CENTER FOR PUBLIC SAFETY MANAGEMENT, LLC

Fire & EMS Sustainability and Feasibility Study

Jupiter, FL

Draft Final Report-January 2023

CPSM®

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ICMA

Exclusive Provider of Public Safety Technical Services for
International City/County Management Association

THE ASSOCIATION & THE COMPANY

The International City/County Management Association is a 108-year old, nonprofit professional association of local government administrators and managers, with approximately 13,000 members located in 32 countries.

Since its inception in 1914, ICMA has been dedicated to assisting local governments and their managers in providing services to its citizens in an efficient and effective manner. ICMA advances the knowledge of local government best practices with its website (www.icma.org), publications, research, professional development, and membership. The ICMA Center for Public Safety Management (ICMA/CPSM) was launched by ICMA to provide support to local governments in the areas of police, fire, and emergency medical services.

ICMA also represents local governments at the federal level and has been involved in numerous projects with the Department of Justice and the Department of Homeland Security.

In 2014, as part of a restructuring at ICMA, the Center for Public Safety Management (CPSM) was spun out as a separate company. It is now the exclusive provider of public safety technical assistance for ICMA. CPSM provides training and research for the Association's members and represents ICMA in its dealings with the federal government and other public safety professional associations such as CALEA, PERF, IACP, IFCA, IPMA-HR, DOJ, BJA, COPS, NFPA, and others.

The Center for Public Safety Management, LLC, maintains the same team of individuals performing the same level of service as when it was a component of ICMA. CPSM's local government technical assistance experience includes workload and deployment analysis using our unique methodology and subject matter experts to examine department organizational structure and culture, identify workload and staffing needs, and align department operations with industry best practices. We have conducted 341 such studies in 42 states and provinces and 246 communities ranging in population from 8,000 (Boone, Iowa) to 800,000 (Indianapolis, Ind.).

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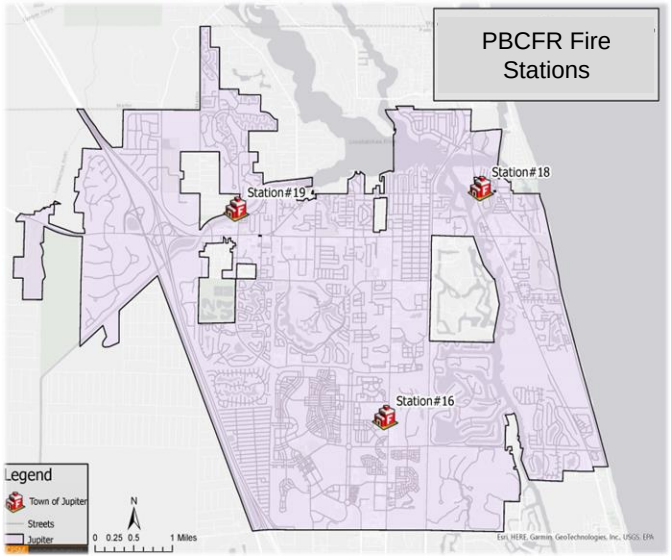
SECTION 1. INTRODUCTION

The Center for Public Safety Management LLC (CPSM) contracted with the Town of Jupiter, FL to complete a Fire and EMS sustainability and feasibility analysis.

Currently, Fire and EMS services are provided to the Town through an Interlocal Agreement (ILA) with Palm Beach County Fire Rescue (PBCFR). This ILA sunsets September 30, 2023. PBCFR has provided exceptional service to the residents and businesses of Jupiter for almost 40 years and has established the organization to be a valued Jupiter community partner. The Town values its partnerships with PBCFR that include public safety services; emergency management; life safety education and awareness; and community engagement and involvement. PBCFR Fire and EMS services are consistently rated in the upper 90th percentile of Town Citizen Surveys.

This analysis was necessitated in response to the Town being presented with a proposed five-year Fire and EMS service agreement from PBCFR in July 2022, that would incrementally increase the FY 2023 Town Municipal Service Taxing Unit (MSTU) of 1.8713 for Fire and EMS services to the countywide Fire and EMS millage rate of 3.4581. Under the new agreement, the Town would move from an actual cost methodology to a straight tax rate formula. In addition to revenues from the MSTU, the proposed agreement shifts EMS ground transport revenues from a year-to-year credit to the Town, to a 100-percent revenue capture for PBCFR, and continues to transfer Town Fire and EMS impact fees to PBCFR. This proposal has created an unsustainable situation for the town.



Current Fire and EMS services in the Town are provided by the Palm Beach County Fire and Rescue Department (PBCFR). There are currently three fire stations within the Town boundaries and each station staffs and deploys one engine and one ambulance.

EMS deployment includes paramedic trained staff and advanced life support materials and equipment on each engine and ambulance. One engine is deployed with specialized equipment for vehicle rescue and other light technical rescue responses.

There are other PBCFR assets available to the Town, which are included in the annual contract fee and includes brush trucks, jet skis, fire prevention and building plans review, fire investigations, public life safety education, special operations, and other administrative and operational components necessary to operate a Fire Rescue department.

CPSM met with the Town Council in late September 2022 to review Fire and EMS alternatives the Town may consider should it choose to move away from the PBCFR agreement for Fire and EMS services. CPSM presented these alternatives at a public Town Council meeting on November 1, 2022. CPSM outlined to the Town Council the following Fire and EMS alternatives:

Alternative 1: Accept Palm Beach County proposal.

Alternative 2: Contract for Fire & EMS with a contiguous municipality.

Alternative 3: Create a fire district under State of Florida statutes.

Alternative 4: Create a Town of Jupiter Fire & Rescue Department.

Key drivers forming a decision of how best to provide Fire and EMS services in the Town relate directly to the scope and scale of costs provided by PBCFR. The issue of sustainability of PBCFR services when balanced against the cost of other services in the Town, shapes the basis of this study.

Because a revised agreement from PBCFR has not been presented to the Town as of the completion of this report, CPSM cannot provide analysis regarding the cost sustainability of a new agreement. Although PBCFR has reconsidered the July 2022 proposal, that proposed agreement is not sustainable in terms of an increased MSTU rate with corresponding increased revenues, and no proposed new services (Alternative 1).

Since the July 2022 PBCFR agreement submission to the Town, PBCFR has participated in follow-up discussions with the Town regarding a successor ILA, and have also provided the Town the following for consideration:

- November 2022: PBCFR presented a funding option to the Town that calculates contract increases based on Consumer Price Index (CPI) increases and population.
- December 2022: PBCFR verbally discussed an ILA agreement option with Town Administration that utilizes an actual cost formula plus funding for capital items. No specifics were presented with this option.
- January 3, 2023: The Town received a letter from the PBCFR Fire Rescue Administrator asking to work with Town staff to develop a cost methodology for services and items not represented or expressed in the 2020 agreement. The Town responded to this letter with a request for PBCFR to base a proposed ILA on the current ILA actual cost methodology.

Alternatives 2 and 3 were discussed and formally presented to Town Administration and Town Council on November 1, 2022. The analysis of these two alternatives has not changed in this report. They remain viable options for the Town.

Alternative 4 contemplates the Town implementing its own fire-rescue department (Jupiter Fire Rescue Department or JFRD). CPSM has provided extensive detail in this report regarding this alternative. CPSM has outlined a JFRD that maintains the same level of direct Fire and EMS services and includes, based on our analysis, an enhanced level of service (1 staffed aerial ladder apparatus). The proposed level of service is:

- 3 fire stations placed in similar areas of current stations.
- 3 ALS Engine apparatus with a minimum staffing of 3.
- 1 ALS Ladder apparatus with a minimum staffing of 4 (enhanced service level over PBCFR).
- 3 ALS Rescue (ambulance) apparatus with a minimum staffing of 3.
- Command and administrative staff similar to a municipality the size of Jupiter.

CPSM is estimating $58,778,850 in one-time start-up cost as outlined in the next table. ***When reviewing this table, it is important to understand these one-time costs do not happen at the same time and will be spread over a 36-month period.***

Categories	Fire Rescue Costs	EMS Transport Costs	Totals
Personnel Costs -Paramedic Incentive (One-time)	$193,770	$145,328	$339,098
Capital Costs (One-time)	$2,821,304	$2,653,448	$5,474,752
Vehicle Costs (One-time)	$7,465,000	$1,600,000	$9,065,000
Buildings (One-time)*	$43,900,000	$0	$43,900,000
Subtotal of One -Time Expenses	**$54,380,074**	**$4,398,776**	**$58,778,850**

*Regarding buildings, this analysis includes the construction of two new fire stations on Town land and the renovation of a third (Abacoa, which reverts to the Town if the Town no longer contracts with PBC for Fire and EMS services). This cost will fluctuate depending on when the facilities are built, the final square footage of each, and after exploring other opportunities.

CPSM estimates recurring operational and personnel costs of $18,883,741 as outlined in the next table.

Description	Totals
Fire Department Recurring Expenses	$19,883,741
Fire Department Revenue	($1,700,000)
Total Recurring Costs for JFRD First Year	**$18,183,741**
FY 24 - 5% Increase	**$19,092,928**
FY 25 - 5% Increase	**$20,047,574**

The current FY 2023 PBCFR cost for Fire and EMS service is $25,847,504 as outlined in the next table.

Description	Totals
Direct Costs	$20,806,676
Overhead Costs	$5,364,314
Capital Costs	$1,071,351
Revenue from EMS Transport	($1,394,837)
Total Costs for PBCFR - Jupiter ILA: FY23	**$25,847,504**
FY 24 - 5% Increase	**$27,139,879**
FY 25 - 5% Increase	**$28,496,873**

When comparing the current FY 2023 PBCFR costs for Fire and EMS Services ($25,847,504) to the CPSM estimated first year costs for a Town Fire Rescue department ($18,183,741), there is a tangible case for sustainability of a Town operated fire-rescue department.

CPSM estimates it will take the town 36 months to establish a fire-rescue department. As costs will potentially increase over this time period, it would be prudent to add 5% per year to the

current estimated annualized cost for a Town fire-rescue department. The same increase has been added to the PBCFR recurring costs over the same two-year period. There still remains a tangible case for annualized sustainability even when projecting costs forward.

This independent, third-party report is not intended to be an analysis of Palm Beach County or the Palm Beach County Fire Rescue Department. More importantly, this report is a Fire and EMS sustainability and feasibility analysis for the Town of Jupiter and is designed to empower town officials and the Jupiter Town Council with information to make responsible, long-term decisions that are in the best interest of sustainable tax rates and protecting and servicing the people of Jupiter, Florida.

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SECTION 2. ANALYSIS METHODOLOGY

Data Analysis

The CPSM Fire and EMS Team used numerous sources of data to support our conclusions and recommendations for this analysis. Information was obtained from the Town, PBCFR, and contiguous municipal fire departments along with numerous sources of internal information garnered from a CPSM document/information request. Internal sources included data from the computer-aided dispatch (CAD) system for response time and workload information, and the PBCFR department's National Incident Reporting System (NFIRS) records management system for calls for service.

Interviews

This study relied heavily on interviews and interaction with Town and PBCFR officials, and to some degree contiguous municipal fire department officials. On-site and in-person interviews to include virtual meetings were conducted with the Town Manager's office, senior Town officials, PBCFR senior officials, and the officials of Palm Beach Gardens Fire Rescue Department, Tequesta Fire Rescue Department, and North Palm Beach Fire Rescue Department regarding the study.

Document Review

CPSM Fire Team consultants were furnished with numerous reports and summary documents by the Town, PBCFR, Palm Beach Gardens Fire Rescue Department, Tequesta Fire Rescue Department, and North Palm Beach Fire Rescue Department. Information on planning; staffing and deployment of resources; overtime; mutual aid; policies and procedures; community risk, fire code enforcement, public education; fleet and facilities; training; revenues and expenditures, and additional performance information were reviewed by the CPSM team. Follow-up phone calls, emails and virtual meetings were used to clarify information as needed.

Operational/Administrative Observations

Over the course of the evaluation period, numerous observations were conducted. These included observations of Town and PBCFR operations; community risk reduction; fleet schedules facility locations in a contemporary fire department; administrative functions; deployment of apparatus from a coverage perspective as benchmarked against national standards; and operational staffing benchmarked against national standards as it relates to assembling an Effective Response Force. The CPSM Fire and EMS Team engaged all facets of Fire and EMS operations from a ground floor perspective and as well from a management perspective.

Staffing Analysis

In virtually all CPSM Fire and EMS studies, we are asked to identify appropriate staffing and resource deployment levels. This is the case in this study as well. In this report we discuss operational workload; critical tasking; assembling an Effective Response Force; operational deployment, station locations and the feasibility of relocating deployable assets to improve response coverage; and other factors to be considered in establishing appropriate staffing levels. Staffing recommendations are based upon our comprehensive evaluation of all relevant factors and are benchmarked against national standards such as the National Fire Protection Association (NFPA) 1710 Standard, ISO-Public Protection Classification rating system, and the Center for Public Safety Excellence, Standards of Cover.

SECTION 3. TOWN OF JUPITER FIRE AND EMS BACKGROUND

The Town of Jupiter has been receiving Fire and EMS services from Palm Beach County (County) since October 1, 1984, when the County passed a resolution consolidating existing countywide fire districts. Currently these services are provided through an Interlocal Agreement between the County and the Town. Funding for these services is provided through a Municipal Services Taxing Unit (MSTU), which is a separate line item on annual Town property tax bills.

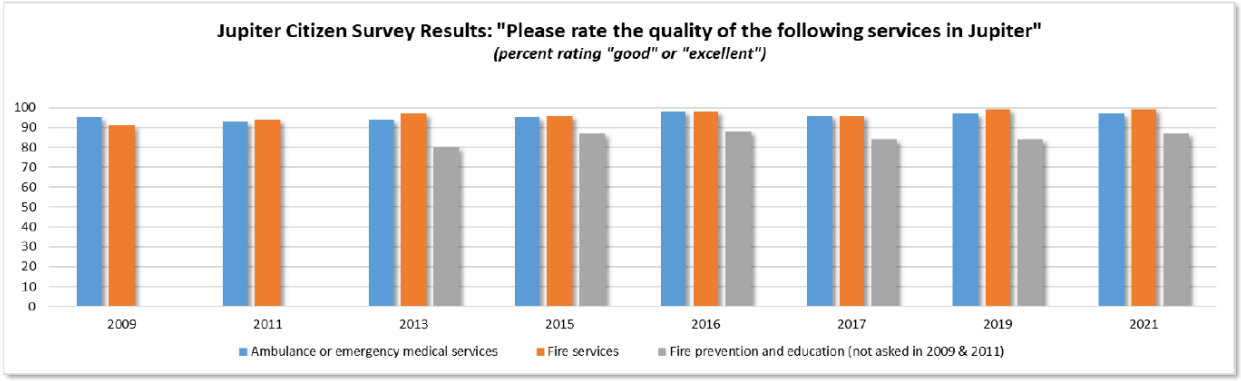
PALM BEACH COUNTY FIRE RESCUE DEPARTMENT

The Palm Beach County Fire Rescue department (PBCFR) is a progressive Fire and EMS organization and is currently providing credible service to the citizens of and visitors to the Town of Jupiter. Overall, PBCFR includes nearly 1800 personnel and operates out of forty-nine stations. Annually this department responds to over 152,000 calls for service. PBCFR is a full-service fire-rescue department that includes special and technical operations to include marine, hazardous materials, and technical rescue, mobile integrated health programs, and air operations. PBCFR also provides contemporary Community Risk Reduction programs that include fire prevention and fire code enforcement, fire investigation, and public life safety education. Currently, all of these services are available to the Town of Jupiter.

Recently Palm Beach County and those municipalities the PBCFR department provides service to through agreement received an Insurance Services Office Public Protection Classification Class 1 community rating, which is the highest rating level and includes the components of the community emergency communications systems, fire department, and water supply to combat fires.

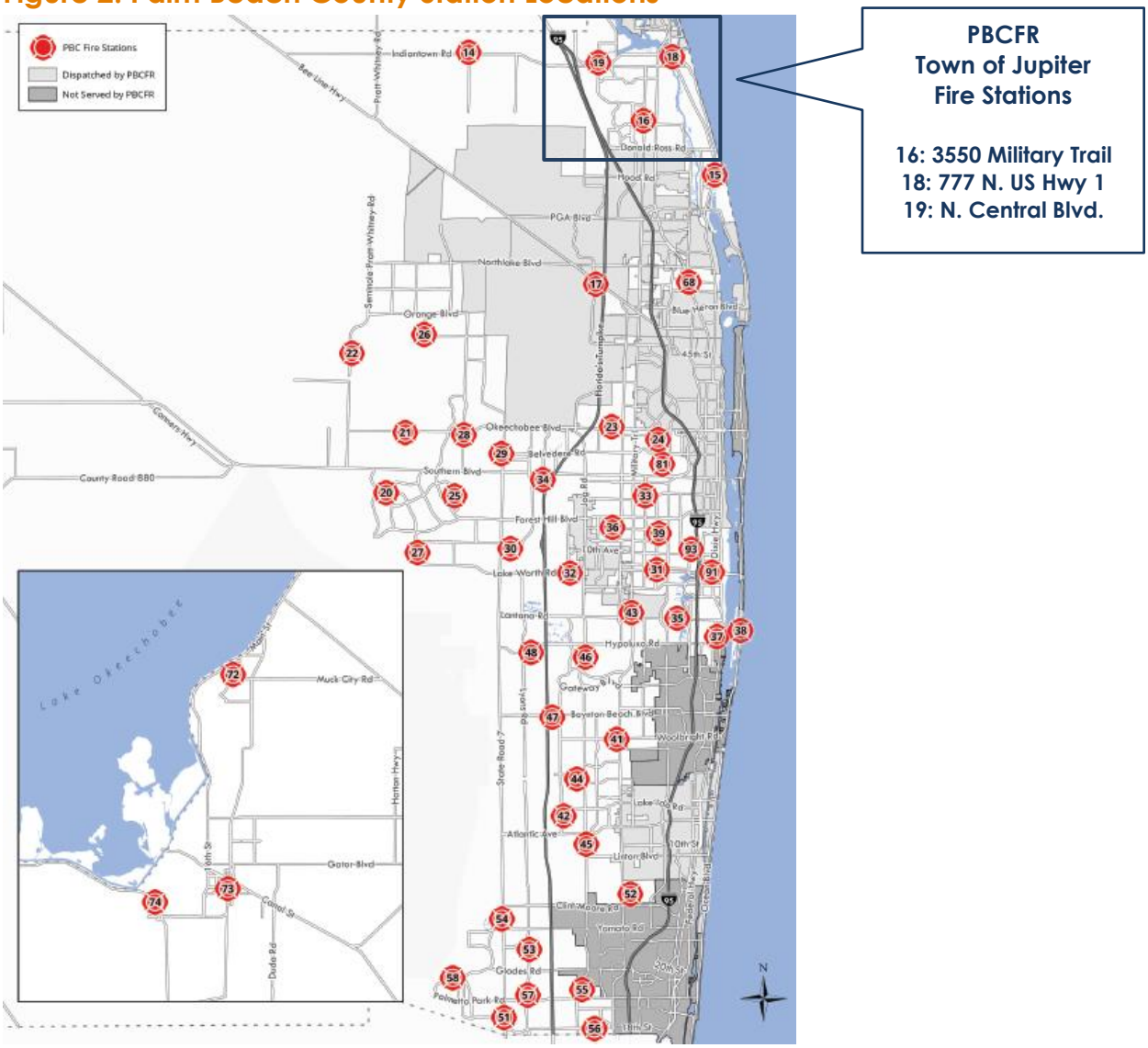
PBCFR Fire and EMS services are consistently rated in the upper 90th-percentile of bi-annual Town Citizen Surveys.

Figure 1: Town of Jupiter Citizen Survey Results



The next figure illustrates the forty-nine station locations.

Figure 2: Palm Beach County Station Locations

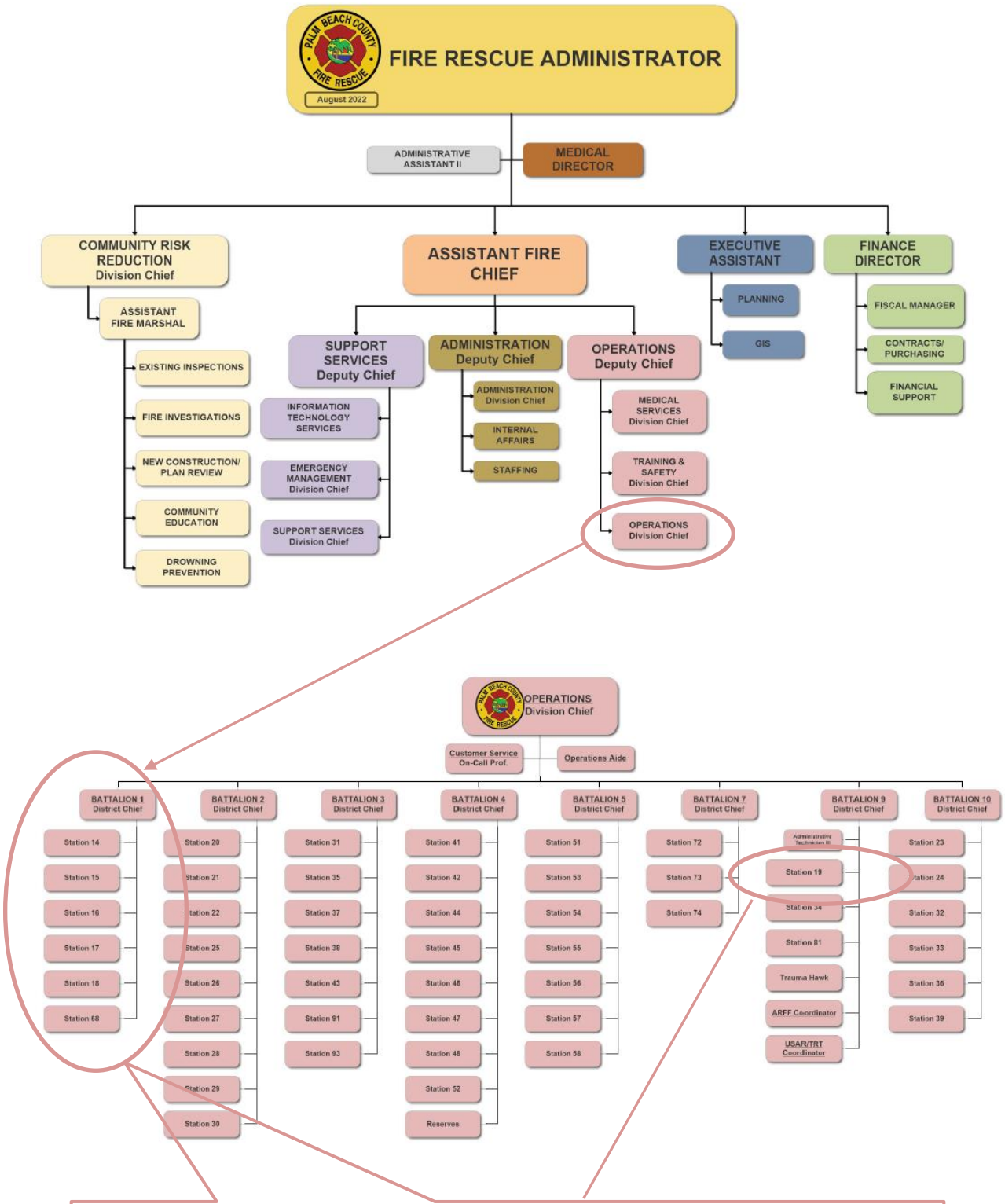


As with any large organization, the PBCFR department has a robust organizational chart. Overarching management and leadership is vested with the Fire Rescue Administrator who is directly assisted by an Assistant Chief. The PBCFR organizational chart further defines five primary functional areas, each commanded by a Deputy or Division Chief, or Director, and includes Community Risk Reduction, Support Services, Administration, Operations, and Finance. Each of these areas is further divided to allow for a manageable span of control and to provide direct oversight to defined functional divisions and sections of the organization.

It is important to understand the PBCFR organizational chart when reviewing the terms of the current and proposed Town agreement for Fire and EMS services. Overhead costs included in the agreement originate from the Fire Administrator's office, Community Risk Reduction, Support Services, Finance, Operations, and Administration. Direct operational costs originate as a percentage of the overall Battalion 1 budget, which is the Battalion the three Jupiter fire stations, equipment, and staffing are located.

The next figure illustrates the PBCFR organizational chart.

Figure 3: PBCFR Organizational Chart

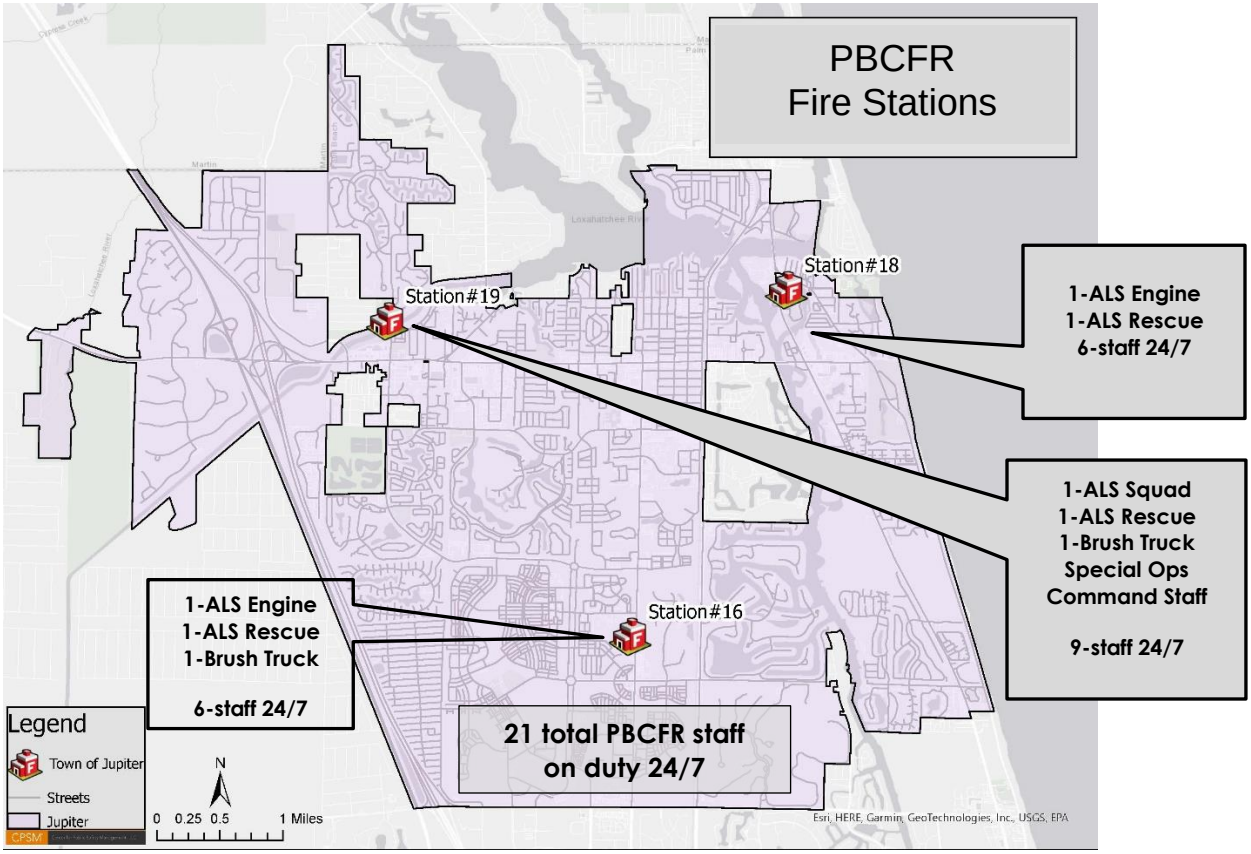


PBCFR Jupiter Stations Located in Battalion 1.
FY 2023 Town of Jupiter Direct Operational Costs for
Fire and EMS Services = 63.34% of Battalion 1 budget minus Stations 17 and 68

CURRENT TOWN OF JUPITER FIRE AND EMS SERVICES

As discussed, the Town receives Fire and EMS services from the PBCFR department. PBCFR staffs three stations located within the Town corporate limits. These stations are designated as Stations 16, 18, and 19. The Jupiter stations are designated in the larger PBCFR footprint of Battalion 1, which is noted in Table 2 above. The next figure illustrates the station locations.

Figure 4: PBCFR Town of Jupiter Stations



PBCFR Battalion 1 also includes:

- Station 14: located at 12015 West Indiantown Road
  - ALS Engine; ALS Rescue, Brush Truck, Tender
- Station 15: located at 12870 S. US Hwy 1, Juno Beach
  - ALS Ladder, ALS Rescue, Brush Truck
- Station 17: located at 8130 N. Jog Road
  - ALS Engine; ALS Rescue, Brush Truck, Tender
- Station 68: located at 1000 Park Ave.
  - ALS Engine; ALS Rescue, Brush Truck, Tender

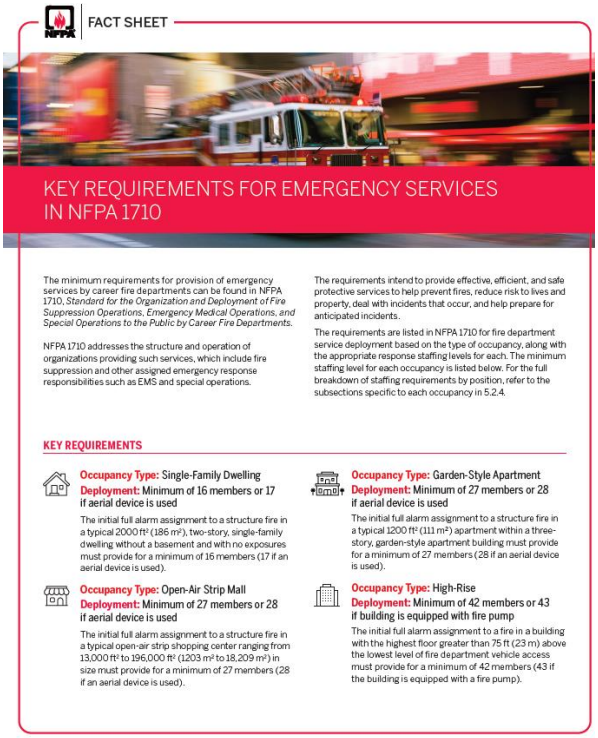
PBCFR Battalion 1 Stations

Operational Fire and EMS resource deployment, particularly fire suppression, are commonly linked to NFPA 1710, *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations and Special Operations to the Public by Career Fire Departments, 2020 edition*, which outlines organization and deployment of operations by career, and primarily career fire and rescue organizations. It serves as a benchmark to measure staffing and deployment of resources to certain structures and emergencies and establishes response times aimed at reducing life and property loss, and firefighter safety. Although not law unless formally adopted by a community and codified, the NFPA standards serve as consensus standards from which benchmarks are established. Many cities and counties strive to achieve these standards to the extent possible without an adverse financial impact on the community.

A key element of NFPA 1710 is the unit and overall incident staffing for fire response to specific building types the community may have. NFPA 1710 addresses standards for an Effective Response Force across several types of occupancies. An Effective Response Force (ERF) is defined as the minimum number of firefighters and equipment that must reach a specific emergency incident location within a maximum prescribed travel [driving] time, with the maximum prescribed travel time serving as one indicator of resource deployment efficiency.

NFPA 1710 provides a staffing deployment model and critical tasking guidelines for four specific occupancies. These occupancies are:

- Single-Family Dwelling (minimum of 16 staff or 17 if the aerial device is used).
- Open-Air Strip Mall/Commercial Building (minimum of 27 personnel or 28 if the aerial device is used).
- Garden Style Apartment (minimum of 27 personnel or 28 if the aerial device is used).
- High Rise (minimum of 42 personnel or 43 if the building is equipped with a fire pump).



FACT SHEET

KEY REQUIREMENTS FOR EMERGENCY SERVICES IN NFPA 1710

The minimum requirements for provision of emergency services by career fire departments can be found in NFPA 1710, *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments.*

NFPA 1710 addresses the structure and operation of organizations providing such services, which include fire suppression and other assigned emergency response responsibilities such as EMS and special operations.

The requirements intend to provide effective, efficient, and safe protective services to help prevent fires, reduce risk to lives and property, deal with incidents that occur, and help prepare for anticipated incidents.

The requirements are listed in NFPA 1710 for fire department service deployment based on the type of occupancy, along with the appropriate response staffing levels for each. The minimum staffing level for each occupancy is listed below. For the full breakdown of staffing requirements by position, refer to the subsections specific to each occupancy in 5.2.4.

KEY REQUIREMENTS

Occupancy Type: Single-Family Dwelling
Deployment: Minimum of 16 members or 17 if aerial device is used

The initial full alarm assignment to a structure fire in a typical 2000 ft² (186 m²), two-story, single-family dwelling without a basement and with no exposures must provide for a minimum of 16 members (17 if an aerial device is used).

Occupancy Type: Garden-Style Apartment
Deployment: Minimum of 27 members or 28 if aerial device is used

The initial full alarm assignment to a structure fire in a typical 1200 ft² (111 m²) apartment within a three-story, garden-style apartment building must provide for a minimum of 27 members (28 if an aerial device is used).

Occupancy Type: Open-Air Strip Mall
Deployment: Minimum of 27 members or 28 if aerial device is used

The initial full alarm assignment to a structure fire in a typical open-air strip shopping center ranging from 13,000 ft² to 196,000 ft² (1203 m² to 18,209 m²) in size must provide for a minimum of 27 members (28 if an aerial device is used).

Occupancy Type: High-Rise
Deployment: Minimum of 42 members or 43 if building is equipped with fire pump

The initial full alarm assignment to a fire in a building with the highest floor greater than 75 ft (23 m) above the lowest level of fire department vehicle access must provide for a minimum of 42 members (43 if the building is equipped with a fire pump).

Critical tasks as defined by NFPA 1710 are those activities that must be conducted by responders at emergency incidents to control the situation and stop loss. Critical tasking for fire operations is the minimum number of personnel needed to perform the tasks needed to effectively control and mitigate a fire or other emergency. To be effective, critical tasking must assign enough personnel so that all identified functions can be performed simultaneously. However, it is important to note that initial response personnel may manage secondary support functions once they have completed their primary assignment. Thus, while an incident may end up requiring a greater commitment of resources or a specialized response, a properly executed critical tasking assignment will provide adequate resources to immediately begin bringing the incident under control.

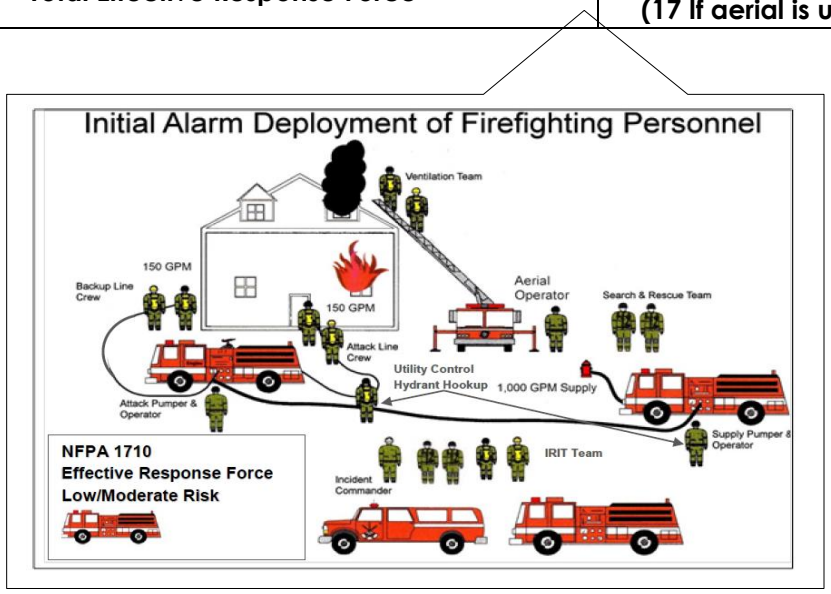
The specific number of people required to perform all the critical tasks associated with an identified risk or incident type is referred to as the Effective Response Force.

As an example of critical tasking, CPSM provides the NFPA standard for single family dwellings (the most prevalent building risk in Jupiter) in the next table.

TABLE 1: Effective Response Force for Single-Family Dwelling Building

The initial full alarm assignment (ERF) to a structural fire in a typical 2,000 square-foot, two-story, single-family dwelling without a basement and with no exposures must provide for a minimum of 16 members (17 if an aerial device is used).

Critical Tasks	Personnel
Incident Command	1
Continuous Water Supply	1
Fire Attack via Two Handlines	4
Hydrant Hook Up - Forcible Entry - Utilities	2
Primary Search and Rescue	2
Ground Ladders and Ventilation	2
Aerial Operator if Aerial is Used	1
Establishment of IRIC (Initial Rapid Intervention Crew)	4
Total Effective Response Force	**16 (17 If aerial is used)**



CPSM includes this discussion here to establish an understanding of the PBCFR deployment model in the Town and surrounding unincorporated area and benefits thereof. Currently in the Town, PBCFR staffs each engine with a minimum of three personnel (9 total/shift), a minimum of three on each ambulance (9 total/shift), and an Operational Battalion Chief (staffing of 1). Depending on the response matrix, for multi-unit responses such as structural fire incidents inside the Town boundaries, PBCFR relies on automatic-mutual aid from contiguous cities and other PBCFR units in the unincorporated area and Juno Beach. For multi-unit responses into the unincorporated area contiguous with Jupiter and Juno Beach, PBCFR relies on Town PBCFR resources and contiguous municipalities to make up the Effective Response Force.

PBCFR Town of Jupiter Workload

For this study CPSM conducted a data analysis that focused on calls for service in the Town of Jupiter. This analysis included the primary PBCFR Jupiter unit response within the corporate boundaries of the Town, and also these unit responses outside of the Town corporate limits. The data analysis examines all calls for service between July 1, 2021, and June 30, 2022, as recorded in Palm Beach County Central Dispatch's Computer-Aided Dispatch (CAD) system and the PBCFR's National Fire Incident Reporting System (NFIRS) records.

When CPSM completes a data analysis of Fire and EMS agencies, we analyze calls and runs. A call is an emergency service request or incident. A run is a dispatch of a unit (i.e., a unit responding to a call). Thus, a call may include multiple units, which are captured in the workload analysis as runs.

- Between July 1, 2021, and June 30, 2022, Stations 16, 18, and19 responded to 8,268 calls in the Town of Jupiter, of which 64 percent were EMS calls.

When analyzing Fire and EMS data the data analysis team first matches the NFIRS and CAD data. Then, they classify the calls into a series of steps. The data team first used the NFIRS incident type to identify canceled calls and to assign emergency medical service (EMS), motor vehicle accident (MVA), and fire category call types. EMS calls were then assigned detailed categories based on their incident codes and descriptions.

The main analysis includes the 8,268 calls responded to by PBCFR units (stations 16, 18,19) in Jupiter and includes:

- 774 calls that occurred outside Jupiter, which are labeled as mutual aid given. For these calls, only PBCFR response units stationed inside Jupiter are counted.
- 8,221 calls inside Jupiter, of which 6,553 calls (80 percent) were responded to by only PBCFR stations 16,18, and 19.

The next tables outline the incident responses and workload for Stations 16, 18, and 19, which includes Fire and EMS.

For this table:

- Shared Response refers to calls with both a local and external responding unit in Jupiter.
- Local Only indicates Jupiter only units and includes all units at Station 19.
- Local Outside Jupiter refers to Jupiter only units responding outside of Town boundaries. Tables 3, 4, and 5 only include the primary Jupiter engines, squad, brush, and rescues.

TABLE 2: Calls Responded to by Jupiter Units

Response Type	Location	Number of Calls			Total
		EMS	Fire	Canceled	
Shared Response	Jupiter	649	158	134	941
Local Only	Jupiter	4,658	1,379	516	6,553
Local	Outside Jupiter	504	131	139	774
Call Total		**5,811**	**1,668**	**789**	**8,268**

Note: There were 727 calls responded to in Jupiter by PBCFR and/or mutual aid departments (external from Jupiter local units).

Table 3: Calls by Type

Call Type	Calls	Calls per Day	Call Percentage
Breathing difficulty	497	1.4	6.0
Cardiac and stroke	674	1.8	8.2
Fall and injury	1,356	3.7	16.4
Illness and other	1,488	4.1	18.0
MVA	504	1.4	6.1
Nonemergency transfer	25	0.1	0.3
Overdose and psychiatric	264	0.7	3.2
Seizure and unconsciousness	499	1.4	6.0
EMS Subtotal	**5,307**	**14.5**	**64.2**
False alarm	737	2.0	8.9
Good intent	192	0.5	2.3
Hazard	84	0.2	1.0
Outside fire	54	0.1	0.7
Public service	420	1.2	5.1
Structure fire	**20**	**0.1**	**0.2**
Technical rescue	**30**	**0.1**	**0.4**
Fire Subtotal	**1,537**	**4.2**	**18.6**
Canceled	650	1.8	7.9
Mutual aid given*	774	2.1	9.4
Total	**8,268**	**22.7**	**100.0**

The data in this table is further broken down as follows:

The greatest demand for EMS is Fall and Injury, and Illness and Other call types. Aggregately these call types made up 2,844 EMS responses or 54% of all EMS calls. This is common in many CPSM analyses.

In the False Alarm category, which is the greatest demand for Fire related responses with 737 responses (48% of all fire related calls), the greatest number of responses were due to malfunctioning fire alarm systems or unintentional alarms. This is also common in many CPSM analyses.

Aggregately, there were 74 fire type responses (5% of all fire related calls), of which 54 were outside fires (brush, vehicle, dumpster, trash etc.) and 20 structure fires (building fire, cooking fires in a building, chimney fire etc.). 1 water vehicle fire was recorded.

There were 30 technical rescue calls (2% of all fire related calls), of which 20 were elevator related (removal of person(s) from stalled elevator).

Of interest, there were also 10 vehicle extrication, 3 drownings, 4 open water incidents, 22 traffic accidents involving a pedestrian, and 6 chemical, flammable liquid spill calls recorded.

Table 4: All Runs by Responding Jupiter Station and Call Type
Primary Units: Engine, Squad, Rescue, Brush

Unit	EMS	Rescue	Alarm	Good Intent	Hazard	Outside Fire	Service	Structure Fire	Cancel	Aid Given	Total
B16	0	0	1	1	0	3	0	0	1	5	11
E16	783	7	359	52	40	21	102	12	194	214	1,784
R16	1,822	0	28	18	16	9	15	7	159	337	2,411
E18	421	14	179	39	16	11	157	12	123	58	1,030
R18	1,231	2	17	16	8	5	21	7	92	125	1,524
B19	0	0	0	1	1	14	1	0	6	5	28
R19	1,806	3	13	30	26	16	33	11	144	71	2,153
SQ19	740	6	186	72	48	33	123	15	164	83	1,470
Total	**6,803**	**32**	**783**	**229**	**155**	**112**	**452**	**64**	**883**	**898**	**10,411**

Note: Call type descriptions can be found in Appendix A, on pages 80 and 81.

TABLE 5: Aid Given by Responding Station and Primary Unit (Count by Runs)
Engine, Squad, Rescue, Brush

Unit	Location	Runs
B16	Juno Beach	2
	Palm Beach Gardens	3
E16	Juno Beach	8
	Palm Beach County	13
	Palm Beach Gardens	193
R16	Juno Beach	13
	Palm Beach County	41
	Palm Beach Gardens	277
	Palm Springs	1
	Royal Palm Beach	1
	Tequesta	4
Total		**556**

Unit	Location	Runs
E18	Delray Beach	1
	Juno Beach	19
	Palm Beach County	5
	Palm Beach Gardens	9
	Tequesta	24
R18	Juno Beach	42
	North Palm Beach	1
	Palm Beach County	12
	Palm Beach Gardens	8
	Tequesta	62
Total		**183**

Unit	Location	Runs
B19	Juno Beach	1
	Palm Beach County	1
	Palm Beach Gardens	2
	Tequesta	1
R19	Juno Beach	3
	Lake Park	1
	North Palm Beach	1
	Palm Beach County	9
	Palm Beach Gardens	48
	Tequesta	8
	West Palm Beach	1
SQ19	Juno Beach	3
	North Palm Beach	1
	Palm Beach County	5
	Palm Beach Gardens	68
	Tequesta	6
	Total	**327**

Aid Given by Call Count

Location	Number of Calls			
	EMS	Fire	Cancel	Total
Delray Beach	0	0	1	1
PBCFR-Juno Beach	11	72	20	103
Lake Park	0	1	0	1
North Palm Beach	1	1	0	2
Palm Beach County	12	59	9	80
Palm Beach Gardens	90	304	88	482
Palm Springs	0	1	0	1
Royal Palm Beach	1	1	0	2
Tequesta	23	65	13	101
West Palm Beach	1	0	0	1
Total	**139**	**504**	**131**	**774**

Highlighted Rows Represent Contiguous Jurisdictions.

Call Demand

Analyzing where Fire and EMS incidents are occurring and at what concentration is standard industry methodology when determining adequate Fire and EMS management zone resource assignment and deployment methods. When evaluating demand, the following should be considered.

- What is driving the service area's workload?
- What percentage of the time are resources deployed and does this affect the resiliency of the organization to respond to overlapping calls?
- Are there anticipated changes in the service area landscape that will affect current and future demand and resource workload?
- What is the demand from service to service (Fire and EMS in this case)?
- How would changes in the deployment of resources affect the overall workload on current resources and improve service delivery?

For PBCFR units assigned to the Town, EMS is the greatest driver of calls for service (64 percent of all calls for service). This is typical across the united states where the workload for fire departments is greater for EMS related calls.

The next table analyzes workload for PBCFR Jupiter units. The highlighted units are the primary response units in the Town. In review of this table, Stations 16 and 19 have the heaviest workload/demand. In review of Station 19, there are multiple response units located here that provide service on a more region-wide level. The Town primary Engine (Sq 19) and Medic averaged 9.9 runs/day.

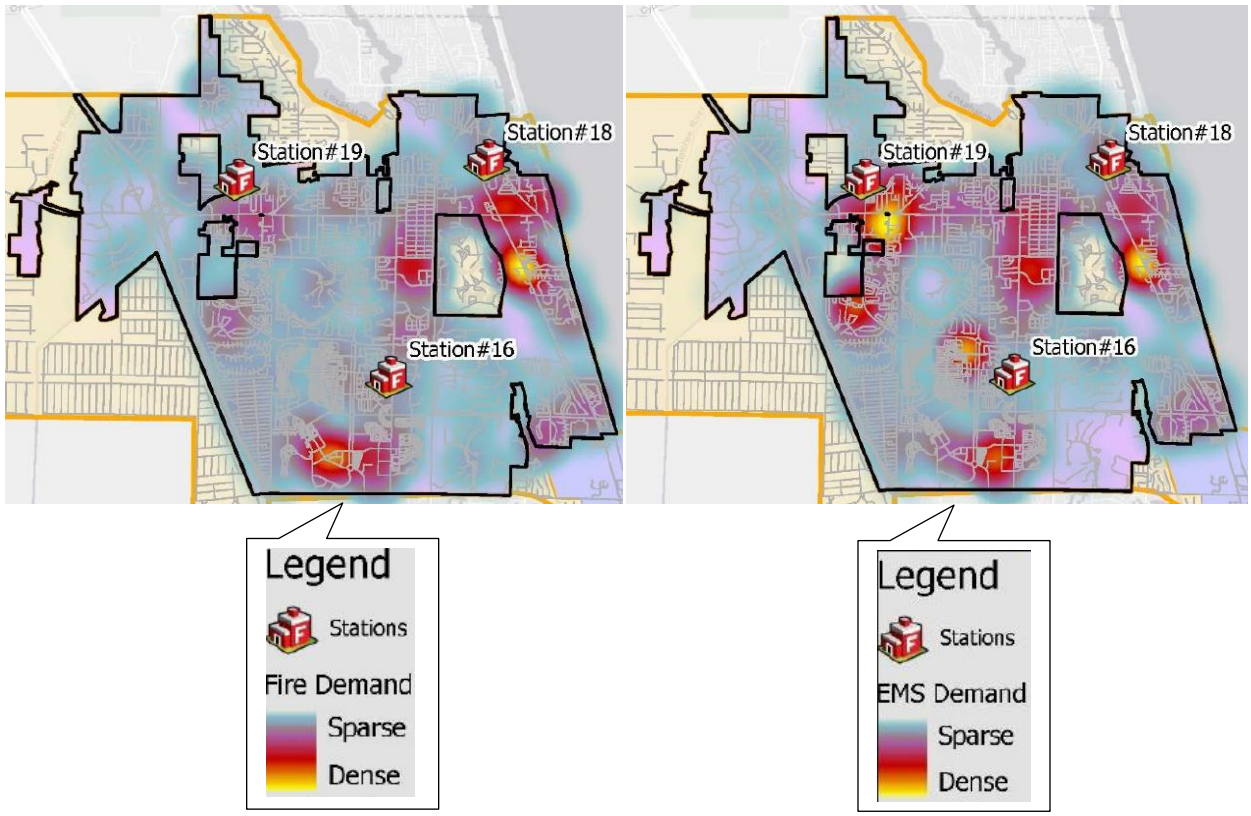
Table 6 Workload by Unit

Station	Unit	Unit Type	Total Hours	Total Runs	Runs per Day
16	B16	Brush truck	10.5	11	0.0
	E16	Engine	591.3	1,784	4.9
	R16	Rescue	1,361.9	2,411	6.6
	Total		**1,963.7**	**4,206**	**11.5**
18	E18	Engine	362.2	1,030	2.8
	R18	Rescue	978.8	1,524	4.2
	Total		**1,341.0**	**2,554**	**7.0**
19	B19	Brush truck	16.6	28	0.1
	R19	Rescue	1,198.4	2,153	5.9
	SQ19	Squad	515.8	1,470	4.0
	Total		**2,037.4**	**4,513**	**12.4**
Total			**5,035.5**	**10,411**	**30.9**

The next figure illustrates Fire and EMS demand in the Town of Jupiter.

FIGURE 5: Fire and EMS Demand in the Town of Jupiter

Fire Demand	EMS Demand

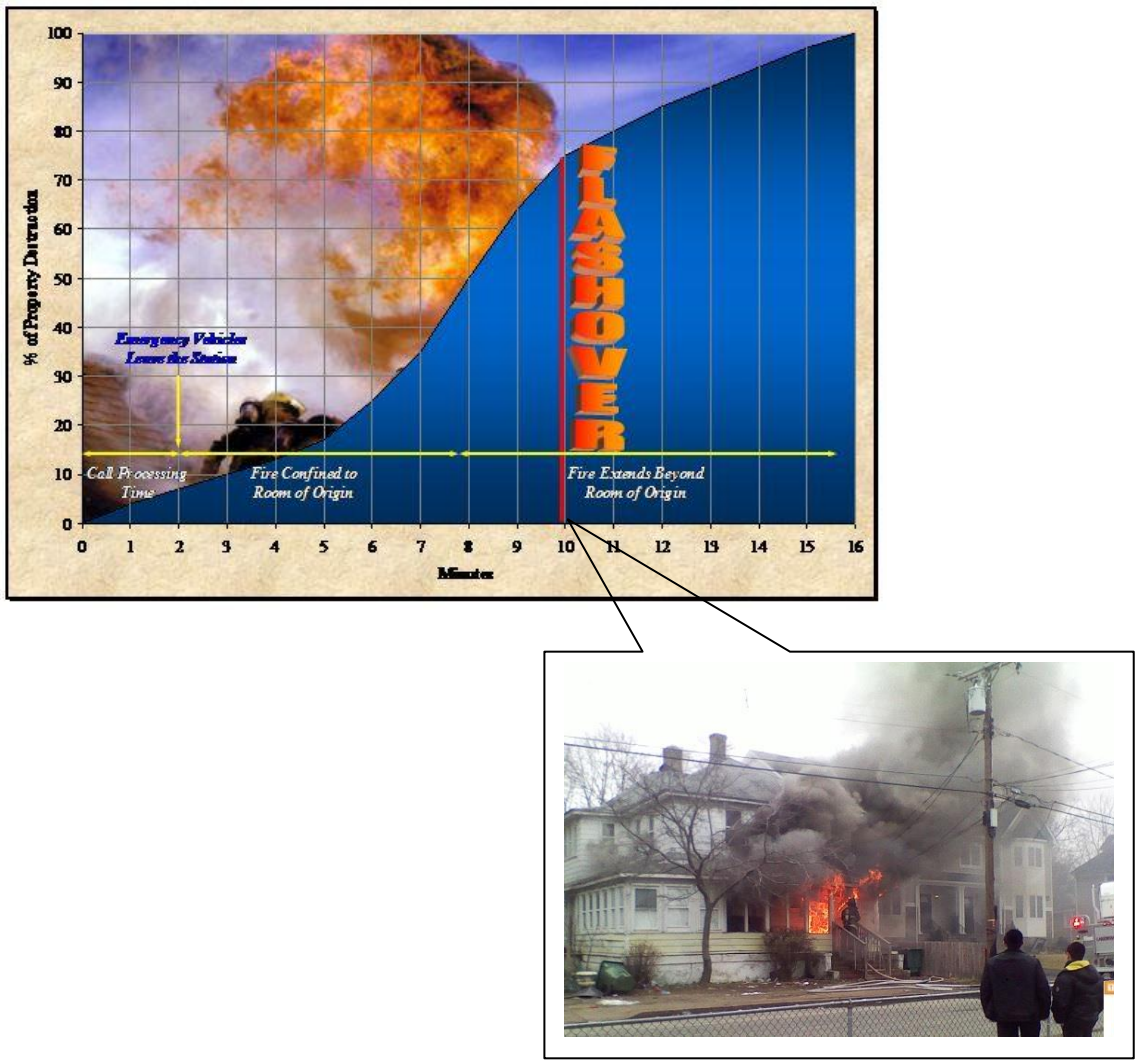


Response Times

Response times are typically utilized as a primary measurement for evaluating fire and EMS services. Response times are used as a benchmark to determine when reviewing Fire and EMS department performance, to help identify response trends, and are typically linked with demand to predict future operational needs and station placement. Achieving the quickest and ***safest*** response times possible should be a fundamental goal of every fire department.

Fire incident response time criterion is linked to the concept of "flashover." This is the state at which super-heated gases from a fire are released rapidly, causing the fire to burn freely, and become so volatile that the fire reaches an explosive state (simultaneous ignition of all the combustible materials in a room). In this situation, usually after an extended period (often eight to twelve minutes after ignition but at times as quickly as five to seven minutes), and a combination of the right conditions (fuel and oxygen), the fire expands rapidly and is much more difficult to contain. When the fire does reach this extremely hazardous state, initial firefighting forces are often overwhelmed, larger and more destructive fire occurs, the fire escapes the room and possibly even the building of origin, and significantly more resources are required to affect fire control and extinguishment.

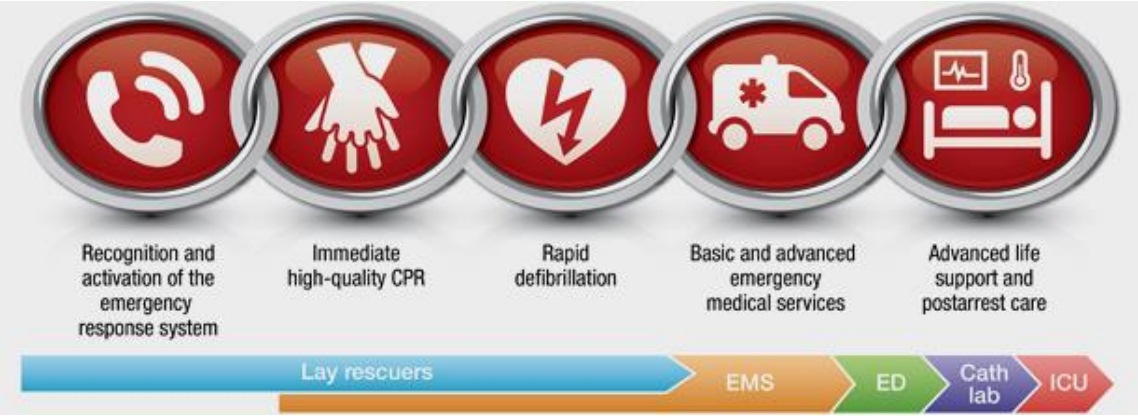
FIGURE 6: Fire Propagation Curve



EMS response times have a focus on evidence-based research relationship between clinical outcomes and response times. Much of the current research suggests response times have reduced impact on clinical outcomes outside of a small segment of call types. These include cerebrovascular accidents (stroke); injury or illness compromising the respiratory system; injury or illness compromising the cardiovascular system to include S-T segment elevation and trauma emergencies, high-acuity medical and pediatric emergencies; drownings; cardiac and respiratory arrest; and certain high-risk obstetrical emergencies; and electrocutions with cardiac arrest to name a few. Each requires rapid response times, rapid on-scene treatment and packaging for transport, and rapid transport to the hospital.

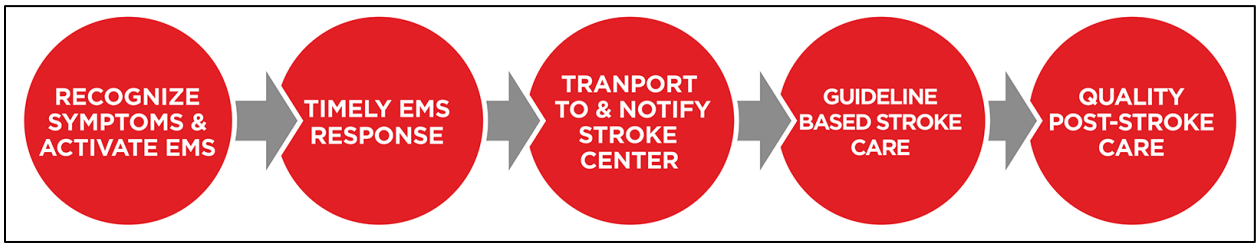
§§§

FIGURE 7: Sudden Cardiac Arrest Chain of Survival



From: "Out of Hospital Chain of Survival," http://cpr.heart.org/AHAECC/CPRAndECC/AboutCPRFirstAid/CPRFactsAndStats/UCM_475731_Out-of-hospital-Chain-of-Survival.jsp

FIGURE 8: Cerebrovascular Emergency (Stroke) Chain of Survival



Source: https://nhcps.com/lesson/acls-acute-stroke-care/

An important factor in the whole response time question is what we term "**detection time**." This is the time it takes to detect a fire or a medical situation and notify 911 to initiate the response. In many instances, particularly at night or when automatic detection systems (fire sprinklers and smoke detectors) are not present or inoperable, the detection process can be extended. Fires that go undetected and are allowed to expand in size become more destructive and are difficult to extinguish. Medical and trauma emergencies that have extended detection time, or when signs and symptoms are ignored or access to care is deficient, clinical outcomes are impacted.

For the purpose of the CPSM data analysis, ***response time*** is a product of three components: ***dispatch time***, ***turnout time***, and ***travel time***.

Dispatch time (alarm processing time) is the difference between the time a call is received and the time a unit is dispatched. Dispatch time includes call processing time, which is the time required to determine the nature of the emergency and types of resources to dispatch. ***The NFPA 1710 standard for these components of response times is as follows:***

The event is processed and dispatched in:

- ≤ 64 seconds 90 percent of the time.
  - ≤ 106 seconds 95 percent of the time.

- Special call types:
  - ≤ 90 seconds 90 percent of the time.
  - ≤ 120 seconds 99 percent of the time.

The next component of response time is **turnout time**, an aspect of response which is controlled by the responding Fire and EMS department. ***NFPA 1710 states that turnout time shall be:***

- ≤ 80 seconds for fire and special operations 90 percent of the time.
- ≤ 60 seconds for EMS responses.

The last component of response time is **travel time,** an aspect of response time that is affected by factors such as station location, road conditions, weather, and traffic control systems. ***NFPA 1710 states that travel time for the first arriving fire suppression unit to a fire incident shall be:***

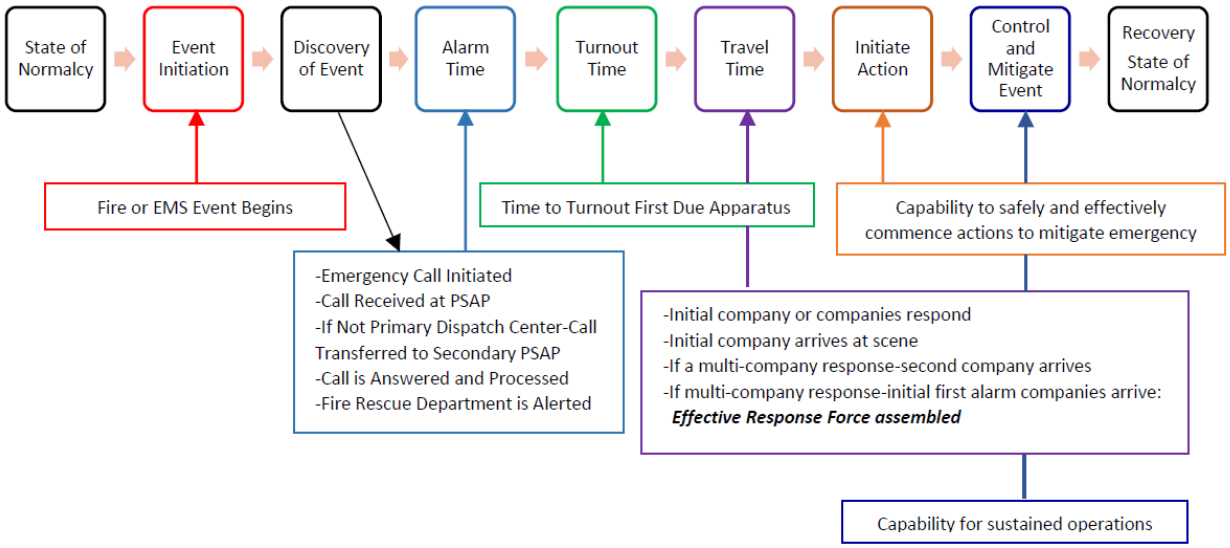
- ≤ 240 seconds for the first arriving engine company to a fire suppression incident 90 percent of the time.
- ≤ 360 seconds for the second company 90 percent of the time.
- ≤ 480 seconds to assemble the initial first alarm assignment on scene 90 percent of the time for low/medium hazards, and 610 seconds for high-rise fire incidents 90 percent of the time.

For EMS incidents the standard NFPA 1710 standard establishes a travel time of:

- ≤ 240 seconds for the first arriving engine company with automated external defibrillator (AED) or higher level capability.
- ≤ 480 seconds or less travel time of an Advanced Life Support (ALS) unit at an EMS incident where the service is provided by the fire department provided a first responder with an AED or basic life support unit arrived in 240 seconds or less travel time.

The next figure illustrates the cascade of events for a fire or EMS incident.

FIGURE 9: Incident Cascade of Events



For response times in Jupiter, the data team analyzed response time statistics for different call types as outlined above. The data team included all calls responded to in Jupiter by both PBCFR and other fire agencies where at least one unit arrived. This response time analysis excludes canceled and aid given calls (responses outside of the Town). The data team included all units responding into Jupiter to show the bigger picture of automatic-mutual aid and the impacts of demand when an overlapping call in a station district occurs, and the automatic-mutual aid unit arrives first, which is the goal of contemporary service delivery.

Based on this methodology, for the 8,268 calls, the data team excluded 650 canceled calls, 774 aid-given calls (calls Jupiter units responded to outside of the Town), 144 calls where no units recorded a valid arrival time, and 42 calls where one or more segments of the first arriving unit's response time could not be calculated due to missing or faulty data. As a result, response times are on 6,657 calls.

The next table outlines turnout, travel, and total response times as an average and at the 90th percentile for calls inside of the Town of Jupiter. The 90th percentile is the NFPA 1710 standard benchmark as discussed above.

TABLE 7: Average and 90th Percentile Response Time of First Arriving Unit (Minutes)

	Average				90th Percentile				
Call Type	**Dispatch**	**Turn out**	**Travel**	**Total**	**Dispatch**	**Turn out**	**Travel**	**Total**	**Call Count**
Breathing Difficulty	0.2	0.8	5.1	6.1	0.3	1.3	7.8	9.1	492
Cardiac and Stroke	0.3	0.8	5.0	6.0	0.4	1.3	7.6	8.6	672
Fall and Injury	0.2	0.8	5.5	6.5	0.3	1.4	8.3	9.4	1,337
Illness and Other	0.2	0.7	5.3	6.3	0.3	1.2	7.9	9.1	1,456
MVA	0.3	0.7	4.8	5.9	0.4	1.3	7.9	9.1	490
Nonemergency Transfer	0.3	0.9	5.7	6.9	1.0	1.4	7.2	8.5	24
Overdose and Psychiatric	0.3	0.8	5.8	6.8	0.2	1.3	8.8	9.8	248
Seizure and Unconsciousness	0.3	0.7	4.9	5.9	0.3	1.3	7.3	8.5	484
EMS Total	**0.3**	**0.8**	**5.2**	**6.2**	**0.3**	**1.3**	**8.0**	**9.1**	**5,203**
False Alarm	0.2	0.8	6.5	7.6	0.3	1.4	10.1	11.2	680
Good Intent	0.4	0.8	6.5	7.6	0.6	1.4	9.9	11.4	183
Hazard	0.3	0.8	6.1	7.2	0.4	1.4	8.3	9.5	82
Outside Fire	0.4	0.8	6.2	7.5	1.0	1.5	10.0	10.8	51
Public Service	0.3	0.9	6.3	7.5	0.3	1.5	9.2	10.7	411
Structure Fire	0.4	0.7	4.8	5.9	1.0	1.2	6.3	7.9	20
Technical Rescue	0.4	0.8	6.2	7.4	0.3	1.3	9.4	10.0	27
Fire Total	**0.3**	**0.8**	**6.4**	**7.5**	**0.3**	**1.4**	**9.7**	**10.9**	**1,454**

The next figures illustrate 240 and 360 second response time travel bleeds from each Jupiter fire station as well as Stations 14 and 15 as benchmarked against the NFPA 1710 standard. CPSM utilizes ArcGIS mapping and analytics software to produce maps. Our GIS Specialist uses the most recent traffic data available in ArcGIS, which identifies traffic pattern issues. Additionally, ArcGIS analytics considers the road network and access of the Town, actual speed limits, traffic signals, stop signs, left turns, dead ends, and U-turns.

Figure 10: 240 Second Travel Times

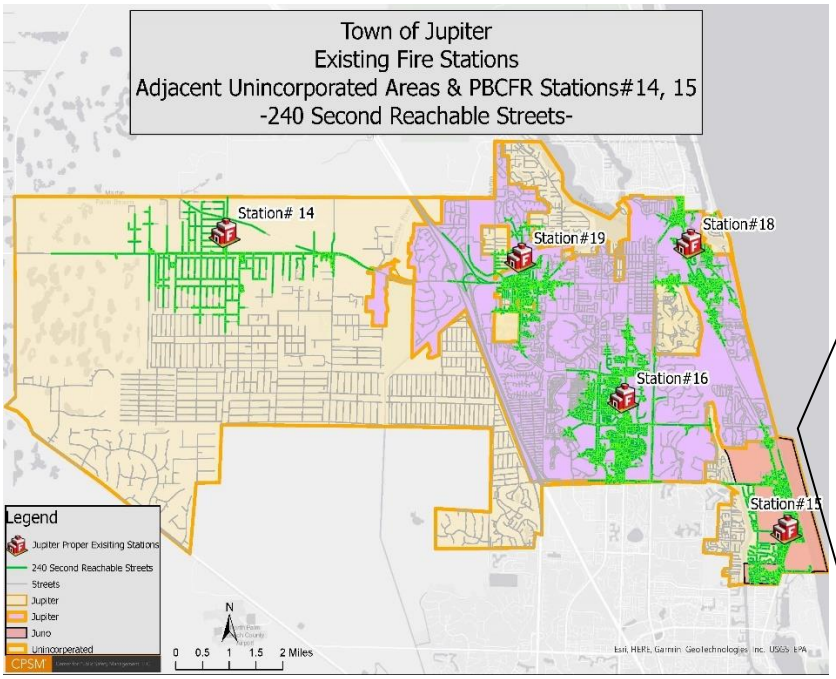
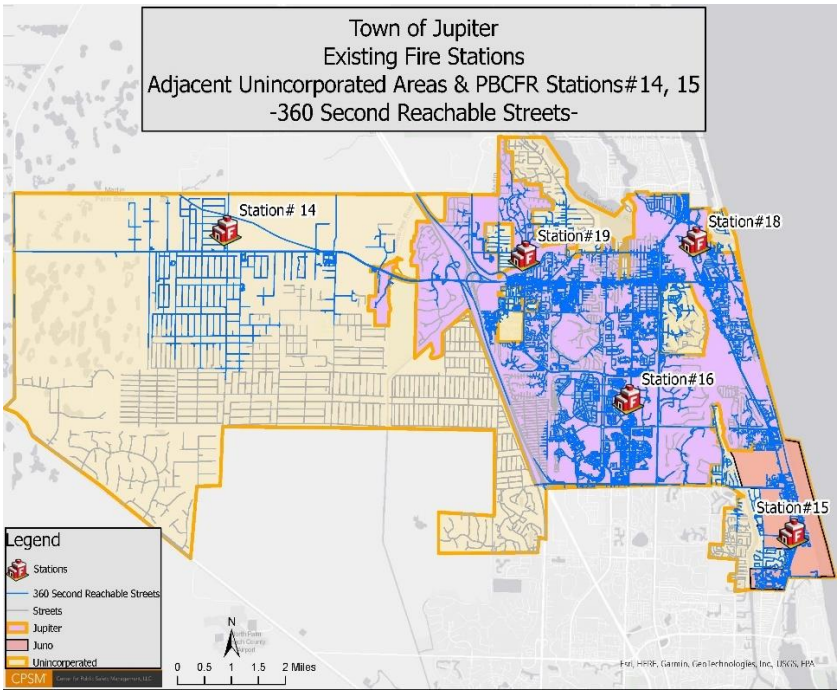
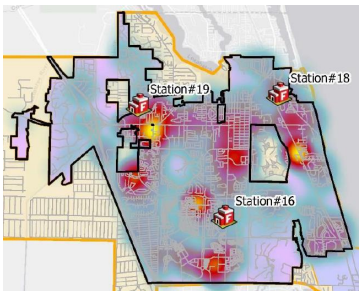


Figure 11: 360 Second Travel Times

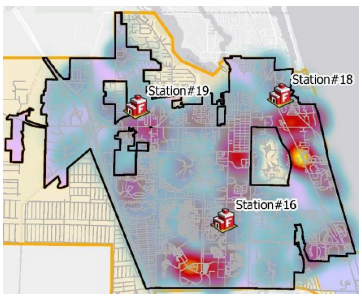


The current station locations, road network and traffic conditions have an effect on the 240 second travel time. However, the current station locations are positioned to serve the majority of the current Fire and EMS demand in 240 seconds or just beyond.

EMS Demand



Fire Demand



At 360 seconds, and with mutual aid companies, the current Town station performance significantly improves, which is the design of the current PBCFR system.

ISO-PUBLIC PROTECTION CLASSIFICATION RATING

In 2022, Palm Beach County received a Class 1 Public Protection Classification (PPC) rating from the Insurance Services Office (ISO), a subsidiary of Verisk Analytics. The Verisk hazard mitigation team collects and evaluates information from communities across the United States regarding their capabilities to provide municipal fire protection. This information is analyzed utilizing the Fire Suppression Rating System from which individual section credits and points are tabulated and a Public Protection Classification for the community is assigned. Classifications range from 1 through 10, with one being the highest rating a community can achieve.[1]

It is important to understand the PPC is not just a fire department classification, but a compilation of community services that include the fire department, the emergency communications systems, the water supply system that includes an evaluation of available water matched to the amount needed to suppress fires (referred to as fire flow), and community efforts to reduce the risk of fire, including fire prevention codes and enforcement, public fire safety education, and fire investigation programs.[2]

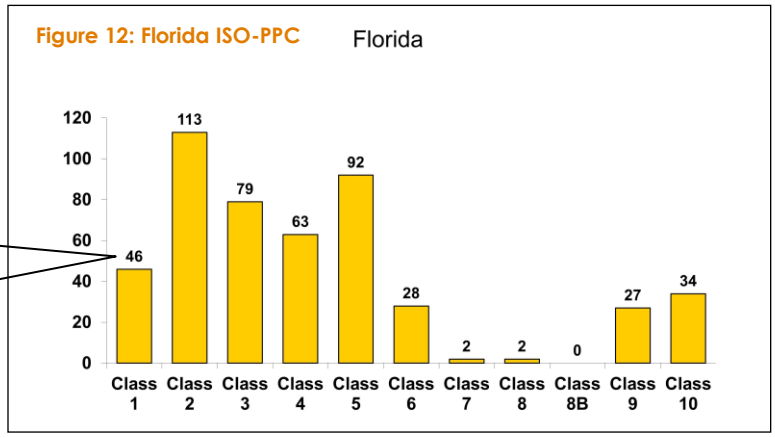
A lower PPC does not always guarantee a lower property insurance rating as many factors feed into the formulas insurance companies utilize to determine rates. This is true for coastal communities Florida, who are or may be prone to tropical systems. However, a PPC rating of 1, 2, or 3 alerts the property insurance underwriter that the service area of that fire department is well-equipped, positioned, and staffed to extinguish, mitigate, and prevent fires. Additionally, although insurance companies may use the Verisk-ISO-PPC information when deciding property insurance premiums, Verisk-ISO has nothing to do with insurance premium pricing.

A community's PPC grade depends on:

- **Needed Fire Flows** (building locations used to determine the theoretical amount of water necessary for fire suppression purposes).
- **Emergency Communications** (10 percent of the evaluation).
- **Fire Department** (50 percent of the evaluation).
- **Water Supply** (40 percent of the evaluation).
- **Community Risk Reduction** (Additional credits received for Fire Prevention/Inspection, Public Education, and Fire Investigation activities)

As of the date of this report, there are 46 Class 1-PPC rated communities in Florida

Figure 12: Florida ISO-PPC



1. Verisk's Community Hazard Mitigation Services (isomitigation.com)
2. ibid

PBCFR INTERLOCAL AGREEMENT FOR FIRE AND EMS SERVICES

Chapter 125.0101(1) of the Statutes permits counties to contract for services with municipalities and special districts as provided by s. 4, Art. VIII of the State Constitution. Chapter 125.0101(2) further defines those activities a county can contract with a municipality within their county to be **fire protection**, law enforcement, library services and facilities, beach erosion control, recreation services and facilities, water, streets, sidewalks, street lighting, garbage and trash collection and disposal, waste and sewage collection and disposal, drainage, transportation, **and other essential facilities and municipal services**. Such services shall be funded as agreed upon between the county and the municipality or special district. Section 3 of this Chapter establishes that municipalities are authorized and empowered to enter into service contracts with counties.

The Town is in the final year of a ten-year Interlocal Agreement (ILA) with PBCFR to receive Fire and EMS services. The current ILA is based on three primary costs, which are direct operational costs, overhead costs, and capital costs. The current contract allows for credit for ground transport revenues collected by PBCFR for those transports originating in the Town.

Direct operational costs are derived as a percentage of PBCFR unit responses in the Town multiplied by the total Battalion 1 personnel services budget less Stations 17 and 68 and Haz-Mat funding from Palm Beach County Solid Waste Authority. The sum of this equation represents the direct operational costs for services to include PBCFR operational staff. **The Town has no direct control over the Battalion 1 budget or factors that may increase personnel costs such as employee benefits and collective bargaining agreements.** PBCFR does approach the Town annually and as needed for enhancements to the Jupiter Fire and EMS services and discusses other funding needs as well. In FY2023, the Battalion 1 budget is $32,849,189. The percentage of Jupiter unit responses for the FY 2023 calculation is 63.34%. Jupiter's densification and population will likely continue to be the largest percentage of incidents in the long term.

For FY 2023, the direct cost for personnel services for the Town is $20,806,676.

Overhead costs include PBCFR administrative services; vehicle and facility maintenance; PBCFR training division, fire inspections division, fire investigation division, building plans review services, public life safety education, operations management (the largest overhead cost at $1,456,718), and LTD contributions. The administrative services fees represent typical administrative and support divisions and services of Fire and EMS departments nationally. There are several formulas in this cost center that derive an annualized overhead cost charge as provided in the next table. ***The Town has no direct control over PBCFR internal operations, staffing, and unit costs that drive the final Jupiter MSTU fees for this cost center.***

For FY 2023, the overhead costs are $5,364,314.

Capital costs for new or replacement capital items.

For FY 2023 the capital costs are $1,071,351.

Revenue Credit: Pursuant to the 2012 ILA, in FY 2023 there is a revenue credit of $1,394,837 for EMS ground transport fees collected from transports originating in the Town.

The PBCFR receives Fire Inspection/Building Plans Review fees generated from the conduct of these functions. In FY 2022 this was nearly $300,000.

The next table outlines the FY 2023 contract costs in detail.

Table 8: FY 2023 PBCFR Contract for Fire and EMS Services-Detail

Jupiter Contract Full Cost Allocations Methodology FY2023			2023 Calculation
Direct Costs:			
Battalion #1 Budget			$32,849,189
% of Unit Responses in Jupiter			63.34%
Total Direct Costs			$20,806,676
Overhead Costs:			
Chief's Office		(% of Personnel) x (% of Unit Responses)	$110,708
Fiscal/Planning		(% of Personnel) x (% of Unit Responses)	263,277
Overhead & BCC Indirect		(% of Personnel) x (% of Unit Responses)	966,362
Human Resources		(% of Personnel) x (% of Unit Responses)	253,233
Support Services			
	Vehicle Maint.	(% of Vehicles) x (% of Unit Responses)	516,536
	Building Maint.	(% of Buildings) x (% of Unit Responses)	322,118
Training		(% of Personnel) x (% of Unit Responses)	621,429
Inspections		(% of Inspections)	444,425
Investigations		(% of Investigations)	93,101
Plans Review		(% of Plans Reviewed)	93,967
Public Education		(% of Public Contact Hours)	102,648
Operations Mgmt.		(% of Personnel) x (% of Unit Responses)	1,456,718
Dispatch Costs		(% of Calls)	0
LTD Contributions		(% of Personnel) x (% of Unit Responses)	119,792
Total Overhead Costs			$5,364,314
Capital Costs:			
Capital (New & Replacement)		(% of Stations) x (% of Unit Responses)	$1,071,351
800 MHZ - 7 year life ($2.9 million)		(% of Stations) x (% of Unit Responses)	0
Total Capital Costs			$1,071,351
Tax Collector & Property Appraiser (Included In Fund Cost)			$0
Total Costs Jupiter Contract			$27,242,341
Less: Revenue Credit(s) - Pursuant to section 3.C.2 of the Interlocal Agreement			
Net Costs Jupiter Contract			$27,242,341
ALS Revenue Credit Adjustment			($1,394,837)
Net Contract Amount			$25,847,504

Pursuant to the current Interlocal Agreement, the County also collects impact fee revenues from the Town to be used in accordance with Florida State Statutes and County Ordinances. From 2012 to 2022 the County has received $1,252,429.

JUPITER MSTU

Funding for PBCFR Fire and EMS services in the Town is derived from a Municipal Services Taxing Unit (MSTU). Pursuant to Chapter 125.01(q) of the Florida State Statutes (Statutes), *subject to the consent by ordinance of the governing body of the affected municipality given either annually or for a term of years, the boundaries of a municipal service taxing or benefit unit may include all or part of the boundaries of a municipality. If ad valorem taxes are levied to provide essential facilities and municipal services within the unit, the millage levied on any parcel of property for municipal purposes by all municipal service taxing units and the municipality may not exceed 10 mills. This paragraph authorizes all counties to levy additional taxes, within the limits fixed for municipal purposes, within such municipal service taxing units under the authority of the second sentence of s. 9(b), Art. VII of the State Constitution.*

The Town has contracted with PBCFR since October 1, 1984, funding this service though the Jupiter MSTU. The MSTU is displayed on all property owner's tax bills as a separate tax line and dollar amount and are collected by the Palm Beach County Tax Collectors Office. Funds from this taxing unit are then dispersed to Palm Beach County for use by the PBCFR department to operate Fire and EMS services in the Town. Currently the Jupiter MSTU is funder under Town Ordinance 42-13, which was approved by the Town Council in 2013. This Ordinance includes properties within the Town boundaries through tax tear 2022, with funding for Fire and EMS through September 30, 2023.

At the December 6, 2022, Town Council meeting, Town Council approved the continuation of the Town's inclusion in the Jupiter-Municipal Service Taxing Unit to finance the provision of fire and rescue services by the PBCFR department through the adoption of Town Ordinance 12-22. The term of this is effective December 31, 2022, and is in effect through December 31, 2027, and *shall be deemed to continue through 7:30 a.m. on October 1, 2028, to the extent necessary to enable the County to provide within the Town fire-rescue and related services funded by the final tax year and subject to an annual renewal each year during the term.* Section 6 of Ordinance 12-22 allows the town to terminate participation in the Jupiter MSTU through the Town resolution of the Town Council. Should the Town choose to terminate participation in the Jupiter MSTU, it must provide the adopted resolution to the County by *March 1 of any given year during the term and the consent provided for herein effective December 31st of the same year. The Town shall subsequently adopt an ordinance to repeal the Town's consent and participation in the Jupiter MSTU and provide a copy of the ordinance to the County and Property Appraiser by December 31 of the same year.*

The next table outlines the historical ten-year Jupiter MSTU for Fire and EMS services.

Table 9: 10-Year Historical MSTU Rates

Fiscal Year	Jupiter MSTU	Fiscal Year	Jupiter MSTU
FY 2014	2.0787	**FY 2019**	1.9026
FY 2015	2.1748	**FY 2020**	1.9097
FY 2016	1.9823	**FY 2021**	1.8911
FY 2017	2.0035	**FY 2022**	1.7880
FY 2018	2.0038	**FY 2023**	1.8713

PROPOSED INTERLOCAL AGREEMENT: FY2024 AND BEYOND

On November 19, 2013, the Town entered into an Interlocal Agreement (ILA) with Palm Beach County for fire-rescue services. The term of this ILA is for ten years and sunsets September 30, 2023.

The Town was notified in July 2022, that the County did not wish to renew the ILA for fire-rescue services utilizing the current, actual cost methodology. Also in July 2022, PBCFR provided the Town with a proposed 5-year ILA that would incrementally increase the Jupiter MSTU rate over the life of the proposed agreement (5-years) to what is the current County-Wide Fire Rescue Millage Rate of 3.4581. This would be an 85% increase from the current FY 2023 MSTU rate of 1.8713. This rate increase would also generate a substantial revenue increase for the PBCFR department with no new services proposed.

Presumably, once the Jupiter MSTU is raised to the County-Wide Fire Rescue Millage Rate, it would remain there, and fluctuate up or down from year to year as approved by the Palm Beach County Commission. Although PBCFR has reconsidered the July 2022 proposal, that proposed agreement is not sustainable in terms of an increased MSTU rate with corresponding increased revenues, and no proposed new services.

Since the July 2022 PBCFR agreement submission to the Town, PBCFR has participated in follow-up discussions with the Town regarding a successor ILA, and have also provided the Town the following for consideration:

- November 2022: PBCFR presented a funding option to the Town that calculates contract increase based on CPI and population.
- December 2022: PBCFR verbally discussed an ILA agreement option with Town Administration that utilizes an actual cost formula plus funding for capital items.
- On December 22, 2022, the Town addressed a letter to the Palm Beach County Administrator formally requesting an updated ILA for fire-rescue services. As of the date of this report, PBCFR has not provided a formal revised ILA proposal to the Town. Discussions between PBCFR and County officials have taken place and include a verbal proposal in December 2022. This proposal includes: maintaining the current, actual cost methodology plus capital costs that have not been identified. No new services for the Town were proposed.
- January 3, 2023: The Town received a letter from the PBCFR Fire Rescue Administrator asking to work with Town staff to develop a cost methodology for services and items not represented or expressed in the 2020 agreement. The Town responded to this letter with a request to base a new, proposed ILA on the current ILA and actual cost methodology.

BENEFIT TO COUNTY FOR PROVIDING FIRE AND EMS SERVICES TO THE TOWN OF JUPITER

Staffing and deploying Fire and EMS services in a large county that is dissected with incorporated communities as well as unincorporated enclaves inside of incorporated boundaries can be difficult. It therefore benefits counties to contract with municipalities who do not maintain their own Fire and EMS services (and other services as well), such as Jupiter, for economy of scale.

Moreover, when a county places fire stations in a municipality that has contiguous unincorporated area and/or another contract municipality that requires the same services, a county is then able to provide services to that region for a reduced cost, as the primary contract municipalities' staff and resources supplement unincorporated services and budgets. Additionally, and as most large counties operate public safety services regionally, the municipal contract Fire and EMS resources can respond regionally when needed on multi-apparatus incident responses, or back up to other county unincorporated areas (and municipal fire departments) on overlapping calls for service due to their proximity.

The direct benefit to Palm Beach County for providing Fire and EMS services to the Town of Jupiter, outside of establishing a fire-rescue department in the community, is the placement of additional Fire and EMS resources in the north region of the county that has built upon unincorporated area contiguous with Jupiter and distant from the core of the PBCFR resources, the servicing of unincorporated enclaves inside the Jupiter Town Boundaries, and resource assistance to an additional contiguous municipal contract area to the southeast (Juno Beach), which has a single Fire and a single EMS PBCFR resource. The Town of Jupiter is a strategic benefit, as it is the last remining large municipality in north Palm Beach County serviced by PBCFR.

BENEFIT TO THE TOWN OF JUPITER CONTRACTING WITH PBCFR FOR FIRE AND EMS SERVICES

The Town benefits by contracting with PBFCR not from a direct cost benefit, but from an organizational benefit. The Town is provided with high level Fire and EMS service from a large footprint department. Large footprint departments are able to provide resources for complex technical rescue and hazardous materials incidents that smaller municipal departments typically do not have. This is true in Jupiter. The direct costs for these services are contemplated in the current Jupiter Fire and EMS service contract with PBCFR. That said, these resources are and can be made available to smaller municipal departments through mutual aid agreements, which are typical across the country, and is such the case in Palm Beach County.

Further, while contracting for direct Fire and EMS operational resources, large organizations also provide management, and technical resources in Community Risk Reduction (Fire Prevention, Life Safety Public Education, Plans Review), Fire Investigation services, staff professional development, human resources and fiscal planning services, and fleet and facility maintenance. As noted herein, these are considered overhead costs and are outlined in the PBCFR agreement for services.

The direct benefit to the Town contracting with Palm Beach County is the establishment of Fire and EMS services within the Town municipal boundaries without the responsibility of the day to day management of a fire-rescue department. This responsibility however is not beyond the realm of the Town as they successfully manage complex operational and administrative municipal departments now that include police; finance; human resources; public works; public water and stormwater utilities; and building, zoning, and planning services.

Another direct benefit to the Town is the availability of the large footprint department's operational and technical resources. This includes nearly 1800 personnel assigned to 49 fire stations delivering basic Fire and EMS operational resources (fire suppression and EMS ground transport), technical rescue, hazardous materials, marine, air, wildland, mobile integrated health, and other administrative and support services as discussed throughout this report.

SECTION 4. ALTERNATIVE FIRE AND EMS SERVICE MODELS

When the Town received notice that the County no longer wished to contract with the Town for Fire and EMS services under the current fee structure and taxing rate, the Town prudently sought alternatives to ensure current and future fiscal sustainability.

Prompting this study was the PBCFR's initial agreement offer of five years, to begin in FY 2024, that would change the current costing model from that of actual costs + overhead costs with a current MSTU rate of 1.8713, to a straight MSTU rate costing model of 3.4581, which is the countywide Fire and EMS millage rate. The Town found this proposed agreement to be unsustainable as it would have substantially increased the tax burden on citizens and businesses, as well as add substantial revenues to PBCFR with no planned new Fire and EMS services identified that would directly benefit the Town.

The following are alternatives the Town can and should consider establishing more direct control over Fire and EMS costs and to continue overall Town fiscal sustainability.

ALTERNATIVE 1: ACCEPT PALM BEACH COUNTY PROPOSAL

With this alternative, the Town can accept and approve the proposed 5-year agreement for Fire and EMS services as presented by PBCFR in July 2022. This alternative maintains the current level of service provided by PBCFR utilizing a straight tax revenue formula.

- This proposed agreement shifts the costing formula from a direct-overhead cost formula to a straight tax formula. Under this proposal, the Jupiter MSTU rate increases from the FY 2023 MSTU of 1.8713 to 3.4581 in FY 2028 (3.4581 is the current countywide fire millage rate).
- All operational components and operational overhead for PBCFR administrative services; vehicle and facility maintenance; PBCFR training division, fire inspections division, fire investigation division, building plans review services, public life safety education, operations management (the largest overhead cost), and LTD contributions are included in the straight tax formula.
- The proposal does not include an annual EMS ground transport credit for fees associated with EMS ground transport collected from transports originating in the Town.
- The proposal does not include any new services.

ALTERNATIVE 2: CONTRACT FOR FIRE & EMS WITH A CONTIGUOUS MUNICIPALITY

With this alternative, the Town would contract with a contiguous municipality who provides Fire and EMS service. The Town currently has two such opportunities: the City of Palm Beach Gardens and the Village of Tequesta.

Options with this alternative include:

- Contract for the entire Fire and EMS operation:

- Fire Protection.
- EMS Ground Transport.
- Community Risk Reduction.
- Fire Investigation.
- 911-Dispatch services.
- Agreed upon ancillary services the municipality may offer their citizens.

- Services can be contracted with multiple contiguous jurisdictions based on location of operational services and/or operational and support services the contiguous municipalities aggregately can/will contract for.
- Contracting with a contiguous municipality can be for all services or selected services if the Town chooses to provide some Fire and EMS services.

In any contractual arrangement with a contiguous municipality, there will be costs either direct or indirect associated with operational Fire and EMS services (personnel, fleet, facility [Town operated facility or contract municipality operated], and equipment). There will also be overhead costs for administrative and support services much like what PBCFR has developed and charges the Town for currently in their cost center.

The Town may find the same challenges to ensure sustainability of Fire and EMS costs contracting with one or more municipalities. There is also the potential for sustainability of costs depending on how an agreement is structured. In either case, it would be prudent for the Town to conduct a Request for Services process to properly vet respondent services and proposed fee structures.

ALTERNATIVE 3: CREATE A FIRE DISTRICT UNDER STATE OF FLORIDA STATUTES

With this alternative, the Town could work with participating municipal partners and establish an Independent Fire Control District under the Florida State Statutes Chapter 191. Specific to the Town:

- An Independent Special District can be formed by more than one municipality as a *Regional Special District* pursuant to general law authority.
- The Florida Legislature may create Independent Special Districts.
- Independent Special Fire Control Districts (Florida State Statutes Chapter 191):
  - Created by special law or general law of local application, providing fire suppression and related activities within the jurisdictional boundaries of the district.
  - Provides fire suppression and related activities within the jurisdictional boundaries of the district.
  - May establish and maintain emergency medical and rescue response services and acquire and maintain rescue, medical, and other emergency equipment, and any COPCN or its equivalent issued thereunder.
- Common types of special district governing bodies:
  - Elected

- Identical to a single county or a single municipality
- Appointed by a single county or a single municipality
- Appointed by more than a single county or a single municipality.
- Appointed by the Governor
- Combination of appointed and elected

- Common types of special district revenue sources:
  - Non ad valorem
  - Ad valorem (operating cannot exceed 3.75 mills)
  - User fees
  - Local government: County; Municipality

When considering this alternative, the Town must decide if it will participate with some level of service (Fire, EMS, or both), or participate from a financial perspective (contracting with the Independent Fire Control District for Fire, EMS, and technical services). In either case, the Town will presumably have one or members on the governing board of the Fire Control District. As a part of the governing board, the Town would have a voice in all matters of the district to include revenue generation and expenditures. This would provide the Town with regular discussion specific to costs and positioned to ensure sustainable Fire and EMS costs. The limitation of this alternative is generating interest from other municipalities to form such an independent district.

ALTERNATIVE 4: CREATE A TOWN OF JUPITER FIRE & RESCUE DEPARTMENT

This alternative contemplates the Town creating its own Fire and EMS department (Jupiter Fire Rescue Department or JFRD). For this alternative, CPSM mirrors to a great extent the same staffing and deployment model PBCFR currently has in place. The CPSM model does not decrease the number of apparatus and staffing in the Town fire stations and proposes a service level increase for less annual funding. CPSM will outline the following for this alternative:

- Number and location of Fire and EMS facilities.
  - 3 Stations
  - Response time reach from each
- Types of apparatus deployed from each Fire and EMS facility.
  - 2 ALS Engines
  - 1 ALS Squad Engine
  - 1 ALS 107' Aerial Ladder **(*increase in service level from PBCFR model*)**
  - 3 ALS Medic Units
- Town of Jupiter Risk Profile.
  - Analysis of population and demographic risk; environmental risk; transportation risk; building risk; water and marine risk; Fire and EMS demand risk.

- Daily staffing levels for each apparatus at each Fire and EMS facility.
  - Engines and Squad: 4 assigned to two engines, 3 minimum. 2 additional staff to fill in for scheduled and unscheduled leave each day to minimize overtime. (increase in service level from PBCFR model).
- Administrative, support, and technical service staffing.
  - Fire administrative staff; fire prevention staff; training staff; logistics staff.
- Start-up costs include facilities, apparatus, and Fire and EMS equipment.
- Recurring operational and administrative costs, which represent the initial annual budget
- Administrative and operational considerations.
  - 911 dispatch services
  - Participation in County EMS ground transport Pilot Program and application to the County for a Certificate of Public Convenience and Necessity (COPCN).
- Funding alternatives.
  - Fire Assessment Fee for fire protection and fire capital costs.
  - General fund for EMS costs.
- A recommended timeline for implementation.
- Future considerations.
  - The impact of future growth on call demand may necessitate a future fire station (1 Engine and 1 Medic unit).

Considerations for Staffing and Deployment of Town Fire and EMS Resources

When exploring staffing and deployment of fire-rescue departments, it is prudent to design an operational strategy around the actual circumstances that exist in the community and the fire and risk problems that are identified. The strategic and tactical challenges presented by the widely varied hazards that a department protects against need to be identified and planned for through a community risk analysis planning and management process as completed in this report. There are budgetary factors that must be considered when deciding on the level of staffing and risk a community must undertake.

Effectively managing a fire-rescue department requires an understanding of and an ability to demonstrate how changes to resources will affect community outcomes. It is imperative that fire-rescue department leaders, as well as political decision makers, know how fire-rescue department resource deployment in their local community affects community outcomes in three important areas: firefighter injury and death; civilian injury and death; and property loss. If fire-rescue department resources (facility, apparatus, and personnel) are deployed to match the risk levels inherent to hazards in the community, it has been scientifically demonstrated that the community will be far less vulnerable to negative outcomes in all three areas.[3]

Even with a thorough risk evaluation, staffing Fire and EMS companies continues to remain a hotly debated topic among firefighters and governmental leadership since risk assessment

3. Fire Service Deployment, Assessing Community Vulnerability, Metropolitan Fire Chiefs, 2011.

models include high risk low frequency situations. While a situation may be low frequency, they can and do exist and require operational readiness to mitigate.

The federal government is aware as well of staffing challenges for local fire departments. In response to concerns over the adequacy of firefighter staffing, the Staffing for Adequate Fire and Emergency Response Act, known as the SAFER Act, was enacted by the 108th Congress as Section 1057 of the FY2004 National Defense Authorization Act (P.L. 108-136). The SAFER Act authorizes grants to career, volunteer, and combination local fire departments for the purpose of increasing the number of firefighters to help communities meet industry-minimum standards and attain 24-hour staffing to provide adequate protection from fire and fire-related hazards. SAFER is administered by the Federal Emergency Management Agency (FEMA) of the Department of Homeland Security (DHS).[4]

While NFPA 1710 and OSHA provide guidelines as to the level of staffing and response of personnel; the acceptance of these agency documents varies from state to state, and department to department. As already discussed, NFPA 1710 has addressed the recommended staffing in terms of four types of occupancies. The needed staffing to accomplish the critical tasks for each specific occupancy is determined to be the Effective Response Force (ERF) as outlined in section 5.2.4 of this document.

One of the factors that has helped the fire service in terms of staffing is technology. The fire service continues to experience several technological advances that help firefighters extinguish fires more effectively. More advanced equipment in terms of nozzles, thermal imaging systems, advancements in self-contained breathing apparatus, incident command strategies, and devices used to track personnel air supply are examples of the advancement in technologies and techniques that help firefighters extinguish fires safer and manage the fireground more effectively. While some of these technologies do not reduce staffing required, it can have an impact on critical tasking workload, property loss, and crew fatigue.

Even with many advances in technology and equipment, the fireground is an unforgiving and dynamic environment where firefighters must complete critical tasks. Providing adequate staffing (Effective Response Force) for these environments utilizes many factors. A community fire risk assessment and the expectations of the community are factors that will drive the critical tasks needed to be completed on the fireground.

Staffing and deployment of fire services is not an exact science. While there are many benchmarks that communities and management utilize in justifying certain staffing levels, there are certain considerations that are data driven and reached through national consensus that serve this purpose as well. CPSM has developed metrics it follows and recommends that communities consider when making recommendations regarding staffing and deployment of fire resources.

In addition to metrics, staffing is also linked to station location, what type of apparatus is responding, engine, ladder, ambulance, or specialty piece. These combined factors help to determine what level of Fire and EMS service is going to be delivered in terms of workforce, response time, and resources. Linked to these components of staffing and deployment are 11 critical factors that drive various levels and models from which Fire and EMS departments staff and deploy. These factors are:

Community Risk Profile: The community risk profile is used to evaluate risk in the community, call demand, where calls are occurring, and how a Fire and EMS department is positioned to respond to and mitigate emergencies involving identified risks. With regard to individual property, the assessment is used to measure all

4. Congressional Budget Research Service, informing the legislative debate since 1914. *Staffing for Adequate Fire and Emergency Response:* The SAFER Grant Program, updated April 25, 2019.

property in the community and the risk associated with those properties, and then segregate the properties as either a high, medium, or low hazard depending on factors such as the life and building content hazards, and the staffing and apparatus types required to mitigate an emergency in the specific property. Included in risk profile assessment are structural and nonstructural (environmental, transportation, call demand etc.) risk analyses.

Population, Demographics, and Socioeconomics of a Community: Population and population density drive calls for local government service, particularly public safety. The risk from fire is not the same for everyone, with studies telling us age, gender, race, economic factors, and what region in the country one might live all contribute to the risk of death from fire. Studies also tell us these same factors affect demand for EMS, particularly population increase and the use of hospital emergency departments as primary care clinical access. Many uninsured or underinsured patients rely on emergency departments for their primary and emergent care, utilizing pre-hospital EMS transport systems as their entry point.

Call Demand: Demand is made up of the types of calls to which units are responding and the location of the calls. This drives workload and station staffing considerations. *Higher population centers with increased demand require greater resources.*

Workload of Units: The types of calls to which units are responding and the workload of each unit in the deployment model. This tells us what resources are needed and where; it links to demand and station location, or in a dynamic deployed system, the area(s) in which to post units.

Travel Times from Fire Stations: Looks at the ability to cover the response area in a reasonable and acceptable travel time when measured against national benchmarks. Links to demand and risk assessment.

NFPA Standards, ISO, OSHA Requirements (and other national benchmarking). CPSM considers national benchmarks, standards, and applicable laws when making recommendations or alternatives regarding the staffing and deployment of Fire and EMS resources.

EMS Demand: Community demand; demand on available units and crews; demand on non-EMS units responding to calls for service (fire/police units); availability of crews in departments that utilize cross-trained EMS staff to perform fire suppression.

Critical Tasking: The ability of a Fire and EMS department to collect an *Effective Response Force* as benchmarked against national standards when confronted with the need to perform required critical tasks on a Fire or EMS incident scene defines its capability to provide adequate resources to mitigate each event. Department developed and measured against national benchmarks. Links to risk and vulnerability analysis.

Innovations in Staffing and Deployable Apparatus: The fire department's ability and willingness to develop and deploy innovative equipment, apparatus, and programs.

Community Expectations: Measuring, understanding, and meeting community expectations.

Ability to Fund: The community's ability to fund all local government services and achieve sustainable services that continuously meet the community's needs.

While each component presents its own metrics of data, consensus opinion, and/or discussion points, aggregately they form the foundation for informed decision-making geared toward the implementation of sustainable, data- and theory-supported, effective Fire and EMS staffing and deployment models that fit the community's profile, risk, expectations, and needs.

Throughout this report CPSM has discussed Fire and EMS call demand; workload and response times of PBCFR Jupiter units; applicable national standards; critical tasking; and ability to fund. To some extent the community expectations were discussed above through the Town's bi-annual *Citizen Survey*. For this study, CPSM has analyzed certain and applicable factors of the Town's community risk profile. The next section discusses the Town's risk profile, which links directly to staffing and deployment of Fire and EMS apparatus.

Community Risk Profile

Population and Demographics

The U.S. Census Bureau indicates the population of the Town of Jupiter in 2020 was 61,047. This is just under a ten percent increase since the 2010 census of 55,156. The city has 21.63 square miles of land mass. The population density is 2,823 people per square mile. This is an increase of 253 people per square mile over the 2010 census count.

In terms of Fire and EMS risk, the age and socio-economic profiles of the population can have an impact on the number of requests for Fire and EMS services and establishes the vulnerability of the population. Evaluation of the number of seniors and children in the community can provide insight into trends in service delivery and quantitate the probability of future service requests. In a 2021 National Fire Protection Association (NFPA) report on residential fires, the following key findings were identified for the period 2015–2019:[5]

- Males were more likely to be killed or injured in home fires than females and accounted for larger percentages of victims (57 percent of the deaths and 55 percent of the injuries).
- The largest number of deaths (19 percent) in a single age group was among people ages 55 to 65.
- 59 percent of the victims of fatal home fires were between the ages of 39 and 74, and three of every five (62 percent) of the non-fatally injured were between the ages of 25 and 64.
- Slightly over one-third (36 percent) of the fatalities were aged 65 or older; only 17 percent of the non-fatally injured were in that age group.
- Children under the age of 15 accounted for 11 percent of the home fire fatalities and 10 percent of the injuries. Children under the age of 5 accounted for 5 percent of the deaths and 4 percent of the injuries.
- Adults of all ages had higher rates of non-fatal fire injuries than children.
- Smoking materials were the leading cause of home fire deaths overall (23 percent) with cooking ranking a close second (20 percent).
- The highest percentage of fire fatalities occurred while the person was asleep or physically disabled and not in the area of fire origin, key factors to vulnerable populations.

5. M. Ahrens, R. Maheshwari "Home Fire Victims by Age and Gender," Quincy, MA: NFPA, 2021.

In Jupiter, the following age and socioeconomic factors are considered herein when assessing and determining risk for Fire and EMS preparedness and response:[6]

- Children under the age of five represent 4.3 percent of the population.
- Persons under the age of 18 represent 19.6 percent of the population.
- Persons over the age of 65 represent 22.7 percent of the population.
- Female persons represent 51.8 percent of the population.
- There are 2.42 people per household in Jupiter.
- The median household income in 2020 dollars is $94,121.
- People living in poverty make up 7.2 percent of the population.

Black or African American alone represents 1.2 percent of the population. The remaining percentage of population by race includes White alone at 76.5 percent, American Indian or Alaska Native alone at 0.7 percent, Asian alone at 1.8 percent, two or more races at 10 percent, and Hispanic or Latino at 16 percent.

The demographics in Jupiter overall pose a low/balanced risk in totality. However, a single Fire and EMS call involving vulnerable population poses a higher risk on that particular response. Through pre-fire planning and response district knowledge of residential and other structures housing vulnerable population as identified above, a current PBCFR or new JFRD will have the necessary situational awareness and be better prepared on arrival to the incident.

As the Town is a desirable place to live, the Town will continue to add population, and will likely increase densification through current and future growth projects. Those with residential growth include:[7]

- 550 Bush Road: Small scale planned unit development application to request an increase in density and a site plan application to construct 35 fee simple townhouses on 2.93± acres. Currently under town review.
- Abacoa Dakota: A Subdistrict master site plan amendment to add 20 dwelling units and reduce the retail square footage; an Individual site plan to construct a 3-story building with commercial uses on the ground floor and residential units on the upper floors; Located on a 0.23± acre property, at the northwest corner of Dakota Drive and Williston Drive. *Under construction.*
- *Cornerstone:* Site plan and special exception for a mixed use building including 15 residential units and retail, located at 50 S. U.S. Highway One. *Under construction*.
- *Kempe Phase II-*Mixed Use Development: Small-scale Planned Unit Development (PUD) and site plan application to allow a restaurant, office, retail uses and residential on a 1.5+/- acre property located at the northeast corner of North A1A and Parkway Street. The project was approved at the August 20, 2013, Town Council meeting. A development order extension was granted until June 7, 2024. *Approved.*
- *Kempe West/Jupiter Oxbow:* A small-scale Planned Unit Development (PUD) and site plan application to construct a mixed use development on 0.72 acres with seven multi-family residential units and 3,695 square feet of retail fronting A1A, and a Special Exception for a

6. U.S. Census Bureau QuickFacts: Jupiter, FL.
7. Town of Jupiter, Planning and Zoning Department, Current Major Projects.

four-slip marina, located on the west side of North A1A between Saturn Street and Parkway Street. A development order extension was granted until November 15, 2023. *Approved.*

- *Sperry Property:* Comprehensive Land Use Map Amendment, Rezoning, Certificate to Dig, Zoning Text Amendment, Large-scale Planned Unit Development, Site Plan, and two Special Exception applications for a mixed-use development consisting of 67 residential condominiums, five residential townhouses, a 125 room hotel, a restaurant, and commercial retail use on 10.4 +/- acres located at 961 and 997 North A1A. *Under review.*

Environmental Factors

The Town of Jupiter is prone to and will continue to be exposed to certain environmental hazards that will impact the community. The most common environmental hazards prevalent to the region and the Town, according to the Palm Beach County Comprehensive Emergency Management Plan are:[8]

- Hurricane/Tropical Storms

  Florida is the most vulnerable state in the nation to the impacts of hurricanes and tropical storms. South Florida is particularly exposed to the dangers presented by hurricanes, due to its topography. The region is largely a flat, low-lying plain. The potential for property damage and human casualties in PBC has been increased by the rapid growth over the last few decades, particularly along the coastline. Since 1886, over 60 storms of hurricane intensity have passed within 125 miles of PBC. This represents an average of one hurricane every two (2) years. Hurricane damage is caused by two (2) factors: High winds and storm surge.[9]

- Severe Thunderstorm Lightning

  A severe thunderstorm is defined as a thunderstorm containing one or more of the following phenomena: hail ¼" or greater, winds gusting in excess of 57.5 mph, and/or a tornado. Severe weather can include lightning, tornadoes, damaging straight-line winds, and large hail. Florida leads the nation in the number of lightning strikes (about 12 strikes per square kilometer per year) and in lightning related deaths and injuries. Thunderstorms are common in PBC, and area residents are quite familiar with them and the severe weather they can bring.[10]

- Tornado

  While Florida ranks third in the United States in the number of tornado strikes, and the first in the number of tornadoes per square mile, the odds of a tornado striking any specific point in PBC are 0.004, or once per 250 years. Nine (9) tornadoes were reported in south Florida in 2015, with an EF-0 rated event in the Delray Beach/Boynton Beach area on January 28, 2016. Source: Miami-South Florida National Weather Service Forecast Office Winter Summary report dated March 3, 2016.[11]

- Extreme Temperatures

  Temperatures that remain 10°F or more above the average high temperature for a region and last for several weeks are defined as extreme heat. In most cases, extreme heat affects those who do not have the ability to stay inside during extreme heat. Palm Beach County does not have a significant population of people that experience heat related injuries. While PBC enjoys warm weather throughout the years, freezing does occur, primarily in the months of

8. Palm Beach County Comprehensive Emergency Management Plan, Natural Hazards, 2020.
9. ibid
10. ibid
11. ibid

late-December and January. Freezing conditions primarily affect agriculture and homeless indigents in PBC.[12]

- Flooding

  Aside from fire, floods are the most common and widespread of all natural disasters, accounting for 90 percent of all presidentially declared natural disasters. Florida, and especially PBC, are highly susceptible to localized flooding. The most common forms of flooding in PBC are rain induced inland flooding and storm driven coastal storm surge. Palm Beach County averages over 60 inches of rain per year and more than 130 rain days, with most of it coming between the months of June and November. Since PBC is virtually flat, with most areas at or only slightly above sea level, even moderate rains can accumulate quickly.[13]

- Fire

  Like the rest of the country, PBC is at a high risk for fires, both urban and wildfires. The biggest risk area in the County is the wild land urban interface area, which is the boundary where developed areas intermingle with undeveloped, natural areas. On average, Florida experiences the second highest number of wildfires in the country. Since PBC is located in the "lightning belt," residents and visitors must be cautious about wildfires as well as urban fires caused by lightning strikes. Some areas of focus in PBC are the muck land in and agricultural areas in the western part of the County. Nurseries and agricultural areas in the Southern part of the County, Loxahatchee, the Acreage, and Jupiter are also areas of concern.[14]

Transportation Factors

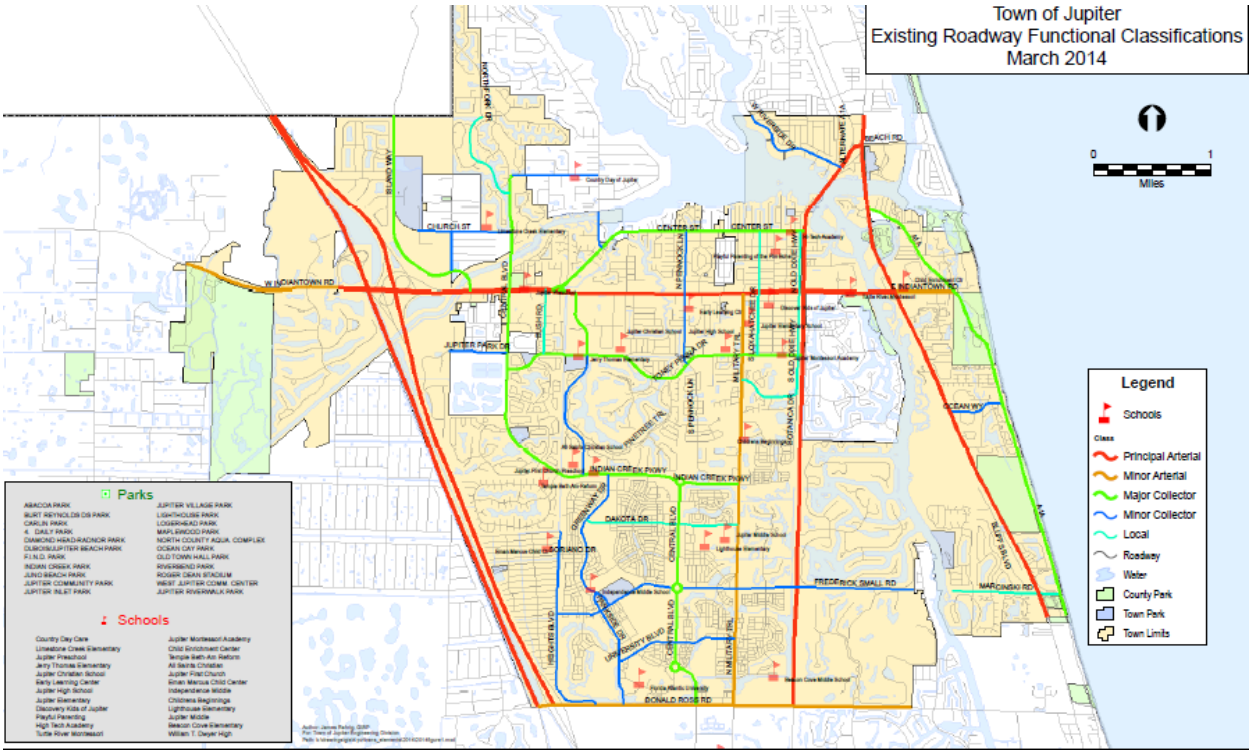
The street network in Jupiter includes:

- Principal Arterials: This road type includes limited access highways such as Interstate 95 and the Florida Turnpike and are divided with multiple lanes in each direction. In Jupiter these transportation routes run parallel with each other along the western town boundary, north to south. These transportation routes are high-speed, high capacity, and of limited access. Each has an interchange in the Town boundaries (northwest), and Interstate 95 has on and off ramps in the Town boundaries (southwest). Additional principal arterials which carry high volumes of traffic with synchronized signals include Alternate A1A, Indiantown Road, and U.S. Route 1.
- Minor Arterials: This road type carries high volumes of traffic, has synchronized signals, and connects traffic primarily to major and minor collector roads. This road type has multiple lanes in each direction. In Jupiter these include Donald Ross Road, Indiantown Road (certain portions), and Military Trail.
- Major and Minor Collectors: These road types are typically moderate to low capacity, have synchronized signals, and move traffic from the local road network to arterials as well as to residential and commercial land uses. This road type can have multiple lanes in each direction. The Town of Jupiter Comprehensive Plan has identified seven roads as major collector and fifteen roads as minor collector.
- Local Road and Roadway: These road types provide a direct network to property and move traffic through neighborhoods and are typically two lanes.

The Jupiter road network is owned and maintained by a combination of the Town, Palm Beach County, and the State of Florida (Florida Department of Transportation or FDOT).

12. ibid
13. ibid
14. ibid

Figure 13: Town of Jupiter Road Network



Source: Town of Jupiter Comprehensive Plan, Transportation Element

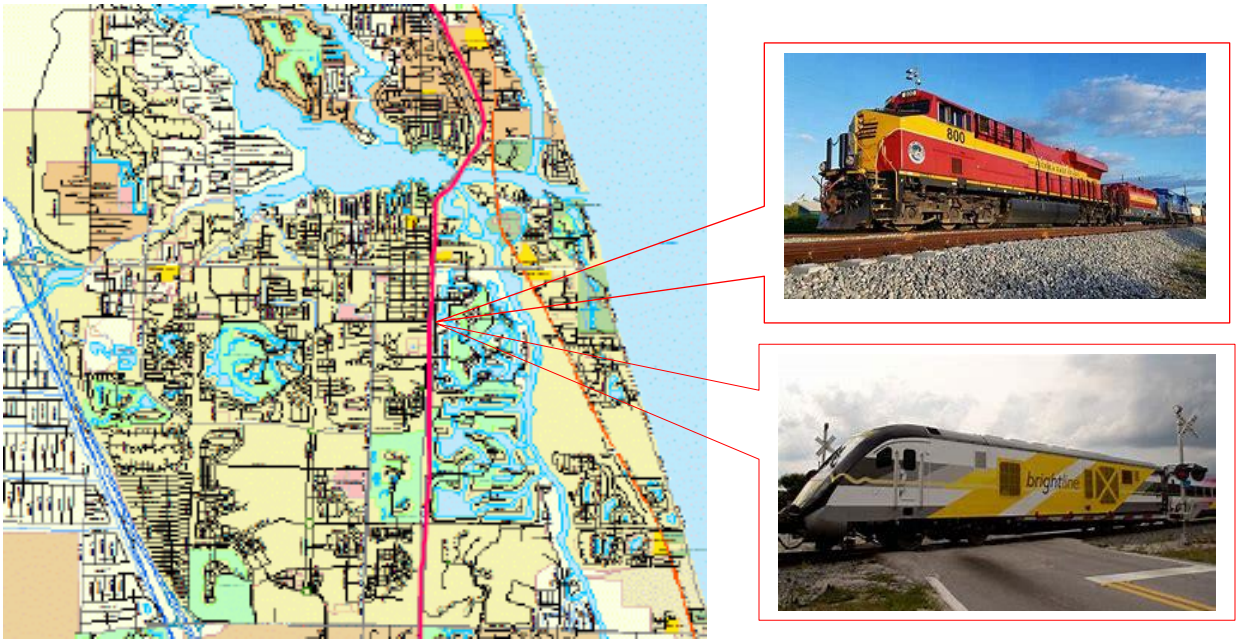
Rail (Freight and Commuter)

The Town has an active rail line that runs north-south along Alternate A1A/Old Dixie Hwy (SR 811). At-grade crossings exist at road-rail intersections along the route in Jupiter. The primary user of this rail line is Florida East Coast Railway (FECR). FECR operates 351 miles of mainline track along Florida's east coast (Miami to Jacksonville) and provides a variety of customers with movement of commodities to include:

- Carload: lumber and wood products; pulp, paper, and Allied products; chemicals, petroleum products; stone, clay, and glass; machinery; automobiles; waste and scrap materials; and hazardous materials.
- Intermodal Container: beverages and spirits; household; food; paper; retail; and building supplies. Some intermodal is international freight.

Brightline Florida is a commuter rail line that utilizes FECR track. The current service runs from Miami to West Palm Beach, with stops in Aventura, Fort Lauderdale, and Boca Raton. An extension from West Palm Beach to Orlando International Airport is expected to open in 2023. This extension will take the Brightline commuter train through Jupiter, increasing rail traffic.

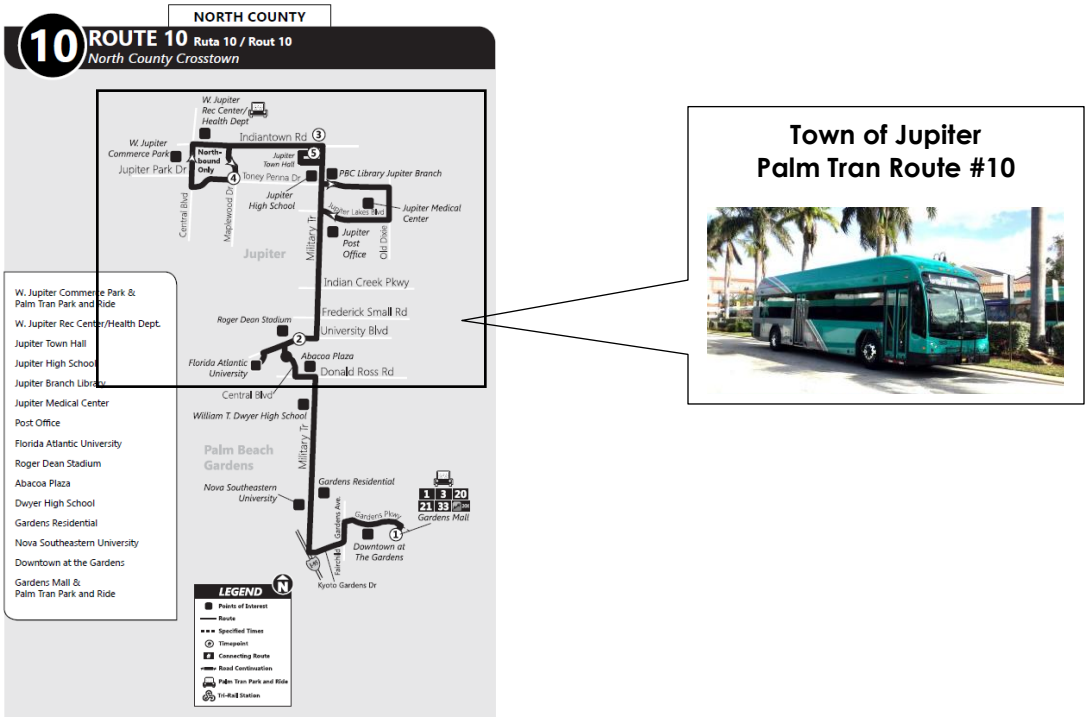
Figure 14: FECR Track within Town Boundaries



Mass Transit-Bus

Palm Tran is Palm Beach County's fixed-route passenger bus service. Service is provided in Jupiter via Palm Tran Route 10 (North County Crosstown Route). This route has stops in Jupiter and runs weekdays and Saturday, northbound and southbound, from early morning to early evening.

Figure 15: Palm Tran Bus Route 10-Town of Jupiter



The road and transportation network described herein, to include rail, poses risks for a vehicular accident, some at medium to high speeds, as well as vehicular-versus-pedestrian-bicycle risks. Train accidents can be confined to the train itself, or also involve train-vehicle or train-pedestrian. There are additional transportation risks since tractor-trailer and other commercial vehicles traverse the roadways of Jupiter to deliver mixed commodities to business locations. Fires or releases of products involving products released from vehicle/train accidents can produce vapors, smoke and other products of combustion that may be hazardous to health. Risks also include fire and heat that can expose other vehicles or structures. Additionally, there is risk for a mass casualty incident involving mass-transit buses traveling in the Town as well as future commuter rail (Brightline).

Building Factors

A community risk profile evaluates the community building portfolio and the risks associated with each property, and then classifies the property as either a high, medium, or low hazard depending on factors such as the life and building content hazard and the potential fire flow and staffing required to mitigate an emergency in the specific property. As discussed, a community's building risk links directly to staffing and deployment of Fire resources, and is a direct driver of how many personnel are required to make up the Effective Response Force for specific building types. According to the NFPA *Fire Protection Handbook*, building risks are defined as: [15]

High-hazard occupancies: Schools, hospitals, nursing homes, explosives plants, refineries, high-rise buildings, and other high life-hazard (vulnerable population) or large fire-potential occupancies.

Medium-hazard occupancies: Apartments (includes townhomes, condos, residential over commercial), offices, and mercantile and industrial occupancies. Some buildings in this category may be deemed a high hazard depending on the population density and vulnerability, or storage and processes in mercantile and industrial buildings.

Low-hazard occupancies: One, two, or three-family dwellings and scattered small business and industrial occupancies. Some buildings in this category may be deemed a medium hazard depending on the size of the building, population density and vulnerability, or the operation of the business.

Jupiter has the following building types:

- Single-family housing units: 13,816 (predominate building risk).
- Townhomes/condos: 13,498 total units.
  - 1 floor: 112 buildings
  - 2-4 floors: 30 Buildings
  - 5-7 floors: 22 buildings
  - Over 7 floors: 9 buildings
- Apartment buildings: 655 total units.
  - 1 story: 12

15. Cote, Grant, Hall & Solomon, eds., *Fire Protection Handbook* (Quincy, MA: National Fire Protection Association, 2008), 12.

- 1-4 floors: 9 buildings
- 5-7 floors: 1 building

- Residential over commercial housing units.
  - 1-2 floors: 2
  - 3-4 floors: 8
  - 5-7 floors: 2
- Assisted living/nursing homes.
  - 6 propereties
- Commercial/industrial structures.
  - 644 properties
- Strip malls.
  - 61 properties
- High-rise buildings (greater than 75' or greater measured from the lowest level of fire department vehicle access.[16]
  - The Town has 14 such structures (condominiums, office building, mixed-use buildings, and hotel).

In terms of identifying target hazards, consideration must be given to the activities that take place (public assembly, life-safety vulnerable population, etc.), the number and types of occupants, and other specific aspects related to the use and construction properties of the structure.

Jupiter has a variety of target hazards that include and may not be limited to:

- Public Assembly occupancies (the use of a building or structure, or a portion thereof, for the gathering of persons for purposes such as civic, social, or religious functions; recreation, food or drink consumption or awaiting transportation).[17]
- Multifamily dwelling buildings.
- Commercial and industrial facilities and sites.
- Assisted living/nursing facilities.
- Hospital/healthcare facilities.
- Educational facilities.
- High-rise residential and business occupied buildings.
- Mixed-use, multistory buildings with commercial and residential occupants.
- Marinas
- Hotels
- Florida Atlantic University educational and residence buildings.

16. NFPA 1 Fire Code, 2021; NFPA 101 Life Safety Code, 2021
17. Florida Building Code, 7th edition, 2020.

Fire and EMS Risk by Incident Response

An indication of the community's overall Fire and EMS risk is the type and number of Fire and EMS-related incidents the Fire and EMS department responds to. CPSM conducted a data analysis for this project that included PBCFR-Jupiter units incident response types and workload.

The next table details the call types and call type totals for these types of fire-related risks between July 1, 2021, and June 30, 2022. During this time period Jupiter Stations 16, 18, 19 responded to 8,268 overall calls for service. The next table includes all calls in Jupiter handles by Jupiter units. 774 calls the PBCFR Jupiter units responded to outside of Jupiter are not included in this table.

TABLE 10: Calls by Type-In Town

Call Type	Calls	Calls per Day
Breathing difficulty	497	1.4
Cardiac and stroke	674	1.8
Fall and injury	1,356	3.7
Illness and other	1,488	4.1
MVA	504	1.4
Nonemergency transfer	25	0.1
Overdose and psychiatric	264	0.7
Seizure and unconsciousness	499	1.4
EMS Subtotal	**5,307**	**14.5**
False alarm	737	2.0
Good intent	192	0.5
Hazard	84	0.2
Outside fire	54	0.1
Public service	420	1.2
Structure fire	20	0.1
Technical rescue	30	0.1
Fire Subtotal	**1,537**	**4.2**
Cancelled Enroute	**650**	**1.8**
Total	**7,494**	**20.5**

- 71 percent of the Fire and EMS calls in Jupiter are EMS related.
- Motor vehicle accidents make up 9 percent of EMS related calls.
- Illness and Other and Fall and Injury make up the largest percentage of EMS related calls for service (54 percent).

- 21 percent of the Fire and EMS calls in Jupiter are Fire related.
- 9 percent of Fire and EMS calls in Jupiter are cancelled prior to responding or while enroute.
- Hazard, Structure and Outside fire calls make up 10 percent of Fire calls in Jupiter.
- False alarms make up 48 percent of fire related calls (greatest percentage).

Marine and Water Risks

Jupiter is a coastal community that includes exposure to the Atlantic Ocean, Jupiter Inlet, Loxahatchee River, Intracoastal Waterway, and many tributaries within the Town boundaries. Risks include marine vessel, marina, and water risks. Marine vessel emergencies can occur while docked, fueling, during trailering and launching, and while on the open water. These emergencies can include fire, fuel leaks, medical emergencies, mechanical malfunctions, taking on water, swimmers in distress, and the like.

The Town has several boat ramps, beach crossovers, and launch sites for the Jupiter Waterway Trail. The year-round climate, amenities, and access to water promote an abundance of water activities in the Town.

Fires that occur on boats or in marinas typically spread quickly due to the fuel load and materials boats are made from, and those docked present response challenges, hazardous conditions, and limited access. Fires on the open water have firefighting access issues unless a fire boat is available to respond. Both boat fire incident types and those involving trailering and launching involve life-safety concerns that are of primary importance. Water rescue is a specialized rescue of victims from water or water-related environments where responders utilize various specialized equipment based on the type of situation (surface or underwater) and environmental conditions.

Recommended Response Platform for a Town Fire Department

Engine Companies, which are primarily designed for firefighting operations, the transport of crew members, hose (fire attack and larger supply hose), tank water, ground ladders, self-contained breathing apparatus, and storage of an assortment of hand tools used for a broad spectrum of fire operational tasks. As Engines are often utilized as first response units on EMS calls, they also carry an assortment of EMS equipment to treat patients and provide life-saving measures prior to the arrival of EMS transport units. Jupiter Fire Rescue Department (JFRD) personnel and apparatus will be trained and equipped for response to all hazards that may affect the community. Engines will be set up for fire suppression as well as emergency medical response and will be staffed with paramedics and Emergency Medical Technicians (EMT's) who can deliver Advanced Life Support (ALS) and Basic Life Support (BLS) care from the engine platform.

One of the Engines will be configured as a **"Rescue or Squad Engine."** This apparatus has all the capabilities of regular engine and carries technical rescue equipment for vehicle stabilization and extrication, rope rescue gear, water rescue, and haz-mat operational level aimed at enhancing all-hazard response capabilities and to work with Ladder Company personnel to form a force multiplier for these type of incidents.

CPSM is recommending the Town deploy two Engine Companies and one Squad-Engine. Staffing compliments for Engine and Squad-Engine apparatus will be four firefighters assigned per shift to two Engines with a minimum of three assigned each shift for response. The additional staff member assigned to each Engine is recommended to be used to cover vacancies created by scheduled and unscheduled leave to minimize overtime.

Ladder Company, which is also primarily designed for firefighting operations differ from engines in that they also have a hydraulically operated aerial device designed to reach above grade floors to transport crew members, effect rescues, and provide an elevated water stream. Ladder Trucks also transport crew members, ground ladders, self-contained breathing apparatus, various forcible entry tools, ventilation equipment, and hydraulic rescue tools as well as other equipment to deal with an assortment of fires and technical rescues. Some Ladder Trucks, such as the ones proposed for the JFRD will carry hose (fire attack and supply) and tank water.

Ladder Company personnel primarily perform such functions as firefighting, search and rescue, ventilation, utility control, above grade firefighting tasks, and elevated master stream applications. These companies will be equipped and trained to engage in direct fire suppression and have the ability to respond to all types of ALS/BLS EMS incidents.

CPSM is recommending the Town deploy one Ladder Company. Staffing complement for the Ladder apparatus will be a minimum of four firefighters per shift to perform the critical tasking necessary for fire, rescue, and when needed, EMS incidents.

EMS Ground Transport Vehicles (Rescue Units/Ambulances) are designed to transport the sick and injured to an appropriate health care facility for further evaluation and treatment. These vehicles are equipped for personnel to treat and transport ALS as well as BLS patients and provide a platform that is versatile in the delivery of EMS calls for service. These are Type 1 vehicles that incorporate the latest in pre-hospital equipment and are staffed with firefighter paramedics and emergency medical technicians who can also engage in firefighting operations if needed (cross-trained). These cross-trained personnel provide a staff/force multiplier when additional fire trained personnel are needed on the incident scene.

CPSM is recommending the Town deploy three rescue/ambulance apparatus with a minimum of three personnel required for response. Staffing compliments for EMS apparatus will be one lieutenant (can be a LT PM) and two firefighters [PM and/or EMT's (minimum two paramedics on the crew)]. Traditionally, fire departments may only staff EMS vehicles with two personnel and rely on Engine and Ladder company personnel to respond and assist with more serious incidents making them unavailable for calls that may simultaneously be transmitted. Staffing EMS units with three personnel often reduces the need for Engine or Ladder company personnel to assist on all EMS incidents, keeping these heavy fire apparatus available for additional calls which increases the resiliency of the entire response platform, and creates an efficient deployment analysis.

Command Vehicles, which are typically SUV type vehicles with command centers built into the cargo compartment are designed to carry a command level officer to the scene equipped with radio and command boards, as well as incident personnel tracking equipment and associated incident command materials and equipment.

A Command vehicle will be assigned to Staff Chiefs for use during and after-hours response. The Operations Shift Battalion Chief is on duty 24/7 and responds initially to incidents as dispatched in the JFRD response matrix. Aggregately, these personnel are responsible for responding to Fire and EMS incidents and establishing command and control of the incident.

Fire, rescue, and emergency medical system (EMS) incidents, and the fire department's ability to respond to, manage, and mitigate, them effectively, efficiently, and safely, are mission-critical components of the emergency services delivery system. In fact, fire, rescue, and EMS operations provide the primary, and certainly most important, basis for the very existence of the fire-rescue department. Having the right vehicles, equipment, and staffing are essential to the operational readiness of the JFRD.

CPSM is recommending the Town deploy one Operational Shift Battalion Chief. Staffing complement for this position will be a minimum of one Battalion Chief per shift.

Jupiter Fire Rescue Department Staff Descriptions

It is recommended the JFRD be a career fire department that employs 93 full-time personnel consisting of: administrative, support, and operational level officers and firefighters. Along with its compliment of officers and firefighters, JFRD will deploy two Engine Companies, one Squad-Engine Company, one Ladder Company, three advanced life support (ALS/BLS) Emergency Medical Services (EMS) ground transport units, and one command officer out of three fire stations. It is recommended that JFRD operational shift personnel work on a rotational shift schedule through a shift or platoon configuration. The workday will be 24-hours on duty per work shift with a rotational schedule that averages 56 hours in the work week over the established Fair Labors Standard Act (FLSA) work period. Costing for uniform operational personnel considers Section 7(k) of the FLSA for hours worked over 53 hours/week.

JFRD Administrative and Technical Services Staff

The following positions are part of the fire chief's administrative staff. It is important to note that these positions while assigned to Fire Administration have a significant role in the operations of the department and the chief officers are available to assume command and fill support roles at any emergency and non-emergency incident during work, after hours, and weekends if necessary.

Fire Chief

The JFRD is led by a fire chief who has overall responsibility for the management and leadership of the department. The fire chief provides leadership and direction for all Fire Department functions in support, operations, and personnel through the supervision of subordinate staff and review of their activities.

The fire chief will be an inclusive and collaborative leader and exemplify the vision, standards, and expectations of the Town and will work closely with the community to ensure that all members feel safe and included at all times.

The fire chief will exercise strategic and visionary thinking that will have long-term organization-wide application and impact, including the development and implementation of critical programs, and supervision of multiple assigned functions, divisions, and significant resources.

The fire chief will work closely with Town Department Directors and staff members to achieve the mission of the Town and its citizens. The chief is assisted by a deputy fire chief, assistant fire chiefs of operations, training, and prevention.

Responsibilities include reviewing the general operation of the department to determine efficiency, ensure operational readiness, providing direction on major projects or problem areas, developing, and implementing policies and procedures, administration of labor relations program; and providing policy guidance. Works in conjunction with the Town's Emergency Management Coordinator, and Fire Marshal, operational personnel, and civilian support staff to ensure a safe community. The fire chief works Monday-Friday with night and weekend duties and responsibilities for the protection of life and property for the Town and is expected to be available 24/7. This position reports to the Town Manager or their designee.

Deputy Fire Chief

The deputy fire chief position is responsible for providing leadership and guidance to all emergency and non-emergency operational and support components of the department. The deputy fire chief has broad oversight over all emergency and technical operations in coordination with one of three assistant fire chiefs and is responsible for carrying out the vision and direction of all duties as assigned by the fire chief.

The Deputy Chief is also responsible for providing leadership, direction, and support to the Assistant Chief of Operations for all fire-rescue activities and related services including emergency medical services, special rescue operations, fire prevention, emergency management, logistical services, communications, facilities management, public relations, and administrative support functions. This position provides strategic input and assistance in carrying out the day-to-day functions of the department. This is a Monday-Friday assignment with at times night and weekend duties and responsibilities. This position is under the general supervision of the fire chief.

Assistant Chief of Operations

The Assistant Chief of Operations position is responsible for leading, planning, organizing, and controlling all emergency and non-emergency functions of Fire and EMS Operations. Such duties may include leading and managing fire operations with the EMS Battalion Chief, Operational Battalion Chiefs, as well as ensuring all safety, training, and personnel administration matters are managed for assigned subordinate staff. This position provides strategic input and assistance in carrying out the day-to-day functions of the department. This is a Monday-Friday assignment with at times night and weekend duties and responsibilities. This position is under the general supervision of the deputy fire chief.

Assistant Chief of Support Services

The Assistant Chief of Support Services position is responsible for overseeing all emergency and non-emergency activities involving administrative support, logistics, and training. The position provides leadership and strategic guidance to the Battalion Chief of Training to ensure the department's goals and objectives in each discipline are being met. This position also manages the supply-chain, facility, fleet, and all other support functions of a fire-rescue department. Position provides strategic input and assistance in carrying out the day-to-day functions of the department. This is a Monday-Friday assignment with at times night and weekend duties and responsibilities. This position is under the general supervision of the deputy fire chief

Battalion Chief of Training

The Battalion Chief of Training position is the chief fire official responsible for overseeing all emergency and non-emergency Fire and EMS training activities. Training is one of the most important factors in any fire department and must be a priority for the JFRD. *"Train like your life depends on it, because it does"* is a mantra that fire departments live by.

This position is responsible for emergency and non-emergency training and develops schedules, presents department training programs that are current, and ensures adherence to established medical protocols. The Battalion Chief of Training is responsible for ensuring that all staff are compliant with Local, State, Federal, and other nationally recognized criteria, and requirements. The Training Officer will represent the JFRD as a member of applicable fire training associations and groups related to assigned duties and responsibilities.

The Training Chief may also respond to emergency and non-emergency incidents as required. This is a Monday-Friday assignment with at times night and weekend duties and responsibilities. This position is under the general supervision of the Assistant Chief of Support Services.

Battalion Chief of EMS

The Battalion Chief of EMS position is responsible for emergency and non-emergency activities for EMS. This position works with the Battalion Chief of Training, coordinating all aspects of the department's EMS training, ensuring that continuing education (CE's) and all requirements for the maintenance of EMS licensure are met for applicable personnel. This position will work closely with operations personnel to ensure that all necessary EMS equipment and supplies are available and will coordinate the requirements for controlled substance acquisition and disposal pursuant to local, state, and federal standards. This position will also be a liaison and partner with the Medical Director and provide Continuous Quality Improvement (CQI) review of the EMS delivery system and its outcomes. This is a Monday-Friday assignment with at times night and weekend duties. This position reports directly to the Assistant Chief of Operations.

Assistant Chief/Fire Marshal

The Assistant Chief/Fire Marshal position is responsible for overseeing all emergency and non-emergency fire prevention and community risk reduction activities, The Fire Marshal is responsible for technical services linked to community risk reduction and includes fire prevention code enforcement, fire and life safety elements of building plans and review, and hazardous materials storage in the community. Permitting, inspection, and coordination with construction project stakeholders (contractors, owners, and Town) play a major role in new projects, life safety, and economic development. The Fire Marshal is also responsible for investigating suspicious fires and is assisted by Fire Marshal's Office staff and operational shift officers with the cause and origin of fires. The Fire Marshall is responsible for the coordination with local, state, and federal agencies in the oversight of any serious injury or death to civilians or fire personnel.

This is a Monday-Friday assignment with at times night and weekend duties and responsibilities. This position is under the general supervision of the deputy fire chief.

Fire Inspector

The Fire Inspector position provides service to the engineering, architectural, construction community, as well as citizens and stakeholders through the enforcement, interpretation, and application of fire codes, fire department inspections, and building codes in coordination with the Town Building Official. This position assists the Fire Marshal with the inspection of identified buildings and structures, including new and existing construction in the Town for fire prevention purposes. This position evaluates and enforces existing fire safety conditions, along with Federal, State, and local codes applicable to fire safety. This position is under the general supervision of the Fire Marshall.

Fire Plans Examiner

The Fire Plans Examiner position analyzes and interprets complex construction documents, including review of hydraulic calculations, building, and fire and life safety code compliance for the Fire Marshal's Office. Works closely with engineers and developers in the approval of design plans to ensure compliance with all applicable building and life safety codes.

Fire Administrative Services Manager

The Fire Administrative Services Manager position coordinates administrative projects, analytical studies, special projects, and manages compliance of performance agreements and contracts. This position oversees the daily scheduling and assignments of activities for the department's administrative staff and supervises assigned staff as required. The position also coordinates all financial accounts and budgets for the department with the Town's finance and budget office. Also, serves as a liaison to the Town's Human Resource Department in matters of personnel policies and procedures. This position is under the general supervision of the deputy fire chief. When the JFRD undertakes the Commission of Fire Accreditation process, this position will serve as the JFRD Accreditation Manager.

Executive Assistant to the Fire and Deputy Fire Chief

The executive assistant position handles complex and confidential administrative support to the fire chief and deputy fire chief including scheduling of calendars, tracking, and following up on projects, reviewing mail, coordinating meetings and travel, as well as organizing, coordinating, and preparing documents for public and staff meetings, drafting correspondence, and advising executive staff of complex complaints and issues. Supervises assigned department staff as needed. Under the general direction of the fire chief.

Administrative Specialist for Fire Administration

This administrative specialist position provides overall assistance to the assistant fire chief of Operations and the Assistant Chief of Support Services. This position provides support as well to Battalion Chiefs of Training and EMS as needed. The administrative specialist performs routine clerical and administrative support tasks as assigned. Coordinates meetings, events, appointment calendars, and meeting and travel arrangements, and assists in preparing and maintaining various documents, files, and correspondences. Under general supervision of the Fire Administrative Services Manager.

Administrative Specialist for Fire Marshal's Office

This administrative specialist position performs clerical and administrative support tasks to The Fire Marshall in support of the Fire Prevention Division. Coordinates meetings, events, appointment calendars, and travel arrangements and assists in preparing and maintaining various documents, files, inspection records, and correspondences. Sets meetings with developers and contractors and advises the Fire Marshall on any complaints to the office. Assists in the coordination of meetings and inspection assignments for the Fire Inspector and plans Examiner. This position is under the general supervision of the Fire Marshall.

Quartermaster

The quartermaster position oversees all the supply-chain and logistical needs of the department with the assistance of the logistics technician (logistician). This position is responsible for purchasing equipment in coordination with finance, oversight of fire station maintenance and associated facilities, oversees the selection and purchase of gear, uniforms, medical supplies, radios, office furniture and all Fire and EMS supplies. The quartermaster reports to the assistant chief of support services.

Logistics Technician (Logistician)

The logistics technician position is responsible for the inventory and tracking of all fire department equipment and supplies, and capital equipment inventory. This position oversees warehouse facilities along with the storage, maintenance, and distribution of equipment to all fire station facilities. Assists the quartermaster in purchasing equipment and supplies when required. This position works under the supervision of the quartermaster.

Operations Staff

Battalion Chief: Fire Operations

This Battalion Chief position is responsible for day-to-day field operations including all emergency and non-emergency activities, daily staffing of all emergency units, and for ensuring shift personnel conform to departmental policies and SOG's, and operational response procedures and practices. This position makes daily rounds (on a shift basis) to all stations within the Town to ensure the standardization of procedures, communication of departmental information, and assess the physical and behavioral health and wellness of personnel for operational readiness.

This position has ancillary duties in addition to their shift operational and administrative duties that include community activities, technology, health and safety, support services such as fleet, facilities and equipment, emergency operations, and training of shift personnel.

This position assumes the position of Incident Commander on all major EMS and Fire incidents. This position must hold certification in paramedicine and/or Emergency Medical Technician

(EMT) and other requirements set forth by the Town and the state certification agencies. This position is exposed to a variety of emergency situations at fire scenes and engages in decision making to determine appropriate procedures for a wide variety of life-threatening situations.

This position reports directly to the Assistant Chief of Operations. Battalion Chiefs work a rotational 24-hour shift schedule. May be recalled if necessary to cover vacancies or emergency incidents. This position is under the general supervision of the Assistant Chief of Operations.

Shift Captain

The shift captain position is responsible for the protection, safety, and welfare of subordinates, peers, and citizens as directed by fire-rescue department standard operating procedures. The shift captain participates in emergency or non-emergency activities as assigned or directed by Fire Department Standard Operating Procedures or a higher-ranking officer.

At the direction of, or in the absence of, a higher-ranking officer, the shift captain assumes the responsibilities, activities, and duties of a higher rank until relieved. This position must hold certification in paramedicine and/or Emergency Medical Technician (EMT) and other requirements set forth by the Town and state certification agencies.

This position is exposed to a variety of emergency situations at fire scenes and engages in decision making to determine appropriate procedures for a wide variety of life-threatening situations. The position works a rotational 24-hour shift schedule and reports directly to the Shift Operational Battalion Chief.

Lieutenants

The lieutenant position is responsible for the protection and safety of subordinates, peers, and citizens as directed by Fire Department Standard Operating Procedures. The fire lieutenant participates in emergency or non-emergency activities as assigned or directed by Fire Department Standard Operating Procedures or a higher-ranking officer. At the direction of, or in the absence of, a higher-ranking officer, the fire lieutenant assumes the responsibilities, activities, and duties of a higher rank until relieved. This position must hold certification in paramedicine and/or Emergency Medical Technician (EMT) and other requirements set forth by the Town and state certification agencies. This position is exposed to a variety of emergency situations at fire scenes and engages in decision making to determine appropriate procedures for a wide variety of life-threatening situations

The position works a 24-hour rotational shift schedule, is assigned to the Rescue (ambulance) and Ladder companies and reports directly to the shift captain.

Driver Engineers

The driver engineer position is responsible for all operational and non-operational requirements of a firefighter. In addition, this position is responsible for the safe operation of the apparatus to include driving, set-up, operating of fire pump and aerial devise, and all equipment assigned to the apparatus, and must adhere to all driving and safety standards as described in the department's Standard Operating Procedure (SOP) as well as local, state, and federal laws. This position participates in fire prevention and training as needed and maintains the fire apparatus and firefighting equipment in a constant state of readiness. This position must hold certification in paramedicine and/or Emergency Medical Technician (EMT) and other requirements set forth by the Town and state certification agencies. Position is exposed to a variety of emergency situations at fire scenes and engages in decision making to determine appropriate procedures for a wide variety of life-threatening situations.

This position works a rotational 24-hour shift schedule and reports directly to the shift captain or lieutenant.

Firefighter Paramedics

The firefighter paramedic position responds to fire alarms, structural fires, medical emergencies, hazardous materials, technical rescue, and other calls to protect life and property. Participates in fire prevention and training as needed and maintains the fire station and firefighting equipment in a constant state of readiness. This position must hold certification in paramedicine and/or Emergency Medical Technician (EMT) and other requirements set forth by the Town and state certification agencies. This position is exposed to a variety of emergency situations at fire scenes and engages in decision making to determine appropriate procedures for a wide variety of life-threatening situations.

This position works a rotational 24-hour shift schedule and reports directly to the shift captain or lieutenant.

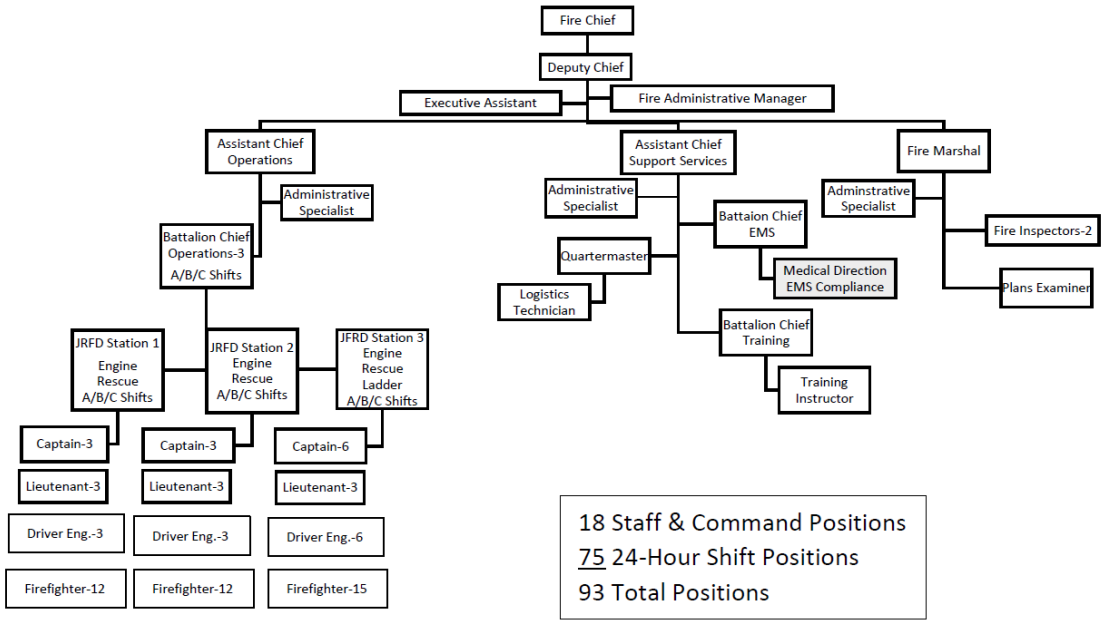
Firefighter EMT

The Firefighter EMT position responds to fire alarms, structural fires, medical emergencies, hazardous materials, technical rescue, and other calls to protect life and property. Participates in fire prevention and training as needed and maintains the fire station and firefighting equipment in a constant state of readiness. This position must hold certification in paramedicine and/or Emergency Medical Technician (EMT) and other requirements set forth by the Town and state certification agencies. This position is exposed to a variety of emergency situations at fire scenes and engages in decision making to determine appropriate procedures for a wide variety of life-threatening situations.

This position works a rotational 24-hour shift schedule and reports directly to the shift captain or lieutenant.

The next figure illustrates the chart of the organization for JFRD.

Figure 16: Jupiter Fire Rescue Department Organizational Chart



Establishing JFRD Policies, Guidelines, and Procedures

Good sound, achievable, and realistic policies are essential to good governance for the JFRD. The policies should reflect the goals and vision of the Town Government and reflect the values of the community that has placed its trust in Public Safety. Fire-rescue Department policies are constructed in a way they will not contradict or replace any Town policies, or conflict with local, state, and federal laws.

Fire Department policies are generally segregated into the areas of Administration, Operations, and Support.

The Administrative policies govern the business and personnel areas of the department. Leave, staffing, timesheets, discipline, shift assignments, overtime, health and wellness, Fire and EMS records management, as well as other administrative areas of the department as defined.

The Operations section describes performance on Fire and EMS emergency and non-emergency operations and what strategy and tactics the department supports in terms of risk assessments, sever weather, special operations, and communications. Incident scene safety programs and incident command process and procedures such as incident scene accountability are also described in detail in the operations area.

Support Services is the logistics and training side of the organization. Issuing of protective gear as well as maintenance of gear and equipment, supplies, and providing the support needs of all divisional programs of the department are generally found in the Support Services section along with policies and guidelines on departmental training.

Fire-rescue departments across the nation face similar issues with regards to policies, guidelines, and procedures. Many Standard Operating Procedures or SOPs as they are commonly referred to, are modeled after other departments, are dated, or written out of a course of necessity to address departmental issues. Often these policies are developed and written by department staff and may or may not be reviewed by Human Resources or receive some type of legal review.

LEXIPOL is a national firm that provides policy assistance to police and fire departments.

According to LEXIPOL:

Across different shifts and stations, firefighters respond to a vast range of call types and manage myriad interactions in the firehouse. Helping them make safe operational and administrative decisions requires comprehensive, easy-to-understand guidelines and training that reflect the latest standards and legislation—as well as resources to help them manage the behavioral and physical health risks associated with a career in fire and EMS.

Lexipol provides a full library of customizable, state-specific fire service policies that are updated in response to new state and federal laws and court decisions. Our online training platform delivers courses and videos designed to meet Fire and EMS training mandates, backed by tools to manage credential renewal. We also connect you to grant assistance to make your budget go further and wellness resources that protect your firefighters in this high-stress, demanding profession.

As LEXIPOL provides a cost-effective solution for any fire-rescue department, whether the department is new or mature, CPSM recommends and has budgeted for this service to frame the initial policies, guidelines, and procedures for the JFRD.

Proposed Fire Station Locations for JFRD

Currently PBCFR staffs Fire Stations 16, 18, and 19 in Jupiter. This study proposes a JFRD would deploy from three stations as well. To note here, should the Town choose to create its own fire department, which establishes that Palm Beach County will no longer provide Fire Protection and Emergency Medical Services to the Town by contract, Station 16 (Abacoa) reverts back to the Town pursuant to a Special Warranty Deed approved by the Palm Beach County Board of County Commissioners on September 26, 2000. Given this information, the Town would be required to design and construct two additional stations to maintain the current service delivery model, which CPSM recommends.

The Town owns land suitable for station sitting that is in the same area as current Stations 18 and 19. CPSM has provided estimates for the construction of these two new facilities. That said, there is always an opportunity for more economical arrangements, leases etc. with the current PBCFR stations should they not be occupied.

The next maps show how current PBCFR and JFRD stations compare by location, travel time and ISO-PPC benchmarking. ***The analysis shows that there is little or no difference in response coverage with the relocation of JFRD when compared to existing PBCFR Stations 16,18, and 19.***

Because there is an increase in service proposed by CPSM (Ladder Company inside Jupiter boundaries), the Town will see a clear benefit from this service, as well as during its initial ISO-PPC review.

Figure 17: Jupiter Fire Station Location Comparison

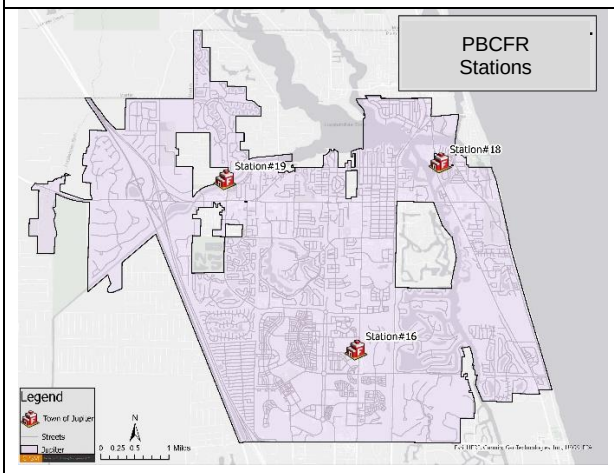
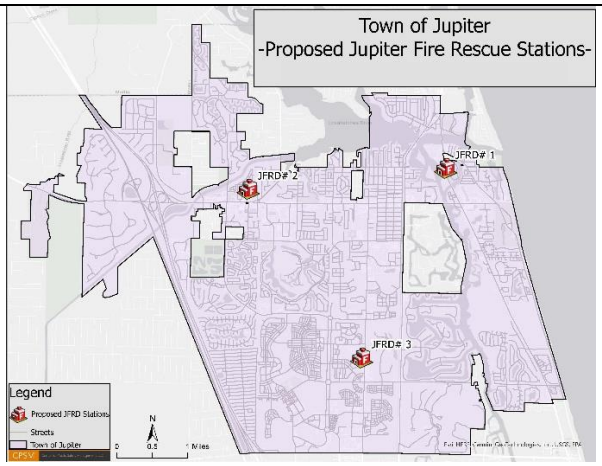
Current PBCFR Station Locations	Proposed JFRD Station Locations
	

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Figure 18: 240 Second Travel Time Comparison

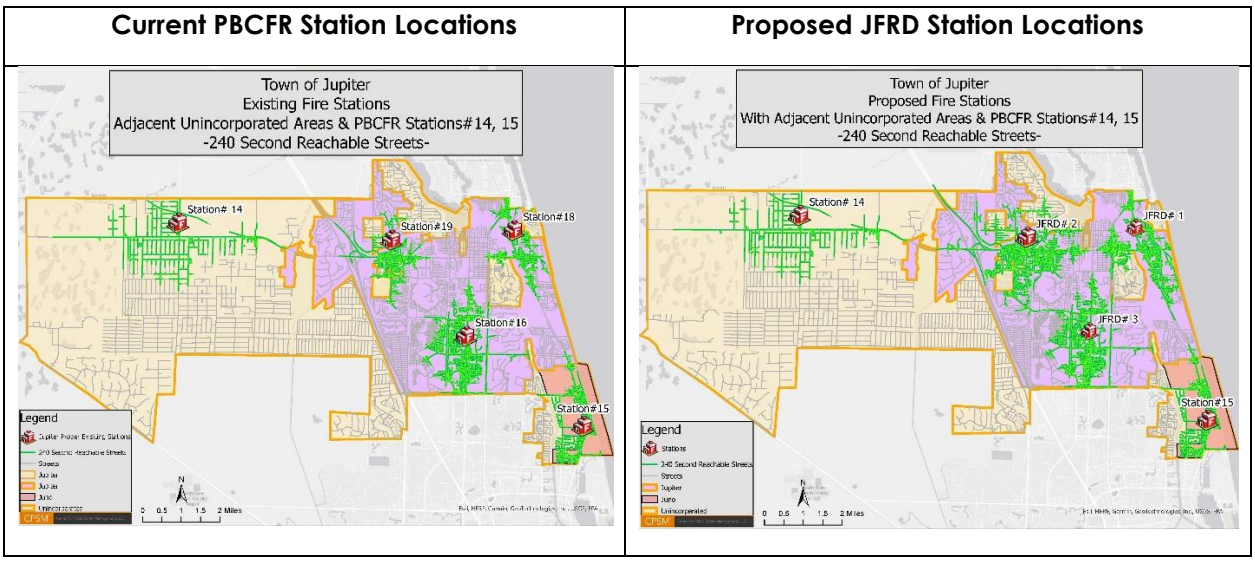
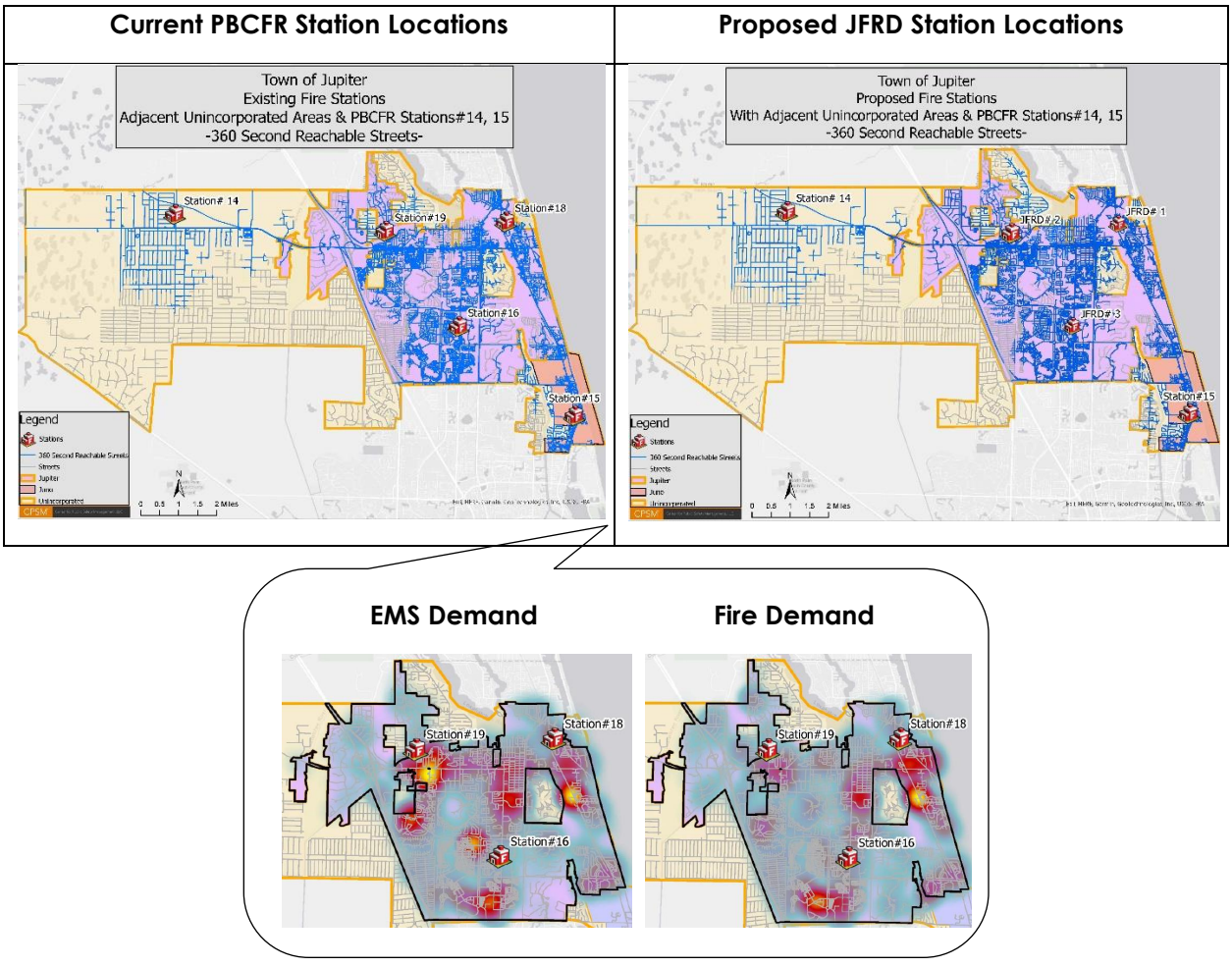
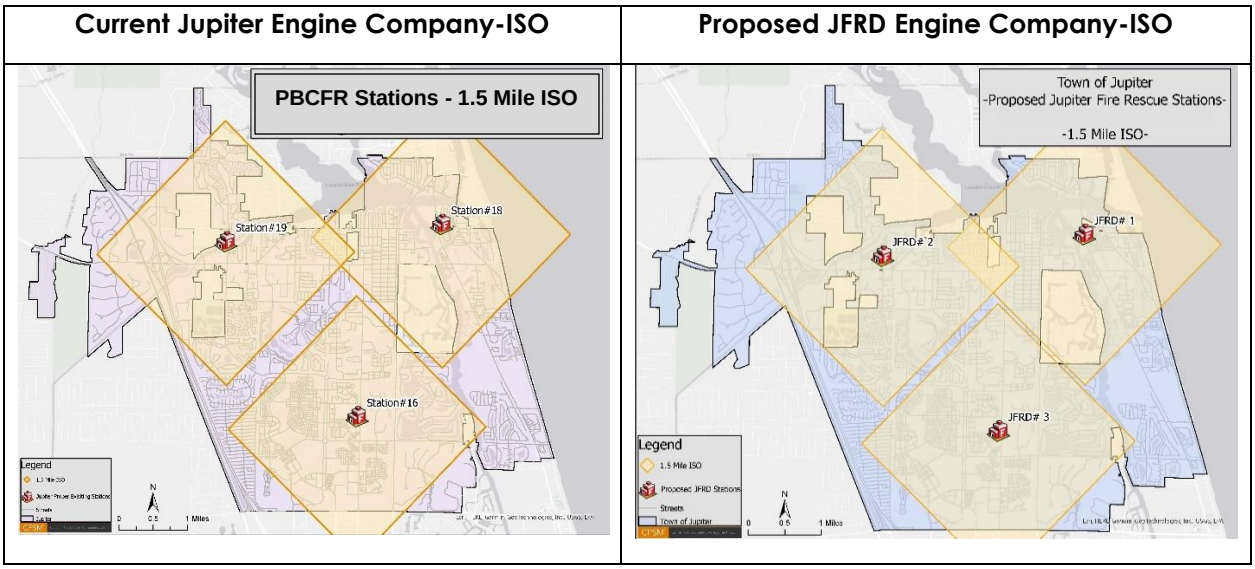


Figure 19: 360 Second Travel Time Comparison



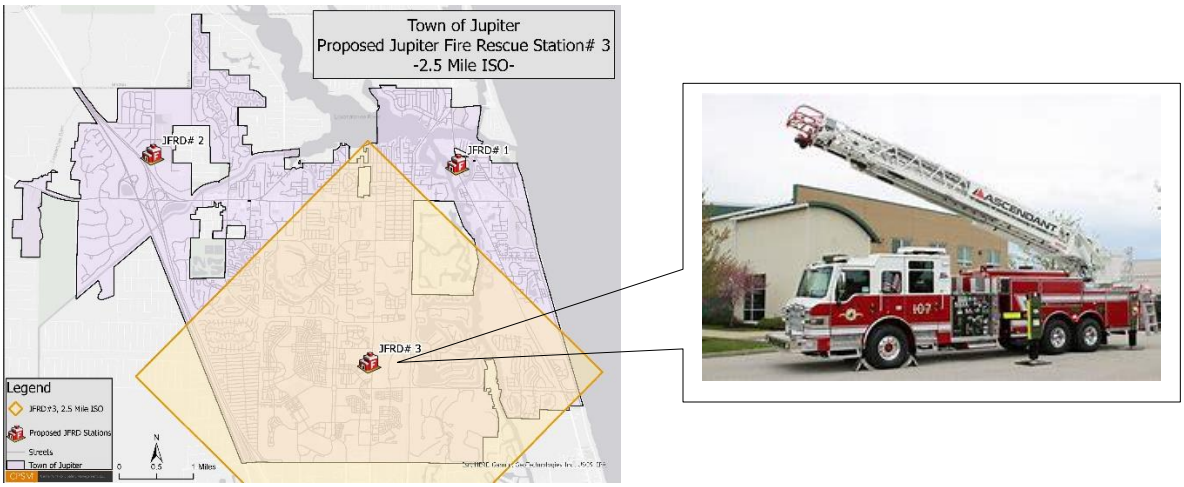
Under ISO-PPC Fire Suppression Rating System, a jurisdiction is graded on the distribution of engine and ladder companies within built-upon areas (deployment analysis). For full credit in the Fire Suppression Rating Schedule (FSRS), a jurisdiction's fire protection area with residential and commercial properties should have a first-due engine company within 1.5 road miles of built upon land, and a ladder or service company within 2.5 road miles of built upon land.[18] As engine and ladder companies both respond from fire facilities, and because engine companies are the more prevalent fire suppression company, fire facilities are predictably sited based on the response needs of engine companies.

Figure 20: ISO 1.5 Mile Engine Company Coverage Comparison



Jupiter currently does not have a Ladder Apparatus within the Town boundaries. This service is received from PBCFR Juno Beach Station 15 to the southeast, Tequesta Fire Department to the northeast, and Palm Beach Gardens to the south.

Figure 21: JFRD ISO 2.5 Mile Ladder Company Coverage



18. Insurance Services Office, ISO Mitigation, Deployment Analysis.

Mutual and Automatic Aid

Automatic aid is defined *as any written agreement under which a municipality agrees to provide an initial response to fires, rescues and emergencies that may occur in a part of another municipality where a fire department is capable of responding more quickly than the fire department situated in the other municipality; or a municipality agrees to provide a supplemental response to fires, rescues and emergencies that may occur in a part of another municipality where a fire department in the municipality is capable of providing the quickest supplemental response to fires, rescues and emergencies occurring in the part of another municipality.*[19]

There are several advantages to maintaining Automatic Aid with neighboring jurisdictions. First, it avails the closest emergency units to the call for service faster, as auto aid can be based on the closest location to the request for service. Second, it serves to be a force multiplier as neighboring jurisdictions can deploy to muti-unit incident responses and assist the home jurisdiction with establishing an Effective Response Force (ERF) as already discussed.

It is recommended that JFRD establish Automatic Aid written agreements with neighboring jurisdictions as needed and for the reasons stated above.

Mutual-aid is similar to auto-aid with the exception of the immediate and automatic response of resources. Mutual-aid agreements are generally based on the assisting jurisdictions being specifically requested by the home agency. Mutual-aid provides response by neighboring jurisdictions to muti-alarm fires, technical rescue and specialty responses, and many times when the requesting jurisdiction is low on or has depleted of resources and needs assistance to provide direct response to incidents or provide backfills to their fire stations that are vacant to do a working fire or large incident response.

It is recommended that JFRD establish Mutual Aid written agreements with neighboring jurisdictions for an all-hazard response system for the reasons stated above.

As a note, both auto and mutual aid agreements are contingent on the requested agency's ability to help as they must maintain priority in their jurisdiction.

Also noted here, NFPA 1710 permits fire departments to use established automatic aid and mutual aid agreements to comply with section 5.2 of this standard.[20] The ISO-PPC Fire Suppression Rating System also provides credit through established automatic and mutual aid agreements for daily staffing.

The next set of maps illustrates the response advantage of mutual and/or automatic aid agreements with neighboring jurisdictions. In these maps we start with 360 second response travel times as there is little impact from neighboring jurisdictions at 240 seconds.

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19. https://www.lawinsider.com/dictionary/automatic-aid
20. NFPA 1710, 2020 edition, 5.2.1.3 Standard for the Organization and Deployment of Fire Suppression Operations, and Special Operations to the Public by Career Fire departments

Figure 22: Automatic and Mutual Aid Response System-360 Second Travel Time

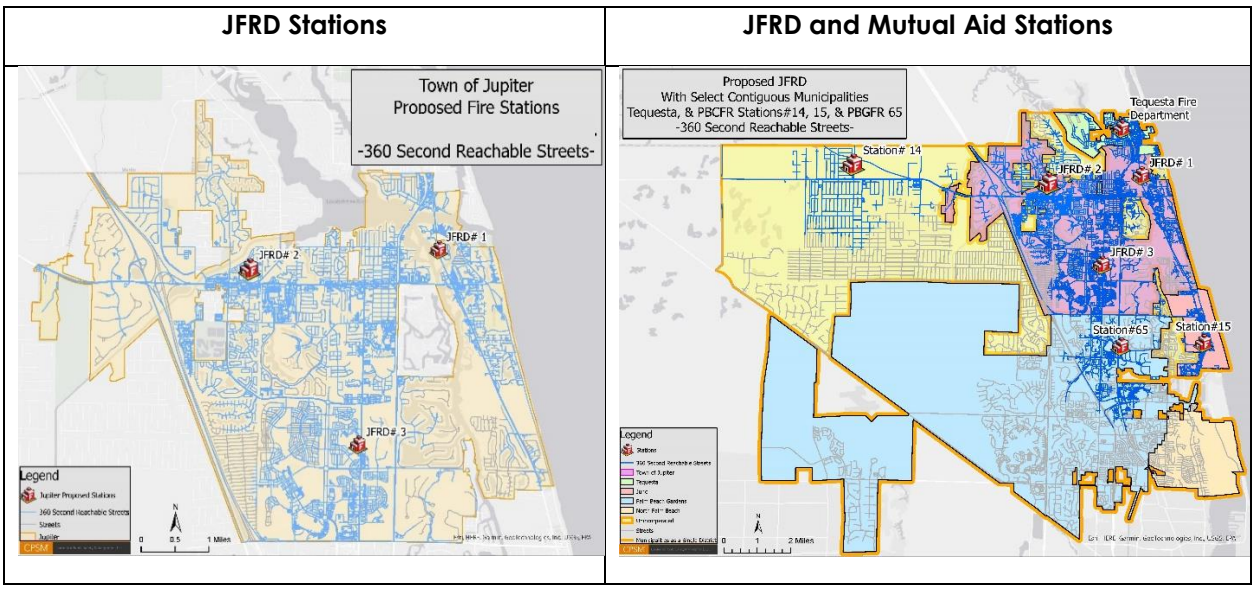
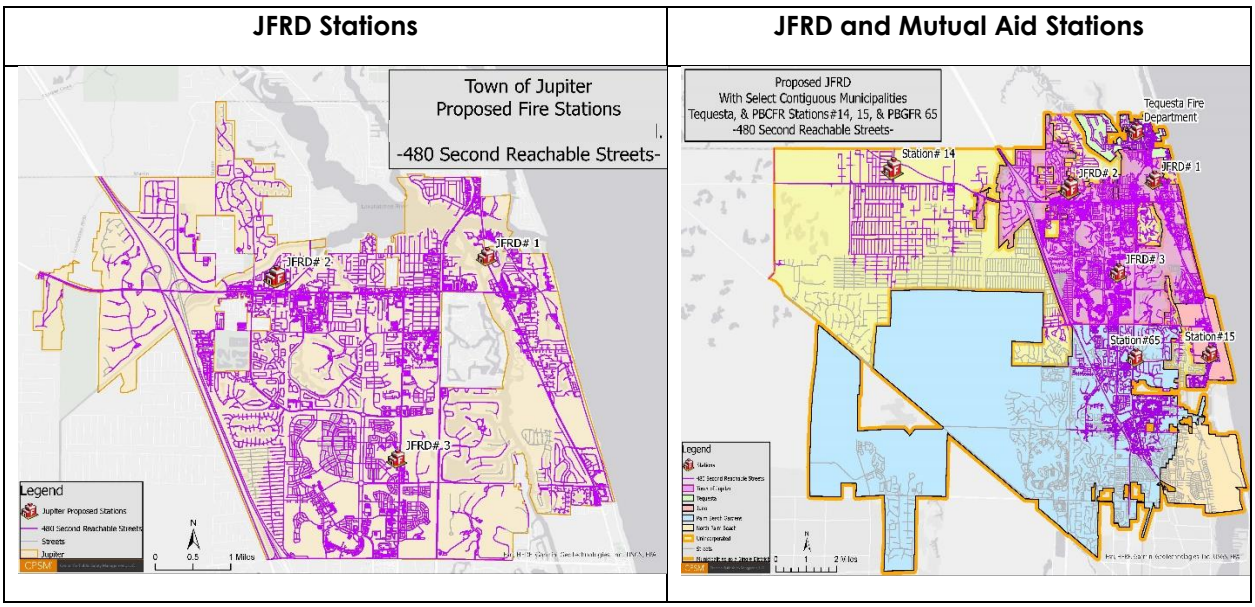


Figure 23: Automatic and Mutual Aid Response System-480 Second Travel Time



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Emergency Communications

Public Safety Answering Points (PSAP)

PSAP's, commonly called dispatch centers, are locations that are staffed with trained Telecommunicators who answer, process, and dispatch emergency calls. There are 15 PSAP's in Palm Beach County; 13 primary and 2 secondary. Primary PSAP's receive the initial call for help, and when needed connect callers with the secondary PSAP, such as Palm Beach County Fire Rescue dispatch center, for fire or emergency medical assistance. Some of the primary PSAP's answer for multiple municipalities, such as North County Communications Center (NorthCom), who answers calls from Jupiter, Jupiter Inlet Colony, Juno Beach, North Palm Beach, Tequesta, and Palm Beach Gardens.[21]

Palm Beach County Fire Rescue Communications Center

Palm Beach County Fire Rescue Communications Center, also known as the Alarm Office, receives and processes calls for emergency medical and fire-rescue services for NorthCom and additional municipal fire departments. Communicator III's are cross trained to perform the three main roles of how emergency calls are processed. This includes the Communicator receiving the emergency call and speaking with the caller (Call-Taker), the Communicator who dispatches the appropriate field personnel (Fire-Main), and the Communicator who maintains direct radio communication with the responding field personnel (Tac-Channel).[22]

Palm Beach County provides Emergency Medical Dispatching (EMD) as all Communicators are EMD certified and required to follow the Emergency Medical Guide cards as well as maintain continuous certification.[23] This is a national best practice.

NorthCom

NorthCom participants include Jupiter Police, Juno Beach Police, North Palm Beach Police, Palm Beach Gardens Police, Tequesta, and Jupiter Inlet Colony Police. The NorthCom Center processed 336,024 calls for service/incidents, 2,382 audio file requests and 223,248 telephone calls, of which 73,855 were 9-1-1 calls in the calendar year 2021.[24]

In the near-midterm, CPSM recommends the JFRD continue utilizing the current E-911 services that are in place. That is-NorthCom serving as the primary PSAP for the Town and Palm Beach County Fire Rescue Communications Center serving as the secondary PSAP and emergency dispatch center for Fire and EMS incidents. This service also provides incident records management through the Computer Aided Dispatch (CAD) system. The ease of interoperability with surrounding Fire and EMS jurisdictions, costs, performance, and sustainability are considerations to maintain this arrangement.

Over the longer term, and if other NorthCom Fire jurisdictions choose to create a Fire and EMS dispatch center within NorthCom, Jupiter should of course consider this alternative, to include the cost, and the efficiency of connecting the primary PSAP within the dispatch center.

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21. https://discover.pbcgov.org/publicsafety/911/pages/serving%20pbc.aspx
22. Submission from Palm Beach County Fire Rescue, 2022
23. Submission from Palm Beach County Fire Rescue, 2022
24. https://stories.opengov.com/pbgfl/published/PcJc0PbvS

Special Services: Technical Rescue and Special Operations

Response to hazardous material as well as other special operations rescue disciplines such as, high angle rope rescue, confined space rescue, and trench rescue are considered low frequency high risk events. However, these events do occur and the appropriate response with highly trained and equipped responders is required.

Special operations incidents can be complex situations that require a considerable amount of personnel and equipment resources. These incidents can often be time consuming as the strategy and tactics used to mitigate these incidents usually differ from those normally encountered. CPSM data shows that three of the technical rescue incidents lasted one to two hours during the year. However, while there were no incidents of two or more hours in duration, departments must be prepared to sustain and support personnel for long periods of time if larger scale incidents are encountered.

Generally, most small to medium departments train their personnel to the operations level in these areas to respond to and initially address these complex emergencies. Larger departments such as PBCFR most often provide additional personnel and specialty equipment to augment the local jurisdiction's response, and provide resources trained at the technician level.

According to the Fire Service Needs Assessment Survey conducted jointly by the United States Fire Administration (USFA) and NFPA in December 2002, *only 11% of surveyed fire departments agreed that they (using their local, trained personnel) could handle a technical rescue with EMS at a structural collapse of a building with 50 occupants. This situation is not so unusual; a structural collapse of that magnitude requires a substantial number of resources not internally available to the majority of the nation's fire departments. The distressing fact is that according to the survey, only 19% of the departments had a written agreement to direct the use of non-local resources. In other words, despite the fact that 89% of the surveyed departments felt that the described situation was beyond their local abilities, less than one-fifth of the surveyed departments had agreements in place to manage the incident if one occurred.*[25]

Personnel equipment and training to address these high-risk low frequency events is costly to initiate and maintain and takes a commitment that larger organizations can handle more effectively. Therefore, having all departments make these investments to respond to less frequent incidents is better served as a joint response with the lead agency trained to stabilize the scene until specialty teams can arrive.

Often these specialty teams are products of regional, state, and federal sponsored teams. In Palm Beach County, PBCFR does have the capabilities to provide the specialty teams to assist the local departments and augment the response of JFRD. Other local, state, and federal teams are also available if the event outpaces the resources of the local technical rescue team.

NFPA 1710, section 5.4 under Special Operations Response states that *Special operations shall be organized to ensure that the fire departments special operations capability includes members, equipment, and resources to deploy the initial arriving company and additional alarm assignments providing such services.*[26]

The standard also states that *the fire department shall be permitted to use established automatic aid or mutual aid agreements to comply with the requirements in section 5.4.*

25. https://www.firehouse.com/rescue/article/10515816/technical-rescue-is-your-department-prepared
26. NFPA 1710, 2020 edition, 5.4 Standard for the Organization and Deployment of Fire Suppression Operations, and Special Operations to the Public by Career Fire departments.

CPSM recommends the JFRD establish an agreement with PBCFR to provide and assist JFRD with Special Operations/Technical Rescue incidents and emergencies regarding, marine, wildland, aircraft, hazardous material, high angle, confined space and trench rescue, and any other man made or natural disaster related response needs. JFRD special operations incidents can be complex situations that require a considerable amount of personnel and equipment resources. CPSM further recommends the JFRD train operations staff in water rescue and marine vessel pier/dock firefighting, and work closely with the Jupiter Police, their emergency response watercraft, and Underwater Recovery Team for marine operations.

Emergency Medical Services

CPSM does not recommend the JFRD change the service level for Emergency Medical Services. As included in this report, CPSM recommends the JFRD staff three Rescue units to the advanced life support level with a lieutenant and two firefighters. CPSM further recommends any combination of this staffing equate to two staff being certified to practice at the advanced life support level, and one staff member be certified to the basic life support level.

Emergency Medical Services are authorized by Florida State Statute (401.25) which pertains to the requirement to hold a Certificate of Public Convenience and Necessity (COPCN) for providing primary or secondary EMS operations.

This regulatory oversight pertaining to the issuance of authority to operate under a COPCN is provided under county "EMS Ordinance" (Ord. No. 2017-030, § 2, 10-17-17) which states:

This Division is promulgated pursuant to Chapter 401, Florida Statutes. The purpose of this Division is to promote the health, safety, and welfare of the residents of the County in need of emergency medical services by establishing standards for issuing certificates of public convenience and necessity for Primary, Secondary, and Special Secondary Service Providers, and by providing for the adoption of rules and regulations governing the Areas and the operation of services as described herein."

In Palm Beach County, the EMS Section of County Emergency Management is the responsible agency for the issuance of COPCNs; the enforcement of Palm beach County Ordinance #2017-30 and accompanying rules and regulations; the inspection of all EMS providers' ambulances, rescue vehicles and equipment annually; and providing staff support to the County EMS Council.[27]

CPSM learned from the EMS Section the process by which EMS application for COPCN authority is open for submission every six years. At the time of this review the COPCN application period had just closed (October 2022), and the next opening for COPCN application will occur in 2028.

Additionally, CPSM was able to confirm there is a process by which an EMS agency could request a probationary COPCN "Pilot" project authorization. At the time of this review, Highland Beach had recently requested to conduct their own EMS services and was afforded a transitional "Pilot" program status. As a precedent has been set for the COPCN Pilot program, should the Town choose to implement the JFRD, CPSM recommends the Town apply for COPCN Pilot status at a strategic time during the JFRD implementation period to implement advanced life support EMS ground transport, and advanced life support first tier fire response with JFRD Engines and Ladder companies.

Medical Direction: Current PBCFR EMS Clinical treatment is authorized and directed by Medical Direction contractually provided by Elite Medical Specialist, LLC. The services provided include

27. Public Safety - Emergency Medical Services (EMS) Home (pbcgov.org)

dedicated EMS Specialized medical direction, clinical oversight, EMS Education, and various other EMS related projects that are consistent with Industry Best Practices for a high-performance EMS Systems. CPSM has allocated funding to contract with Elite Medical Specialist, LLC, or any other suitable provider of these services to provide medical direction to the JFRD. CPSM recommends the JFRD enter into an agreement with Elite Medical Specialist, LLC, or any other suitable provider for such services. CPSM further recommends once medical direction is established and the Battalion Chief of EMS is on-boarded, the Battalion Chief of EMS work with medical direction to establish a staff credentialing, onboarding, and recurring training and competency requirements, and a Continuous Quality Improvement (CQI) Program. Both programs should include the establishment of an EMS Training and CQI committees, with the appropriate range of stakeholder involvement.

Mobile Integrated Health Programs: Currently PBCFR conducts a multidisciplinary team of paramedics, nurses and social workers who offer post EMS intervention, assessment, disease management, care planning, care coordination, disease education, resource mapping, emotional support, and patient advocacy.

The current MIH model for PBCFR is not only multidisciplinary in terms of personnel, but also in the range of service delivery being provided. The MIH specialties being provided include:

- High Frequency Utilizer Program
- Chronic Disease Management Program
- Addiction Program
- Crew Referral Program
- Pregnancy Outreach program
- Comfort Assistant Resources Evaluation Safety (CARES) Fall Intervention Program
- Cardiac Arrest Survivor Outreach
- Pediatric Grief Support

The current MIH program being provided to the residents of the Town of Jupiter is diverse, expansive, robust, and well supported. Services such as these can be established in smaller communities and typically are scaled to the greatest EMS public challenges. As such, CPSM recommends once medical direction is established and the Battalion Chief of EMS is on-boarded, the Battalion Chief of EMS work with medical direction to establish the level of a Mobile Integrated Health program that will benefit both the EMS service deliverables of the JFRD and the community. An alternative to this recommendation is contracting with PBCFR to continue to provide this service for the JFRD and the Town.

Including EMS in the JFRD assumes the Town of Jupiter desires to conduct 911 EMS services as an authorized municipal agency. Our analysis validates there is a mechanism and precedent for Municipalities to acquire COPCN authorization, there are however key considerations regarding the current regulatory environment that will require due diligence in navigating County Ordinance and current applications process.

Budgetary considerations including initial capital outlay have been included in the costing of a JFRD. Including EMS in a JFRD provides the greatest level of oversight and accountability, as this model of delivery allows the Town to maintain operational and administrative control over how services are delivered to the community.

Fire and EMS Apparatus

Selecting the proper fire apparatus is one of the most important decisions a Fire and EMS department will make in terms of equipment. A fire apparatus purchase is an investment which spans several years. While there are many options to choose from, the decision to purchase must be made on what is best suited for the community. Once the manufacturer has been selected, then critical design features must be addressed.

When designing fire apparatus, there are critical decisions that must be contemplated that include everything from what do we need and why do we need it, to complex configurations and component possibilities and include:[28]

- Determine department needs and goals
- Type of apparatus
- Type of truck chassis
- Choosing the right suspension system
- Choosing the right motor and drive train
- Choosing the most appropriate doors
- Electrical system configuration
- Safety Systems
- Firefighting foam system selection
- Truck body compartmentation
- Final design considerations

There are important factors to consider when selecting the correct manufacturer and apparatus. Firefighter safety, performance, reliability, and are some of the most important aspects of selection. Important after the sale considerations include terms of aftermarket support and serviceability. Ease of maintenance and customer support are critical to maintaining the fleet in a state of operational readiness.

CPSM recommends Pierce Apparatus for the JFRD. While there are certainly other good manufactures in the market, we believe that Pierce offers the reliability, performance, longevity, and firefighter safety that will serve JFRD for many years. In addition, Pierce has a Service Center in Pompano Beach that will be able to address warranty work, regular preventive maintenance, repairs, and annualized testing of certain components if needed.

Recommendations for Fire Apparatus:

- 3 Pierce Arrow XT Fire Engines (Station 1 and 3, and 1 reserve apparatus)
- 1 Pierce Arrow XT-PUC Squad Engine (Station 2)
- 1 Pierce Arrow XT Ascendant 110' Aerial Ladder (Station 2)

According to Pierce Manufacturing, *the Arrow XT chassis is engineered with a utilitarian approach that will meet the needs of both the big Town and the rural fire departments.*

28. https://www.piercemfg.com/fire-apparatus-desig

Designed and built with an emphasis on heavy-duty, the Arrow XT meets the demands of any high-volume department with its rugged and dependable chassis and an all-business cab interior.[29]

The Pierce 107'Ascendant Arrow XT Aerial meets the community risk profile as discussed herein and provides elevation for rescue and fire protection for the Town. The ladder is designed to carry additional firefighting and rescue tools, EMS equipment, along with special operations equipment including extrication tools and equipment.

The Squad-Engine is similar to the Arrow XT Engine but will be built with a PUC platform for the additional compartment space needed for this apparatus. This Engine will carry additional firefighting and heavy rescue equipment necessary to handle most any incident. The Squad Engine is constructed with additional compartment space to carry tools and equipment to augment the functionality of the Ladder. The Squad Engine is a force multiplier as it can respond as an Engine or as a Squad and provide needed specialized equipment and a trained crew on any type of incident in the Town.

For many of the same reasons for selection of the fire apparatus, the Braun Super Chief is recommended for JFRD. *The rugged, heavy duty Super Chief Type 1 Ambulance features a 170" module. It is specifically designed to carry more equipment and handle the intense demands placed on it by high call volume departments. The roomy interior is coupled with 73.5" of headroom to offer a large workspace and functional design. The Super Chief Type I ambulance is available on the International MV607, Freightliner M2, and Ford F650 chassis.*[30]

This Ambulance is considered a "Workhorse" by Braun and will provide the platform to deliver advanced and basic life support (ALS/BLS) but also allow firefighter paramedics and EMTs to carry the necessary protective gear and equipment to assist in fire operations. The ability of this unit to carry three personnel (one lieutenant, and two firefighters) most often eliminates the need to respond an additional heavy apparatus (Engine or Ladder) to assist therefore increasing the availability of the fire units, thus increasing reliability.

Fiscal Considerations and Recommendations

Fiscal considerations for a Town fire-rescue department include initial start-up capital costs to include fleet and facilities, annualized personnel, and operating costs, and how the Town might fund a new fire-rescue department. As previously discussed with the Town Administration and Town Council, there are several methods to fund a Town fire-recue department. These include:

- General fund for both Fire and EMS.
- Non ad valorem fire assessment fees on real property for fire protection services.
- The Town could establish a Dependent Fire District within the Town boundaries and create a Fire-EMS millage rate to fund both Fire and EMS services.

In the next set of tables, CPSM provides a summary of estimated costs for the following:

- Recurring personnel, operational, and capital costs.
- First year revenues that can be utilized to offset expenditures.
- Projected first year total costs for the JFRD.

29. https://www.piercemfg.com/fire-trucks/custom-chassis/arrow-xt
30. https://www.braunambulances.com/custom-ambulances/super-chief-ambulance/

Table 11: Category Expenses for Fire Rescue and EMS Transport

Categories	Fire Rescue Costs	EMS Transport Costs	Totals
Personnel Costs -Recommended (Recurring)	$11,372,921	$4,392,273	$15,765,194
Operating Expenses (Recurring)	$2,261,134	$442,000	$2,703,134
Replacement Reserves Capital (Recurring)	$275,377	$400,338	$675,715
Replacement Reserves Vehicles (Recurring)	$519,918	$219,780	$739,698
Subtotal of Recurring Expenses	**$14,429,350**	**$5,454,391**	**$19,883,741**
Personnel Costs -Paramedic Incentive (One-time)	$193,770	$145,328	$339,098
Capital Costs (One-time)	$2,821,304	$2,653,448	$5,474,752
Vehicle Costs (One-time)	$7,465,000	$1,600,000	$9,065,000
Buildings (One-time)	$43,900,000	$0	$43,900,000
Subtotal of One -Time Expenses	**$54,380,074**	**$4,398,776**	**$58,778,850**
First Year Expenses for Jupiter Fire Rescue Department	**$68,809424**	**$9,853,167**	**$78,662,591**
Number of Personnel	66	27	93
Number of Vehicles	16	4	20
Number of Fire Station Renovations	1	0	1
Number of New Fire Stations	2	0	2

Note: The cost for debt services is not included in the cost estimates.
One-time costs do not happen at the same time and will be spread over a 36-month period.

As indicated in the above table, the total initial expenses of the new JFRD are $78,662,591. These expenses can be broken down into separate categories: Personnel costs, recurring operating costs; and one-time costs for both the Fire and EMS transport functions of the JFRD. The total recurring expenses are $19,883,741 and the one-time expenses are $58,778,850. The fire department will have 93 personnel, 20 vehicles and a total of 3 fire stations.

Table 12: Estimated Annual JFRD Revenues

Description	Yearly Revenue
EMS Transport Revenue	$1,400,000
Fire Prevention Fees Revenue	$300,000
Total Revenue	**$1,700,000**

EMS Transport Revenue and Fire Prevention fees will produce revenue for the Jupiter Fire Rescue Department. This yearly revenue will off-set about $1.7 million worth of recurring fire department expense, resulting in a total recurring fire department cost of $18,183,741. *($19,883,741 recurring expenses - $1,700,000 yearly revenue = $18,183,741 recurring costs)*

Table 13: Total First Year Recurring Cost for Jupiter Fire Rescue Department

Description	Totals
Fire Department Recurring Expenses	$19,883,741
Fire Department Revenue	$1,700,000
Total Recurring Costs for Jupiter Fire Rescue Department	**$18,183,741**

The following tables provide a more detailed explanation of the specific costs.

Four different costing methods for salaries were reviewed for this report.

1. Pay all employees at the minimum of the identified pay range
2. Pay all employees at the middle of the pay range (50%)
3. Pay all employees at the top quarter of the pay range (75%)
4. Recommended pay rates based on job titles. These rates can vary within the pay range.

Table 14: Costing Options for Personnel Costs -Recurring

	Fire Rescue Costs	EMS Transport Costs	Total Fire Department Costs
1. Personnel Costs Minimum	$8,195,844	$3,113,918	$11,309,762
2. Personnel Costs 50% Range	$10,096,434	$4,001,328	$14,097,761
3. Personnel Costs 75% Range	$10,885,864	$4,255,597	$15,141,461
4. **Personnel Costs Recommended**	**$11,372,921**	**$4,392,273**	**$15,765,194**
Number of Personnel	**66**	**27**	**93**

Although all four options are listed above, the final cost calculation utilizes the recommended version ($15,765,194).

The Personnel Costs calculations are based on the following assumptions:

- The salaries are based on job titles after reviewing up to ten (10) comparable municipalities to determine what would be the 75th percentile, while utilizing the cost of benefits from the Town of Jupiter. This methodology places the Town's position pay ranges in the 75th percentile of the market (also known as the Top 25% of the competition).
- FLSA (Fair Labor Standard Act) overtime calculation is based on a 4-week pay cycle (no Kelly days). An average calculation of hours was used for each 7k exempt personnel (2,756 straight hours and 156 FLSA overtime hours).
- The calculation for holiday pay included 10 holidays at 10 hours straight time for all shift employees regardless of whether they worked or not. Personnel working on the holiday receive 1.5 for hours worked.
- Overtime of 4 hours was included for each shift employee to take a medical physical.
- Overtime calculation includes 7 shifts of backfill for each shift employee. This is equal to 168 hours of overtime each. A supplemental $200,000 was also budgeted in Operations for additional overtime needs.

- $15,000 supplemental overtime was budgeted in fire marshal and logistics/training for overtime needs.
- 15% stipend for paramedic certification.
- All the EMS transport personnel are dual certified and are considered 7k exempt.

The calculations for the personnel costs recommended version is categorized into 5 different divisions: Operations, Administration, Fire Marshal, Training/Logistics and EMS Transport. The table and details below provide a detailed description of the Personnel Costs calculation of $15,765,194.

Table 15: Recommended Personnel Costs

Division	Number of Personnel	Straight Hours	Overtime Hours	Straight Time Cost	OT Cost	Total Salary Costs	Total Benefits Costs	Total Personnel Cost
Operations	49	139,960	15,744	$4,416,500	$933,332	$5,349,832	$3,318,604	$8,668,436
Administration	5	10,400	0	$547,566	$0	$547,566	$306,330	$853,896
Fire Marshal	5	10,400	0	$420,610	$15,000	$435,610	$291,985	$727,595
Training/Logistics	7	14,560	0	$683,560	$15,000	$698,560	$424,433	$1,122,993
EMS Transport	27	77,558	8,856	$2,274,990	$389,659	$2,664,649	$1,727,625	$4,392,274
Grand Total	**93**	**252,878**	**24,600**	**$8,343,226**	**$1,352,991**	**$9,696,217**	**$6,068,977**	**$15,765,194**

Operations is the largest division with 49 personnel and a total cost of $8,668,436. The operations division includes all the fire station personnel. Staffing includes:

1 -Assistant Chief -Operations
3 -Battalion Chiefs
12 -Shift Captains (a second alternative is 9 Captains assigned to engines and 3 Lieutenants assigned to the Ladder for Fire Protection)
12 -Driver Engineers
12- Firefighter/Paramedics
9 -Firefighter/EMTs

Administration has 5 personnel for a total personnel cost of $853,896. This division is the leadership of the fire department and includes the following staff members:

- 1 -Fire Chief
- 1 -Deputy Fire Chief
- 1 -Fire Administrative Manager (Civilian)
- 1 -Executive Assistant (for Chief/DFC)
- 1 -Administrative Specialist (Fire Administration Division)

Fire Marshal has 5 personnel with a cost of $727,595. The division of the Fire Marshal is responsible for fire inspections and reviewing all building plans for compliance of building fire codes.

Staffing of this division includes:

- 1 -Assistant Chief -Fire Marshal
- 2 -Fire Inspector
- 1 -Fire Plans Examiner
- 1 -Administrative Specialist (Fire Marshal Division)

The Training/Logistics division has 7 personnel assigned with a salary cost of $1,122,992. This division administers all the training and logistical support for the fire department. The staff includes:

- 1 -Assistant Chief -Support Services
- 1 -EMS Officer -Battalion Chief (Day shift) (a second alternative is to move this position to operations)
- 1 -Quartermaster
- 1 -Logistics person (delivery)
- 1 -Training Officer -Battalion Chief (Day shift)
- 1 Training Instructor
- 1 -Administrative Specialist

The Division of EMS Transport has 27 personnel and a salary budget of $4,392,274. This division performs all the EMS transport for the Fire Department. Staffing includes:

- 9 -Medic LT/PM
- 9 -Firefighter/Paramedic
- 9 -Firefighter/EMT

The total recurring Personnel Costs for the fire department using the recommended costing version for salaries is $15,765,194 with a total of 93 personnel.

EMS professionals are in high demand right now, especially paramedics. For that reason, a paramedic incentive was included in the one-time Personnel Costs calculations. The $7,500 incentive would require the employee to sign a commitment agreement. The calculation includes the incentive and benefits for 24 fire-rescue personnel and 18 EMS transport personnel for a total of
42 personnel.

Table 16: Personnel Costs Services (One-time)

	Fire Rescue Costs	EMS Transport Costs	Total Fire Department Costs
Personnel Costs -Paramedic Incentive (One-time)	$193,770	$145,328	$339,098

Note: One-time costs do not happen at the same time and will be spread over a 36-month period.

Table 17: Operating Expenses and Reserves for Equipment Replacement (Recurring)

	Fire Rescue Costs	EMS Transport Costs	Total Fire Department Costs
Operating Expenses (Recurring)	$2,261,134	$442,000	$2,703,134
Replacement Reserves Capital (Recurring)	$275,377	$400,338	$675,715
Replacement Reserves Vehicles (Recurring)	$519,918	$219,780	$739,698
Total	**$3,056,429**	**$1,062,118**	**$4,118,547**

The table above summarizes the total cost for recurring expenses for the Town of Jupiter Fire Department.

The recurring operating costs for the fire-rescue category is calculated at $2,261,134 and includes the yearly costs for the following items:

- Software licenses
- Uniforms, bunker gear, and gear cleaning
- Tuition and travel costs for training classes
- Utilities (water, power, garbage, medical waste, internet, phone, air cards, cell phones)
- Station repair/maintenance costs, cleaning supplies
- Maintenance of vehicles and equipment
- Office supplies, equipment, printing, copies
- Fire prevention promotional items
- Fuel and foam
- Replacement and maintenance of furniture and appliances
- New and replacement small hand tools and equipment
- Memberships and publications
- Property/liability/cancer insurance
- Administrative service charge from the Town of Jupiter
- Tax collector and property appraiser service charge
- Contingency operating funds

The recurring operating costs for the EMS Transport category is $442,000 and includes the yearly costs for the following items:

- Maintenance of vehicles and EMS equipment
- Fuel
- New and replacement of small equipment
- Medical gases
- Medical supplies and pharmaceuticals

- Contract for Medical Director

In addition to recurring operating costs, the table above includes a pro-rated yearly reserve to cover the cost of replacement capital items. The yearly reserve is calculated based on the estimated replacement cost divided by the number of years for the useful life of the equipment multiplied times the quantity of items to be replaced. For example, if the estimated cost of a thermal imaging camera is $3,900 with a useful life of 6 years and the fire department needed 5 of them, then $3,250 would be placed in a reserve account each year for 6 years so that $19,500 would be available in the reserve account to purchase 6 new thermal imaging cameras when the old ones needed to be replaced.

$3,900/each x 5 cameras = $19,500 needed for the replacement
$19,500 divided by 6 years = $3,250/year to be set aside in reserves

The amount of reserves that should be set aside for fire-rescue replacement equipment every year is $275,377. This reserve includes the replacement of the following equipment:

- SCBA, SCBA tanks and SCBA air compressors
- Portable and mobile radios*
- Station computers, laptops, and MDT (mobile data terminals)
- Bunker gear replacement
- Station appliances
- Specialty fire equipment

*The cost of radio replacement is included in the calculation although radios might be provided by the County of Palm Beach.

The amount of reserves that should be set aside for EMS transport replacement equipment every year is $400,338. This reserve includes the replacement of the following equipment:

- Cardiac monitors
- Automatic CPR device
- MDC (mobile data computer), EMS tablets and wireless gateway
- AED (automatic external defibrillators)
- Power stretchers and loaders
- Ventilators
- Specialized medical equipment
- Portable suction devices
- IV pumps
- EMS training equipment
- PAPR respirators and Biohazard transport chamber
- Mobile and Portable radios*

*The cost of radio replacement is included in the calculation although radios might be provided by the County of Palm Beach.

The amount of reserves that should be set aside for fire-rescue replacement vehicles every year is $519,918. This reserve includes the replacement of the following vehicles:

- One squad engine with a useful life of 15 years
- Three engines with a useful life of 15 years/each
- 1 ladder truck with a useful life of 15 years
- 11 staff vehicles with a useful life of 7 years/each

The amount of reserves that should be set aside for EMS transport replacement vehicles every year is $219,780. This reserve includes the replacement of the following vehicles:

- Four ambulances with a useful life of 7 years

Table 18: Capital Costs (One-time)

	Fire Rescue Costs	EMS Transport Costs	Total Fire Department Costs
Capital Costs (One-time)	$2,821,304	$2,653,448	$5,474,752
Vehicle Costs (One-time)	$7,465,000	$1,600,000	$9,065,000
Buildings (One-time)	$43,900,000	$0	$43,900,000
Total	**$54,186,304**	**$4,253,448**	**$58,439,752**
Number of Vehicles	16	4	20
Number of Fire Station Renovations	1	0	1
Number of New Fire Stations	2	0	2

Note: One-time costs do not happen at the same time and will be spread over a 36-month period.

The table above summarizes the initial cost for the capital equipment and buildings for the Town of Jupiter Fire Department.

The initial capital equipment cost for the fire-rescue category is calculated at $2,821,304 and includes the startup costs for the following items:

- SCBA, SCBA tanks and SCBA air compressors
- Portable and mobile radios*
- Station computers, laptops, and MDT (mobile data terminals)
- Bunker gear
- Specialty fire equipment
- Software programs (employee scheduling, inventory, records management system)

The initial capital equipment cost for the EMS Transport category is calculated at $2,653,448 and includes the startup costs for the following items:

- Cardiac monitors

- Automatic CPR device
- MDC (mobile data computer), EMS tablets and wireless gateway
- AED (automatic external defibrillators)
- Power stretchers and loaders
- Ventilators
- Specialized medical equipment
- Portable suction devices
- IV pumps
- EMS training equipment
- PAPR respirators and Biohazard transport chamber
- Mobile and Portable radios*
- Uniforms and gear

The total cost for the entire fire department for startup equipment for both fire-rescue and EMS transport is $5,474,752.

The initial vehicle cost for the fire-rescue category is calculated at $7,465,000 and includes the startup costs for the following vehicles which include the cost of the equipment, striping and lights/sirens:

- One squad engine
- Three engines
- One ladder truck
- Eleven staff vehicles

The initial vehicle cost for the EMS transport category is calculated at $1,600,000 and includes the startup costs for the following vehicles:

- Four ambulances

The total cost for the entire fire department for the initial vehicle costs for both fire-rescue and EMS transport is $9,065,000 for a total of 20 vehicles.

The initial building cost for the fire-rescue category is calculated at $43,900,000. This includes the land, design, construction and FFE (furniture, fixtures, and equipment) for 2 new fire stations. One of the fire stations may have an increased footprint and also serve as Fire Administration headquarters. There is additional funding allocated for the renovation and FFE of the Abacoa fire station that is currently occupied by Palm Beach County.

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Timeline for Implementation

Timeline	Action
To Be Determined	Town Council approves implementation of Jupiter Fire Rescue Department (JFRD).
Within 30 days	Hire Interim Fire Rescue Administrator to get immediate programs and processes started.
Within 45 days	Order fire apparatus-current delivery time is 32-36 months.
45 days	Advertise and hire the civilian Administrative Manager to start as soon as practical.
60 days	Begin Civil Work on Stations 1 and 2 sites.
60 days	Begin design work on 2 fire facilities.
4 months	Prepare the next fiscal year JFRD budget.
6 months	Locate and secure vendor contracts for Fire and EMS Capital and operating materials and equipment.
6 months	Begin work an operational and service agreements with neighboring jurisdictions, medical direction, emergency communications, special operations.
8 months	Locate and secure Town space for JFRD temporary storage for capital and operating materials and equipment.
12 months	Begin work on job descriptions for JFRD staff.
12 months	Begin work on JFRD policies, procedures, and guidelines with selected vendor.
12 months	Begin construction of two JFRD fire stations.
12 months	Order JFRD ambulance apparatus- current delivery time is 20-22 months.
16 months	Prepare the next fiscal year JFRD budget.
16 months	Order capital and operating equipment for JFRD Fire and EMS apparatus.
18 months	Advertise and hire one Administrative Specialist to assist with the growing administrative duties and workload of the JFRD. The goal is to have this position in place at the 20th month.
18 months	Locate and secure a storage facility for JFRD equipment and materials.

Timeline	Action
20 months	Begin draft work on JFRD collective bargaining contract in anticipation the new workforce will organize.
20-24 months	Take delivery of JFRD ambulance apparatus.
20th month	Advertise for a full-time Fire Chief. The goal is to have this position in place at the 24th month.
24th month	Advertise for a Deputy Fire Chief. The goal is to have this position in place at the 26th month.
26th month	Advertise for the Assistant Chief of Operations and Support Services. The goal is to have these positions in place at the 28th month.
24th month	Advertise and hire the JFRD Quartermaster. The goal is to have this position in place at the 26th month to begin inventory and supply chain set-up of capital and operating equipment.
24th month	Advertise and hire the Battalion Chief of EMS. Goal is to have this position hired at the 26th month to begin work with the Medical Director and on the COPCN Pilot Program.
24th month	Advertise and hire the JFRD Executive Assistant. The goal is to have this position in place at the 26th month
26th month	Advertise and hire operational Captains, Lieutenants, Driver Engineers, and Firefighters. Goal is to have this staff hired at the 34th month.
28th month	Advertise and hire operational Battalion Chiefs. Goal is to have this staff hired at the 32nd month.
28th month	Advertise and hire the Battalion Chief of Training. Goal is to have this position hired at the 30th month to begin work on JFRD incoming staff training program.
29th month	Advertise and hire the Logistician, and two remaining Administrative Specialists. Goal is to have these positions hired at the 32nd month.
30th month	Advertise and hire the Fire Marshal. Goal is to have this position hired at the 33rd month.
31st month	Advertise and hire the Fire Inspector and Plans Review positions. Goal is to have this position hired at the 34th month.
32nd month	Prepare the next fiscal year JFRD budget.
32-34 months	Take delivery of JFRD fire apparatus.
32-34 months	JFRD staff begins on-boarding training and on JFRD apparatus.

Timeline	Action
34-36 months	JFRD Fire Marshal's Office transitions in and assumes responsibility for all Community Risk Reduction programs.
36 months	***JFRD Operational Units and Staff Go Live at 8:00 am on a Designated Day.***

Recommended JFRD Organizational Goals

1. **ISO-PPC Community Rating of 1: Commence work on day one with a goal of achieving a Class 1 Rating on the second Town review.**

The ISO-PPC rating system was discussed in an earlier section of this report. CPSM believes that as Palm Beach County has been rated as a Class 1 community, and as the Town of Jupiter is included in this rating, and further as the emergency communications, fire protection system, the Town's water system, and the community risk reduction programs are not changing if the Town chooses to implement a JFRD, the Town is well positioned to achieve a Class 1 rating on the second Town review, which would occur within five to seven years of the JFRD start date.

2. **Develop an Organizational Strategic Plan: Commence on the 12th month**

Fundamentally, a Strategic Plan at the 24-moht period will encompasses both a baseline assessment of the organization and a "road map" to develop and achieve a planned response to specific factors which are or potentially will affect the organization's mission, or in the case of public safety, service deliverables. Developing a Strategic Plan at the 24-month mark will continue to identify the purpose of the organization, what the organization will continue to do and how it will perform though goals and measurable objectives. It will specify baseline capabilities, real or potential constraints that may exist or are being placed on the organization and will deliver a set of goals and requirements to achieve identified objectives and desired outcomes.

The Strategic Plan at the 24-month period will allow the organization to establish priorities, to focus on the critical actions necessary to implement and achieve the mission, improve resource utilization, reduce redundancy, and allow the organization to both establish stability and seek opportunity.

3. **Commission of Fire Accreditation International: Commence on the 24th Month**

An available best practice that involves a comprehensive assessment of a fire services agency is the accreditation program managed by the Center for Public Safety Excellence (CPSE). The Commission of Fire Accreditation International (CFAI) provides an analytical self-assessment process to evaluate eleven categories of the agency's performance. During this process, the department examines 250 separate performance indicators, many of which are considered core or required competencies of a fire services agency. The eleven categories include:

1. Governance and Administration
2. Assessment and Planning

3. Goals and Objectives
4. Financial Resources
5. Community Risk Reduction Programs
6. Physical Resources
7. Human Resources
8. Training and Competency
9. Essential Resources
10. External System Relationship
11. Health and Safety

The accreditation process provides the individual department with the benefit of a critical self-analysis of its performance at varying levels to ensure continuous self-improvement. It is an extremely comprehensive review that is conducted over an agency scheduled and controlled process, and requires reaccreditation every five years, which helps to ensure that the standards are being maintained.

The accreditation process and time periods are:

- Registered Agency Status
  - This status is valid for three years and includes an initial fee. In this status, the agency becomes familiar with the accreditation process, attends accreditation, and required training sessions, assigns a staff person as an accreditation manager, and begins the self-assessment process.
  - Registered agency can be renewed as many times as needed.
- Applicant Agency Status
  - This status is valid for 18 months and may be extended an additional twelve months if needed. Agency receives a volunteer mentor to guide them through the process. Includes a fee based on population.
  - Agencies complete the following required documents that will be reviewed by the accreditation peer team during the Candidate Agency Status phase.
    i. Community Risk Assessment-Standard of Cover.
    ii. Community Driven Strategic Plan.
    iii. Self-Assessment Manual.
- Candidate Agency Status
  - Required three documents as outlined above are completed.
  - CFAI peer team conducts on-site visit and verifies/validates the three documents.
  - Accreditation report presented to CFAI review panel for consideration.
  - Includes travel costs for peer review team.
- Accredited Agency
  - Agency receives accreditation status.
  - Annual compliance report required.

The CPSE fire accreditation process provides a well-defined, internationally recognized benchmark system to measure fire and emergency services. As a best practice, the accreditation process includes a comprehensive agency self-assessment, involves the community in the strategic planning phase, raises the internal bar of the organization as they explore opportunities to improve, exhibits international achievement for the agency and local government, and assists local governments justifying their expenditures by

demonstrating a direct link to services, particularly for emergency services, where local officials desire criteria to assess performance and efficiency.[31]

4. Commission on Accreditation of Ambulance Services (CAAS): Commence on the 48th Month

The Commission on Accreditation of Ambulance Services (CAAS) encourages and promotes quality patient care across America's medical transportation system. Through an independent commission, CAAS has established a comprehensive series of standards for the ambulance service industry.

Once accredited through CAAS, a ground transport agency such as the JFRD has met the "gold standard" and is determined to be a contemporary and essential emergency medical provider. According to CASS, these standards often exceed those established by state or local regulations and are designed to increase operational efficiency and clinical quality, while decreasing risk and liability to the organization.

The CASS accreditation process includes:

- A comprehensive organizational self-assessment.
- An independent external review of the JFRD organization by CASS.

This independent process provides verification to your Board of Directors, Town council, medical community, and others that quality care is provided to the community. [32]

End of Technical Report

31. Accreditation Overview - Center for Public Safety Excellence (cpse.org)
32. About CAAS – Commission on Accreditation of Ambulance Services (CAAS)

APPENDIX A. DATA ANALYSIS

This data analysis was prepared as a key component of the study of the fire services provided by Palm Beach County Fire Rescue (PBCFR) to the Town of Jupiter, which was conducted by the Center for Public Safety Management, LLC (CPSM). This analysis examines all calls for service between July 1, 2021, and June 30, 2022, as recorded in Palm Beach County Central Dispatch's Computer-Aided Dispatch (CAD) system and PBCFR's National Fire Incident Reporting System (NFIRS) records.

This analysis is made up of five parts. The first part focuses on call types and dispatches. The second part explores the time spent and the workload of individual units. The third part presents an analysis of the busiest hours in the year studied. The fourth part provides a response time analysis of responding units. The fifth part provides an analysis of ground transports by PBCFR units stationed in Jupiter. The sixth and final part provides an analysis of aid given and received.

Between July 1, 2021, and June 30, 2022, PBCFR (stations 16, 18, and 19) responded to 8,268 calls, of which 64 percent were EMS calls. The total combined workload (deployed time) for PBCFR units was 5,342.1 hours. The average dispatch time was 0.3 minutes, and the average total response time was 6.5 minutes. The 90th percentile dispatch time was 0.3 minutes and the 90th percentile total response time was 9.6 minutes.

In this report, CPSM analyzes calls and runs. A call is an emergency service request or incident. A run is a dispatch of a unit (i.e., a unit responding to a call). Thus, a call may include multiple runs.

We received CAD data and NFIRS data for PBCFR. We first matched the NFIRS and CAD data. Then, we classified the calls into a series of steps. We first used the NFIRS incident type to identify canceled calls and to assign emergency medical service (EMS), motor vehicle accident (MVA), and fire category call types. EMS calls were then assigned detailed categories based on their incident codes and descriptions. The process used to categorize incident types is shown in Attachment IV.

Call type definitions:
EMS: Responses that include emergency medical care and transport.
Rescue: Responses that include extrication of victim(s) from vehicles, removal of victims from stalled elevators, and extrication of victims from structural collapse are the most common examples.
Alarm: Fire alarm system activation or malfunction to include smoke and carbon monoxide alarms are the most common examples.
Good Intent: Calls for service that do include fire or emergency care and can include steam mistaken for smoke, smoke scare with no actual smoke, or EMS call where the patient was transported by another means prior to fire-rescue arrival are the most common examples.
Hazard: Natural gas leaks, chemical spills, and electrical equipment hazard with no fire are the most common examples.
Outside Fire: Fires in dumpsters and vehicles, and brush/wildland fires are the most common examples.

Service Calls: Responses that include assistance to police, lockouts, persons in distress, animal rescue, assist invalid or person back in bed who has fallen and is not injured, lightning strike with no fire, and water leak are the most common examples.
Structure Fire: Fires in buildings, cooking vessels in buildings, and chimney fires are the most common examples.
Cancelled Call: Calls received by the fire-rescue department and cancelled prior to a unit responding, or a unit cancelled enroute to a call for service.
Aid Given: Fire or EMS calls outside of the home jurisdiction.

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SUMMARY OF CALLS AND WORKLOAD

In this report, we analyze all fire and EMS calls and workload provided within the Town of Jupiter. We also extend our analysis to include all calls and workload provided by PBCFR's three stations located within Jupiter beyond its municipal boundaries. Workload within Jupiter included workload associated with PBCFR units stationed outside Jupiter as well as aid received from Tequesta Fire Rescue (TFR), Palm Beach Gardens Fire Rescue (PBGFR), West Palm Beach Fire Rescue (WPBFR), and Martin County Fire Rescue (MFR).

The main analysis includes the 8,268 calls responded to by PBCFR units (stations 16, 18, and 19). For 774 calls that occurred outside Jupiter, we labeled them as aid given. For these calls, we only included responses by PBCFR units associated with local stations (16, 18,19). There were 8,221 calls inside Jupiter, of which 6,553 calls (80 percent) were responded to solely by local PBCFR units. 941 calls (11 percent) involved a shared response by local PBCFR units and external units (other PBCFR stations, or other agencies). 727 calls (9 percent) were responded to solely by external units.

CALLS AND WORKLOAD BY TYPE AND LOCATION

Tables 1 and 2 summarize the number of calls and the corresponding workload, broken out by responding agencies and grand call type.

TABLE 1: Calls by Response Type, Location, and Call Type

Response Type	Location	Number of Calls			Total
		EMS	Fire	Canceled	
Shared Response	Jupiter	649	158	134	941
Local Only	Jupiter	4,658	1,379	516	6,553
Local	Outside Jupiter	504	131	139	774
Aggregate Call Total		**5,811**	**1,668**	**789**	**8,268**
External Only	Jupiter	502	160	65	727
Total		**6,313**	**1,828**	**854**	**8,995**

Note: "Local" refers to PBCFR units associated with stations 16, 18, and 19. "External" refers to additional PBCFR units as well as units from other fire agencies responding into Jupiter. Shared response refers to calls with both a local and external responding unit in Jupiter.

TABLE 2: Runs and Workload by Responding Agency

Responding Agency	Response Type	Runs	Deployed Time (Hours)
PBCFR (Local)	Shared Response	1,763	794
PBCFR (Local)	Local Only	9,510	4,548
PBCFR Local Subtotal		**11,273**	**5,342**
Other Agencies	External Only	354	173
Other Agencies	Shared Response	481	202
PBCFR (External)	External Only	611	302
PBCFR (External)	Shared Response	680	271
Total		**13,399**	**6,290**

Note: "Local" refers to units associated with stations 16, 18, and 19.

AGGREGATE CALL TOTALS

Between July 1, 2021, and June 30, 2022, PBCFR stations within Jupiter responded to 8,268 calls, of which 20 were structure fire calls and 54 were outside fire calls.

CALLS BY TYPE

Table 3, Figure 1, and Figure 2 show the number of calls by call type, average calls per day, and the percentage of calls that fall into each call type category for the 12 months studied.

TABLE 3: Calls by Type

Call Type	Calls	Calls per Day	Call Percentage
Breathing difficulty	497	1.4	6.0
Cardiac and stroke	674	1.8	8.2
Fall and injury	1,356	3.7	16.4
Illness and other	1,488	4.1	18.0
MVA	504	1.4	6.1
Nonemergency transfer	25	0.1	0.3
Overdose and psychiatric	264	0.7	3.2
Seizure and unconsciousness	499	1.4	6.0
EMS Subtotal	**5,307**	**14.5**	**64.2**
False alarm	737	2.0	8.9
Good intent	192	0.5	2.3
Hazard	84	0.2	1.0
Outside fire	54	0.1	0.7
Public service	420	1.2	5.1
Structure fire	**20**	**0.1**	**0.2**
Technical rescue	**30**	**0.1**	**0.4**
Fire Subtotal	**1,537**	**4.2**	**18.6**
Canceled	650	1.8	7.9
Mutual aid given*	774	2.1	9.4
Total	**8,268**	**22.7**	**100.0**

Note: *Calls that occurred outside Jupiter were labeled as mutual aid given.

FIGURE 1: EMS Calls by Type

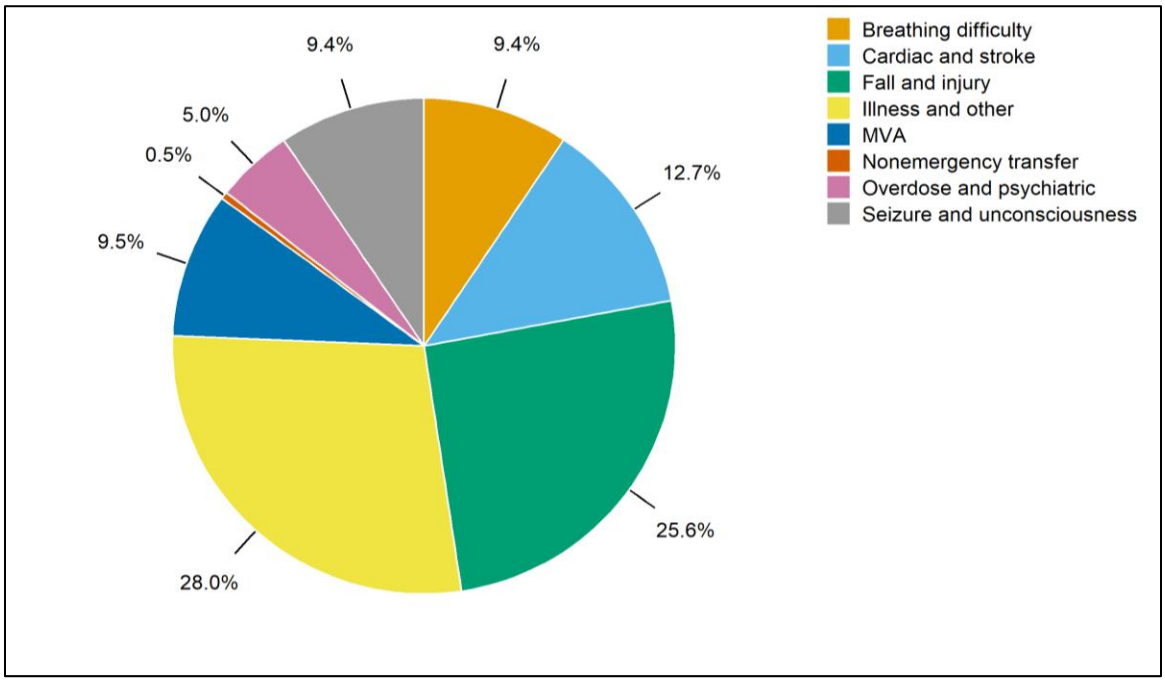
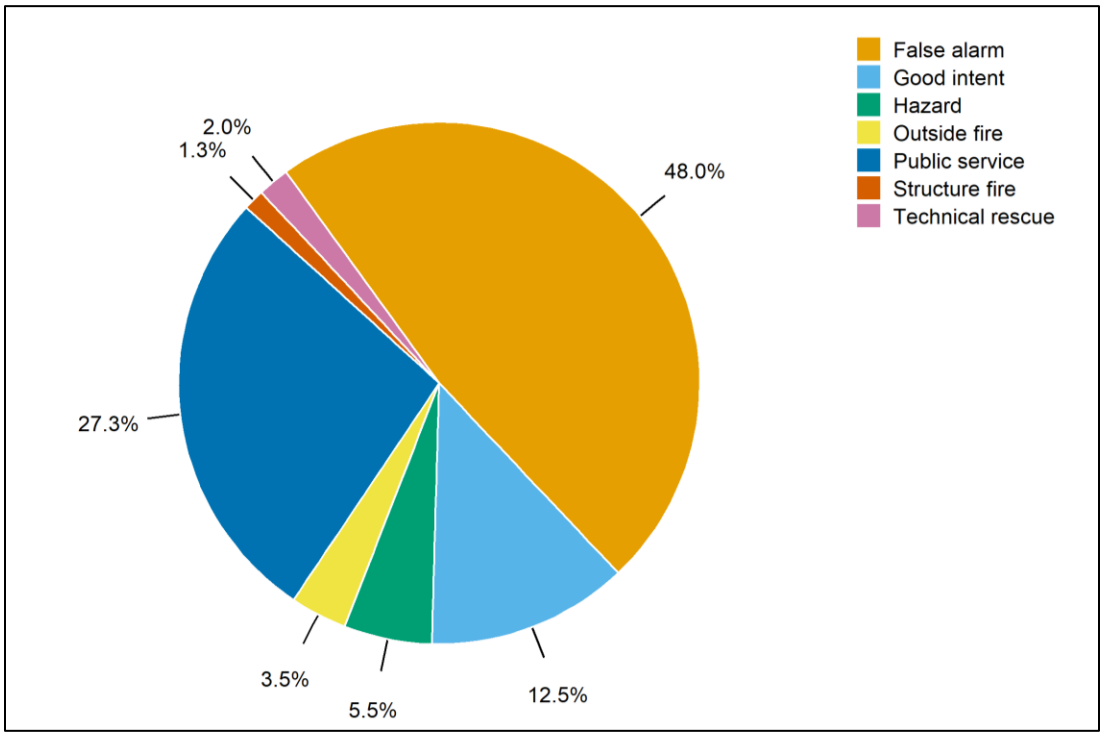


FIGURE 2: Fire Calls by Type



Observations:

Overall

- Local PBCFR units responded to an average of 22.7 calls, including 1.8 canceled and 2.1 mutual aid given calls per day.

EMS

- EMS calls for the year totaled 5,307 (64 percent of all calls), an average of 14.5 per day.
- Illness and other calls were the largest category of EMS calls at 28 percent of EMS calls, an average of 4.1 calls per day.
- Cardiac and stroke calls made up 13 percent of EMS calls, an average of 1.8 calls per day.
- Motor vehicle accidents made up 9 percent of EMS calls, an average of 1.4 calls per day.

Fire

- Fire calls for the year totaled 1,537 (19 percent of all calls), an average of 4.2 per day.
- False alarm calls were the largest category of fire calls at 48 percent of fire calls, an average of 2.0 calls per day.
- Structure and outside fire calls combined made up 5 percent of fire calls, an average of 0.2 calls per day, or one call every 5 days.

CALLS BY TYPE AND DURATION

Table 4 shows the duration of calls by type using four duration categories: less than 30 minutes, 30 minutes to one hour, one to two hours, and more than two hours.

TABLE 4: Calls by Type and Duration

Call Type	Less than 30 Minutes	30 Minutes to One Hour	One to Two Hours	Two or More Hours	Total
Breathing difficulty	108	350	39	0	497
Cardiac and stroke	147	470	57	0	674
Fall and injury	425	851	80	0	1,356
Illness and other	389	1,030	67	2	1,488
MVA	292	193	18	1	504
Nonemergency transfer	0	14	11	0	25
Overdose and psychiatric	91	153	19	1	264
Seizure and unconsciousness	148	326	25	0	499
EMS Subtotal	**1,600**	**3,387**	**316**	**4**	**5,307**
False alarm	666	66	3	2	737
Good intent	162	23	7	0	192
Hazard	35	42	6	1	84
Outside fire	25	18	10	1	54
Public service	350	59	11	0	420
Structure fire	4	6	8	2	20
Technical rescue	20	7	3	0	30
Fire Subtotal	**1,262**	**221**	**48**	**6**	**1,537**
Canceled	596	45	9	0	650
Mutual aid given	424	294	50	6	774
Total	**3,882**	**3,947**	**423**	**16**	**8,268**

Observations:

EMS

- A total of 4,987 EMS calls (94 percent) lasted less than one hour, 316 EMS calls (6 percent) lasted one to two hours, and 4 EMS calls (less than 1 percent) lasted two or more hours.

1. On average, there were 0.9 EMS calls per day that lasted more than one hour.
2. A total of 617 cardiac and stroke calls (92 percent) lasted less than one hour, and 57 cardiac and stroke calls (8 percent) lasted one to two hours.
3. A total of 485 motor vehicle accidents (96 percent) lasted less than one hour, 18 motor vehicle accidents (4 percent) lasted one to two hours, and 1 motor vehicle accident (less than 1 percent) lasted two or more hours.

Fire

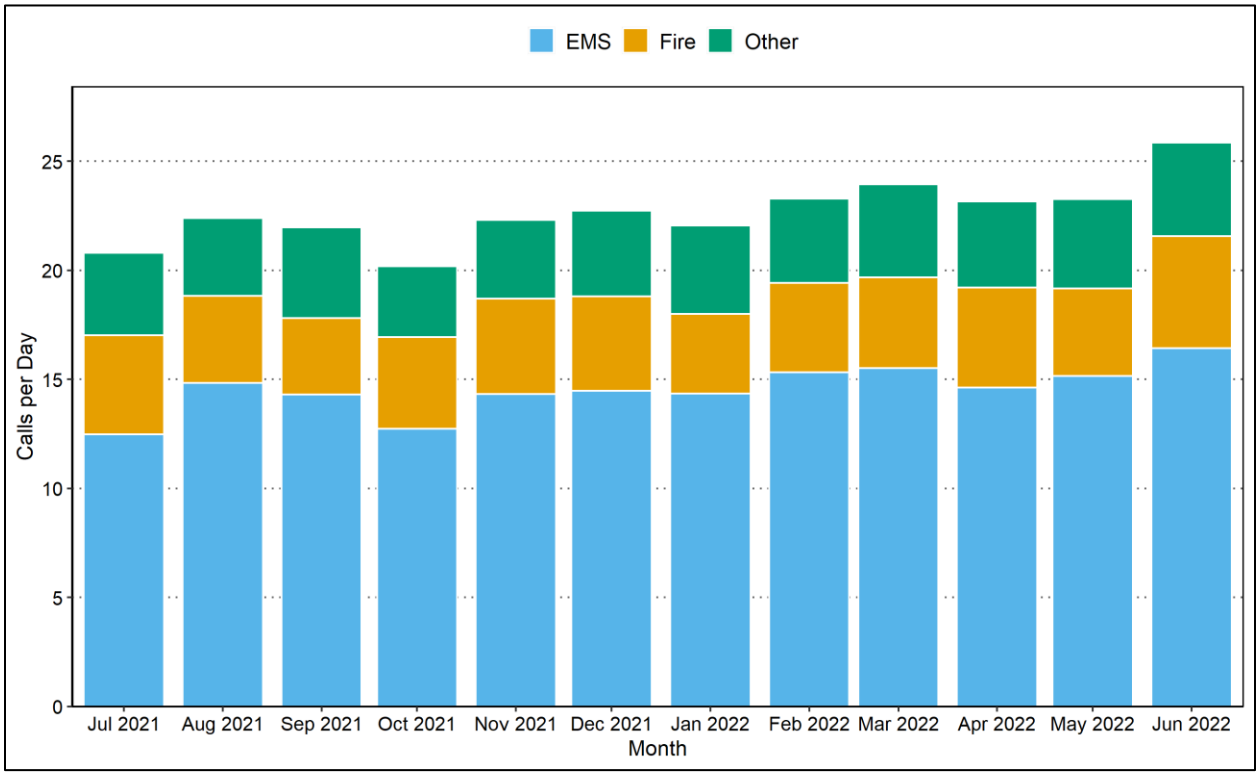
- A total of 1,483 fire calls (96 percent) lasted less than one hour, 48 fire calls (3 percent) lasted one to two hours, and 6 fire calls (less than 1 percent) lasted two or more hours.

4. On average, there were 0.1 fire calls per day that lasted more than one hour.
5. A total of 732 false alarm calls (99 percent) lasted less than one hour, 3 false alarm calls (less than 1 percent) lasted one to two hours, and 2 false alarm calls (less than 1 percent) lasted two or more hours.
6. A total of 43 outside fire calls (80 percent) lasted less than one hour, 10 outside fire calls (19 percent) lasted one to two hours, and 1 outside fire call (2 percent) lasted two or more hours.
7. A total of 10 structure fire calls (50 percent) lasted less than one hour, 8 structure fire calls (40 percent) lasted one to two hours, and 2 structure fire calls (10 percent) lasted two or more hours.

CALLS BY MONTH AND HOUR OF DAY

Figure 3 shows the monthly variation in the average daily number of calls handled by stations within Jupiter from July 1, 2021, and June 30, 2022. Similarly, Figure 4 illustrates the average number of calls received per hour by the time of day.

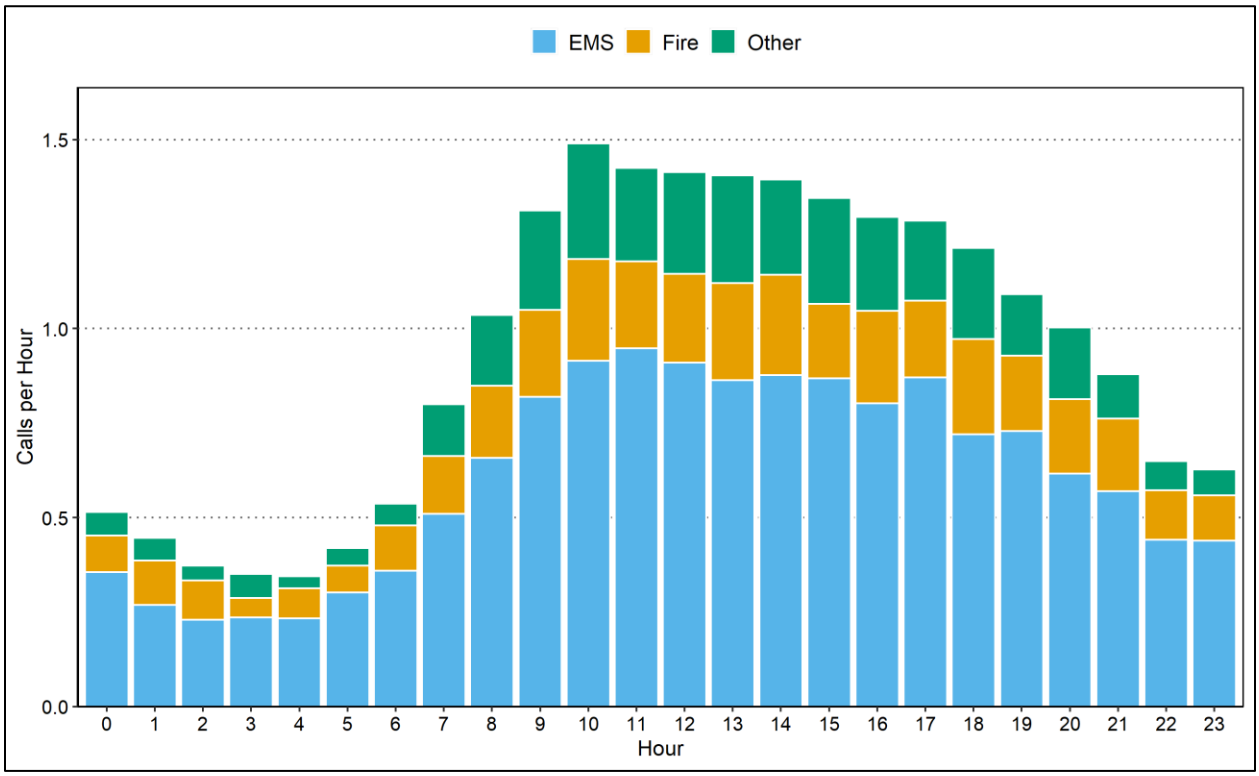
FIGURE 3: Calls by Month



Observations:

- Average EMS calls per day ranged from 12.5 in July 2021 to 16.4 in June 2022.
- Average fire calls per day ranged from 3.5 in September 2021 to 5.1 in June 2022.
- Average canceled and mutual aid given calls per day ranged from 3.3 in October 2021 to 4.3 in June 2022.
- Average calls per day overall ranged from 20.2 in October 2021 to 25.9 in June 2022.

FIGURE 4: Calls by Hour of Day



Observations:

- Average EMS calls per hour ranged from 0.2 between 2:00 a.m. and 3:00 a.m. to 0.9 between 11:00 a.m. and noon.
- Average fire calls per hour ranged from 0.1 between 3:00 a.m. and 4:00 a.m. to 0.3 between 10:00 a.m. and 11:00 a.m.
- Average canceled and mutual aid calls per hour ranged from less than 0.1 between 4:00 a.m. and 5:00 a.m. to 0.3 between 10:00 a.m. and 11:00 a.m.
- Average calls per hour overall ranged from 0.3 between 4:00 a.m. and 5:00 a.m. to 1.5 between 10:00 a.m. and 11:00 a.m.

UNITS ARRIVED AT CALLS

Table 5 and Figure 5 detail the number of calls with one, two, and three or more units arriving at a call, broken down by call type. In this section, we limit ourselves to calls where a local PBCFR unit (stations 16, 18, and 19) arrived.

TABLE 5: Calls by Type and Number of Arriving Units

Call Type	Number of Units			Total Calls
	One	Two	Three or more	
Breathing difficulty	413	72	3	488
Cardiac and stroke	439	120	109	668
Fall and injury	1,129	202	10	1,341
Illness and other	1,252	200	8	1,460
MVA	91	301	93	485
Nonemergency transfer	14	10	1	25
Overdose and psychiatric	203	43	3	249
Seizure and unconsciousness	380	103	6	489
EMS Subtotal	**3,921**	**1,051**	**233**	**5,205**
False alarm	656	15	3	674
Good intent	154	23	5	182
Hazard	50	9	22	81
Outside fire	18	23	11	52
Public service	395	13	4	412
Structure fire	4	1	15	20
Technical rescue	26	2	0	28
Fire Subtotal	**1,303**	**86**	**60**	**1,449**
Canceled	181	66	18	265
Mutual aid	455	57	40	552
Total	**5,860**	**1,260**	**351**	**7,471**
Total Percentage	**78.4**	**16.9**	**4.7**	**100.0**

FIGURE 5: Calls by Number of Arriving Units for EMS Calls

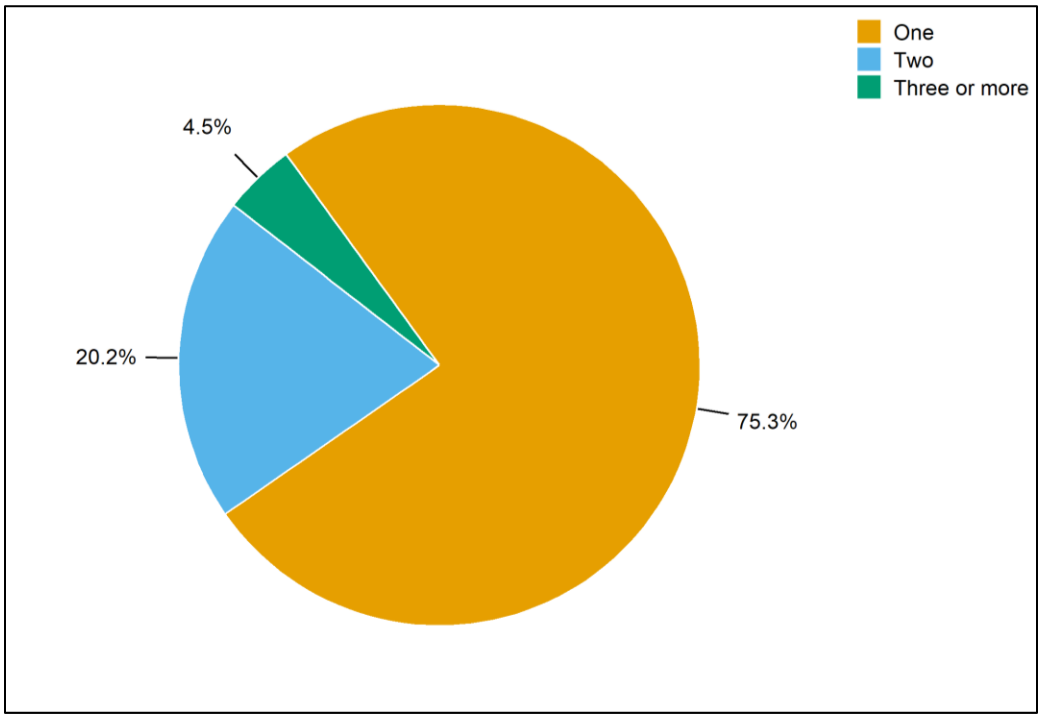
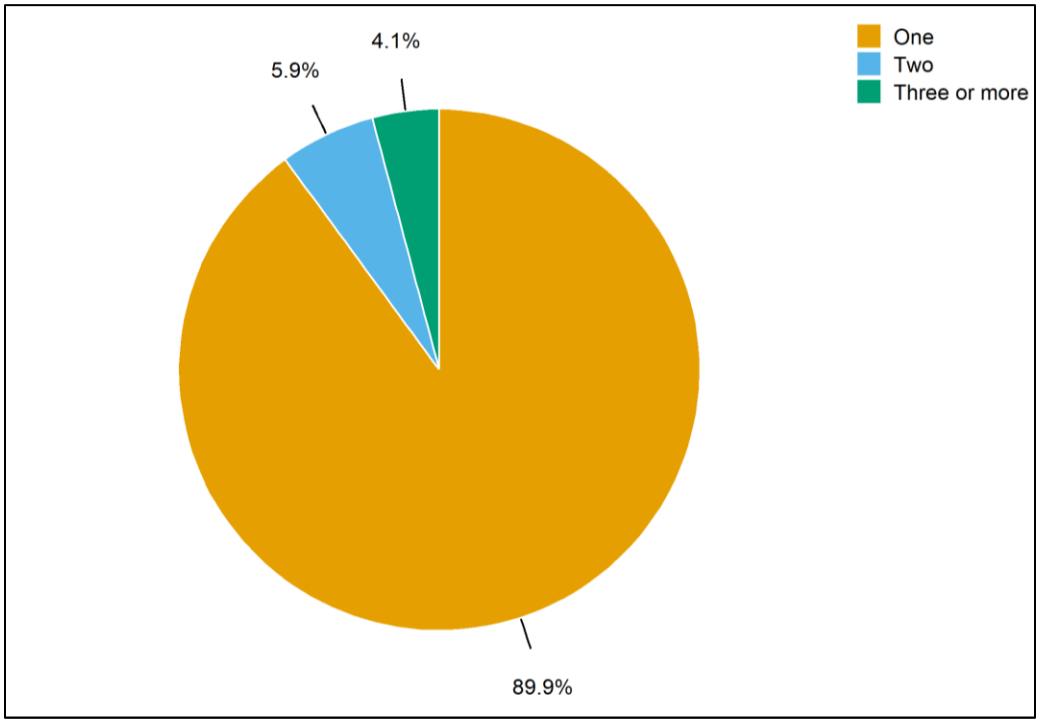


FIGURE 6: Number of Arriving Units for Fire Calls



Observations:

Overall

- On average, 1.3 units arrived to all calls; for 78 percent of calls only one unit arrived.
- Overall, three or more units arrived to 5 percent of calls.

EMS

- On average, 1.3 units arrived per EMS call.
- For EMS calls, one unit arrived 75 percent of the time, two units arrived 20 percent of the time, three or more units arrived 4 percent of the time.

Fire

- On average, 1.2 units arrived per fire call.
- For fire calls, one unit arrived 90 percent of the time, two units arrived 6 percent of the time, three or more units arrived 4 percent of the time.
- For outside fire calls, three or more units arrived 21 percent of the time.
- For structure fire calls, three or more units arrived 75 percent of the time.

WORKLOAD: RUNS AND TOTAL TIME SPENT

The workload of each local unit (stations 16, 18, and 19) is measured in two ways: runs and deployed time. The deployed time of a run is measured from the time a unit is dispatched through the time the unit is cleared. Because multiple units respond to some calls, there are more runs (11,273) than calls (8,268) and the average deployed time per run varies from the total duration of calls.

RUNS AND DEPLOYED TIME – ALL UNITS

Deployed time, also referred to as deployed hours, is the total deployment time of all units deployed on all runs. Table 6 shows the total deployed time, both overall and broken down by type of run, for PBCFR units (stations 16, 18, and 19) between July 1, 2021, and June 30, 2022. Table 7 and Figure 7 present the average deployed minutes by hour of day.

TABLE 6: Annual Runs and Deployed Time by Run Type

Run Type	Minutes per Run	Annual Hours	Percent of Hours	Hours per Day	Annual Runs	Runs per Day
Breathing difficulty	36.3	368.2	6.9	1.0	608	1.7
Cardiac and stroke	32.7	605.5	11.3	1.7	1,110	3.0
Fall and injury	33.4	911.3	17.1	2.5	1,639	4.5
Illness and other	34.3	1,017.8	19.1	2.8	1,781	4.9
MVA	22.5	429.3	8.0	1.2	1,146	3.1
Nonemergency transfer	44.4	35.5	0.7	0.1	48	0.1
Overdose and psychiatric	33.8	184.9	3.5	0.5	328	0.9
Seizure and unconsciousness	31.9	343.5	6.4	0.9	646	1.8
EMS Subtotal	**32.0**	**3,896.0**	**72.9**	**10.7**	**7,306**	**20.0**
False alarm	16.8	222.1	4.2	0.6	795	2.2
Good intent	19.1	77.7	1.5	0.2	244	0.7
Hazard	38.6	124.9	2.3	0.3	194	0.5
Outside fire	36.3	79.3	1.5	0.2	131	0.4
Public service	21.3	165.4	3.1	0.5	467	1.3
Structure fire	54.2	76.8	1.4	0.2	85	0.2
Technical rescue	30.9	17.0	0.3	0.0	33	0.1
Fire Subtotal	**23.5**	**763.2**	**14.3**	**2.1**	**1,949**	**5.3**
Canceled	10.7	169.2	3.2	0.5	952	2.6
Mutual aid	28.9	513.7	9.6	1.4	1,066	2.9
Other Subtotal	**20.3**	**683.0**	**12.8**	**1.9**	**2,018**	**5.5**
Total	**28.4**	**5,342.1**	**100.0**	**14.6**	**11,273**	**30.9**

Observations:

Overall

- Total deployed time for the year was 5,342.1 hours. The daily average was 14.6 hours for all units combined.
- There were 11,273 runs, including 952 runs dispatched for canceled calls and 1,066 runs dispatched for mutual aid calls. The daily average was 30.9 runs.

EMS

- EMS runs accounted for 73 percent of the total workload.
- The average deployed time for EMS runs was 32.0 minutes. The deployed time for all EMS runs averaged 10.7 hours per day.

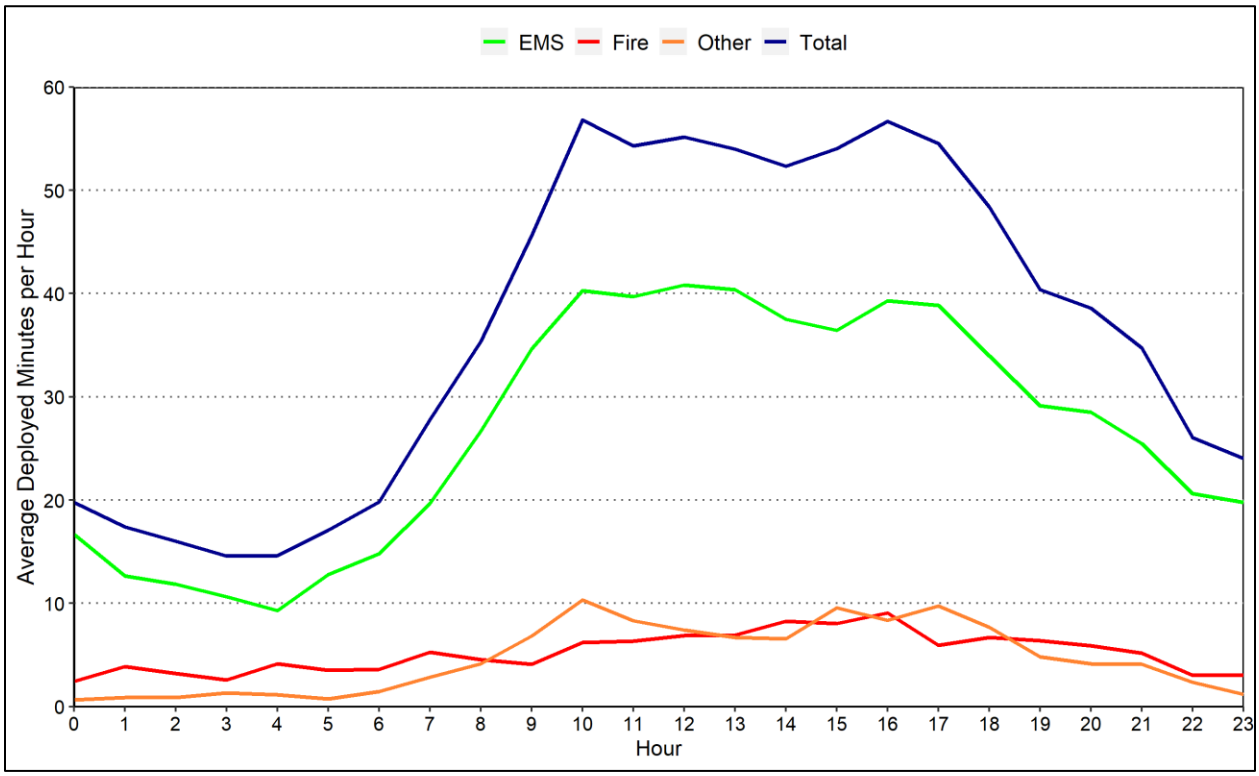
Fire

- Fire runs accounted for 14 percent of the total workload.
- The average deployed time for fire runs was 23.5 minutes. The deployed time for all fire runs averaged 2.1 hours per day.
- There were 216 runs for structure and outside fire calls combined, with a total workload of 156.2 hours. This accounted for 3 percent of the total workload.
- The average deployed time for outside fire runs was 36.3 minutes per run, and the average deployed time for structure fire runs was 54.2 minutes per run.

TABLE 7: Average Deployed Minutes by Hour of Day

Hour	EMS	Fire	Other	Total
0	16.7	2.4	0.6	19.8
1	12.6	3.9	0.9	17.4
2	11.9	3.2	0.9	16.0
3	10.6	2.6	1.3	14.6
4	9.3	4.2	1.2	14.6
5	12.8	3.5	0.8	17.1
6	14.8	3.6	1.4	19.8
7	19.7	5.3	2.9	27.8
8	26.7	4.6	4.2	35.4
9	34.7	4.1	6.8	45.6
10	40.3	6.2	10.3	56.8
11	39.7	6.3	8.3	54.3
12	40.8	6.9	7.4	55.1
13	40.4	6.9	6.7	54.0
14	37.5	8.3	6.6	52.3
15	36.4	8.0	9.6	54.0
16	39.3	9.1	8.3	56.7
17	38.8	6.0	9.7	54.5
18	34.0	6.7	7.7	48.4
19	29.1	6.4	4.8	40.4
20	28.5	5.9	4.2	38.6
21	25.5	5.2	4.1	34.7
22	20.6	3.0	2.4	26.0
23	19.8	3.0	1.2	24.0
Daily Avg.	**640.5**	**125.4**	**112.2**	**878.1**

FIGURE 7: Average Deployed Minutes by Hour of Day



Observations:

- Hourly deployed time was highest during the day from 10:00 a.m. to 6:00 p.m., averaging between 54 minutes and 57 minutes.
- Average deployed time peaked between 10:00 a.m. and 11:00 a.m., averaging 57 minutes.
- Average deployed time was lowest between 3:00 a.m. and 4:00 a.m., averaging 15 minutes.

WORKLOAD BY UNIT

Table 8 summarizes the annual workload of PBCFR units (stations 16, 18, and 19). Tables 9 and 10 provide a more detailed view of the workload for each unit, showing each unit's runs (Table 9) and the resulting daily average deployed time (Table 10) by run type.

TABLE 8: Annual Workload by Unit

Station	Unit	Unit Type	Minutes per Run	Total Hours	Total Percent	Minutes per Day	Total Runs	Runs per Day
16	B16	Brush truck	57.2	10.5	0.2	1.7	11	0.0
	E16	Engine	19.9	591.3	11.1	97.2	1,784	4.9
	R16	Rescue	33.9	1,361.9	25.5	223.9	2,411	6.6
	Total		**28.0**	**1,963.7**	**36.8**	**322.8**	**4,206**	**11.5**
18	E18	Engine	21.1	362.2	6.8	59.5	1,030	2.8
	R18	Rescue	38.5	978.8	18.3	160.9	1,524	4.2
	Total		**31.5**	**1,341.0**	**25.1**	**220.4**	**2,554**	**7.0**
19	B19	Brush truck	35.5	16.6	0.3	2.7	28	0.1
	EMS19	Medic	19.6	217.0	4.1	35.7	664	1.8
	R19	Rescue	33.4	1,198.4	22.4	197.0	2,153	5.9
	SO19	Special ops	27.2	89.6	1.7	14.7	198	0.5
	SQ19	Squad	21.1	515.8	9.7	84.8	1,470	4.0
	Total		**27.1**	**2,037.4**	**38.1**	**334.9**	**4,513**	**12.4**
Total			**28.4**	**5,342.1**	**100.0**	**878.2**	**11,273**	**30.9**

TABLE 9: Annual Runs by Run Type and Unit

Unit	EMS	Rescue	Alarm	Good Intent	Hazard	O. Fire	Service	S. Fire	Cancel	Aid	Total
B16	0	0	1	1	0	3	0	0	1	5	11
E16	783	7	359	52	40	21	102	12	194	214	1,784
R16	1,822	0	28	18	16	9	15	7	159	337	2,411
E18	421	14	179	39	16	11	157	12	123	58	1,030
R18	1,231	2	17	16	8	5	21	7	92	125	1,524
B19	0	0	0	1	1	14	1	0	6	5	28
EMS19	415	0	3	10	21	12	8	15	47	133	664
R19	1,806	3	13	30	26	16	33	11	144	71	2,153
SO19	88	1	9	5	18	7	7	6	22	35	198
SQ19	740	6	186	72	48	33	123	15	164	83	1,470
Total	**7,306**	**33**	**795**	**244**	**194**	**131**	**467**	**85**	**952**	**1,066**	**11,273**

Note: Alarm=False Alarm; O. Fire=Outside Fire; S. Fire=Structure Fire; Aid=Aid Given; Service=Public Service.

TABLE 10: Deployed Minutes per Day by Run Type and Unit

Unit	EMS	Rescue	Alarm	Good Intent	Hazard	O. Fire	Service	S. Fire	Cancel	Aid	Total
B16	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	1.1	1.7
E16	45.8	1.1	16.7	3.0	3.6	2.1	5.2	2.0	5.1	12.5	97.2
R16	182.2	0.0	1.4	0.7	1.9	0.5	1.0	1.1	5.0	30.0	223.9
E18	28.9	0.8	7.8	1.7	1.7	1.4	9.5	1.5	2.9	3.4	59.5
R18	139.3	0.2	0.9	1.1	0.5	0.8	2.0	1.1	2.6	12.4	160.9
B19	0.0	0.0	0.0	0.0	0.1	1.5	0.0	0.0	0.2	0.9	2.7
EMS19	21.7	0.0	0.2	0.3	2.4	1.3	0.2	2.0	1.7	5.9	35.7
R19	175.4	0.3	0.6	1.5	3.0	1.4	2.0	1.3	5.1	6.5	197.0
SO19	4.6	0.0	0.2	0.3	2.3	0.6	0.6	1.2	0.6	4.5	14.7
SQ19	42.3	0.4	8.8	4.0	5.1	3.0	6.6	2.6	4.6	7.3	84.8
Total	**640.4**	**2.8**	**36.5**	**12.8**	**20.5**	**13.0**	**27.2**	**12.6**	**27.8**	**84.5**	**878.2**

Note: Alarm=False Alarm; O. Fire=Outside Fire; S. Fire=Structure Fire; Aid=Aid Given; Service=Public Service.

Observations:

- Among all stations, Station 19 made the most runs (4,513 or an average of 12.4 runs per day) and had the highest total annual deployed time (2,037.4 or an average of 5.6 hours per day).

8. EMS calls accounted for 68 percent of runs and 73 percent of total deployed time.

9. Fire calls accounted for 3 percent of runs and 4 percent of total deployed time.

- Among all units, Rescue 16 made the most runs (2,411 or an average of 6.6 runs per day) and had the highest total annual deployed time (1,361.9 or an average of 3.7 hours per day).

10. EMS calls accounted for 76 percent of runs and 81 percent of total deployed time.

11. Fire calls accounted for 1 percent of runs and 1 percent of total deployed time.

ANALYSIS OF BUSIEST HOURS

There is significant variability in the number of calls from hour to hour. One special concern relates to the resources available for hours with the heaviest workload. We tabulated the data for each of the 8,760 hours between July 1, 2021, and June 30, 2022. Table 11 shows the number of hours in the year in which there were zero to four or more calls during the hour. Table 12 shows the ten one-hour intervals which had the most calls during the year. Tables 13 and 14 examine call response availability by station and the number of times a call overlapped with another call within the same area for calls where PBCFR (Local) units arrived, respectively.

TABLE 11: Frequency Distribution of the Number of Calls

Calls in an Hour	Frequency	Percentage
0	3,745	42.8
1	2,854	32.6
2	1,362	15.5
3	586	6.7
4	150	1.7
5	51	0.6
6+	12	0.1
Total	**8,760**	**100.0**

TABLE 12: Top Ten Hours with the Most Calls Received

Hour	Number of Calls	Number of Runs	Deployed Hours
3/12/2022 10:00 a.m. to 11:00 a.m.	8	10	5.1
3/23/2022 2:00 p.m. to 3:00 p.m.	7	11	4.2
6/19/2022 5:00 p.m. to 6:00 p.m.	7	9	3.2
2/6/2022 5:00 p.m. to 6:00 p.m.	7	7	2.5
3/8/2022 3:00 p.m. to 4:00 p.m.	6	9	4.7
6/11/2022 7:00 p.m. to 8:00 p.m.	6	9	3.3
11/5/2021 4:00 p.m. to 5:00 p.m.	6	9	2.6
12/1/2021 1:00 p.m. to 2:00 p.m.	6	8	3.5
12/11/2021 9:00 a.m. to 10:00 a.m.	6	7	3.3
2/2/2022 6:00 p.m. to 7:00 p.m.	6	7	2.9

Note: Total deployed hours are a measure of the total time spent responding to calls received in the hour and may extend into the next hour or hours. The number of runs and deployed hours only includes local PBCFR units (stations 16, 18, and 19).

TABLE 13: Call Response Availability by First Due Area

First Due	Calls in Area	First Due Responded	First Due Arrived	First Due First	Percent Responded	Percent Arrived	Percent First
16	2,675	2,496	2,496	2,451	93.3	93.3	91.6
18	1,658	1,622	1,622	1,611	97.8	97.8	97.2
19	2,526	2,292	2,292	2,263	90.7	90.7	89.6
Total	**6,859**	**6,410**	**6,410**	**6,325**	**93.5**	**93.5**	**92.2**

Note: This table is limited to calls within Jupiter where a local unit arrived (see Table 5). It also excludes 60 calls where the location was associated with a different first due area.

TABLE 14: Frequency of Overlapping Calls by First Due Area

First Due	Scenario	Number of Calls	Percent of All Calls	Total Hours
Station 16	No overlapped call	2,358	81.5	1,212.3
	Overlapped with one call	483	16.7	121.4
	Overlapped with two calls	50	1.7	9.5
	Overlapped with three calls	4	0.1	0.4
Station 18	No overlapped call	1,593	89.6	914.4
	Overlapped with one call	180	10.1	46.8
	Overlapped with two calls	4	0.2	0.6
Station 19	No overlapped call	2,252	82.1	1,204.0
	Overlapped with one call	437	15.9	115.8
	Overlapped with two calls	50	1.8	7.6
	Overlapped with three calls	4	0.1	0.4
Total		**7,415**	**100.0**	**3,633.2**

Note: This table is limited to calls within Jupiter where a local unit responded (see Table 3). It also excludes 79 calls where the location was associated with a different first due station.

Observations:

- During 12 hours (0.1 percent of all hours), six or more calls occurred; in other words, the department responded to four or more calls in an hour roughly once every 30 days.
- 491 calls (123.8 hours) overlapped with one or more calls within PBCFR's local first due area (8 percent of all hours, 16 percent of all calls with units arriving).
- The highest number of calls to occur in an hour was 8, which happened once.
- The hour with the most calls was 10:00 a.m. to 11:00 a.m. on March 12, 2022.

12. The hour's 8 calls involved 10 individual dispatches resulting in 5.1 hours of deployed time.
13. These 8 calls included two illness and other calls, two mutual aid calls, one breathing difficulty call, one good intent call, one hazard call, one seizure and unconsciousness call.

RESPONSE TIME

In this part of the analysis, we present response time statistics for different call types. We separate response time into its identifiable components. *Dispatch time* is the difference between the time a call is received and the time a unit is dispatched. Dispatch time includes call processing time, which is the time required to determine the nature of the emergency and the types of resources to dispatch. *Turnout time* is the difference between dispatch time and the time a unit is en route to a call's location. *Travel time* is the difference between the time en route and arrival on scene. *Response time* is the total time elapsed between receiving a call to arriving on scene.

In this analysis, we included all calls responded to by PBCFR units (stations 16, 18, and 19), while including responses from PBCFR units stationed outside of Jupiter and external fire agencies. We limited the analysis to include calls to which at least one unit arrived while excluding canceled and aid given calls. Finally, we focused on units that had complete time stamps, that is, units with all components recorded, so that we could calculate each segment of response time.

Based on the methodology above, for 8,268 calls (Table 3), we excluded 650 canceled calls, 774 aid-given calls, 145 calls where no units recorded a valid arrival time, and 42 calls where one or more segments of the first arriving unit's response time could not be calculated due to missing or faulty data. As a result, in this section, a total of 6,657 calls are included in the analysis.

RESPONSE TIME BY TYPE OF CALL

Tables 15 and 16 break down the average, and 90th percentile response times by call type for all calls in Jupiter. The 90th percentiles mean that 90 percent of calls had response times at or below the corresponding numbers. For example, Table 16 shows an overall 90th percentile response time of 9.6 minutes, which means that 90 percent of the time, a call had a response time of no more than 9.6 minutes. Figures 8 and 9 illustrate the components of the average response time for EMS calls. The dispatch time does not include any Primary PSAP call received and transfer time.

TABLE 15: Average Response Time of First Arriving Unit, by Call Type (Minutes)

Call Type	Dispatch	Turnout	Travel	Total	Call Count
Breathing difficulty	0.2	0.8	5.1	6.1	492
Cardiac and stroke	0.3	0.8	5.0	6.0	672
Fall and injury	0.2	0.8	5.5	6.5	1,337
Illness and other	0.2	0.7	5.3	6.3	1,456
MVA	0.3	0.7	4.8	5.9	490
Nonemergency transfer	0.3	0.9	5.7	6.9	24
Overdose and psychiatric	0.3	0.8	5.8	6.8	248
Seizure and unconsciousness	0.3	0.7	4.9	5.9	484
EMS Total	**0.3**	**0.8**	**5.2**	**6.2**	**5,203**
False alarm	0.2	0.8	6.5	7.6	680
Good intent	0.4	0.8	6.5	7.6	183
Hazard	0.3	0.8	6.1	7.2	82
Outside fire	0.4	0.8	6.2	7.5	51
Public service	0.3	0.9	6.3	7.5	411
Structure fire	0.4	0.7	4.8	5.9	20
Technical rescue	0.4	0.8	6.2	7.4	27
Fire Total	**0.3**	**0.8**	**6.4**	**7.5**	**1,454**
Total	**0.3**	**0.8**	**5.5**	**6.5**	**6,657**

TABLE 16: 90th Percentile Response Times of First Arriving Unit, by Call Type (Minutes)

Call Type	Dispatch	Turnout	Travel	Total	Call Count
Breathing difficulty	0.3	1.3	7.8	9.1	492
Cardiac and stroke	0.4	1.3	7.6	8.6	672
Fall and injury	0.3	1.4	8.3	9.4	1,337
Illness and other	0.3	1.2	7.9	9.1	1,456
MVA	0.4	1.3	7.9	9.1	490
Nonemergency transfer	1.0	1.4	7.2	8.5	24
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Structure fire	1.0	1.2	6.3	7.9	20
Technical rescue	0.3	1.3	9.4	10.0	27
Fire Total	**0.3**	**1.4**	**9.7**	**10.9**	**1,454**
Total	**0.3**	**1.3**	**8.4**	**9.6**	**6,657**

FIGURE 8: Average Response Time of First Arriving Unit, by Call Type – EMS

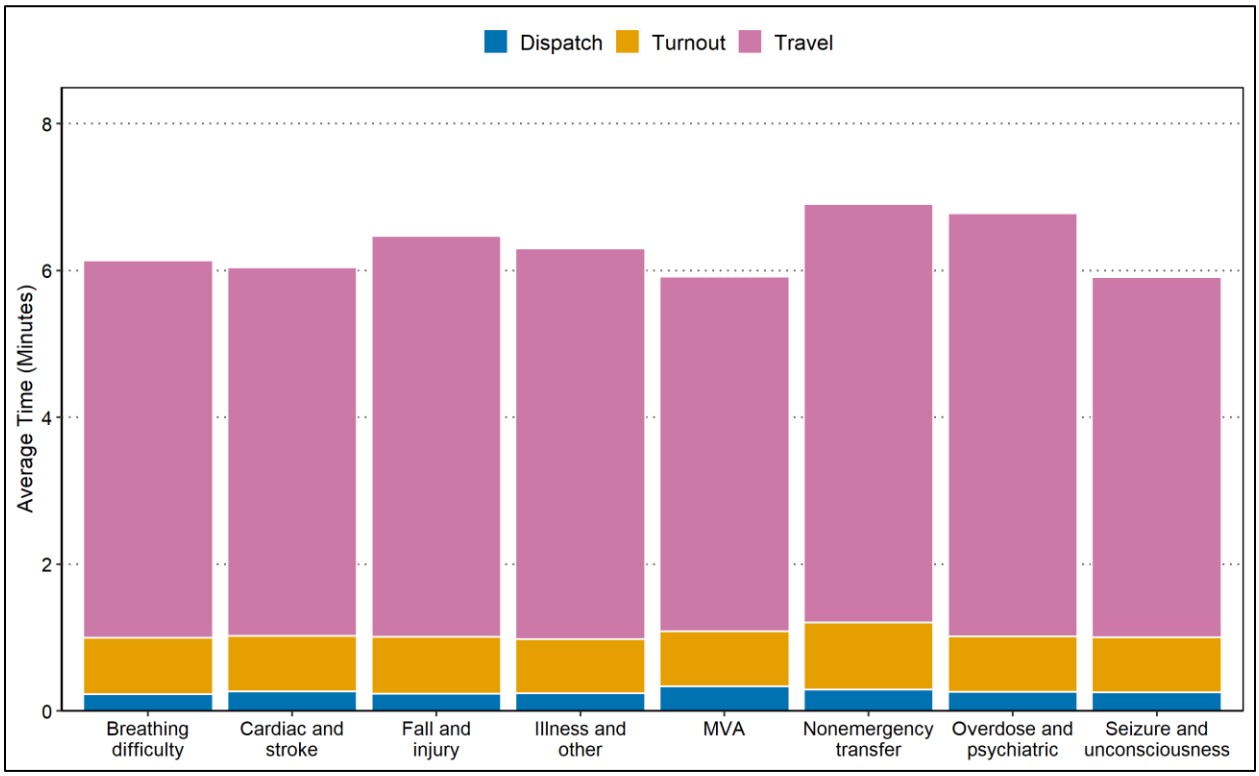
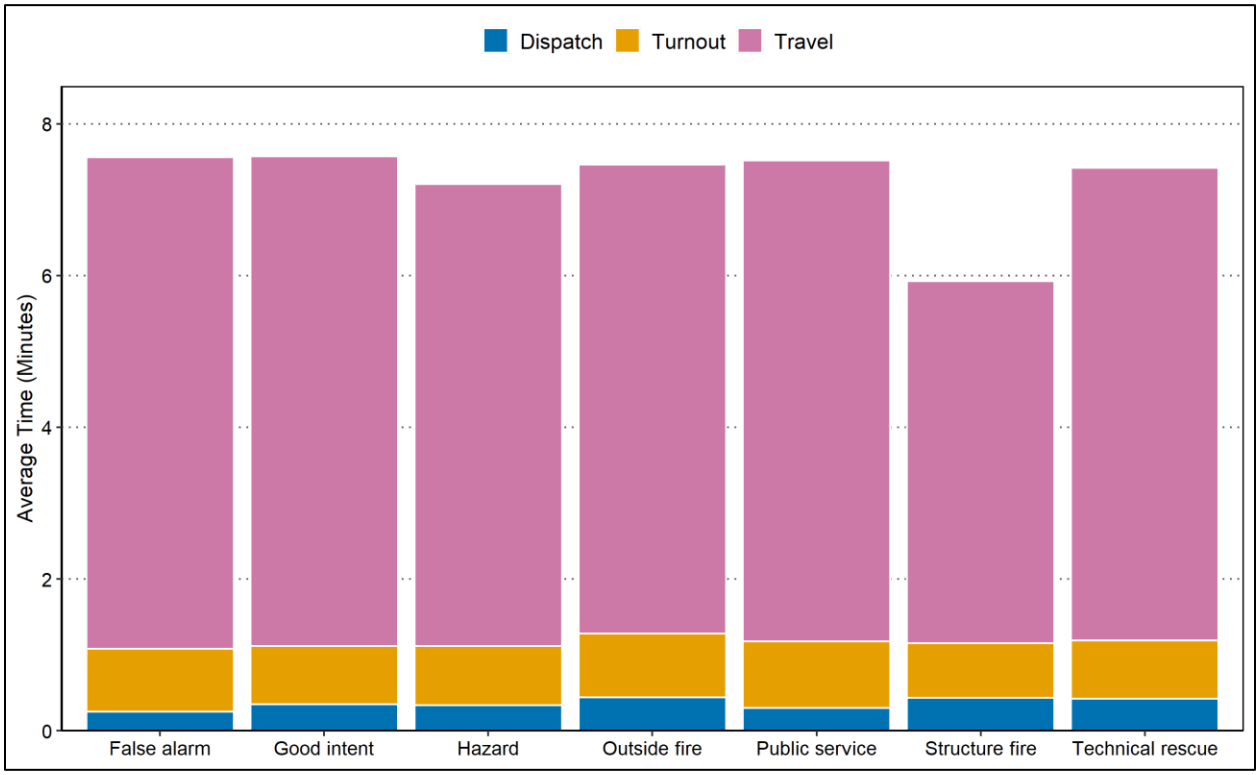


FIGURE 9: Average Response Time of First Arriving Unit, by Call Type – Fire



Observations:

- The average dispatch time was 0.3 minutes.
- The average turnout time was 0.8 minutes.
- The average travel time was 5.5 minutes.
- The average total response time was 6.5 minutes.
- The average response time was 6.2 minutes for EMS calls and 7.5 minutes for fire calls.
- The average response time was 7.5 minutes for outside fires and 5.9 minutes for structure fires.
- The 90th percentile dispatch time was 0.3 minutes.
- The 90th percentile turnout time was 1.3 minutes.
- The 90th percentile travel time was 8.4 minutes.
- The 90th percentile total response time was 9.6 minutes.
- The 90th percentile response time was 9.1 minutes for EMS calls and 10.9 minutes for fire calls.
- The 90th percentile response time was 10.8 minutes for outside fires and 7.9 minutes for structure fires.

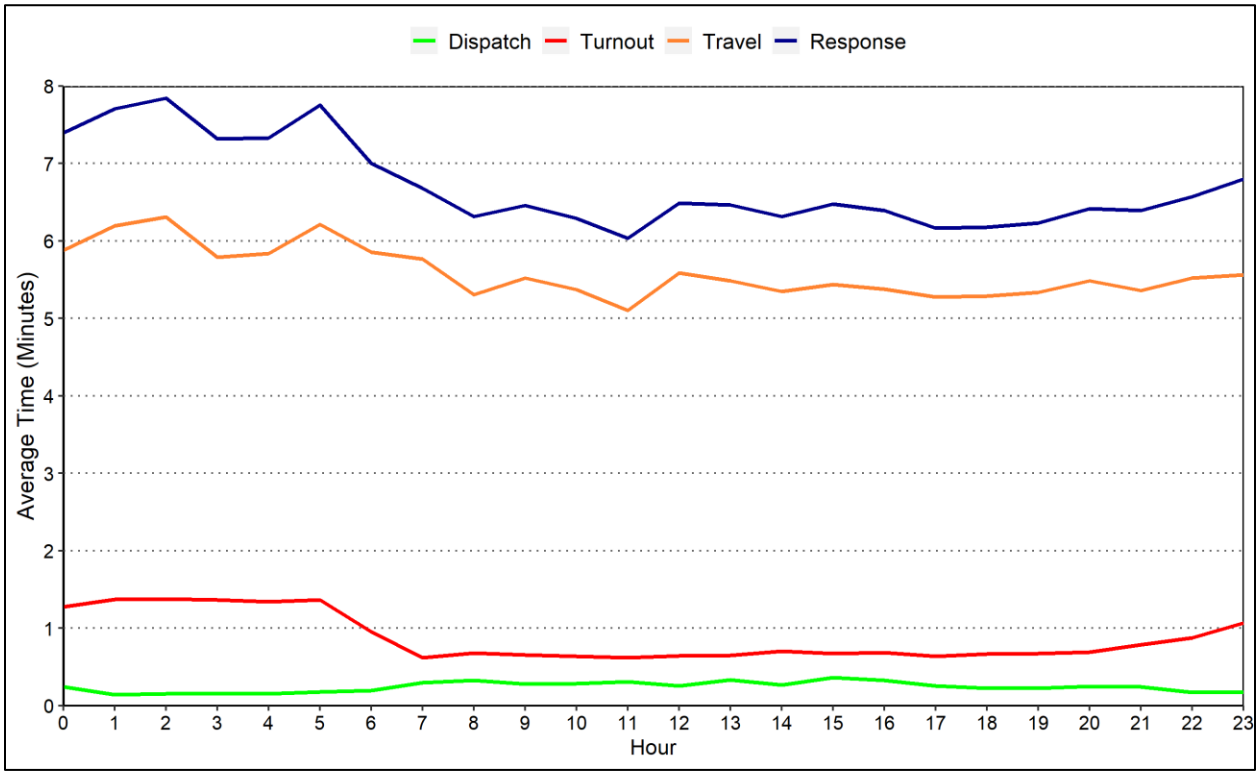
RESPONSE TIME BY HOUR

Table 17 examines the average and 90th response times of the first arriving units by the time of day.

TABLE 17: Average and 90th Percentile Response Time (Minutes) by Hour of Day

Hour	Dispatch	Turnout	Travel	Response Time	90th Percentile Response Time	Number of Calls
0	0.2	1.3	5.9	7.4	10.2	163
1	0.1	1.4	6.2	7.7	11.1	139
2	0.2	1.4	6.3	7.8	11.0	119
3	0.2	1.4	5.8	7.3	9.9	104
4	0.2	1.3	5.8	7.3	9.7	111
5	0.2	1.4	6.2	7.8	10.8	133
6	0.2	1.0	5.9	7.0	9.7	172
7	0.3	0.6	5.8	6.7	10.4	236
8	0.3	0.7	5.3	6.3	9.5	299
9	0.3	0.7	5.5	6.5	9.6	368
10	0.3	0.6	5.4	6.3	9.1	411
11	0.3	0.6	5.1	6.0	9.3	418
12	0.3	0.6	5.6	6.5	10.0	405
13	0.3	0.6	5.5	6.5	9.8	403
14	0.3	0.7	5.3	6.3	9.1	409
15	0.4	0.7	5.4	6.5	9.6	376
16	0.3	0.7	5.4	6.4	9.2	372
17	0.3	0.6	5.3	6.2	9.6	376
18	0.2	0.7	5.3	6.2	9.3	345
19	0.2	0.7	5.3	6.2	9.1	328
20	0.2	0.7	5.5	6.4	9.3	292
21	0.2	0.8	5.4	6.4	9.3	270
22	0.2	0.9	5.5	6.6	8.7	205
23	0.2	1.1	5.6	6.8	9.7	203
Total	**0.3**	**0.8**	**5.5**	**6.5**	**9.6**	**6,657**

FIGURE 10: Average Response Time by Hour of Day



Observations:

- Average dispatch time was between 0.1 minutes (1:00 a.m. to 2:00 a.m.) and 0.4 minutes (3:00 p.m. to 4:00 p.m.).
- Average turnout time was between 0.6 minutes (7:00 a.m. to 8:00 a.m.) and 1.4 minutes (2:00 a.m. to 3:00 a.m.).
- Average travel time was between 5.1 minutes (11:00 a.m. to noon) and 6.3 minutes (2:00 a.m. to 3:00 a.m.).
- Average response time was between 6.0 minutes (11:00 a.m. to noon) and 7.8 minutes (2:00 a.m. to 3:00 a.m.).
- The 90th percentile response time was between 8.7 minutes (10:00 p.m. to 11:00 p.m.) and 11.1 minutes (1:00 a.m. to 2:00 a.m.).

RESPONSE TIME DISTRIBUTION

Here, we present a more detailed look at how the response times to calls are distributed. The cumulative distribution of total response time for the first arriving unit to EMS calls is shown in Figure 11 and Table 18.

The cumulative percentages here are read in the same way as a percentile. In Figure 11, the 90th percentile of 9.1 minutes means that 90 percent of EMS calls had a response time of 9.1 minutes or less. In Table 18, the cumulative percentage of 82.2, for example, means that 82.2 percent of EMS calls had a response time under 8 minutes.

FIGURE 11: Cumulative Distribution of Response Time - EMS

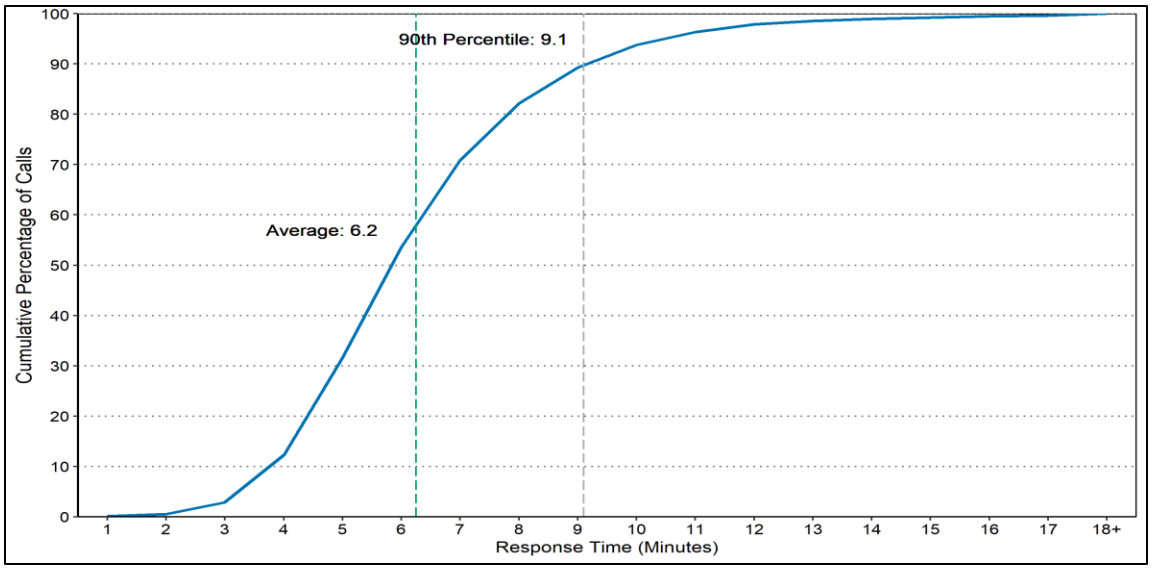


FIGURE 12: Cumulative Distribution of Response Time – Structure and Outside Fires

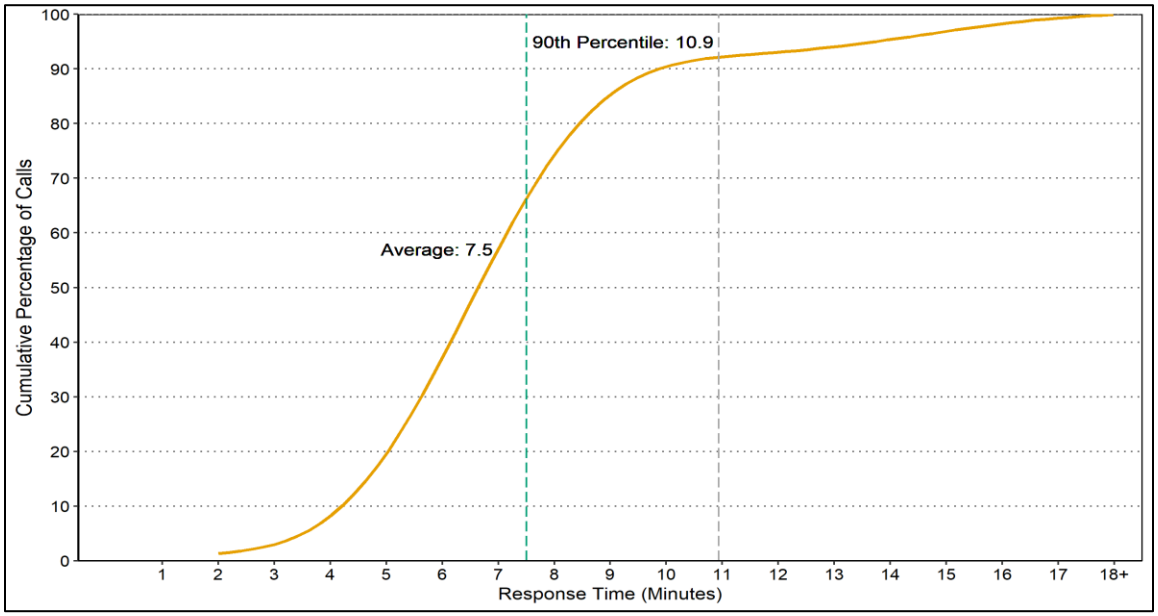


TABLE 18: Cumulative Distribution of Response Time – First Arriving Unit

Response Time (minute)	EMS		Structure and Outside Fires	
	Frequency	Cumulative Percentage	Frequency	Cumulative Percentage
1	7	0.1	0	0.0
2	19	0.5	1	1.4
3	124	2.9	2	4.2
4	488	12.3	1	5.6
5	1,010	31.7	11	21.1
6	1,140	53.6	10	35.2
7	899	70.9	16	57.7
8	588	82.2	13	76.1
9	371	89.3	6	84.5
10	232	93.8	4	90.1
11	133	96.3	2	93.0
12	83	97.9	0	93.0
13	32	98.5	0	93.0
14	24	99.0	2	95.8
15	13	99.2	1	97.2
16	12	99.5	1	98.6
17	8	99.6	0	98.6
18+	20	100.0	1	100.0

Observations:

- For 82.2 percent of EMS calls, the response time of the first arriving unit was less than 8 minutes.
- For 76.1 percent of fire calls, the response time of the first arriving unit was less than 8 minutes.

TRANSPORT CALL ANALYSIS

In this section, we present an analysis of activity that involved transporting patients, the variations by hour of day, and the average time for each stage of transport. We identified transport calls by requiring that at least one responding medical unit had recorded both a "beginning to transport" time and an "arriving at the hospital" time.

TRANSPORT CALLS BY TYPE

Table 19 shows the number of calls by call type broken out by transport and non-transport calls.

TABLE 19: Transport Calls by Call Type

Call Type	Number of Calls			Conversion Rate
	Non-transport	Transport	Total	
Breathing difficulty	114	383	497	77.1
Cardiac and stroke	160	514	674	76.3
Fall and injury	478	878	1,356	64.7
Illness and other	375	1,113	1,488	74.8
MVA	305	199	504	39.5
Nonemergency transfer	2	23	25	92.0
Overdose and psychiatric	78	186	264	70.5
Seizure and unconsciousness	163	336	499	67.3
EMS Total	**1,675**	**3,632**	**5,307**	**68.4**
Fire & Other Total	**2,617**	**344**	**2,961**	**11.6**
Total	**4,292**	**3,976**	**8,268**	**48.1**

TABLE 20: Transport Calls by Location and Call Type

Location	Call Type	Number of Calls			Conversion Rate
		Non-transport	Transport	Total	
Jupiter	EMS	1,675	3,632	5,307	68.4
	Fire & Other	2,116	71	2,187	3.2
	Total	**3,791**	**3,703**	**7,494**	**49.4**
Outside*	EMS	243	261	504	51.8
	Fire & Other	258	12	270	4.4
	Total	**501**	**273**	**774**	**35.3**

Note: *Calls that occurred outside Jupiter were first assigned call categories using the same process detailed in attachment IV. Table 20 presents the call types assigned before these calls were labeled as mutual aid.

Fire & Other represents EMS transports that originated from a call other than EMS only, or that a mutual aid unit responded to and completed the transport. This category is created when the data received is not clear.

Observations:

Overall

- 68 percent of total EMS calls involved transporting one or more patients.
- On average, 11 EMS calls per day involved transporting one or more patients.

Jupiter

- 68 percent of total EMS calls involved transporting one or more patients.
- On average, 10 EMS calls per day involved transporting one or more patients.

Aid Transports

- 52 percent of EMS calls involved transporting one or more patients.
- On average, there is approximately 1 call per day that involves transporting one or more patients.

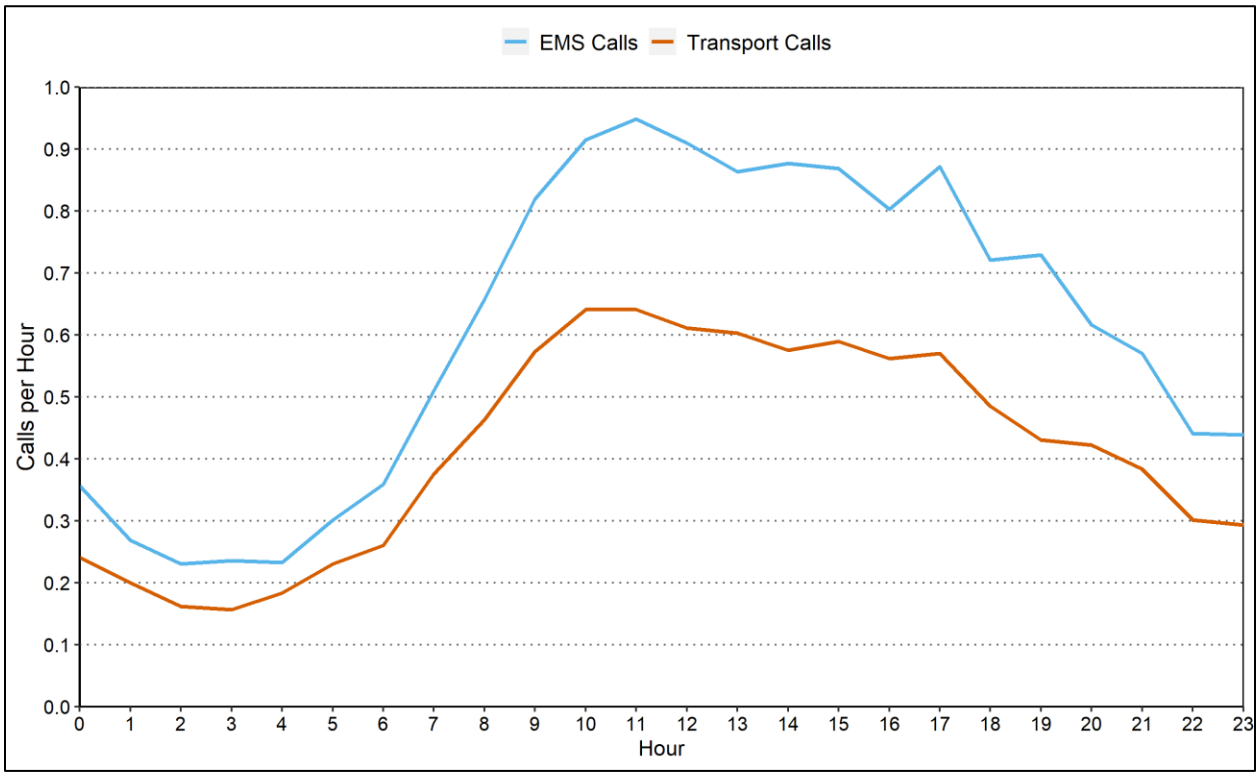
AVERAGE TRANSPORT CALLS PER HOUR

Table 21 and Figure 13 show the average number of EMS transport calls received each hour of the day for the year and the average number of transport calls.

TABLE 21: EMS Transport Calls by Hour

Hour	Total Calls		Calls per Hour		Conversion Rate
	EMS	Transport	EMS	Transport	
0	130	88	0.4	0.2	67.7
1	98	73	0.3	0.2	74.5
2	84	59	0.2	0.2	70.2
3	86	57	0.2	0.2	66.3
4	85	67	0.2	0.2	78.8
5	110	84	0.3	0.2	76.4
6	131	95	0.4	0.3	72.5
7	186	137	0.5	0.4	73.7
8	240	169	0.7	0.5	70.4
9	299	209	0.8	0.6	69.9
10	334	234	0.9	0.6	70.1
11	346	234	0.9	0.6	67.6
12	332	223	0.9	0.6	67.2
13	315	220	0.9	0.6	69.8
14	320	210	0.9	0.6	65.6
15	317	215	0.9	0.6	67.8
16	293	205	0.8	0.6	70.0
17	318	208	0.9	0.6	65.4
18	263	177	0.7	0.5	67.3
19	266	157	0.7	0.4	59.0
20	225	154	0.6	0.4	68.4
21	208	140	0.6	0.4	67.3
22	161	110	0.4	0.3	68.3
23	160	107	0.4	0.3	66.9
Total	**5,307**	**3,632**	**14.5**	**10.0**	**68.4**

FIGURE 13: Average EMS Transport Calls per Day by Hour



Observations:

- EMS calls per hour were highest during the day from 10:00 a.m. to 6:00 p.m., averaging between 0.8 calls per hour and 0.9 calls per hour.
- EMS calls per hour peaked between 11:00 a.m. and noon, averaging 0.9 calls per hour.
- EMS calls per hour were lowest between 2:00 a.m. and 3:00 a.m., averaging 0.2 calls per hour.
- Transport calls per hour were highest during the day from 10:00 a.m. to 6:00 p.m., averaging between less than 0.6 calls per hour and 0.6 calls per hour.
- Transport calls per hour peaked between 10:00 a.m. and 11:00 a.m., averaging 0.6 calls per hour.
- Transport calls per hour were lowest between 3:00 a.m. and 4:00 a.m., averaging 0.2 calls per hour.
- The hourly transport conversion rates peaked between 4:00 a.m. and 5:00 a.m., averaging 79 percent call conversion rates per hour.
- The hourly transport conversion rate was lowest between 7:00 p.m. and 8:00 p.m., averaging 59 percent call conversion rates per hour.

CALLS BY TRANSPORT, TYPE, AND DURATION

Table 22 shows the average duration of transport and non-transport calls by call type. Table 23 shows the same information by call location.

TABLE 22: Call Duration by Call Type and Transport (Minutes)

Call Type	Non-transport		Transport	
	Average Duration	Number of Calls	Average Duration	Number of Calls
Breathing difficulty	25.5	114	44.9	383
Cardiac and stroke	24.8	160	45.7	514
Fall and injury	24.2	478	44.0	878
Illness and other	24.4	375	42.6	1,113
MVA	21.5	305	41.0	199
Nonemergency transfer	78.7	2	63.1	23
Overdose and psychiatric	25.3	78	42.4	186
Seizure and unconsciousness	24.1	163	42.7	336
EMS Total	**24.0**	**1,675**	**43.7**	**3,632**
Fire & Other Total	**17.9**	**2,617**	**50.1**	**344**
Total	**20.3**	**4,292**	**44.2**	**3,976**

Note: The duration of a call is defined as the longest deployed time of any of the units responding to the same call.

TABLE 23: Call Duration by Location, Call Type and Transport

Location	Call Type	Non-transport		Transport	
		Average Duration	Number of Calls	Average Duration	Number of Calls
Jupiter	EMS	24.0	1,675	43.7	3,632
	Fire & Other	17.5	2,116	54.9	71
	Total	**20.4**	**3,791**	**43.9**	**3,703**
Outisde*	EMS	18.4	243	48.3	261
	Fire & Other	20.1	258	60.1	12
	Total	**19.3**	**501**	**48.8**	**273**

Note: *Calls that occurred outside Jupiter were first assigned call categories using the same process detailed in attachment IV. Table 23 presents the call types assigned before these calls were labeled as mutual aid.

Observations:

Overall

- The average duration of a non-transport EMS call was 24 minutes.
- The average duration for an EMS call where one or more patients were transferred to a hospital was 43.7 minutes.

Jupiter

- The average duration of a non-transport EMS call was 24 minutes.
- The average duration for an EMS call where one or more patients were transferred to a hospital was 43.7 minutes.

Aid Transports

- The average duration of a non-transport EMS call was 18.4 minutes.
- The average duration for an EMS call where one or more patients were transferred to a hospital was 48.3 minutes.

TRANSPORT TIME COMPONENTS

Table 24 gives the average deployed time for a unit on a transport call, along with three major components of the deployed time: on-scene time, travel to hospital time, and at-hospital time. The on-scene time is the interval from the unit arriving on-scene time through the time the unit departs the scene for the hospital. Travel to hospital time is the interval from the time the unit departs the scene to travel to the hospital through the time the unit arrives at the hospital. At-hospital time is the time it takes for patient turnover at the hospital.

TABLE 24: Time Component Analysis for Transport Runs by Call Type (Minutes)

Call Type	Average Time Spent per Run				Number of Runs
	On Scene	Traveling to Hospital	At Hospital	Deployed	
Breathing difficulty	15.9	9.4	13.2	44.9	380
Cardiac and stroke	16.4	9.4	13.9	45.9	555
Fall and injury	13.6	10.4	11.7	42.2	870
Illness and other	13.4	9.7	12.0	41.7	1,104
MVA	9.8	9.9	12.6	38.9	217
Nonemergency transfer	18.7	20.4	17.0	62.8	25
Overdose and psychiatric	11.2	11.3	12.4	41.7	185
Seizure and unconsciousness	15.1	8.9	12.1	42.2	335
EMS Total	**14.0**	**9.9**	**12.4**	**42.8**	**3,671**
Fire & Other Total	**13.7**	**12.6**	**13.4**	**48.2**	**349**
Total	**14.0**	**10.1**	**12.5**	**43.3**	**4,020**

Note: Average unit deployed time per run is lower than the average call duration for some call types because call duration is based on the longest deployed time of any of the units responding to the same call, which may include an engine or ladder. Total deployed time is greater than the combination of on-scene, transport, and hospital wait times as it includes turnout, initial travel, and hospital return time

Observations:

- The average time spent on-scene for a transport call was 14.0 minutes.
- The average travel time from the scene of the call to the hospital was 10.1 minutes.
- The average total deployed time spent on transport calls was 43.3 minutes.
- The average deployed time at the hospital was 12.5 minutes, which accounts for approximately 29 percent of the average total deployed time for a transport call.

TRANSPORT DESTINATIONS

Table 25 shows the number of transport runs broken out by destination.

TABLE 25: Transport Runs by Destination

Destination	Runs	Percentage
JUPITER MEDICAL CENTER - ER	3,646	89.58
ST. MARY'S MEDICAL CENTER (WPB)	141	3.46
PBG MEDICAL CENTER	129	3.17
NA	71	1.74
JFK MEDICAL CENTER - NORTH (WPB)	66	1.62
VA MEDICAL CENTER (WPB)	14	0.34
GOOD SAMARITAN MEDICAL CENTER (WPB)	2	0.05
PALMS WEST HOSPITAL (LOXAHATCHEE)	1	0.02
Total	**4,070**	**100.00**

Note: This table includes 50 runs with incomplete unit times. For this reason, the number of runs is larger than the previous table.

MUTUAL AID

In this section, we analyze aid given and aid received. Calls that occurred outside Jupiter were first assigned call categories using the same process detailed in attachment IV.

"Palm Beach County" refers to the unincorporated areas within the county. 11 calls lacking a location were assigned to the unincorporated area as well.

AID GIVEN

Tables 26 and 27 summarize the number of aid given calls and the corresponding workload, broken out by call location and grand call type.

TABLE 26: Aid Given Calls by Location and Call Type

Location	Number of Calls			
	EMS	Fire	Cancel	Total
Delray Beach	0	0	1	1
Juno Beach	11	72	20	103
Lake Park	0	1	0	1
North Palm Beach	1	1	0	2
Palm Beach County	12	59	9	80
Palm Beach Gardens	90	304	88	482
Palm Springs	0	1	0	1
Royal Palm Beach	1	1	0	2
Tequesta	23	65	13	101
West Palm Beach	1	0	0	1
Total	**139**	**504**	**131**	**774**

TABLE 27: Aid Given Workload by Location

Location	Calls	Percent Calls	Runs	Runs Per Day	Minutes Per Run	Work Hours	Percent Work	Minutes Per Day
Delray Beach	1	0.1	1	0.0	0.0	0.0	0.0	2.6
Juno Beach	103	13.3	132	0.4	15.7	95.5	18.6	43.4
Lake Park	1	0.1	1	0.0	0.1	0.4	0.1	22.2
North Palm Beach	2	0.3	4	0.0	0.0	0.1	0.0	2.0
Palm Beach County	80	10.3	97	0.3	8.1	49.2	9.6	30.4
Palm Beach Gardens	482	62.3	700	1.9	51.1	310.6	60.5	26.6
Palm Springs	1	0.1	1	0.0	0.1	0.4	0.1	26.3
Royal Palm Beach	2	0.3	2	0.0	0.0	0.2	0.0	4.8
Tequesta	101	13.0	127	0.3	9.4	57.2	11.1	27.0
West Palm Beach	1	0.1	1	0.0	0.0	0.0	0.0	3.0
Total	**774**	**100.0**	**1,066**	**2.9**	**84.5**	**513.7**	**100.0**	**28.9**

AID GIVEN WORKLOAD

Tables 28 and 29 summarize the number of aid given calls and the corresponding workload, broken out by station and call location. Tables 30, 31 and 32 summarize the annual workload of PBCFR units (stations 16, 18, and 19) responding to aid given calls outside of Jupiter.

TABLE 28: Aid Given Runs and Work by Location and Responding Station

Location	Runs				Hours			
	16	18	19	Total	16	18	19	Total
Delray Beach	0	1	0	1	0.0	0.0	0.0	0.0
Juno Beach	23	61	48	132	16.8	38.7	40.1	95.5
Lake Park	0	0	1	1	0.0	0.0	0.4	0.4
North Palm Beach	0	1	3	4	0.0	0.1	0.1	0.1
Palm Beach County	54	17	26	97	32.3	7.7	9.2	49.2
Palm Beach Gardens	473	17	210	700	214.0	4.3	92.3	310.6
Palm Springs	1	0	0	1	0.4	0.0	0.0	0.4
Royal Palm Beach	1	0	1	2	0.0	0.0	0.1	0.2
Tequesta	4	86	37	127	1.6	45.0	10.6	57.2
West Palm Beach	0	0	1	1	0.0	0.0	0.1	0.1
Total	**556**	**183**	**327**	**1,066**	**265.2**	**95.8**	**152.7**	**513.7**

TABLE 29: Aid Given Runs and Work by Unit and Responding Station

Station	Unit	Deployed Time (Hours)	Runs	Percentage of Work
16	B16	6.9	5	1.34
	E16	75.8	214	14.75
	R16	182.5	337	35.53
	Total	**265.2**	**556**	**51.62**
18	E18	20.6	58	4.01
	R18	75.2	125	14.64
	Total	**95.8**	**183**	**18.65**
19	B19	5.7	5	1.10
	EMS19	36.1	133	7.03
	R19	39.3	71	7.65
	SO19	27.2	35	5.29
	SQ19	44.4	83	8.65
	Total	**152.7**	**327**	**29.73**
Total		**513.7**	**1,066**	**100.00**

TABLE 30: Aid Given Deployed Time by Unit and Location, Station 16

Unit	Location	Runs	Deployed Time (Hours)
B16	Juno Beach	2	3.99
	Palm Beach Gardens	3	2.90
E16	Juno Beach	8	5.39
	Palm Beach County	13	5.44
	Palm Beach Gardens	193	64.94
R16	Juno Beach	13	7.39
	Palm Beach County	41	26.87
	Palm Beach Gardens	277	146.20
	Palm Springs	1	0.44
	Royal Palm Beach	1	0.03
	Tequesta	4	1.60
Total		**556**	**265.19**

TABLE 31: Aid Given Deployed Time by Unit and Location, Station 18

Unit	Location	Runs	Deployed Time (Hours)
E18	Delray Beach	1	0.04
	Juno Beach	19	8.17
	Palm Beach County	5	1.31
	Palm Beach Gardens	9	3.03
	Tequesta	24	8.08
R18	Juno Beach	42	30.51
	North Palm Beach	1	0.07
	Palm Beach County	12	6.40
	Palm Beach Gardens	8	1.28
	Tequesta	62	36.95
Total		**183**	**95.84**

TABLE 32: Aid Given Deployed Time by Unit and Location, Station 19

Unit	Location	Runs	Deployed Time (Hours)
B19	Juno Beach	1	3.56
	Palm Beach County	1	0.44
	Palm Beach Gardens	2	1.56
	Tequesta	1	0.10
EMS19	Juno Beach	39	14.07
	Palm Beach County	8	1.79
	Palm Beach Gardens	63	12.84
	Royal Palm Beach	1	0.13
	Tequesta	22	7.29
R19	Juno Beach	3	6.77
	Lake Park	1	0.37
	North Palm Beach	1	0.03
	Palm Beach County	9	3.99
	Palm Beach Gardens	48	26.30
	Tequesta	8	1.79
	West Palm Beach	1	0.05
SO19	Juno Beach	2	6.02
	North Palm Beach	1	0.00
	Palm Beach County	3	1.16
	Palm Beach Gardens	29	20.02
SQ19	Juno Beach	3	9.68
	North Palm Beach	1	0.03
	Palm Beach County	5	1.82
	Palm Beach Gardens	68	31.53
	Tequesta	6	1.37
Total		**327**	**152.71**

Observations:

- Station 16 made 473 runs to Palm Beach Gardens (44 percent of total aid given runs).
- Station 16 made 556 runs and had a total deployed time of 265.2 hours to aid given calls (52 percent of total deployed time).
- Rescue 16 responded to 337 runs and had 182.5 hours of total deployed time to aid given calls (32 percent of runs and 36 percent of deployed time to total aid calls).
- Among all units, Rescue 16 made the most runs to aid given calls (337 or an average of less than 1 per day) and had the highest total deployed time to aid given calls (182.5 hours or an average of 30 minutes per day)

TABLE 33: Workload for Structure and Outside Fires by Station and Location

Station	Location	Outside Fire Runs	Structure Fire Runs	Outside Fire Work	Structure Fire Work
16	Juno Beach	2	0	7.39	0.00
	Jupiter	33	16	19.28	17.35
	Palm Beach Gardens	14	3	11.78	2.00
18	Juno Beach	1	0	2.76	0.00
	Jupiter	16	17	13.55	15.67
	Palm Beach County	0	1	0.00	0.26
	Palm Beach Gardens	1	1	1.32	0.81
	Tequesta	1	1	0.43	0.58
19	Juno Beach	3	0	10.89	0.00
	Jupiter	72	39	44.20	39.40
	Palm Beach County	2	1	0.87	0.14
	Palm Beach Gardens	6	4	3.93	5.84
	Tequesta	2	2	0.20	0.83
Total		**153**	**85**	**116.59**	**82.88**

Note: *Calls that occurred outside Jupiter were first assigned call categories using the same process detailed in attachment IV. Table 33 presents the fire call types assigned before these calls were labeled as mutual aid.

Observations:

Palm Beach Gardens

- There were 482 calls or 62 percent of aid given calls.
- There were 700 runs. The daily average was 1.9 runs.
- The total deployed time for the year was 310.6 hours or 60 percent of the total annual workload to aid given calls. The daily average was 51.1 minutes for all units combined.

Tequesta

- There were 101 calls or 13 percent of the total aid given calls.
- There were 126 runs. The daily average was 0.3 runs.
- The total deployed time for the year was 55.6 hours or 11 percent of the total annual workload to aid given calls. The daily average was 9.1 minutes for all units combined.

AID RECEIVED

Table 34 examines the workload of aid received inside Jupiter.

TABLE 34: Aid Received Workload by Station and Agency

Agency	Station	Deployed Time (Hours)	Runs
MFR	other	1.0	1
PBCFR	14	227.2	499
	15	260.8	512
	17	4.0	35
	68	39.0	128
	other	41.8	117
	Subtotal	**572.8**	**1,291**
PBGFR	61	67.0	194
	62	15.9	52
	63	1.5	4
	64	28.5	88
	65	157.1	294
	Subtotal	**269.9**	**632**
TFR	85	103.1	201
WPBFR	other	0.6	1
Total		**947.5**	**2,126**

Note: Table 34 excludes workload from PBCFR stations inside Jupiter. Units without an assigned station and 17 PBCFR stations with infrequent response records were grouped into "other".

Observations:

- Of the 2,126 runs and 947.5 hours of deployed time spent on aid received calls inside Jupiter, PBCFR's station 15 had the highest deployed time and the most runs.
- PBCFR station 15 had 260.8 hours of total deployed time and 512 runs inside Jupiter (37.5 percent of deployed time and 52.7 percent of runs).

ATTACHMENT I: ADDITIONAL PERSONNEL

Table 35 illustrates the workload of administrative units between July 1, 2021, and June 30, 2022.

TABLE 35: Workload of Administrative Units

Unit	Type	Annual Hours	Annual Runs
AT10	Automotive technician	1.9	2
AT12	Automotive technician	4.7	2
AT14	Automotive technician	0.3	1
AT16	Automotive technician	3.2	3
AT19	Automotive technician	24.1	5
AT20	Automotive technician	3.0	3
BC19	Battalion chief	3.7	7
BC61	Battalion chief	1.9	6
FM2	Fire Marshall	0.0	1
MIH4	Mobile integrated health	9.3	7
MPSGIS	Computer	0.3	2

ATTACHMENT II: ACTIONS TAKEN

TABLE 36: Actions Taken Analysis for Structure and Outside Fire Calls

Action Taken	Number of Calls	
	Outside Fire	Structure Fire
ACTION TAKEN, OTHER	2	1
ASSISTANCE, OTHER	0	1
CANCELLED EN ROUTE	1	2
EMERGENCY MEDICAL SERVICES, OTHER	1	0
EXTINGUISHMENT BY FIRE SERVICE PERSONNEL	28	5
FIRE CONTROL OR EXTINGUISHMENT, OTHER	7	2
INVESTIGATE	8	7
INVESTIGATE FIRE OUT ON ARRIVAL	8	3
PROVIDE ADVANCED LIFE SUPPORT (ALS)	4	0
PROVIDE BASIC LIFE SUPPORT (BLS)	2	0
PROVIDE MANPOWER	0	1
RESCUE, REMOVE FROM HARM	0	1
SALVAGE & OVERHAUL	5	4
SEARCH & RESCUE, OTHER	0	1
SHUT DOWN SYSTEM	1	0
VENTILATE	2	4
Total	**47**	**17**

Note: Totals are higher than the total number of structure and outside fire calls because some calls recorded multiple actions taken.

Observations:

- Out of 54 outside fires, 28 were extinguished by fire service personnel, which accounted for 52.0 percent of outside fires.
- Out of 20 structure fires, 5 were extinguished by fire service personnel, which accounted for 25.0 percent of structure fires.

ATTACHMENT III: FIRE LOSS

TABLE 37: Total Fire Loss Above and Below $25,000

Call Type	No Loss	Under $25,000	$25,000 plus	Total
Outside fire	34	15	5	54
Structure fire	10	7	3	20
Total	**44**	**22**	**8**	**74**

TABLE 38: Content and Property Loss – Structure and Outside Fires

Call Type	Property Loss		Content Loss	
	Loss Value	Number of Calls	Loss Value	Number of Calls
Outside fire	$8,211,350	19	$5,800	4
Structure fire	$523,300	7	$288,050	8
Total	**$8,734,650**	**26**	**$293,850**	**12**

Note: The table includes only fire calls with a recorded loss greater than $0.

Observations:

- Out of 54 outside fires, 19 had recorded property loss, with a combined $8,211,350 in losses.
- Out of 20 structure fires, 7 had recorded property loss, with a combined $523,300 in losses.
- Structure fires:

14. The average total loss for all structure fires was $40,568.
15. The average total loss for structure fires with loss was $81,135.
16. 8 structure fires had content loss with a combined $288,050 in losses.
17. The highest total loss for a structure fire was $600,000.

- Outside fires:

18. 4 outside fires had content loss with a combined $5,800 in losses.
19. 34 outside fires and 10 structure fires had no recorded loss.
20. 5 outside fires and 3 structure fires had $25,000 or more in loss.
21. The highest total loss for an outside fire was $8,000,000.

ATTACHMENT IV: CALL TYPE IDENTIFICATION

When available, NFIRS data serves as our primary source for assigning call categories. For 5,096 of the 8,268 calls involving PBCFR units stationed in Jupiter, NFIRS incident type codes were used to assign call types for canceled, fire, and motor vehicle accident (MVA) calls (Table 39). For 2,398 EMS calls that have NFIRS incident types 320 or 321, or do not have NFIRS incident types, we instead used their CAD incident codes and descriptions to assign call categories (Table 40).

The 774 aid given calls (Table 3) were first assigned call categories using the process detailed above. We identified these calls as being outside of Jupiter independently and thus excluded them from these tables.

TABLE 39: Call Type by NFIRS Incident Type Code and Description

Call Type	Code	Description	Count
Canceled	611	DISPATCHED AND CANCELED EN ROUTE.	559
	622	NO INCIDENT FOUND ON ARRIVAL AT DISPATCH ADDRESS.	91
False Alarm	700	FALSE ALARM OR FALSE CALL, OTHER.	11
	710	MALICIOUS, MISCHIEVOUS FALSE ALARM, OTHER.	14
	711	MUNICIPAL ALARM SYSTEM, MALICIOUS FALSE ALARM.	5
	714	CENTRAL STATION, MALICIOUS FALSE ALARM.	3
	715	LOCAL ALARM SYSTEM, MALICIOUS FALSE ALARM.	8
	730	SYSTEM OR DETECTOR MALFUNCTION, OTHER.	120
	731	SPRINKLER ACTIVATED DUE TO THE FAILURE OR MALFUNCTION OF THE SPRINKLER SYSTEM.	3
	733	SMOKE DETECTOR ACTIVATION DUE TO MALFUNCTION.	37
	734	HEAT DETECTOR ACTIVATION DUE TO MALFUNCTION.	7
	735	ALARM SYSTEM ACTIVATION DUE TO MALFUNCTION.	84
	736	CARBON MONOXIDE DETECTOR ACTIVATION DUE TO MALFUNCTION.	5
	740	UNINTENTIONAL TRANSMISSION OF ALARM, OTHER.	71
	741	SPRINKLER ACTIVATION (NO FIRE), UNINTENTIONAL.	2
	742	EXTINGUISHING SYSTEM ACTIVATION.	2
	743	SMOKE DETECTOR ACTIVATION (NO FIRE), UNINTENTIONAL.	94
	744	DETECTOR ACTIVATION (NO FIRE), UNINTENTIONAL.	18
	745	ALARM SYSTEM ACTIVATION (NO FIRE), UNINTENTIONAL.	91
	746	CARBON MONOXIDE DETECTOR ACTIVATION (NO CARBON MONOXIDE DETECTED).	30
Good Intent	600	GOOD INTENT CALL, OTHER.	86
	631	AUTHORIZED CONTROLLED BURNING.	1
	641	VICINITY ALARM (INCIDENT IN OTHER LOCATION).	8
	650	STEAM, OTHER GAS MISTAKEN FOR SMOKE, OTHER.	2

Call Type	Code	Description	Count
	651	SMOKE SCARE, ODOR OF SMOKE, NOT STEAM (652).	28
	652	STEAM, VAPOR, FOG, OR DUST THOUGHT TO BE SMOKE.	4
	653	SMOKE FROM BARBECUE OR TAR KETTLE (NO HOSTILE FIRE).	1
	661	EMS CALL WHERE INJURED PARTY HAS BEEN TRANSPORTED BY A NON-FIRE SERVICE AGENCY OR LEFT THE SCENE PRIOR TO ARRIVAL.	1
	671	HAZARDOUS MATERIAL RELEASE INVESTIGATION WITH NO HAZARDOUS CONDITION FOUND.	6
Hazard	221	OVERPRESSURE RUPTURE OF AIR OR GAS PIPE OR PIPELINE.	1
	243	FIREWORKS EXPLOSION (NO FIRE).	1
	251	EXCESSIVE HEAT, OVERHEAT SCORCH BURNS WITH NO IGNITION.	2
	400	HAZARDOUS CONDITION (NO FIRE), OTHER.	3
	411	GASOLINE OR OTHER FLAMMABLE LIQUID SPILL (FLASH POINT BELOW 100 DEGREES F AT STANDARD TEMPERATURE AND PRESSURE (CLASS I)).	3
	412	GAS LEAK (NATURAL GAS OR LPG).	19
	422	CHEMICAL SPILL OR LEAK.	3
	424	CARBON MONOXIDE INCIDENT.	15
	440	ELECTRICAL WIRING/EQUIPMENT PROBLEM, OTHER.	9
	441	HEAT FROM SHORT CIRCUIT (WIRING), DEFECTIVE OR WORN INSULATION.	1
	442	OVERHEATED MOTOR OR WIRING.	1
	444	POWER LINE DOWN.	12
	445	ARCING, SHORTED ELECTRICAL EQUIPMENT.	5
	460	ACCIDENT, POTENTIAL ACCIDENT, OTHER.	4
	462	AIRCRAFT STANDBY.	2
	463	VEHICLE ACCIDENT, GENERAL CLEANUP.	1
Illness And Other	331	LOCK-IN.	7
MVA	322	MOTOR VEHICLE ACCIDENT WITH INJURIES.	188
	323	MOTOR VEHICLE/PEDESTRIAN ACCIDENT (MV PED).	7
	324	MOTOR VEHICLE ACCIDENT WITH NO INJURIES.	218
Outside Fire	100	FIRE, OTHER	5
	130	MOBILE PROPERTY (VEHICLE) FIRE, OTHER.	4
	131	PASSENGER VEHICLE FIRE.	12
	134	WATER VEHICLE FIRE.	1
	140	NATURAL VEGETATION FIRE, OTHER.	3
	141	FOREST, WOODS, OR WILDLAND FIRE.	1
	142	BRUSH OR BRUSH-AND-GRASS MIXTURE FIRE.	11
	143	GRASS FIRE.	3
	150	OUTSIDE RUBBISH FIRE, OTHER.	2

Call Type	Code	Description	Count
	151	OUTSIDE RUBBISH, TRASH, OR WASTE FIRE NOT INCLUDED IN 152–155.	3
	154	DUMPSTER OR OTHER OUTSIDE TRASH RECEPTACLE FIRE.	2
	161	OUTSIDE STORAGE FIRE ON RESIDENTIAL OR COMMERCIAL/INDUSTRIAL PROPERTY, NOT RUBBISH.	1
	162	OUTSIDE EQUIPMENT FIRE.	1
Public Service	500	SERVICE CALL, OTHER.	8
	510	PERSON IN DISTRESS, OTHER.	13
	511	LOCK-OUT.	6
	520	WATER PROBLEM, OTHER.	2
	522	WATER OR STEAM LEAK.	8
	531	SMOKE OR ODOR REMOVAL.	10
	541	ANIMAL PROBLEM.	1
	542	ANIMAL RESCUE.	4
	550	PUBLIC SERVICE ASSISTANCE, OTHER.	195
	551	ASSIST POLICE OR OTHER GOVERNMENTAL AGENCY.	10
	552	POLICE MATTER.	4
	553	PUBLIC SERVICE.	4
	554	ASSIST INVALID.	139
	555	DEFECTIVE ELEVATOR, NO OCCUPANTS.	1
	814	LIGHTNING STRIKE (NO FIRE).	2
	900	SPECIAL TYPE OF INCIDENT, OTHER.	3
Structure Fire	111	BUILDING FIRE.	10
	113	COOKING FIRE INVOLVING THE CONTENTS OF A COOKING VESSEL WITHOUT FIRE EXTENSION BEYOND THE VESSEL.	5
	114	CHIMNEY OR FLUE FIRE ORIGINATING IN AND CONFINED TO A CHIMNEY OR FLUE.	2
Technical Rescue	351	EXTRICATION OF VICTIM(S) FROM BUILDING OR STRUCTURE, SUCH AS A BUILDING COLLAPSE.	2
	352	EXTRICATION OF VICTIM(S) FROM VEHICLE.	1
	353	REMOVAL OF VICTIM(S) FROM STALLED ELEVATOR.	20
	381	RESCUE OR EMS STANDBY FOR HAZARDOUS CONDITIONS.	5
Total			**2,398**

Note: MVA=Motor Vehicle Accident.

TABLE 40: Call Type by CAD Description

Call Type	CAD Description	Count
Breathing Difficulty	CHOKING	22
	RESPIRATORY-TROUBLE BREATHING	475
Cardiac And Stroke	ARREST~~CARDIAC OR RESPIRATORY	180
	CHEST PAIN/CARDIAC	336
	STROKE/CVA	158
Fall And Injury	ANIMAL BITE	11
	ASSAULT	38
	DROWNING	3
	EYE INJURY	3
	FALL - UNINJURED	166
	FALL WITH INJURY	880
	FIGHT	15
	HEAT/COLD EXPOSURE	16
	HEMORRHAGE	111
	NECK INJURY	1
	STABBING	2
	TRAUMATIC INJURY	110
False Alarm	911 HANGUP *RESPOND PBSO*	1
	CARBON MONOXIDE ALARM W/O INJURIES	3
	FIRE ALARM	42
	MEDICAL ALARM (UNKNOWN PROBLEM)	86
Good Intent	DOMESTIC	26
	INVESTIGATION	3
	POLICE ASSIST	5
	PUBLIC ASSIST	21
Hazard	POWERLINES DOWN	2
Illness And Other	ABDOMINAL PAIN	150
	ALLERGIC REACTION (MEDS/INSECT)	52
	BACK PAIN	52
	DECEASED PERSON	14
	DIABETIC PROBLEMS	55
	HEADACHE	10
	OB/CHILDBIRTH/MISCARRIAGE	7
	POISON/INGESTION/NON-SUICIDE	2
	SICK PERSON	976
	UNKNOWN MEDICAL	163
MVA	CAR ACCIDENT	66
	CAR ACCIDENT - ROLLOVER/EXTRICATION	9
	CONSTRUCTION ACCIDENT	1
	TRAFFIC ACCIDENT PEDESTRIAN/MOTORCYCLE	15
Non-Emergency Transfer	INTER-FACILITY GROUND	25
Outside Fire	BRUSH/GRASS/TREE FIRE	1
	DUMPSTER/TRASH/REFUSE FIRE	1
	VEHICLE FIRE	3

Call Type	CAD Description	Count
Overdose And Psychiatric	INTOXICATION	140
	OVERDOSE	55
	PSYCHIATRIC PROBLEM	36
	SUICIDE ATTEMPT	33
Public Service	OPEN WATER INCIDENT	4
	SHOOTING	6
Seizure And Unconsciousness	SEIZURES/CONVULSIONS	142
	SYNCOPE/FAINTING	196
	UNCONSCIOUS/UNRESPONSIVE	161
Structure Fire	COMMERCIAL STRUCTURE FIRE	1
	RESIDENTIAL STRUCTURE FIRE	2
Technical Rescue	CHILD LOCKED IN VEHICLE	2
Total		**5,096**

APPENDIX B. ENLARGED FIGURES AND MAPS FROM REPORT

Figure 16: Jupiter Fire Rescue Department Organizational Chart

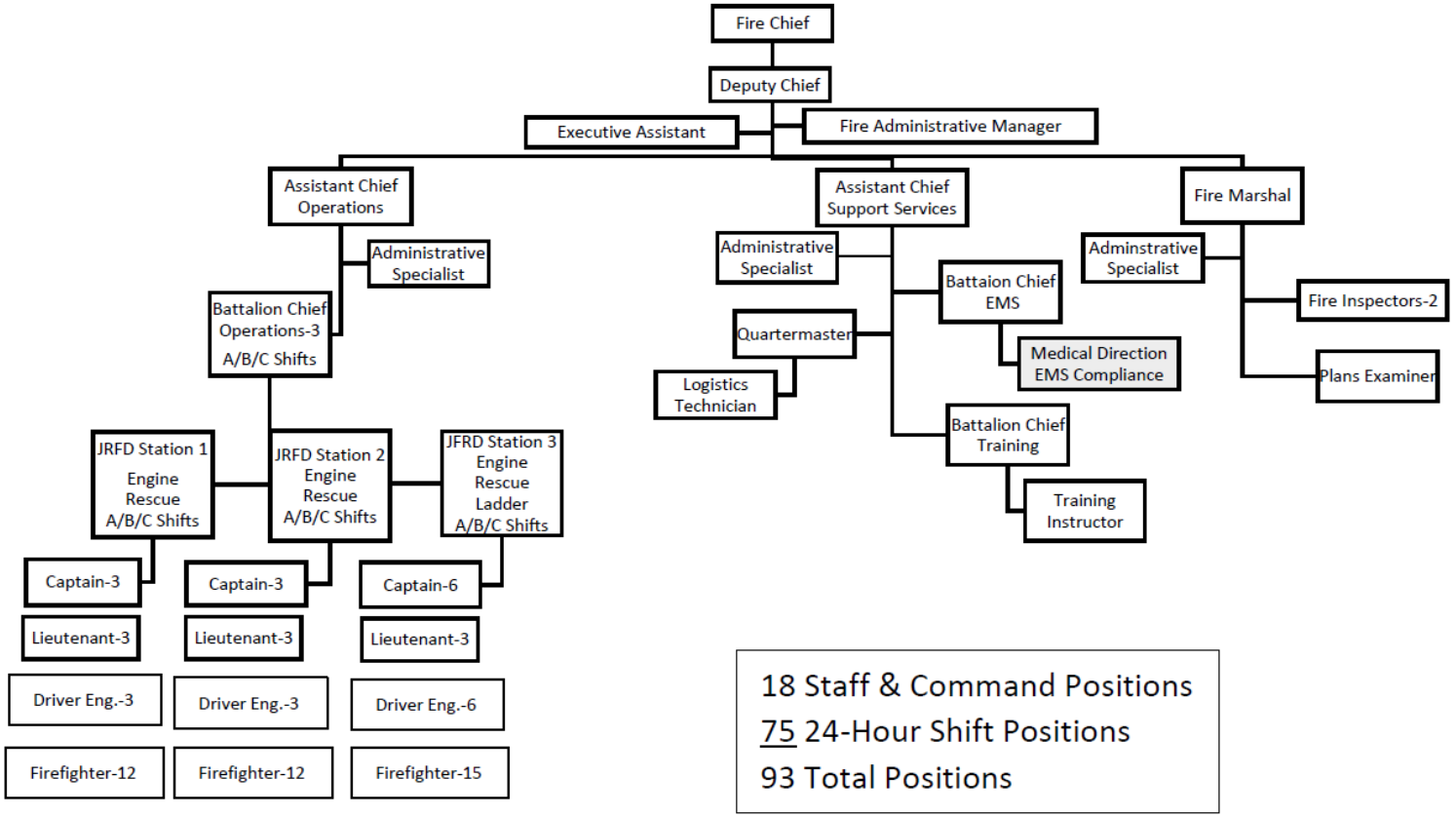


Figure 17: Jupiter Fire Station Location Comparison

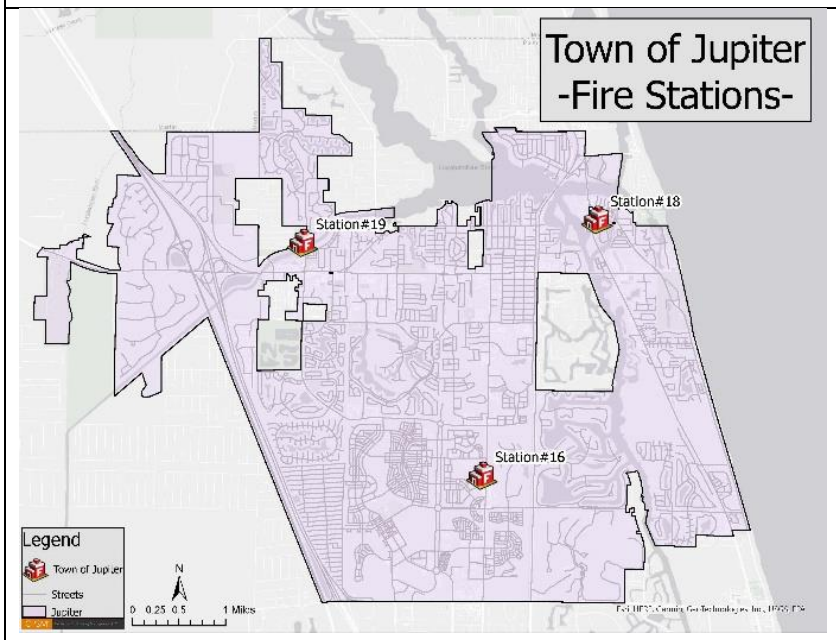
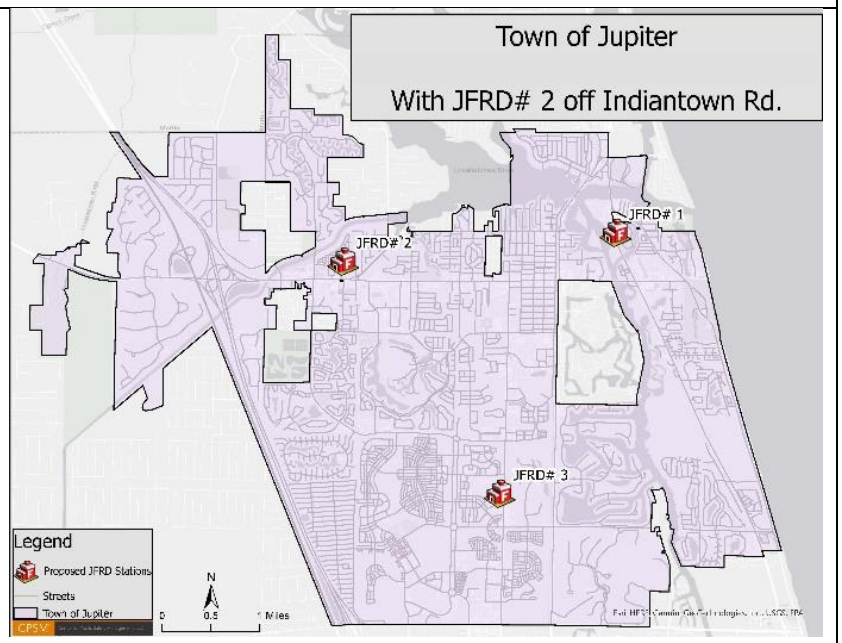
Current PBCFR Station Locations	Proposed JFRD Station Locations
	

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Figure 18: 240 Second Travel Time Comparison

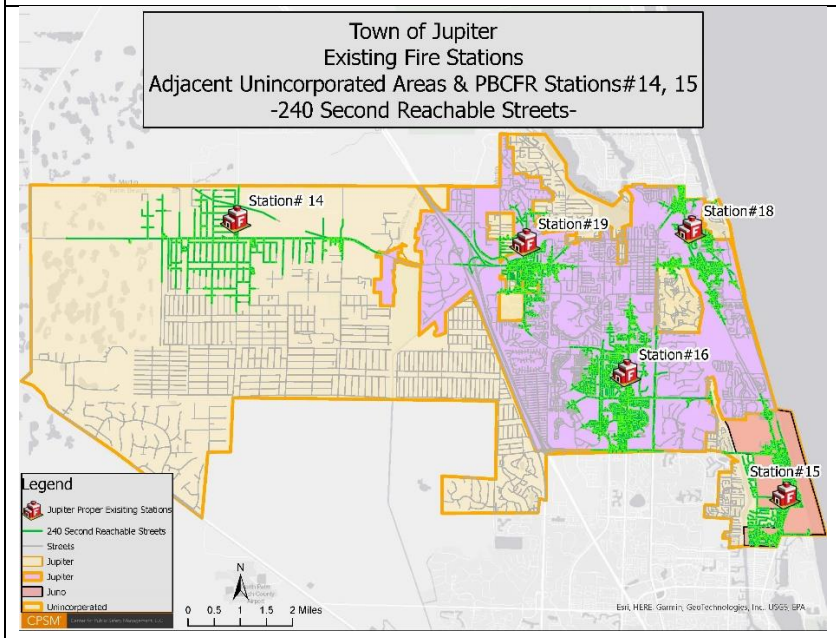
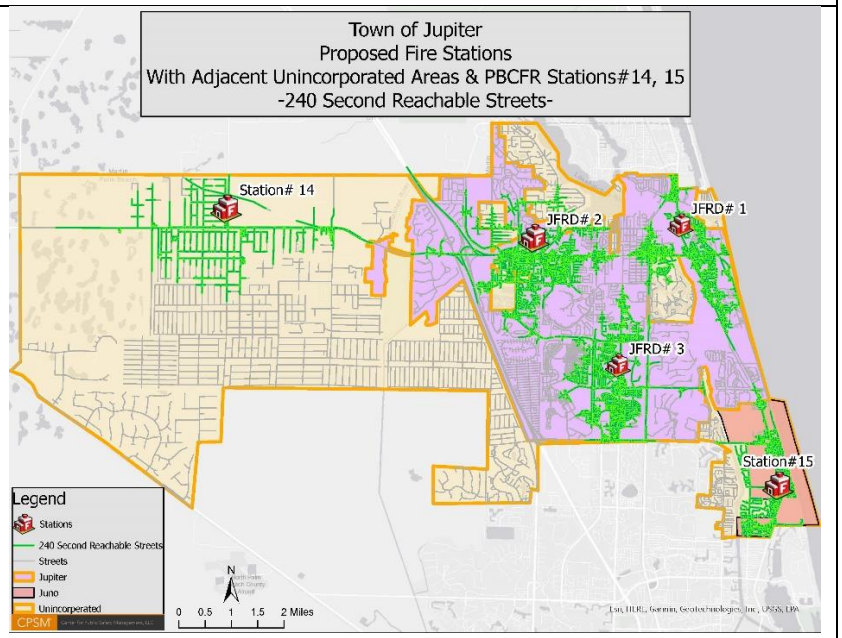
Current PBCFR Station Locations	Proposed JFRD Station Locations
	

Figure 19: 360 Second Travel Time Comparison

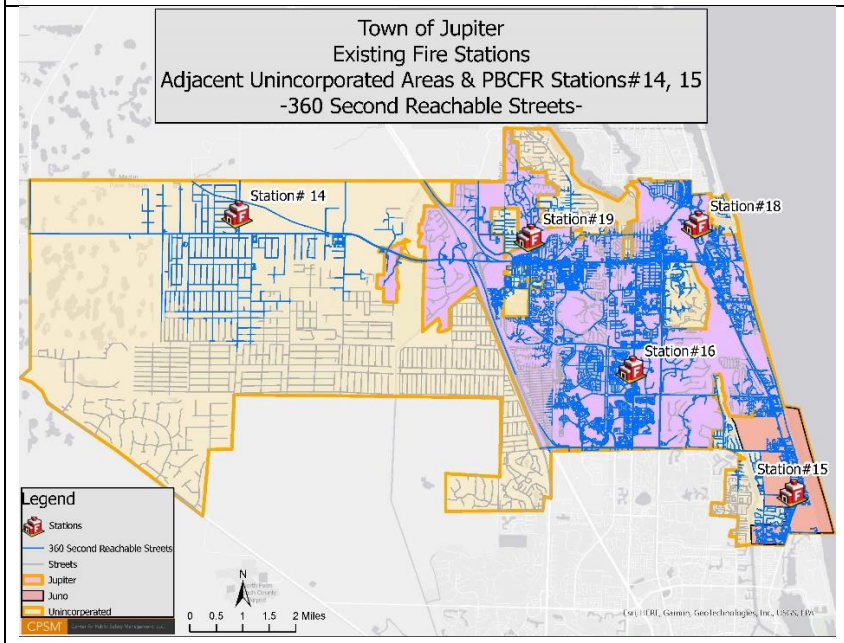
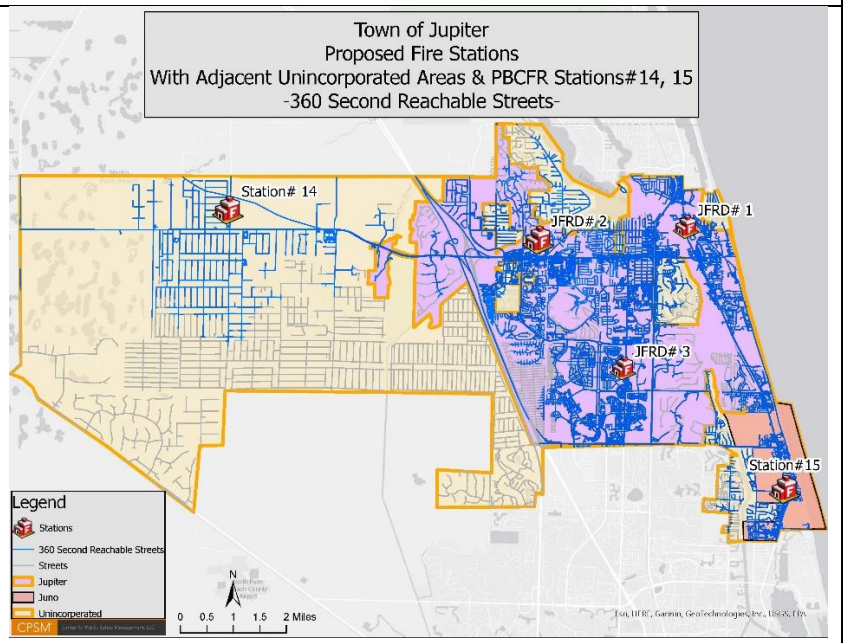
Current PBCFR Station Locations	Proposed JFRD Station Locations
	

Figure 20: ISO 1.5 Mile Engine Company Coverage Comparison

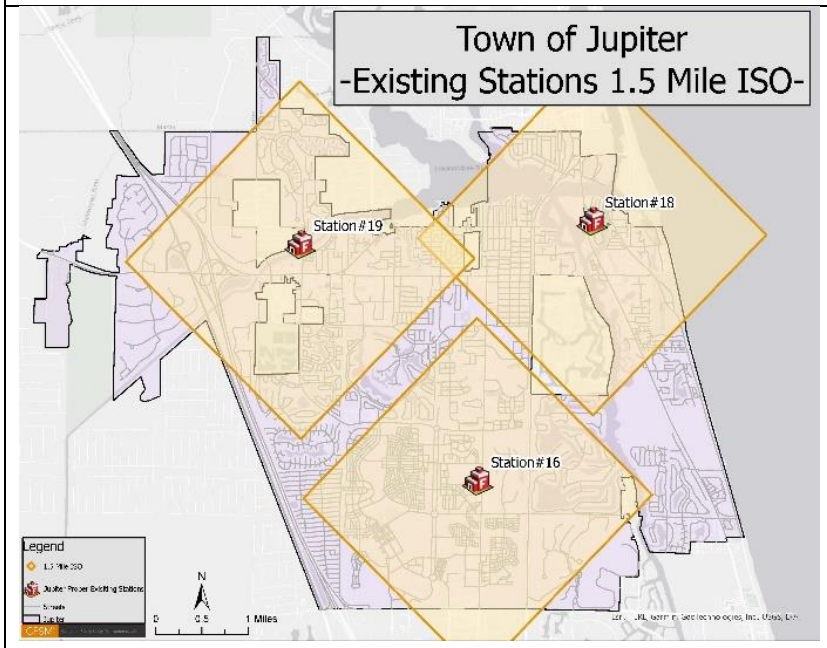
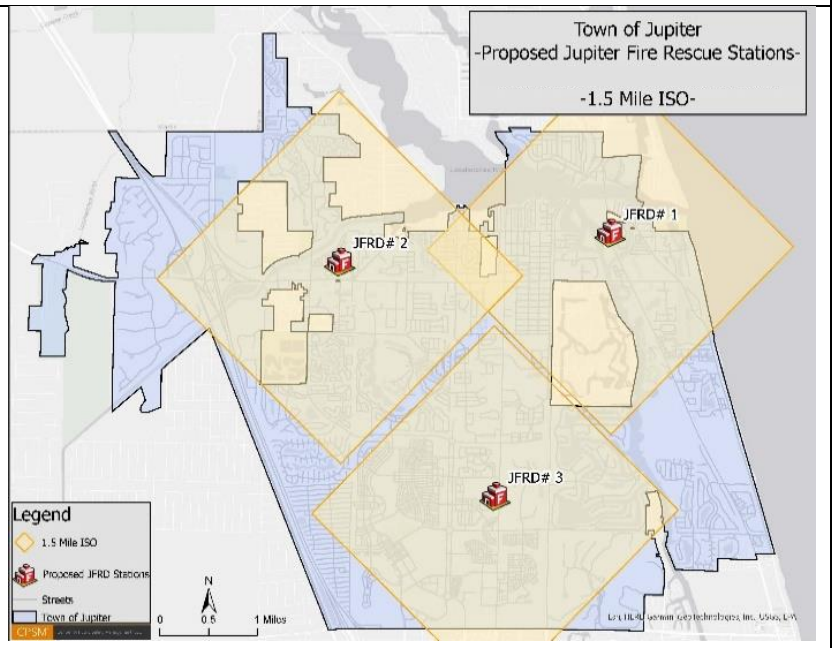
Current Jupiter Engine Company-ISO	Proposed JFRD Engine Company-ISO
	

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Figure 22: Automatic and Mutual Aid Response System-360 Second Travel Time

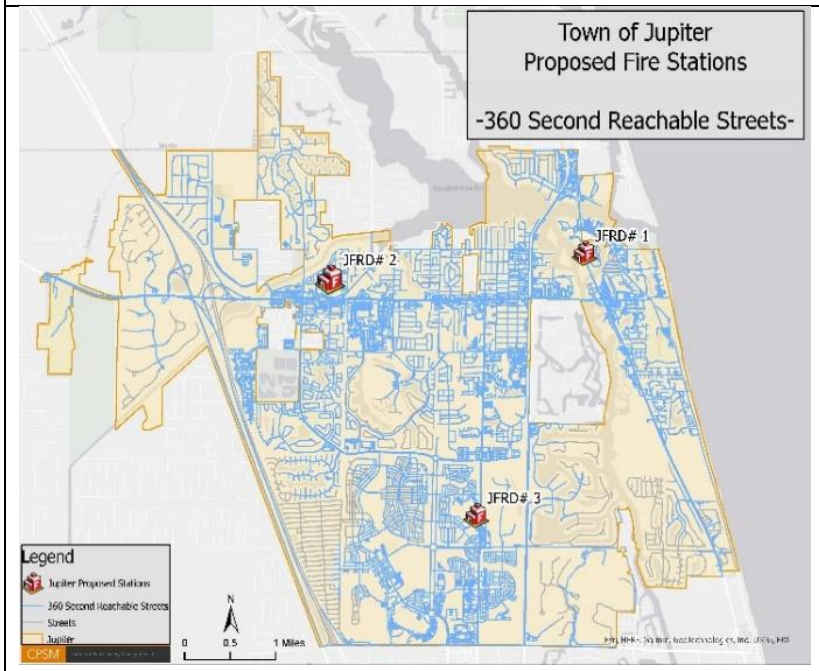
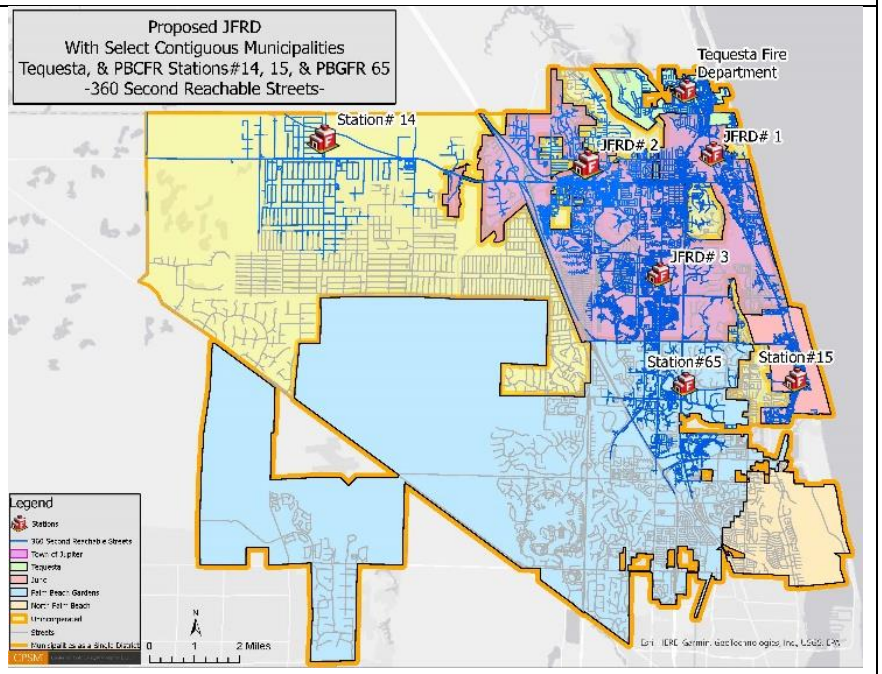
JFRD Stations	JFRD and Mutual Aid Stations
	

Figure 23: Automatic and Mutual Aid Response System-480 Second Travel Time

JFRD Stations	JFRD and Mutual Aid Stations