥ 90%	
6.2 . . . receiving a BG check	≥ 90%	
6.3 . . . with an EMS scene time (arrival-to-departure of ambulance) < 20 minutes	≥ 90%	

Process Measure	Benchmark Performance	Current Performance
6.4 . . . with Time Last Normal < 6 hours to hospital arrival, in which a Code Stroke alert is activated prior to hospital arrival	≥ 90%	
6.5 . . . taken to a designated stroke center	100%	
6.6 . . . who have a FAST exam score who have a LAMS Stroke Scale Assessment completed and documented or documentation of why an assessment could not be completed	100%	
7. Cardiac Arrest Patient Management		
7.1 Percent of non-traumatic cardiac arrest patients who received bystander CPR	≥ 50%	
7.2 Percent of patients (in cardiac arrest before EMS arrives) in an initially "shockable" rhythm who received first defibrillation in < 8 minutes from time 911 call was received at Fire/EMS dispatch	≥ 90%	
8. Advanced Airway Management		
Percent of patients		
8.1 . . . intubated with "first pass" success	≥ 80%	
8.2 . . . who are successfully intubated with an ET tube	≥ 90%	
8.3 . . . with successful placement of a supraglottic (SGA) airway	≥ 90%	
8.4 . . . who are successfully intubated or who have an SGA successfully placed	≥ 90%	
8.5 . . . and patients with SGAs with documentation of continuous waveform ETCO2	≥ 90%	


GEORGE'S
PRINCE
FIRE/EMS
PRINCE
SEMPER

Appendix