

A stylized map of Lauderdale-by-the-Sea, Florida, showing a grid of streets, green parks, and a blue body of water at the top. The map is light gray and serves as the background for the text.

Audit of the Volunteer Fire Department

LAUDERDALE-BY-THE-SEA, FLORIDA

REVISED DRAFT REPORT

September 20, 2021

matrix 
consulting group

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Executive Summary

The Matrix Consulting Group was retained by the Town of Lauderdale-By-The-Sea to perform an audit of the Volunteer Fire Department. This document is the result of this request.

Scope of Work

The scope of this study included a comprehensive assessment of the Lauderdale-By-The-Sea Volunteer Fire Department (LBTS VFD) for the delivery of services to the Town. This included an assessment of the following elements:

- The regional response system in Broward County, including emergency communications.
- Analysis of emergency response and departmental data.
- Evaluation of the organizational and management structure, effectiveness of the chain of command, support services and community relations.
- Analysis of the effectiveness of initial response and the automatic and mutual aid system.
- Development of a Community Risks and Standards of Coverage to illustrate the current capabilities of the LBTS VFD.
- Review of the current contract for improvement opportunities.
- Analysis of the current facility needs facing the Department
- Comparison of findings to national and regional standards for similar departments.

The approaches used in this study were comprehensive, as described below.

Approaches Utilized in the Study

To understand and evaluate service level issues facing the Town, the project team undertook an assessment of the Volunteer Fire Department. The principal approaches utilized by the project team in this study included, but were not limited to, the following:

Internal Interviews – members of the project team individually interviewed numerous executives, management, supervisory staff and elected officials of the Town of Lauderdale-By-The-Sea and Volunteer Fire Department leadership.

Data Collection – the project team collected a wide variety of external and internal data documenting the structure, operations and organization, including:

- Department staffing and scheduling.
- Documentation reflecting operations management.
- Numerous output data reflecting services provided.
- Various other performance information.

This data was summarized in a ‘descriptive profile’ of the Lauderdale-By-The-Sea Volunteer Fire Department, which was reviewed by the staff of the Town and Fire Department to ensure we had a factual foundation for the study. This approach ensured that the project team had an appropriate understanding of the fire protection system.

Summary of the Emergency Response Capabilities

The Lauderdale-By-The-Sea Volunteer Fire Department provides services to the Town from a single, centrally located, fire station. The Department has an Insurance Services Organization Public Protection Classification rating of 2 on a 1 – 10 scale with 1 being the highest possible score. This is an excellent rating and one the Town and Department should be proud of.

The VFD staffs a single engine company daily with a minimum staffing of three (3) personnel staffing the station 24 hours per day. There is also a Duty Chief on duty 24 hours per day to provide supervisory oversight and incident command on emergency scenes.

The current contract provides for response to emergency calls in 9 minutes 90% of the time. The table below illustrates the current performance of the VFD:

All Emergency Calls - 90th Percentile Times			2018 - 2020	2018	2019	2020
Total Response	1st Unit Distribution	All Calls	9:09	10:04	9:04	9:21

As illustrated, the current performance is just above the 9-minute goal 90% of the time. Further analysis of this performance indicated that system improvements could be achieved by improving the turnout time performance on emergency calls as current performance is above best practice times.

Summary of the Regional Response System

The Lauderdale-By-The-Sea VFD is in District 12 of the Broward County Consolidated Mutual Fire, Rescue, Emergency or Disaster Interlocal Agreement. This regional response plan has a well-developed system for ensuring an effective response force can arrive in a timely manner to critical incidents occurring in the Town.

This agreement allows the signature municipalities to request personnel, apparatus, or equipment from the other signatory municipalities in the event of firefighting, rescue, emergency or disaster events which cause demands greater than the capacity and resources of the municipality. Municipalities in this agreement include:

Cooper City	Coral Springs	Dania
Davie	Deerfield Beach	Fort Lauderdale
Hallandale	Hollywood	Lauderdale-By-The-Sea
Lauderhill	Lighthouse Point	Oakland Park
Pompano Beach	Port Everglades	Sunrise
Tamarac	Wilton Manors	

The following table illustrates the resources available to the LBTS VFD by alarm assignment as part of the District 12 regional response plan.

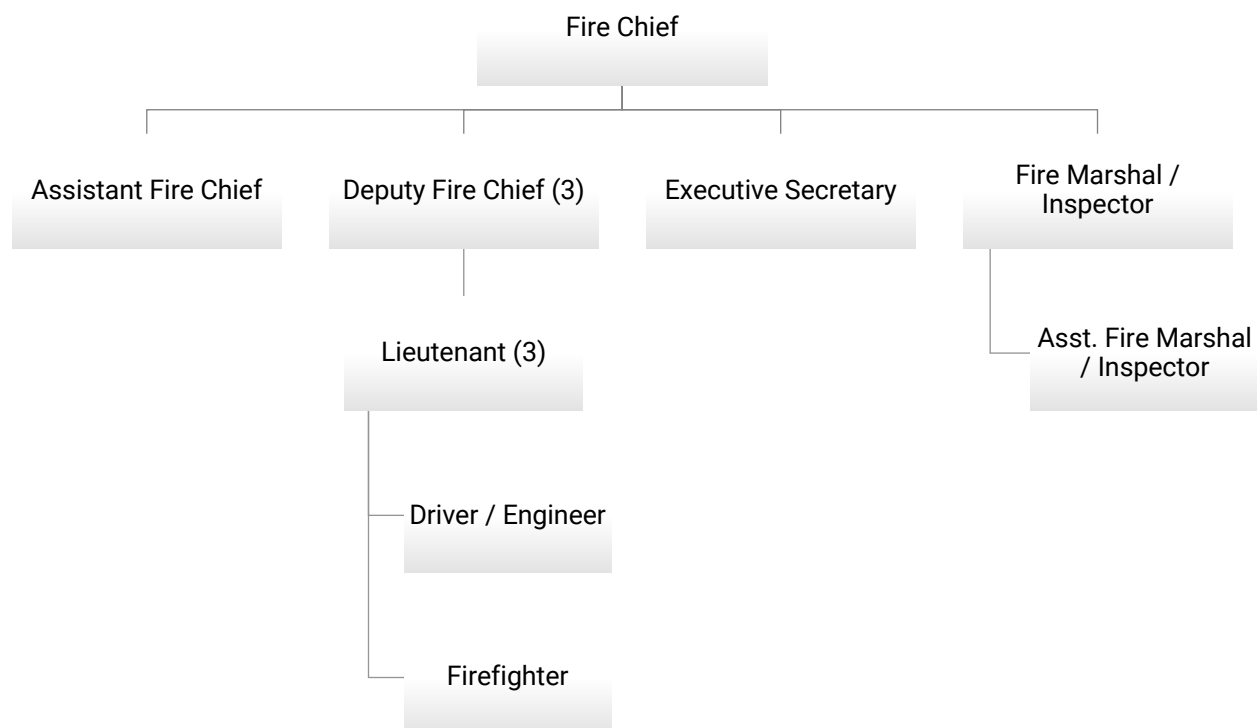
Order	Engines	Aerials	Rescues	Chiefs
1	Ft. Lauderdale	Ft. Lauderdale	Ft. Lauderdale	Ft. Lauderdale
2	Pompano Beach	Pompano Beach	Pompano Beach	Pompano Beach
3	Oakland Park	Deerfield Beach	Oakland Park	Oakland Park
4	Lighthouse Point	Tamarac	Lighthouse Point	Deerfield Beach
5	Deerfield Beach	Lauderhill	Deerfield Beach	BSO
6	Tamarac	Sunrise	Tamarac	
7	BSO	Plantation	BSO	
8	Sunrise	Hollywood		
9	Coral Springs			

Analysis of the regional system indicated that the regional system could have 14-25 personnel on scene within 8 minutes travel time 90% of the time. This ensures the emergency response system can deploy an effective response force within best practice timelines. Further analysis indicated that within 12 minutes travel time the regional system would deploy 26-32 personnel to the emergency. This regional system is working well and should continue in providing critical emergency assistance in the Town when the scale of an emergency exceeds the staffing and response capabilities of the VFD.

Summary of the Departmental Organizations

The design of an organizational structure to best meet the needs of an agency is predicated on the traditional command and control within the Fire Department. To be effective, the design must also define job duties and responsibilities, ensure efficient and effective workflow, establish a reporting hierarchy, and ultimately determine appropriate lines of authority and accountability.

In reviewing the structure and organization of the Department, there were several issues that require attention for compliance with the contract. First, there are several positions required by the contract that are not included in the organization chart and others that are included that are not mentioned in the agreement. Currently the Assistant Chief is serving as the Training Officer, the Battalion Chief is serving as the Safety Officer and the Fire Marshal is serving as the required Fire Inspector, which is common in small fire departments. The organizational chart should reflect these collateral positions. It is also important to note that the Captain also functions as a Shift Commander in current operations. Therefore, a new organizational structure is recommended as illustrated below:



In the Fire Prevention Division, analysis indicated a lack of succession planning for the Fire Marshal position and a replacement timeline that was unrealistic if a vacancy were

to occur in this position. There was also an opportunity to utilize the analysis of call data to develop an annual public education plan for the Town specific to the call types and risks present.

Analysis found the current training program working well. The VFD is meeting their goal of a minimum of 18 training hours per month per member and offers training in both online and in person formats. They also contract with regional training partners for specialized training topics beyond the expertise of their internal instructors.

Improvement opportunities were found in ensuring annual multi-company drills and exercises were conducted with first due mutual aid partners to improve operational efficiency on high-risk/low frequency events.

Summary of the Contract Analysis

An effective contract contains six elements to allow for best-practice contract administration and management. These elements are inter-related and often overlap but provide a context to ensure the efficacy of the contract. The elements are compliance monitoring, performance monitoring, financial monitoring, change management, risk management and relationship management.

The analysis of the contract by the project team found several areas where changes or improvements in the contract should occur in the next revision. These included areas such as the following:

- Beach Patrol
- Fire Marshal services
- Personnel requirements
- Apparatus and equipment purchasing
- Command staffing
- Financial monitoring
- Performance monitoring

While the contract can be renewed as written, it is recommended to add the recommended changes to improve the overall efficacy of the contract.

Summary of the Facility Needs Assessment

During the initial site visit it was determined that a detailed facility assessment was needed to ensure the VFD had a safe and efficient station from which to operate. Several challenges were identified with the current facility, including:

- Inadequate equipment and apparatus bays for fire apparatus and support equipment. ATVs and Jet Skis are parked on the front lawn of the fire station and not protected from the elements, which impacts the overall condition and life span of critical equipment. The equipment is not secure, which may lead to issues with vandalism or theft.
- Reserve apparatus is partially parked under the canvas canopy attached to the north side of the station. All apparatus should be housed indoors, especially in a highly corrosive environment that is present in a coastal community.
- Apparatus bays are not adequately sized for modern sized equipment. To check supplies and equipment, trucks must be pulled outside to conduct these checks which is not ideal during inclement weather.
- Staff's fire protection equipment is stored in close proximity to the apparatus bays and not properly vented to exterior.
- There is no apparatus exhaust ventilation system installed in the apparatus bays.
- Supplies and equipment are stored in plastic sheds under the canopy in an attempt to protect them from the elements. These should be stored inside the facility.
- Additional supplies and equipment are stored under the canopy when they should be stored in climate-controlled areas.
- There is one small restroom and shower in the fire station with no separate facilities for male and female members of the VFD.
- Staff are comprised of mixed gender shifts. All staff cohabitate in the living area of the station. There is no separation of sleep areas by gender. Staff should be provided individual sleep areas.
- Staff do not have adequate food preparation areas that are seen in modern fire stations. Staff may use Jarvis Hall for food preparation, which may impact turnout times for personnel.
- The station is constructed at grade and has limited protection from street flooding or storm surge.
- Administrative areas are separated from the fire station and on duty personnel. Challenges exist with the current administrative suite as it is comprised of multiple renovated hotel rooms.
- There is limited availability of training space for staff. Again, they can use Jarvis Hall, but availability is restricted to times when the hall is not in use.
- There is limited ability to expand the current station due to adjacent site restrictions.
- The current facility is not designed to meet FEMA 543 Design Guidelines for Critical Facility Safety from Flooding and High Winds.

Due to the limitations to both the current facility and the existing site, the project team conducted both a space needs and site analysis for improvements to the current station, which are documented in the Facility Assessment Section of this report.

Report Recommendations

Finding	Recommendation	Priority	Cost
Turnout time performance can be improved	Add a turnout time performance standard of 1 minute 20 seconds 90% of the time to the VFD contract.	High	\$0
A travel time goal should be established	Add a travel time performance standard of 6 minutes 30 seconds 90% of the time to the VFD contract.	High	\$0
The current regional response system is working well	Continue to be a signatory partner on the Broward County Consolidated Mutual Fire, Rescue, Emergency or Disaster Interlocal Agreement.	High	\$0
The current deployment plan is meeting the emergency service needs of the Town.	Continue to staff and deploy a command position and staff and deploy the engine company with a minimum of three (3) personnel daily.	High	\$0
The organizational Structure can be improved	Change the organizational structure to include one (1) Fire Chief, three (3) Deputy Fire Chiefs, one (1) Assistant Chief of Training, one (1) Fire Marshal/Inspector, one (1) Assistant Fire Marshal/Inspector and one (1) Fire Administrator.	Medium	\$0
There is no succession plan in place for the Fire Marshal Position	Develop a succession plan in the Fire Prevention Division to develop personnel to assist in this function	Medium	\$0
The Department would benefit from analysis of call types to develop an annual public education strategy in the Town.	Conduct an annual evaluation of emergency calls to determine specific public education topics to mitigate risks present in the Town.	Medium	\$0
Multi-company drills and exercises should be	Work with the Fort Lauderdale and Pompano Beach Fire Departments to	High	\$0

conducted with first due mutual-aid partners	conduct annual multi-company training drills on high-risk/low frequency events.		
The current training program is working well	Continue to offer training options both online and in person to maximize volunteer participation in training programs.	Low	\$0
There should be an annual evaluation of the training program to ensure it is meeting the needs of the VFD and personnel.	Conduct an annual evaluation of the training program to ensure it remains in compliance with State regulations and meets the training needs of the members and Department.	Medium	\$0
Beach Patrol staffing expectations are not clear	Add contract language outlining the staffing expectations of beach patrol to allow the VFD to properly plan the staffing of this function.	Medium	Depending on the frequency
There is no succession to the Fire Marshal position	Add contract language authorizing an Assistant Fire Marshal position, with an effective hourly rate, that is qualified to serve as the Fire Marshal in both the absence of the current Fire Marshal and if a vacancy in the position occurs to allow proper time to fill the vacant position.	High	\$0
Amend the positional requirements in the Contract	Amend the contract language to require one (1) Fire Chief, three (3) Deputy Fire Chiefs, one (1) Assistant Chief of Training, one (1) Fire Marshal/Inspector, one (1) Assistant Fire Marshal/Inspector and one (1) Fire Administrator.	High	\$0
There are no expectations for the Chief to participate with Town leadership	Clearly define the expectations of the Chief position and how it interacts and participates with other key Town leaders.	High	\$0

There are no requirements for an annual audit of VFD finances although one is occurring	Add language requiring an annual audit of the revenues and expenses of the VFD.	High	\$0
There is no formally adopted vehicle and equipment replacement plan	Develop an apparatus and vehicle inventory requirement and replacement plan to allow the proper planning and funding for apparatus and vehicle purchases.	Medium	Depending on the frequency
There are no performance measures in the contract	Develop key performance indicators to allow objective measurement of emergency service delivery. These should include turnout time, travel time and a definition of what constitutes an "emergency call". Require a quarterly presentation of system performance to the Town Commission by the Fire Chief or designee.	High	\$0
There are no facility improvement plans in place	Begin planning for the replacement of the current fire station facility.	High	\$8.53 M - \$10.96 M

Organization and Overview

This chapter provides an overview of the general characteristics of Lauderdale-By-The-Sea.

Background and Overview

Located along the Atlantic Coast, Lauderdale-By-The-Sea is approximately 33 miles north of Miami on a barrier island separated from the mainland by the Intracoastal Waterway. Access to the mainland from the west is provided by a single point along Commercial Blvd. with a draw bridge over the waterway. North and South access points are available approximately one mile south of the Town from Ft. Lauderdale and three miles north of the Town from Pompano Beach.

Lauderdale-By-The-Sea was first founded in the early 1920's with the land being purchased and the intention of creating a beachside community. The Town was first incorporated in 1927 with the charter being revoked in 1933. The Town was then reincorporated in 1949. Limits to the height of buildings along the beach were limited in the early years and continue today to preserve the ocean views in the Town. In the early 2000's the Town annexed land to the north that doubled the size of the Town and included several high-rise buildings.

Today, Lauderdale-By-The-Sea encompasses 1.5 square miles of which 0.88 square miles is land with an estimated population of 6,198, according to the 2020 US Census Bureau data. During the winter months the population reportedly increases to approximately 12,000 people or by approximately 49%. This creates a population density of approximately 7,572 people per square mile.

Located in Broward County, the Town is governed by a five-member Board of Commissioners. The Mayor is elected to a two year term while the Commissioners are elected to four year terms. Each election held in the Town will have the Mayor and two Commissioners positions on the ballot. The Commissioners are elected from one of two districts in the Town.

Demographic Profile

The following table illustrates the demographic profile of Lauderdale-By-The-Sea and changes that have occurred since the 2010 Census.

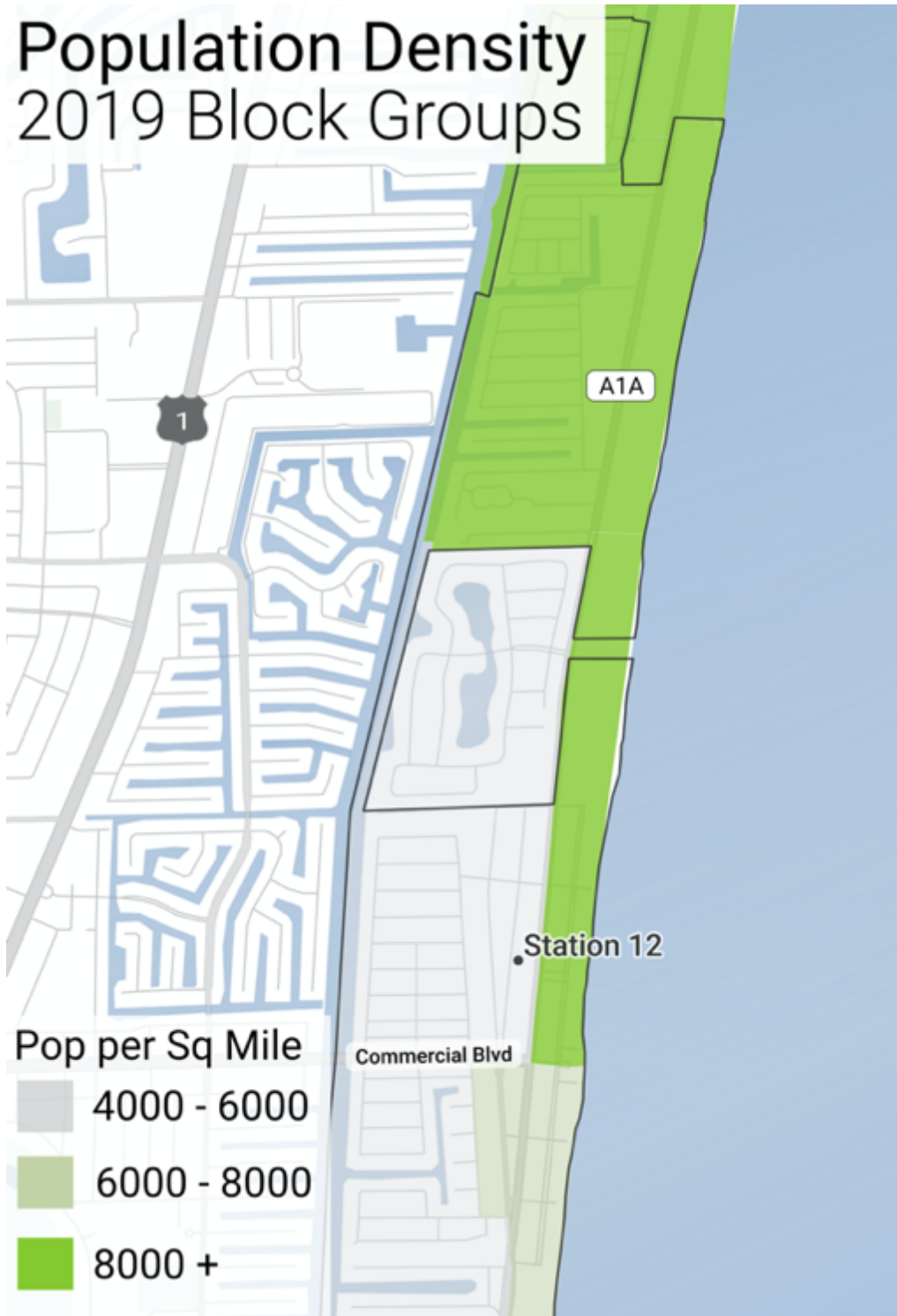
Lauderdale-By-The-Sea

US Census Bureau Data	2010	2015	2020
Estimated Population	6,060	6,313	6,198
Median Age	62.1	61	63.6
Children Under Age 5	0.6%	1.6%	0.8%
Children Ages 5 to 19 years	5.4%	4.5%	4.9%
Persons Age 20 to 59 years	39.8%	32.1%	37.7%
Persons Age 60 and Over	54.1%	52.3%	56.3%
Families in Poverty	5.5%	2.8%	7.4%
Civilian Labor Force Unemployed	7.5%	7.9%	5.3%
Mean Household Income	\$79,917	\$103,496	\$75,537
Employment Sectors:			
Education, Health Care, Soc. Svc.	12.3%	15.2%	18.4%
Retail Trade	13.8%	12.0%	7.5%
Professional, Scientific, Mgmt.	16.7%	11.8%	15.1%
Finance, Insurance, Real Estate	13.8%	14.4%	14.2%
Entertainment, Recreation, Food	11.0%	14.3%	6.2%
Construction	5.2%	0.8%	6.7%
Manufacturing	4.7%	9.1%	7.8%
Transportation, Warehousing, Util.	3.7%	4.0%	5.8%
Public Administration	4.9%	7.9%	2.8%
Other Services	6.5%	2.9%	4.8%
Wholesale	4.2%	4.4%	6.1%
Information	2.3%	3.2%	4.4%
Agriculture, Forestry, Fishing	0.7%	0.0%	0.2%

The population of Lauderdale-By-The-Sea has increased approximately 2.2% since 2010 adding an estimated 138 residents. The median age of the Town increased to 63.6 years of age with an estimated increase in the over 60 age range of approximately 2.2%. There is a corresponding decrease in the 20 to 59 age range of approximately 2.1%.

The following map provides a view of population density by census tract.

Population Density 2019 Block Groups



The northern section of Lauderdale-By-The-Sea has a higher population density than in the southern sections as the high-rise condominiums are located in the northern portion of the Town.

Fire Services

This section provides an overview of the fire protection system including the resources available to the Town and a historical review of the workload for the Fire Department.

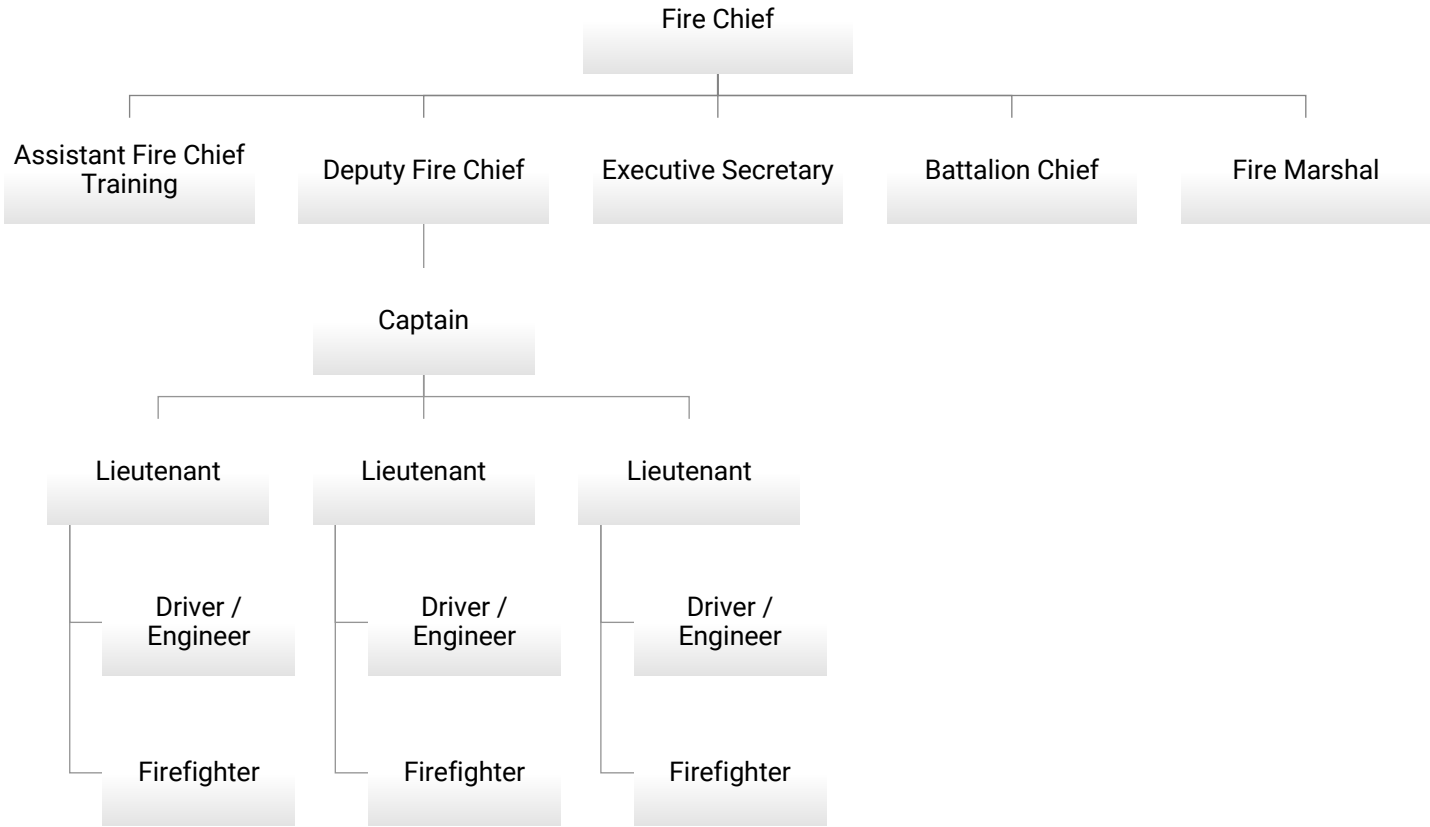
Organization

The Lauderdale-By-The-Sea Volunteer Fire Department (LBTSVFD) was formed in 1961 as an all-volunteer organization. Operating from a single station, the department continues to utilize primarily volunteer staffing, but has added two (2) paid positions and compensates the Fire Chief on a part-time basis. Shift commanders are also paid a stipend and volunteers are compensated on a paid call basis. This is a common arrangement for volunteer fire departments in the United States. As the Department is legally organized as a volunteer fire department, there is no need to change the name as the majority of services are delivered by paid call volunteers. Services include fire suppression, emergency medical first responders, ocean rescue services, and fire prevention activities. The Department currently has an Insurance Services Organization Public Protection Classification rating (ISO) of 2 on a 1 – 10 scale, with 1 being the highest possible score.

The motto of the Lauderdale-By-The-Sea Volunteer Fire Department is neighbors helping neighbors.

The organizational chart that follows illustrates the current Fire Department organization.

Lauderdale-By-The-Sea VFD Organizational Chart



In the previous organizational chart, there are certain duties and responsibilities assigned to the officers of the organization. The table that follows illustrates these duties.

LBTS VFD Duties and Responsibilities

Title	Duties
Fire Chief	<ul style="list-style-type: none"> • Overall Department Leadership • Develops and Manages the Budget • Reviews and Approves Purchases • Develops Apparatus Specifications • Develops and Updates Policies and Procedures
Assistant Chief - Training	<ul style="list-style-type: none"> • Training Development • ISO • Professional Development • Information Systems
Deputy Fire Chief	<ul style="list-style-type: none"> • Fire Operations • Fleet Services
Executive Secretary	<ul style="list-style-type: none"> • Administration • Payroll • Human Resources • Town Liaison
Battalion Chief	<ul style="list-style-type: none"> • Health and Safety • EMS • Mental Health
Fire Marshal	<ul style="list-style-type: none"> • Fire Prevention • Public Education • Fire Inspections
Captain	<ul style="list-style-type: none"> • Logistics • Support Services • Staffing • Ocean Rescue
Lieutenant	<ul style="list-style-type: none"> • Training
Lieutenant	<ul style="list-style-type: none"> • Equipment Maintenance
Lieutenant	<ul style="list-style-type: none"> • Fleet Services

Physical Resources

Service to Lauderdale-By-The-Sea is provided from the single fire station located in the Town. The fire station is owned by the Town, who is responsible for any major repairs and the LBTSVFD is responsible for daily maintenance. The following map identifies the location of the fire station.

Station Location



The Fire Department operates as a combination department using a mix of paid on call out of town volunteers, who are required to work 3 – 24 hour shifts per month, in-Town volunteers who can respond from home and command staff that are paid a stipend for working shifts. All of these personnel are paid for responding to calls and attending training events. There is also a full-time administrative assistant and Fire Marshal/Inspector in the Department. The Fire Chief is paid a part-time salary.

The station is staffed with one chief officer and three firefighters 24 hours a day. For the initial response to an emergency the staffed engine company responds. If additional resources are needed the ladder truck responds using on-call personnel. The on-duty officer also responds in a command capacity.

The table below outlines the apparatus and staffing for the station.

LBTS Volunteer Fire Department					
Station 12	4504 Bougainvillea Drive				
Description of Use	Single station providing service to the Town and also houses the administrative offices for the fire department.				
Apparatus Space	3 Bays				
Assigned Apparatus	Unit ID	Year	Description	Type	Minimum Staffing
	Engine 12	2012	E-One	Type 1 Engine	3
	Squirt12	1995	Pierce	Ladder Truck	Cross Staffed
	Engine 212	1994	Pierce	Reserve Engine	
	Tower Ladder 12	1989	KME/Grumman	Reserve Ladder	
	Command 12	2016	Chevrolet Tahoe	Command	1
	Utility 12	2007	Ford F250 Pickup	Utility	
	Prevention 12	2017	Chevrolet Colorado	Fire Prevention	1
	Marine 212	2016	Yamaha, Jet Ski	Marine Unit	Cross Staffed
	Marine 12	2017	Yamaha, Jet Ski	Marine Unit	Cross Staffed
	Ocean Rescue 212	2016	Polaris Ranger 6x6	Ocean Rescue	
	Brush/Water Tank	2018	Polaris Ranger 1000	Utility	
	Ocean Rescue 12	2019	Polaris Ranger 1000	Ocean Rescue	
	Ocean Rescue 312	2020	Polaris Ranger 1000	Ocean Rescue	

Historical Workload

The Volunteer Fire Department responds to emergency and non-emergency calls for service. The following table illustrates the emergency and non-emergency activities of the Department grouped by the type of call or detail responded to by the Volunteer Fire Department for calendar years 2018 – 2020.

Calls for Service by Type					
	2018	2019	2020	Total	Pct.
Auto Accidents	44	42	46	132	8.3%
Medical Calls	95	98	115	308	19.5%
Total Medical and Auto Accidents	139	140	161	440	27.8%
Alarm – Activation	59	69	86	214	13.5%
Alarm – False	26	33	29	88	5.6%
Alarm – Malfunction	28	15	32	75	4.7%
Other Type Fire	3	4	6	13	0.8%
Smoke Scare	2	10	6	18	1.1%
Structure Fire	30	16	3	49	3.1%
Vegetation/Brush/Debris Fires	4	18	4	26	1.6%
Vehicle Fire	0	1	2	3	0.2%
All Fire Calls	152	166	168	486	30.7%
Rescue Calls - Elevator/Extrication	67	45	49	161	10.2%
Rescue Calls – Other	0	1	0	1	0.1%
Rescue Calls – Search	6	6	1	13	0.8%
Rescue Calls – Water	25	20	27	72	4.6%
All Rescue Calls	98	72	77	247	15.6%
Dispatched/Canceled	28	12	7	47	3.0%
Good Intent Calls	15	16	30	61	3.9%
Hazardous Condition	32	30	40	102	6.5%
Hazardous Materials	5	3	4	12	0.8%
Overpressure Rupture	6	7	5	18	1.1%
Service Calls	40	29	55	124	7.8%
Other Call Type	15	18	17	50	2.8%
Other Type of Calls	141	115	158	408	25.8%
Total Calls for Service	530	493	564	1,581	

Overall, medical calls and vehicle accidents represent approximately 28% of the call volume. Alarms and Fire calls represent 31% of the calls. With rescue being 16% of the call volume and other call types 26% of the calls for service. Good Intent calls account for

3.9% of calls. These are calls where the caller thought an emergency existed, but on arrival no emergency was found. An example would be a neighbor cooking outdoors and the caller reported smoke in the area, thinking there may be a fire.

The following table displays the total number of calls for service handled by the Lauderdale-By-The-Sea Fire Department by each hour and day of the week for the past three years. Both emergency and non-emergency calls were included to provide an overall view of the call demand on the fire protection system. The table shows slower call demand in green and higher call demand in red.

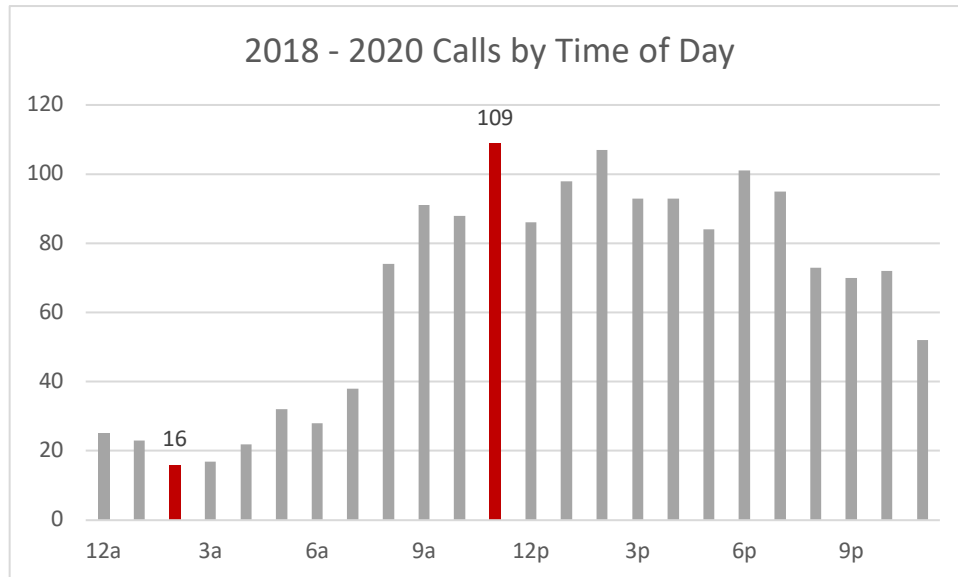
Calls for Service by Hour and Weekday 2018 - 2020

Hour/Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Total
12am	3	4	4	1	1	5	7	25
1am	3	4	3	0	2	8	3	23
2am	4	2	0	3	2	2	3	16
3am	3	2	2	4	2	0	4	17
4a	2	4	5	4	3	1	3	22
5a	2	4	2	1	0	18	5	32
6a	2	3	8	0	3	6	6	28
7a	6	6	5	3	4	10	4	38
8a	8	12	12	4	22	5	11	74
9a	17	24	9	14	12	11	4	91
10a	12	9	15	17	11	14	10	88
11a	17	17	7	14	13	20	21	109
12p	16	14	13	11	10	15	7	86
1p	13	18	9	13	13	16	16	98
2p	12	19	16	17	11	15	17	107
3p	15	9	9	17	14	11	18	93
4p	16	16	6	12	11	13	19	93
5p	12	12	15	7	13	16	9	84
6p	17	18	19	8	15	14	10	101
7p	10	21	11	10	13	19	11	95
8p	13	14	9	7	4	13	13	73
9p	9	8	8	11	8	16	10	70
10p	3	11	10	11	8	15	14	72
11p	6	6	10	8	7	9	6	52
Total	221	257	207	197	202	272	231	1,587

The call volume is heaviest during the middle part of the day from 8:00 am to 10:00 pm with Wednesday being the slowest day for call demand and Friday being the busiest day.

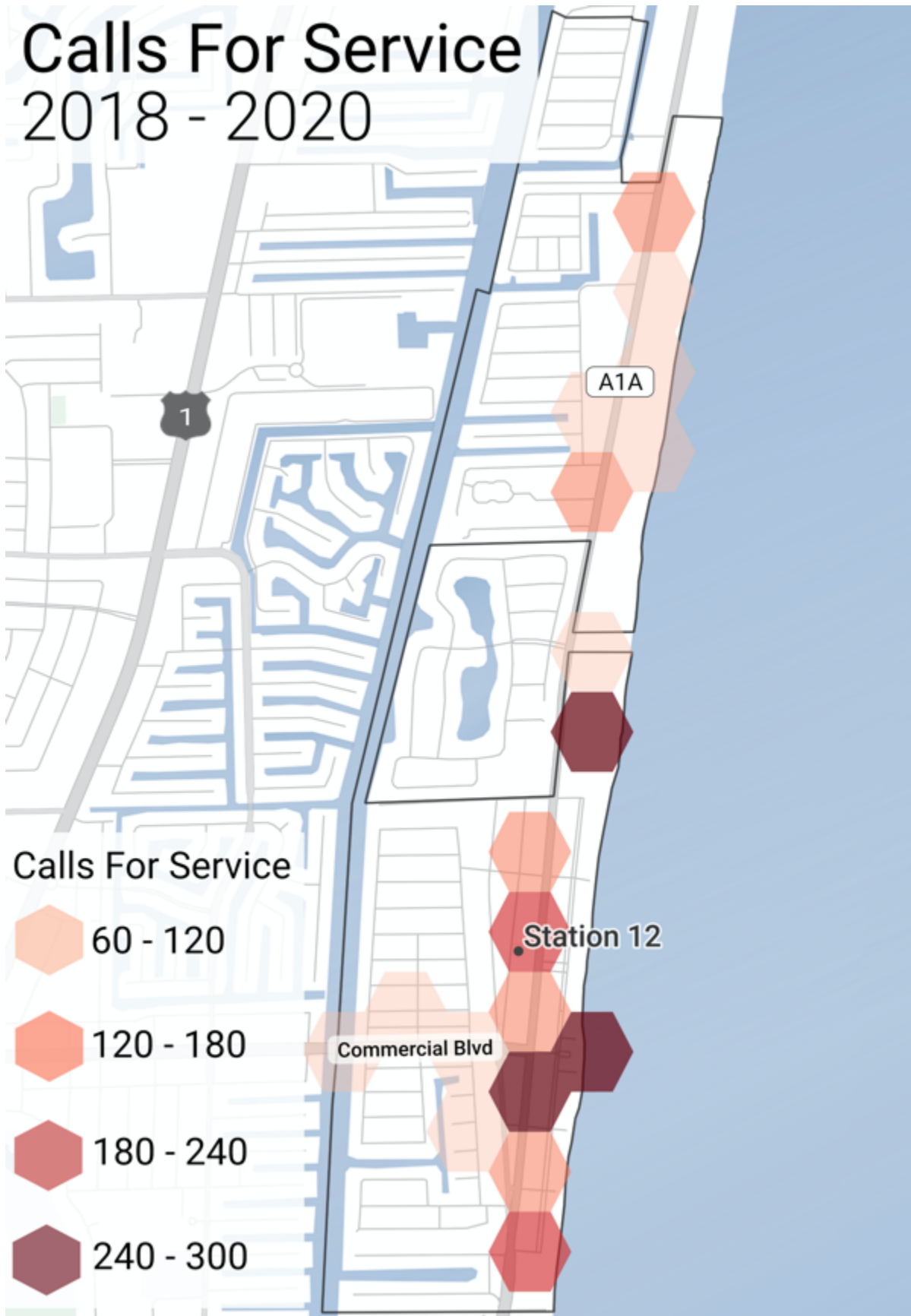
The calls for service varied by time of day and day of the week. The busiest hour of the day is 11 am with the slowest hour being 2 am.

The following chart further illustrates the calls for service by hour of the day with the slowest and highest call demand times in red.



As illustrated above, calls increase sharply at the 8 am hour peaking at 11 am and remain steady throughout the day. The calls begin to decline at the 11 pm hour and sharply decline at the 12 am hour with 2 am being the slowest hour of the day.

The following map illustrates call demand using GIS technology to illustrate where the majority of the calls are occurring. As illustrated, the highest call volume is located in the central and southern portions of the Town.



The Fire Department also utilizes all-terrain vehicles to conduct beach patrol services along the beaches of Lauderdale-By-The-Sea. The following table illustrates the number of beach patrol hours conducted by the Fire Department.

Beach Patrol Hours 2018 – 2020

Year/Hours	2018	2019	2020
Hours	795	460	271*

As illustrated, the VFD conducted 795 hours of beach patrol in 2018, 460 hours in 2019 and 271 hours in 2020. It is important to note that the number of hours in 2020 was reduced due to the COVID 19 pandemic that had the beaches closed from March 18, 2020 – May 26, 2020. They were also closed 3 days over the 4th of July weekend in 2020.

Financial Resources

The Town of Lauderdale-By-The-Sea operates on a fiscal year ending on September 30. Budget preparation is the responsibility of the Town Manager with assistance from the various department heads and contract agencies throughout the Town.

Revenue

The Town receives revenues for providing fire services through a Fire Fund Property Tax Assessment. Revenues are also obtained from Fire Inspection Fees and other miscellaneous revenue streams. The table below is a summary of the revenues that are attributable to the Fire Department.

Lauderdale-By-The-Sea Fire Department Revenue

Line Item	2018 Actual	2019 Actual	2020 Budget
Fire Assessment	\$1,053,027	\$1,051,761	\$1,033,754
Fire Inspection Fees	\$33,042	\$33,732	\$33,000
Miscellaneous Revenue	\$0	\$0	\$2,000
Transfer from General Fund	\$26,800	\$26,800	\$13,000
Total Revenues	\$1,112,869	\$1,112,293	\$1,313,147

Expenditures

The following table is a summary of the operating expenditures for the Fire Department.

Lauderdale-By-The-Sea Fire Department Expenditures

Line Item	2018 Actual	2019 Actual	2020 Budget	2021 Budget
Pension	\$0	\$21,093	\$6,000	\$6,000
Professional Services	\$16,713	\$4,051	\$10,000	\$69,500
Audit Expense	\$6,000	\$7,000	\$7,000	\$8,000
Contractual Services	\$806,819	\$787,697	\$849,106	\$888,619
Building Maintenance	\$3,348	\$12,172	\$0	\$250
Operating Expenses	\$0	\$205	\$0	\$0
Capital – Building Improvement	\$6,885	\$5,707	\$369,041	\$21,777
Capital – Equipment and Machinery	\$208,583	\$57,413	\$0	\$0
Capital – Vehicles	\$0	\$0	\$50,000	\$50,000
Transfer – General Fund	\$22,000	\$22,000	\$22,000	\$22,000
Transfer – Vehicle/Equipment Reserve	\$0	\$0	\$0	\$0
Total Expenditures	\$1,070,348	\$917,338	\$1,313,147	\$1,066,146

As illustrated, contract services for the Volunteer Fire Department is the largest operating expenditure, accounting for approximately 83.3% of operating expenditures in the 2021 budget.

Emergency Operations

In this chapter the background and analysis are provided for those strategic initiatives and goals for the emergency operations of the Fire Department. The section begins with an overview of why a rapid response is necessary for the mitigation of various types of emergencies. It continues with discussion on the currently accepted national best practices for emergency response by a fire department. Following that information is analysis of the data related to the performance of the Broward County Sheriff's Office related to processing emergency calls and then how well the LBTS VFD is performing against standards for both turnout and travel times. The section concludes with examination of how the regional response system in Broward County supports the efforts of the VFD.

Emergency Service System Dynamics

In making decisions about the emergency services system, it is important to understand the science behind the location of resources, the deployment strategies of those resources and other factors necessary to form an effective emergency services system. For many years, the Insurance Services Office (ISO) had set the standard for deployment through their Public Protection Classification system. This system was designed to provide insurers a basis for setting insurance rates to limit their exposure to large losses and catastrophic events. While these efforts provided a good starting point, there is much more for the leadership to know while making decisions about the emergency services in Lauderdale-By-The-Sea.

Nationally, a great deal of effort and research has been put into developing performance objectives for the delivery of fire and emergency medical services. This effort is critical for local governments making decisions about deployment and location of emergency resources. The objectives promoted for Fire/Rescue and EMS providers have their basis derived from research that has been conducted in these two critical issues:

- What is the key point in a fire's "life" for gaining control of the blaze while minimizing the impact on the structure of origin and on those structures around it?
- What is the impact of the passage of time on survivability for victims of cardiac arrest?

Emergency Medical Services

Emergency medical services (EMS) are a significant part of the emergency services system. Not only are these types of calls rising but they are also wide ranging in terms of the types of service calls. Emergency medical response systems must account for this variability and ensure appropriate care is provided in a timely manner. In Lauderdale-By-

The-Sea, the volunteer fire department provides first responder services while the transport of patients is handled by American Medical Response (AMR) through a contract with the Town.

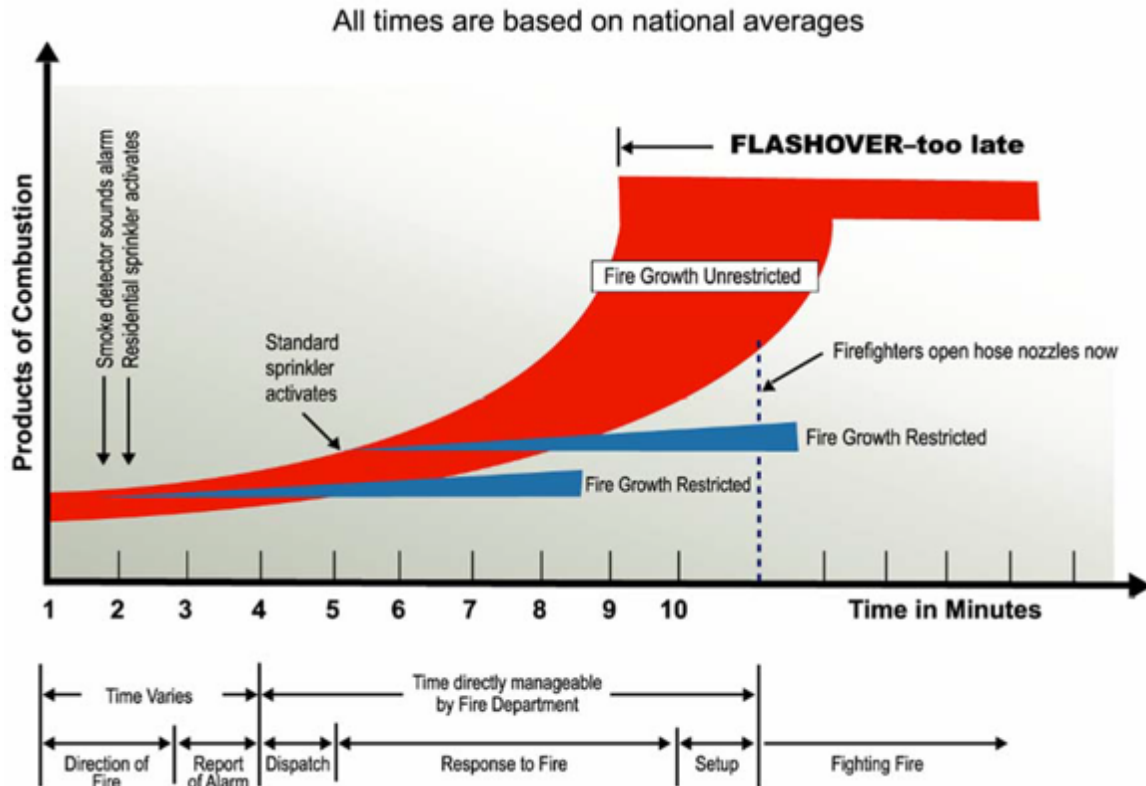
While the demand for services in EMS is wide ranging, the survival rates for full arrests are often utilized as benchmarks for response time standards as they are more readily evaluated because of the ease in defining patient outcomes (a patient either survives or does not). This research results in the recommended objective of provision of basic life support (BLS) within 4-minutes of notification and the provision of advanced life support (ALS) within 8 minutes of notification. These standards are consistent with the American Heart Association who states that brain and permanent death starts to occur in 4 to 6 minutes following cardiac arrest.

Considering the response time continuum, the response time goal for emergency services is to provide BLS within 6 minutes of the onset of the incident (including detection, dispatch, and travel time) and ALS within 10 minutes. This is often used as the foundation for a two-tier system where fire or other resources function as first responders with additional (ALS) assistance provided by responding ambulance units and personnel.

Fire Suppression Services

The goal of fire suppression systems is to save lives and minimize property damage. Every structure fire goes through the same process of development. The growth of that fire is dependent on many factors including fuel loads, the types of materials, and the area involved to name a few items. There is one point, “flashover”, that is identifiable and serves as a benchmark for the response of resources.

The following chart illustrates the traditional “flashover” curve for interior structure fires. The point in time represented by the occurrence of “flashover” is critical because it defines when all the contents of a room become involved in the fire. Once this occurs, the space becomes untenable for firefighters and un-survivable for any occupants. With the rapid expansion of the fire, there is additional risk to other areas of the structure and potentially to any structures or wildland areas surrounding the original location of the fire.



Note that this illustration depicts a fire from the moment of inception – not from the moment that a fire is detected or reported. This demonstrates the importance of early detection and fast reporting as well as rapid dispatch of responding units. This also shows the critical need for a rapid (and sufficiently staffed) initial response – by quickly initiating the attack on a fire, “flashover” can be averted.

It should be noted that not every fire will reach flashover – and that not every fire will “wait” for the 8-minute mark to reach flashover. In fact, research conducted in 2010 by the Underwriter Laboratories determined the increased use of synthetic materials in the home has created faster flashover times to less than 4 minutes in some of their tests. Modern home furnishings made of foam, plastics, or other petroleum-based products have increased the available fuel load for a fire. Additionally, construction techniques and components have increased the efficiency of our homes but has added a new dimension to fire growth.

National Emergency Service Standards

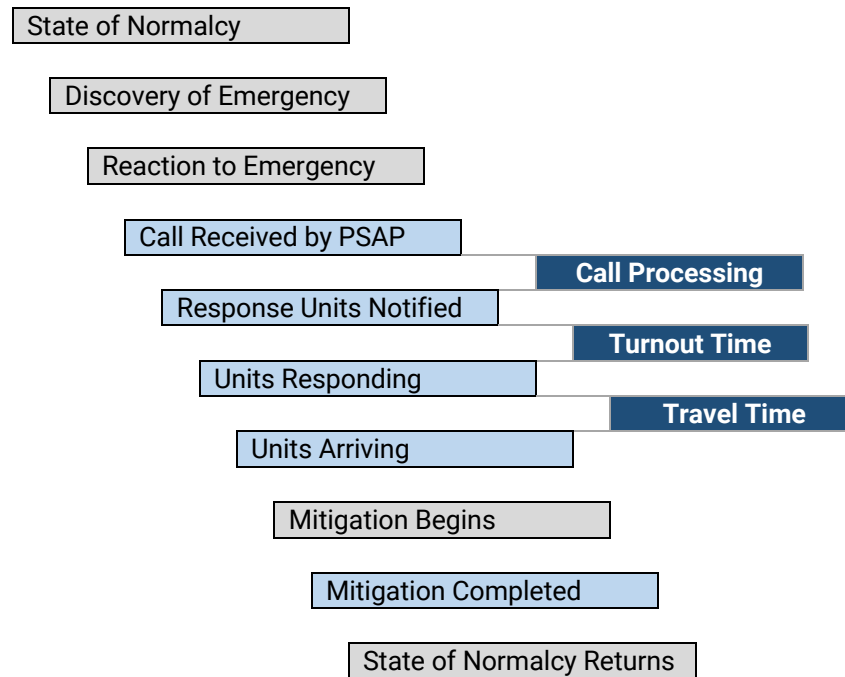
The expression of response time has changed. In years past, the measurement was expressed as an average of time. This essentially represents how the system or department is performing 50% of the time and is not a true reflection of how a department is performing. With the research that has been performed in developing performance

standards and practices the use of fractal time has become the best practice in the measurement and presentation of response time components. Fractal response time measures how often (as a percent of calls) a department can perform within each response time component. The National Fire Protection Association (NFPA) and the Center for Public Safety Excellence (CPSE) use the 90th percentile as the standard to meet for benchmark and baseline criteria. Benchmark measurements are described as the industry best practice. Baseline measurements are described as the actual performance of the organization.

Response Time

Response time to an emergency or call for assistance has been broken down into measurable and non-measurable segments. The response time continuum begins when the state of normalcy changes to a recognizable emergency. The cascade of events that occurs once an emergency starts or is recognized is illustrated in the following chart. Those highlighted points represent hard data or that which is quantitative versus soft data or that which is subjective and unknown.

Response Time Continuum



The highlighted points in the chart above represent three segments that can be used for evaluation: call processing, turnout time, and travel time. Each of these components represent a different point in the response time continuum and through their measurement, evaluation areas for improvement can be identified. Below are the definitions for the three components:

- Call Processing is defined as beginning when the call taker answers the call and ends with the dispatching of appropriate emergency services.
- Turnout Time is defined as beginning when the emergency service receives the call and is on the apparatus responding (wheels rolling) to the call.
- Travel Time is defined as beginning when the apparatus and personnel begin the response (wheels rolling) and ends once on location of the emergency (wheels stopped).

There are four nationally recognized models used to measure performance of the fire protection system and each have their own set of performance measurements based on different aspects of the community served.

- 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 last published in 2020.

- NFPA 1720 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Volunteer Fire Departments last published in 2020.
- Center for Public Safety Excellence (CPSE) Fire and Emergency Service Self-Assessment Manual last published in 2015 and Community Risk Assessment and Standard of Cover last published in 2016.
- Insurance Services Office (ISO) updated their Fire Suppression Rating Schedule in 2012 to allow the systematic performance evaluation of responses for their distribution and concentration ratings.

Locally, the Town can set desired performance levels which should be in the baseline to benchmark range and are generally based on three to five years of data.

Community Emergency Service Standards

As noted previously there are four nationally recognized models to use to design and improve a fire protection system in our communities. Each model is based on different aspects of a community from population density, the type of fire department and the road miles in the area.

The applicability for the NFPA models is based on the definitions of the fire department servicing the community.

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 was last published in 2020. It defines a career fire department as one that utilizes full-time or full-time equivalent (FTE) station-based personnel immediately available to comprise at least 50 percent of an initial full alarm assignment.

NFPA 1720 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Volunteer Fire Departments was last published in 2020.

- Defines a combination fire department as one having emergency service personnel comprising less than 85 percent majority of either volunteer or career membership.
- Defines a volunteer fire department as one having volunteer emergency service personnel comprising 85 percent or greater of its department membership.
- Defines four demographic components based on population density as urban, suburban, rural, and remote.

ISO continues to use their standard 1.5-mile and 2.5-mile criteria for engine company and ladder company placement. Although they now accept a systematic performance

evaluation that demonstrates the department can meet the time constraints outlined in NFPA 1710.

The Center for Public Safety Excellence (CPSE) had previously defined benchmark and baseline response times for each of the three components. They have since determined they are not a standard making organization and decided to leave the establishment of benchmark performance standards to others. However, their body of work is significant and has been and continues to be used by numerous communities across the country. Their performance objectives were based on population density demographics.

By definition, NFPA 1720 is the applicable fire protection model for Lauderdale-By-The-Sea. Additionally, ISO and the CPSE provide additional performance objectives for the Town in the delivery of fire protection services. While NFPA 1710 does not apply to the Town, Appendix A contained in that document provides supplementary information and background as it pertains to service delivery objectives for the Town as follows:

“There can be incidents or areas where the response criteria are affected by circumstances such as response personnel who are not on duty, unstaffed fire station facilities, natural barriers, traffic congestion, insufficient water supply, and density of population or property. The reduced level of service should be documented in the written organizational statement by the percentage of incidents and geographical areas for which the total response time criteria are achieved.

Additional service delivery performance objectives should be established by the AHJ for occupancies other than those identified within the standard for benchmark single-family dwellings. Factors to be considered include specific response areas (i.e., suburban, rural, and wilderness) and occupancy hazards.”

This passage acknowledges the authority having jurisdiction (AHJ), in this case the Town of Lauderdale-By-The-Sea, is responsible for determining the level of service to be provided by the Volunteer Fire Department. Considerations for the level of service include, but are not limited to, the manner in which the fire department responds, travel time, staffing, emergency calls versus non-emergency calls, roadways, financial resources, and those calls involving different occupancies. The levels of service provided to the Town should be written and documented so the residents of the Town know and understand the expectations of the fire protection system.

Current System Performance

To evaluate the current performance of the emergency response of the Fire Department, Computer aided dispatch (CAD) data was obtained from the Broward County Sheriff's Office for the previous three (3) years. Only emergency calls, those with an immediate threat to life or property were evaluated to assess the performance of the emergency communications system and Volunteer Fire Department.

Call Processing

Performance Standards

NFPA 1221 Standard for the Installation, Maintenance and Use of Emergency Services Communications Systems (2019 edition) establishes the call processing benchmark performance objectives as outlined in the following chart.

NFPA 1221 Time Requirements		
Component	Target	Performance
Calls Answered	Within 15 seconds	90%
	Within 20 seconds	95%
Call Processing	Within 60 seconds	90%
Call Processing for:		
* EMD		
* Language Translation		
* TTY/TDD Device Services	Exempt from the call processing time requirements.	
* Hazardous Materials		
* Technical Rescue		
* Text Message		
* Unable to Determine Location		

NFPA 1710 provides the following for call processing benchmark performance objectives which are slightly different than NFPA 1221.

NFPA 1710 Alarm Handling Time Requirements

Component	Target	Performance
Calls Answered	Within 15 seconds	95%
	Within 40 seconds	99%
Call Processing	Within 64 seconds	90%
	Within 106 seconds	95%
Call Processing for:		
* EMD		
* Language Translation		
* TTY/TDD Device Services	Within 90 seconds (90% of the time and within 120 seconds 99% of the time.	
* Hazardous Materials		
* Technical Rescue		
* Text Message		
* Unable to Determine Location		

CPSE uses the 60 second call processing time benchmark performance objective as outlined in NFPA 1221 for their requirements.

System Performance

The Broward County Sheriff's Office provides dispatch services for the Lauderdale-By-The-Sea Volunteer Fire Department. This is a collaboration between multiple municipalities in the county that reduces the duplication of services through an Interlocal Agreement between Broward County and the Town for participation in the Consolidated Regional E-911 Communications System. The Town of and Volunteer Fire Department do not have direct control of the performance of the dispatch center however, the dispatch center does have an impact on the response time continuum and is shown here for purposes of evaluation and performance measurement. The following table illustrates the baseline performance for the past three years as compared to the benchmark performance objective of sixty seconds.

Lauderdale-By-The-Sea Volunteer Fire Department

All Emergency Calls - 90th Percentile Times		2018 - 2020	2018	2019	2020	Benchmark
Call Processing	Pick-up to Dispatch	1:18	1:14	1:31	2:22	1:00

The calls evaluated are only those calls in Lauderdale-By-The-Sea. The baseline time over the past three years is 1 minute 18 seconds which is 18 seconds over the benchmark performance objective as described in NFPA 1221.

Turnout Time

Performance Standards

Turnout time is a measurable time segment that begins when the emergency service receives the call and ends with the apparatus responding (wheels rolling) to the call. The following table provides a comparison between NFPA 1710 and Lauderdale-By-The-Sea VFD performance objectives.

Turnout Time – Performance Objectives

Call Type	Benchmark NFPA 1710	Baseline LBTSVFD
Emergency Medical Calls	60 seconds or less 90% of the time	60 seconds or less 90% of the time
Fire or Special Operations Calls	80 seconds or less 90% of the time	80 seconds or less 90% of the time

By definition, NFPA 1710 is applicable to those departments that rely on career personnel for providing fire services.

System Performance

The following table illustrates the performance of turnout times for the past three years as compared to the benchmark and baseline performance objectives of sixty seconds for medical calls and the benchmark performance objective of eighty seconds and baseline performance objective for fire or special operations calls.

Lauderdale-By-The-Sea Volunteer Fire Department Turnout Times

All Emergency Calls - 90th Percentile Times	2018 - 2020	2018	2019	2020	Benchmark
Emergency Calls	3:06	3:58	2:47	3:34	1:20

The baseline time shown is the 90th fractal time for all emergency calls. As shown, the performance over the past three years is 1 minute 46 seconds over the benchmark goal of 1 minute 20 seconds.

Distribution of Resources

Distribution of resources is the measure of getting initial resources to an emergency to begin mitigation efforts. It has also been described as the speed at which the first unit arrives at the emergency. The models measure this in a variety of ways including percentage of square miles, percentage of road miles and travel time. With the advent of

GIS technology and improved computer aided dispatch (CAD) systems, the use of actual travel time is another more accurate measure for the distribution of resources.

Performance Standards

Travel time is a measurable time segment that begins when the apparatus and personnel begin the response (wheels rolling) and ends once on location of the emergency (wheels stopped). It is the most appropriate measurement available for the distribution of resources and has a proven record of developing successful deployment of resources.

The following table provides a comparison between the two models for benchmark performance objectives.

Demand Zone	Population Density	NFPA 1710	NFPA 1720	CPSE
Urban	Greater than 1,000 per sq. mile	4 minutes or less 90% of the time	9 minutes or less 90% of the time	4 minutes or less 90% of the time
Suburban	500 - 1,000 per sq. mile	4 minutes or less 90% of the time	10 minutes or less 80% of the time	5 minutes or less 90% of the time
Rural Area	Less than 500 per sq. mile	4 minutes or less 90% of the time	14 minutes or less 90% of the time	10 minutes or less 90% of the time

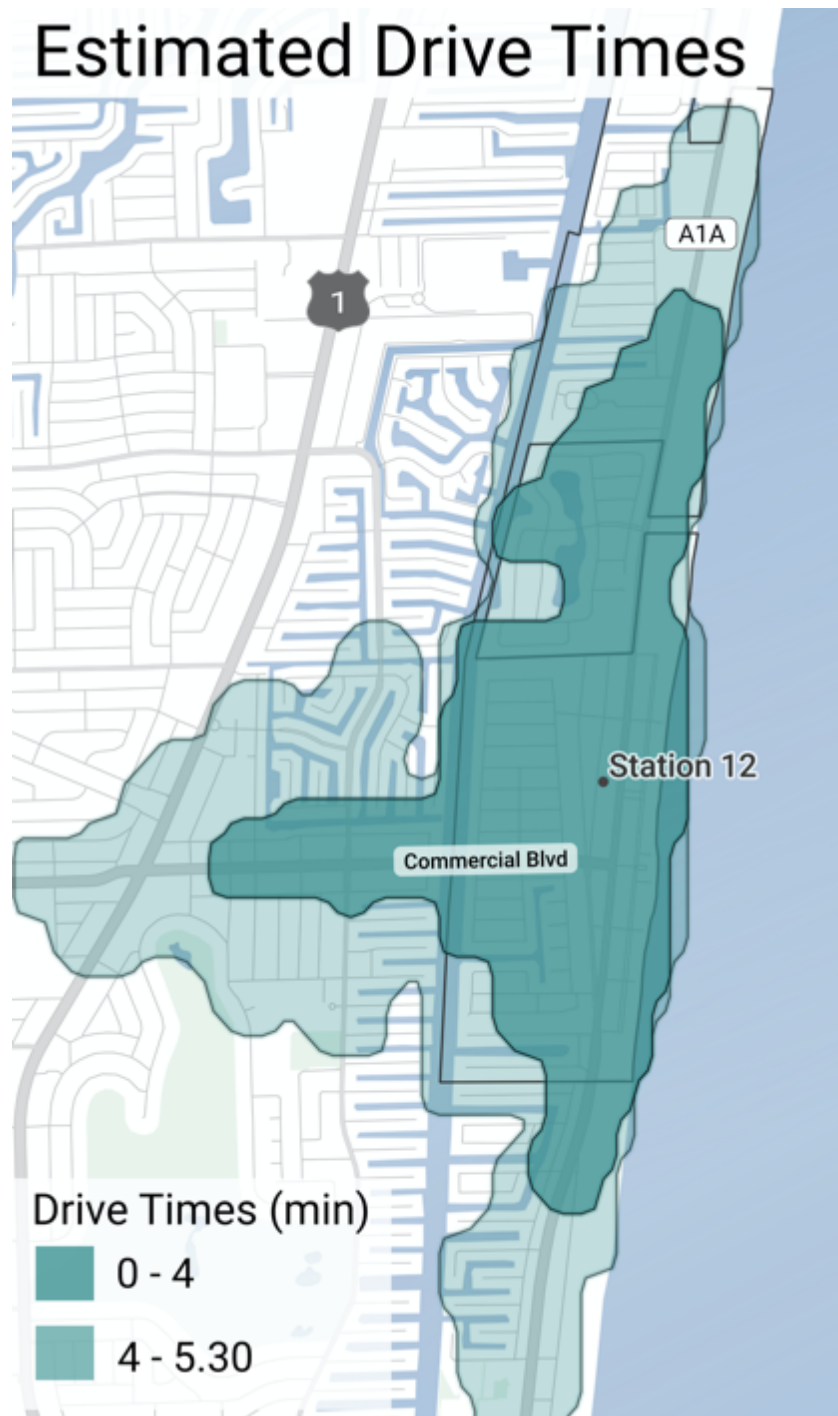
Lauderdale-By-The-Sea has a population density of 7,598 people per square mile. As noted, Lauderdale-By-The-Sea fits the urban demographic and the 4-minute travel time benchmark performance objective using NFPA 1710, which is 2 minutes 3 seconds shorter than performance over the past 3-years. For NFPA 1720, the benchmark time is 9 minutes, which is 2 minutes 57 seconds longer than the performance of the Volunteer Fire Department the past 3-years. The following table illustrates the baseline performance for the past three years for travel time as compared to the benchmark performance objectives.

Lauderdale-By-The-Sea Volunteer Fire Department Travel Times

All Emergency Calls - 90th Percentile Times			2018 - 2020	2018	2019	2020	Benchmark
Travel Time	1st Unit Distribution	Urban	6:03	6:06	6:17	5:47	4:00/9:00

The baseline is the 90th fractal time for emergency calls. In this illustration the Fire Department is over the urban benchmark performance objective by 57 seconds over the past three years according to NFPA 1710 standards. According to the current contract for services with the Town, the Volunteer Fire Department is required to respond within 9 minutes 90% of the time to all emergency fire rescue calls.

The following map provides a spatial view of the travel time performance using the Lauderdale-By-The-Sea fire station location as a starting point. Any mutual aid from Pompano Beach or Fort Lauderdale is not illustrated as this is expected to provide an evaluation of the Lauderdale-By-The-Sea staffed resources. The drive time isochrones are generated using a digital road network with existing speed limits, traffic laws, and a general pattern of traffic flow factored into the equation.



From the fire station most of the of the Town of Lauderdale-By-The-Sea is within the 4 minute travel time performance benchmark. The entire Town, with the exception of the extreme northwest corner, is reachable in 5 minutes 30 seconds.

Total Response Time

The Town has established a performance objective for the total response time to 90% of emergency calls for service in the contract with the VFD. This section calls for 90% of emergency calls to be “responded” to within 9 minutes 90% of the time. It is unclear what is meant by the term respond but based on best practices this could include the total response to include both turnout time and travel time to emergency incidents.

Lauderdale-By-The-Sea VFD turnout and travel time performance

All Emergency Calls - 90th Percentile Times			2018 - 2020			
			2018	2019	2020	
Total Response	1st Unit Distribution	All Calls	9:09	10:04	9:04	9:21

The calls evaluated are only those in Lauderdale-By-The-Sea. As shown, for emergency calls the performance over the past three years is 9 seconds over the response time goal set out in the contract. It is important to note the total response time allows for some divergence between the travel time and turnout time. In some instances, the units may be enroute to the call before the enroute time is physically captured by the emergency communications center. This would extend the turnout time and shorten the travel time. In this manner the total time is captured and provides a clearer view of the response time continuum and a view of what the caller experiences. When you examine the cause of the overage in response, turnout times are 1 minute and 46 seconds over the benchmark performance goal of 1 minute 20 seconds 90% of the time. Improvements to turnout times will easily bring the total response time under the overall response time goal.

Concentration of Resources

Concentration is generally described as the ability of the fire protection system to get the appropriate number of personnel and resources to the scene of an emergency within a prescribed time to effectively mitigate the incident. As such there are several parts to this component; the arrival of the second fire suppression unit; defining and establishing an effective response force; and the travel time for the first alarm assignment to arrive at the incident.

Performance standards

As noted, there are three segments to concentration, the first segment is the arrival of the second fire suppression unit, the second segment involves the travel time and number of personnel. Again, these three segments represent the most appropriate measurement available for the concentration of resources.

There are two travel time components included in the concentration segment. The first is the travel time for the second arriving apparatus and the second is the balance of the first alarm assignment. The table that follows illustrates the differing viewpoints for the travel time of the second arriving unit.

Second Arriving Unit – Travel Time Benchmark Performance Objectives

Demand Zone	Demographics	NFPA 1710	CPSE
Urban	Greater than 1,000 per sq. mile	6 minutes or less 90% of the time	8 minutes or less 90% of the time
Suburban	500 - 1,000 per sq. mile	6 minutes or less 90% of the time	8 minutes or less 90% of the time
Rural Area	Less than 500 per sq. mile	6 minutes or less 90% of the time	14 minutes or less 90% of the time

NFPA 1710 and CPSE have time standards for the second arriving apparatus, There is no arrival time performance objective established for the second arriving unit in Lauderdale-By-The-Sea. This is acceptable as the second unit will typically be an apparatus staffed by volunteers responding from home or apparatus responding from an automatic or mutual aid agency and there is no control over these times as they are dependent on the location of the responders. The next table illustrates the travel time objectives for the first alarm assignment.

First Alarm Assignment – Travel Time Benchmark Performance Objectives

Demand Zone	Demographics	NFPA 1710	CPSE
Urban	Greater than 1,000 per sq. mile	8 minutes or less 90% of the time	8 minutes or less 90% of the time
Suburban	500 - 1,000 per sq. mile	8 minutes or less 90% of the time	10 minutes or less 90% of the time
Rural Area	Less than 500 per sq. mile	8 minutes or less 90% of the time	14 minutes or less 90% of the time

In this table there are a couple of notable items. NFPA 1710 applies the same travel time for all demographics. CPSE addresses the first alarm assignment by demographic and the stated time is measured from the time the unit goes enroute until arrival at the scene.

Effective Response Force

The third part of the concentration section concerns the number of personnel arriving with the first alarm assignment. There are several tasks, which must occur simultaneously to adequately combat different types of fires. The absence of adequate personnel to perform these tasks requires each task to be prioritized and completed in chronological order. These fire ground tasks include command, scene safety, search and rescue, water supply, fire attack, pump operations, ventilation, back up, and rapid intervention.

An initial full alarm assignment should be able to provide personnel to accomplish the following tasks:

- Establish incident command outside of the hazard area. This will allow coordination and direction of the incoming emergency response personnel and apparatus. A minimum of one person should be dedicated to this task.
- Establish an uninterrupted water supply of at least 400 gallons per minute for 30 minutes. Once established the supply line can be maintained by the pump operator to ensure uninterrupted water supply. A minimum of one person is assigned to this task that can then assume support role.
- Establish an effective water flow rate of 300 gallons per minute. This will be supplied to a minimum of two hand lines each operating at a minimum flow of 100 gallons per minute. Each hand line must have two individuals assigned with one serving as the attack line and the other as a back-up line.
- Provision of one support person to handle the hydrant hookup, utility control, forcible entry, and assist in deploying fire hose lines.
- Establish a search and rescue team. Each team will consist of a minimum of two.
- Establish a ventilation team. Each team will consist of a minimum of two personnel.
- Establish an initial rapid intervention team (RIT). Each RIT team shall consist of a minimum of two properly trained and equipped personnel.

Critical tasking will vary depending on the size, complexity and nature of the incident. The Center for Public Safety Excellence (CPSE) provides a suggestive list of tasks that need to be completed at a fire situation based on the risk. A similar list is provided within the NFPA 1710 document. The CPSE analysis, from the 8th edition, is summarized in the table below showing the minimum required personnel to mitigate the initial emergency response requirements by occupancy risk:

Critical Tasks for the Effective and Efficient Control of Structural Fires

Critical Task	Maximum Risk	High Risk	Moderate Risk	Low Risk
Attack Line	4	4	4	2
Search and Rescue	4	2	2	0
Ventilation	4	2	2	0
Backup Line	2	2	2	2
Rapid Intervention	2	2	2	0
Pump Operator	1	1	1	1
Water Supply	1*	1*	1*	1*
Support (Utilities)	1*	1*	1*	1*
Command	1	1	1	1
Safety Officer	1	1	1	1
Salvage/Overhaul	2	0	0**	0
Command Aid	1	1	0	0
Operations Chief	1	1	0	0
Logistics	1	0	0	0
Planning	1	0	0	0
Staging Officer	1	1	0	0
Rehabilitation	1	1	0	0
Division Supervisors	2	1	0	0
High-rise Evacuation	10	0	0	0
Stairwell Support	10	0	0	0
Total Personnel	50-51	21-22	16 – 17	8-9

*Tasks can be performed by the same individual **Task can be performed by the attack crew

It is incumbent upon the fire department to have a response plan in place to ensure enough personnel are on scene to accomplish the stated critical tasks in a timely fashion. Structure fires are very labor-intensive incidents with any number of factors, such as weather, making the task that much more difficult.

The Lauderdale-By-The-Sea VFD is in District 12 of the Broward County Consolidated Mutual Fire, Rescue, Emergency or Disaster Interlocal Agreement. This regional response plan has a well-developed system for ensuring an effective response force can arrive in a timely manner to critical incidents occurring in the Town.

This agreement allows the signature municipalities to request personnel, apparatus, or equipment from the other signatory municipalities in the event of firefighting, rescue, emergency or disaster events which cause demands greater than the capacity and resources of the municipality. Municipalities in this agreement include:

Cooper City	Coral Springs	Dania
Davie	Deerfield Beach	Fort Lauderdale
Hallandale	Hollywood	Lauderdale-By-The-Sea
Lauderhill	Lighthouse Point	Oakland Park
Pompano Beach	Port Everglades	Sunrise
Tamarac	Wilton Manors	

The following table illustrates the resources available to the LBTS VFD by alarm assignment as part of the District 12 regional response plan.

Order	Engines	Aerials	Rescues	Chiefs
1	Ft. Lauderdale	Ft. Lauderdale	Ft. Lauderdale	Ft. Lauderdale
2	Pompano Beach	Pompano Beach	Pompano Beach	Pompano Beach
3	Oakland Park	Deerfield Beach	Oakland Park	Oakland Park
4	Lighthouse Point	Tamarac	Lighthouse Point	Deerfield Beach
5	Deerfield Beach	Lauderhill	Deerfield Beach	BSO
6	Tamarac	Sunrise	Tamarac	
7	BSO	Plantation	BSO	
8	Sunrise	Hollywood		
9	Coral Springs			

This system is working well and should continue in providing critical emergency assistance in the Town when the scale of an emergency exceeds the staffing and response capabilities of the VFD.

Adding to the critical tasks and staffing issues is the OSHA requirement of two in – two out in regulation 1910.134(g)(4). These regulations state that if entry into an Immediately Dangerous to Life and Health (IDLH) atmosphere is necessary, two firefighters must enter together and remain in contact with each other. In addition, there must be two firefighters located outside the IDLH atmosphere for potential rescue if needed. This is a mandatory requirement.

The concept of an effective response force carries through for other responses by the volunteer fire department. The tables below outline the critical tasks for an effective response force for those responses.

Critical Tasks for Hazardous Materials

Critical Task	High Risk	Low Risk
Command/Safety	2	1
Liaison	1	1
Decontamination	4	4
Research Support	2	1
Team Leader, Entry Team, Backup Team	6	6
Total Personnel	15	13

Critical Tasks for Technical Rescue Incidents

Critical Task	Swift Water	High/Low Angle	Confined Space	Trench
Command/Safety	1	1	2	2
Rescue Team	3	2	2	2
Backup Team	2	2	2	2
Patient Care	2	2	2	3
Rope Tender	2	0	0	0
Upstream Spotter	2	0	0	0
Downstream Safety	2	0	0	0
Rigger	0	1	1	0
Attendant	0	1	1	0
Ground Support	0	4	4	0
Edge Person	0	1	0	0
Shoring	0	0	0	5
Total Personnel	14	14	14	14

The previous tables illustrate the needs for a sampling of hazardous materials and technical rescue incidents as there are numerous others, such as elevator rescues which are a common occurrence in the Town. Each of the technical rescue incidents will require similar numbers of personnel or more depending on the complexity of the incident. Further, many of the positions require personnel to be certified in those positions or that particular discipline.

As with the fire protection system, an effective response force is needed for the effective and efficient delivery of emergency medical services. A task analysis for emergency medical calls analyzes three different types of calls or patient conditions. These three types of calls usually require the most effort on the part of the response team, which is why there are occasions when LBTS VFD responds to assist AMR on medical calls. Other calls or patient types can generally be handled with two or three personnel. Many times, especially in trauma calls, there are multiple patients. The table below outlines the tasks for handling these critical patients and the number of responders it may require for a successful outcome. It is important to note that some tasks are accomplished by the same personnel, so the total is not simple addition of the positions noted.

Critical Tasks for Effective Patient Care

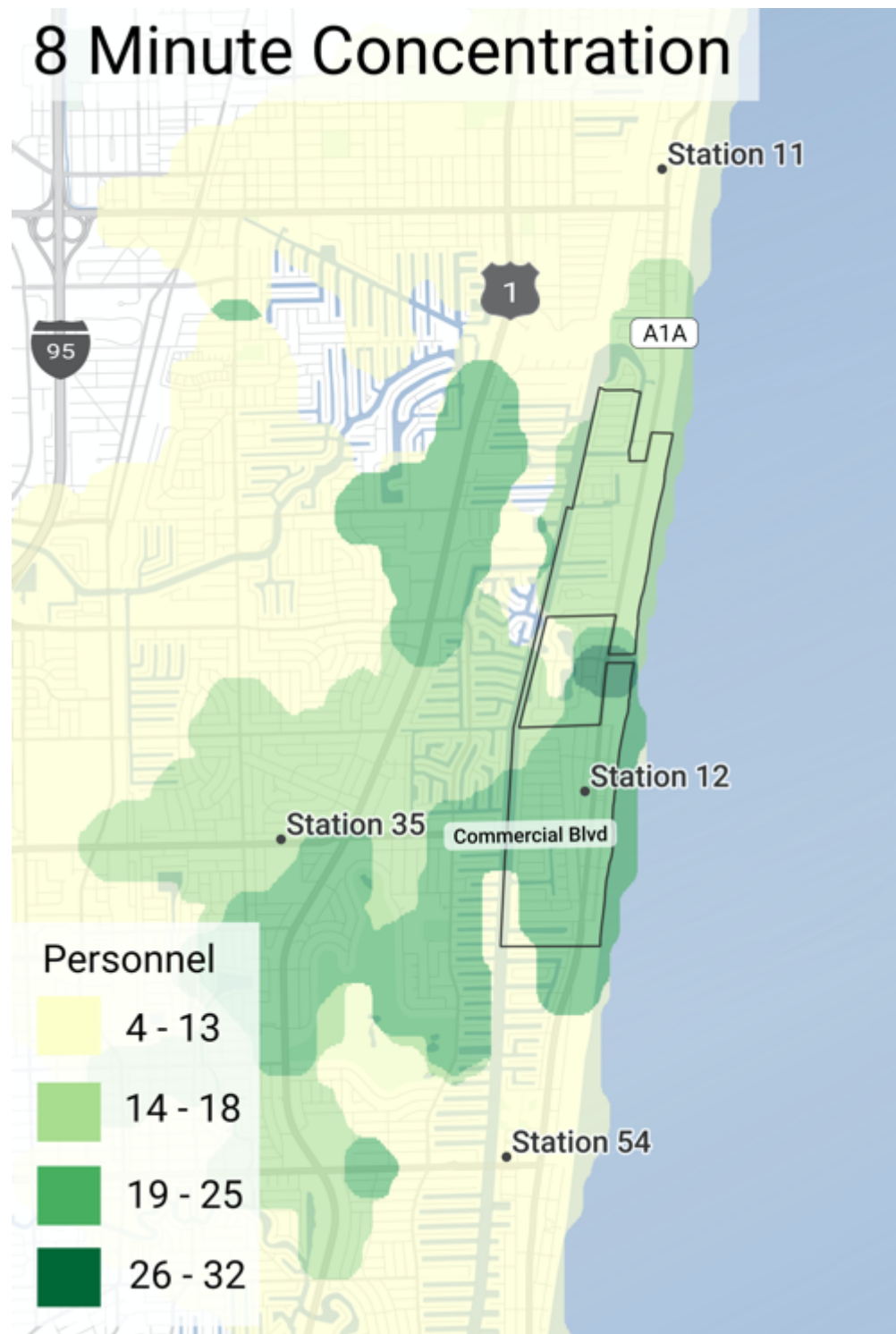
Critical Task	Cardiac Arrest	Stroke	Multi-System Trauma
Patient Assessment	2 per patient	2 per patient	2 per patient
Airway Management/Intubation	2 per patient	2 per patient	2 per patient
Cardiac Defibrillation	1	N/A	N/A
CPR	1	N/A	N/A
EKG Monitoring	1	1	1
IV/Pharmacology	1	1	1
Splint/Bandage/Immobilization	N/A	N/A	1
Patient Lifting/Packaging	2 – 4	2 – 4	2 – 4
Medical Information Collection	1	1	1
Total per Patient	6 - 8	5 - 7	6 - 8

Based on the staffing model in Lauderdale-By-The-Sea, the current system provides two personnel on basic life support calls and up to seven (7) personnel on advanced life support calls. This generally provides the number of personnel to those critical calls as outlined in the previous table. Multi-system trauma calls are typically auto accidents or other type of calls that would also receive an engine company with three additional personnel to assist the ambulance crew.

Department Capabilities

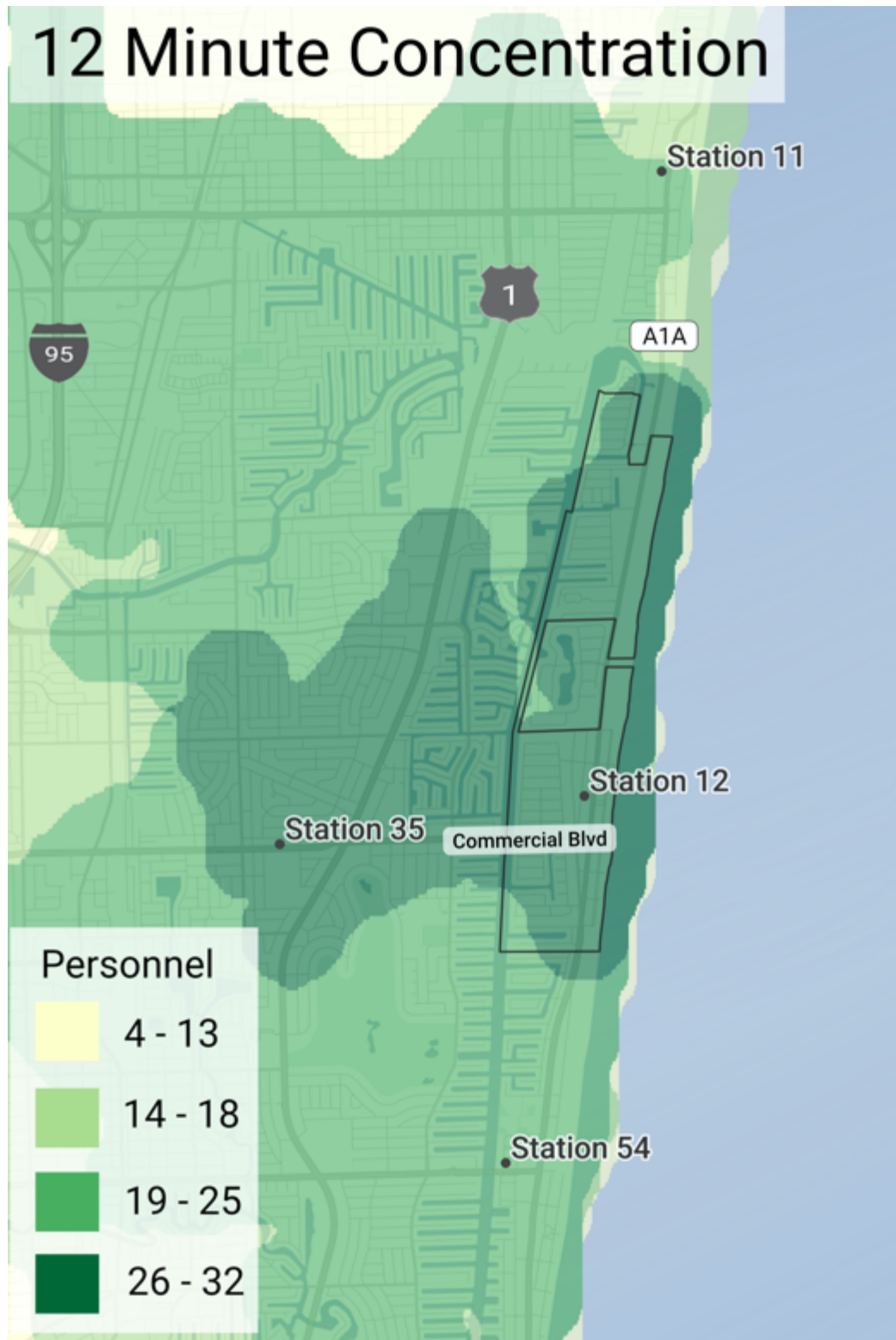
Geographic Information Systems (GIS) technology data was used for the evaluation of resource concentration.

The map that follows illustrates the concentration of resources with an 8-minute urban benchmark travel time based on the LBTS VFD and mutual aid stations for a 1st and 2nd alarm assignment as outlined in the Broward County Mutual Aid Plan for District 12.



This assumes the resources are responding from their respective stations. The northern sections of Lauderdale-By-The-Sea Beach have a range of 14 to 28 personnel and moving south that increases to the range of 19 to 25 personnel. Just north of station 12 is an area that can achieve as many as 26-32 personnel.

The following map illustrates the concentration of resources using a 12-minute travel time that mirrors the travel time using the same stations for emergency response.



As illustrated, the majority of the town, except for the extreme southwestern corner can achieve 26-32 personnel on scene within 10-minutes travel time.

System Reliability

The concept of distribution and concentration of resources can be influenced by other contributing factors including unit hour utilization and concurrent calls for service.

Unit Hour Utilization

There are different ways to calculate unit hour utilization. In the private sector the number of transports is used to provide this utilization rate as their focus is profit. For purposes of this report, unit hour utilization is calculated by taking the total hours the unit is committed to an incident divided by the total available hours as the focus is more on the delivery of service and availability for the call volume. Expressed as a percentage, it identifies the amount of time the unit is committed but more importantly the amount of time the unit is available. There is no standard that addresses the unit hour utilization rates for emergency services. There has been some national discussions and data to support a 30% unit hour utilization rate as the upper limit for utilization and the point at which additional resources are needed to support the emergency response system. Using a 24-hour shift as a base, a 30% unit hour utilization rates means the unit is committed approximately 8 hours of the shift. However, within the framework of the 90th percentile performance standards for response time, the amount of available time can have an impact in meeting the response time standard. If utilization rates are too high the units are often unavailable for immediate response and units from another station must respond to service the call. A one size fits all approach does not work well as there are numerous variables in the community. Using 20% unit hour utilization as a point to begin further evaluation of the response system provides the community with the opportunity to address the issue before it becomes critical.

The following tables illustrate the unit hour utilization for the past three years of Engine 12 as it is the first unit dispatched to emergencies by Broward County and staffed 24 hours per day. **Engine 12 Unit Hour Utilization 2020**

Hours Utilized	% of Utilization	Avg. Call Duration
180:33:34	2.01%	19:09

As illustrated, Engine 12 is utilized approximately 2.01% of the hours it is in service. The engine is not over utilized, nor approaching the threshold where placing an additional unit in service should be considered.

Recommendations:

- Add a turnout time performance standard of 1 minute 20 seconds 90% of the time to the VFD contract.
- Add a travel time performance standard of 6 minutes 30 seconds 90% of the time to the VFD contract.
- Continue to be a signatory partner on the Broward County Consolidated Mutual Fire, Rescue, Emergency or Disaster Interlocal Agreement.
- Continue to staff a command position and deploy the engine company with a minimum daily staffing of three (3) personnel.

Organizational Analysis

The design of an organizational structure to best meet the needs of an agency is not only predicated on the traditional command and control within the Fire Department, but also to help define job duties and responsibilities, ensure efficient and effective workflow, establish a reporting hierarchy, and ultimately determine appropriate lines of authority and accountability. To accomplish this, the design of an organizational structure and placement of employees within the organization should be established on key principles that provide the organizational cohesion necessary to accomplish the primary mission of the Department. These principles include:

- **Accountability and responsibility are clearly identified:** The organizational structure must be consistent with the concept that clear lines of authority and decision making are essential for any organization to achieve excellence. Areas of responsibility are clearly delineated, and points of accountability are readily identifiable.
- **Span of control or communication is optimal:** Effective organizations are structured so that lines of communication are identifiable and where there are multiple reporting relationships, responsibility for communication and control are clearly identified and understood.
- **Coordination of Work Efforts:** The organizational structure should facilitate communication and working relationships among staff and work units. Many functions need close or indirect alignment to maximize efficiency and effectiveness. The structure should also provide easy identification of job function to people outside the Department, including other Departments in the Town and other fire service agencies.
- **Degree of Organizational Risk:** This relates to how much risk a function incurs if an activity is not performed or is performed poorly. Risk might involve tactical, financial or political concerns. Generally, higher risk functions have closer management oversight.
- **Supervisor and Management Span of Control:** This relates to whether supervisors are fully devoted to overseeing a select few primary activities or a broader set of duties and responsibilities. Appropriate spans of control are related to both the number of staff directly supervised as well as the complexity of activities overseen.

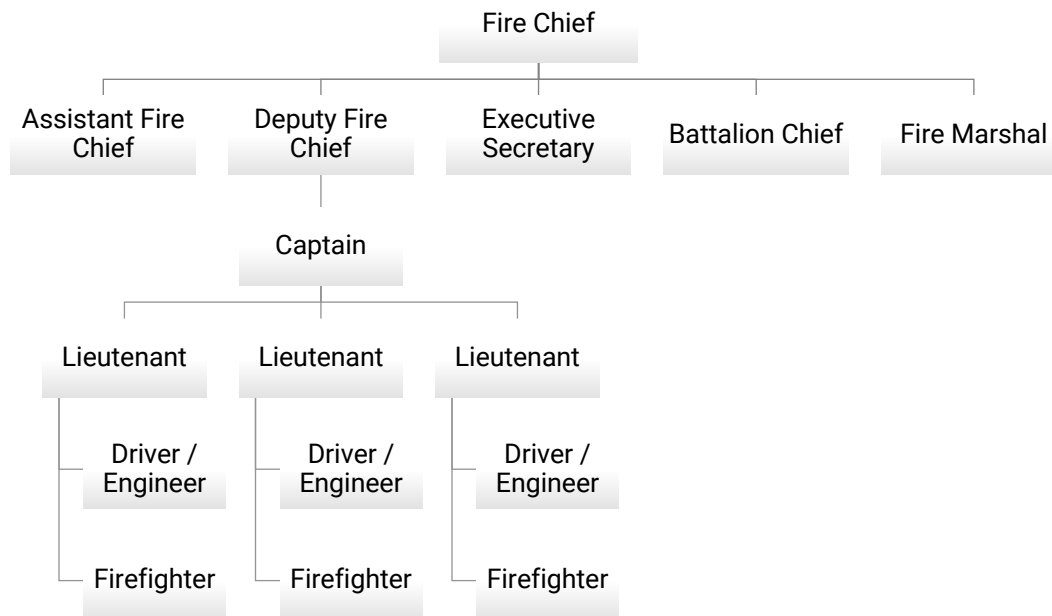
Nationally recognized best practice for span of control in highly technical and professional positions is to limit direct reports typically to five or six positions.

Organizational Structure

According to Section 3.2 of the Fire Protection and Fire Prevention Services Agreement the LBTS VFD is required to maintain a minimum of one (1) Fire Chief, one (1) Deputy

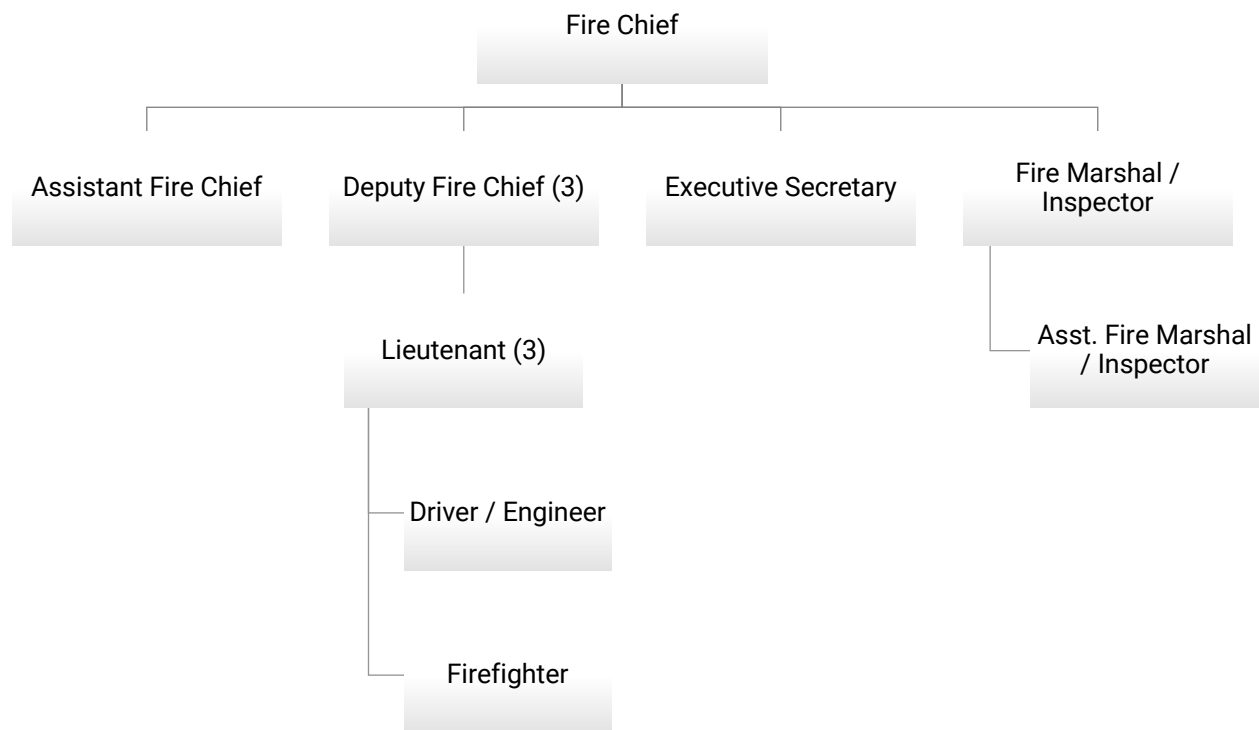
Chief, one (1) Battalion Chief, one (1) Safety Officer, one (1) Fire Inspector, one (1) Training Officer and one (1) Fire Administrator. The following organizational chart illustrates the current organizational structure of the LBTS VFD.

Lauderdale-By-The-Sea Volunteer Fire Department Organizational Chart



As illustrated above there are several positions required by the contract that are not included in the organization chart and others that are included that are not mentioned in the agreement. Currently the Assistant Chief is serving as the Training Officer, The Battalion Chief is serving as the Safety Officer and the Fire Marshal is serving as the required Fire Inspector. It is also important to note that the Captain also functions as a Shift Commander in current operations.

The above organizational structure was developed when leadership positions were voted on annually. To clearly represent how the Volunteer Fire Department is operating today, the following organizational structure is recommended.



In this structure it is recommended that each of the Deputy Fire Chiefs be trained to meet the National Fire Academy requirements for an Incident Safety Officer to comply with the Safety Officer requirement. The Captain is upgraded to a Deputy Chief position this position is already functioning in that role. The Assistant Fire Chief would continue to serve as the primary Training Officer and Information Systems person in the Department. The duties and responsibilities assigned to the personnel would be as follows:

LBTS VFD Duties and Responsibilities

Title	Duties
Fire Chief	<ul style="list-style-type: none"> • Overall Department Leadership • Develops and Manages the Budget • Reviews and Approves Purchases • Develops Apparatus Specifications • Develops and Updates Policies and Procedures
Assistant Chief	<ul style="list-style-type: none"> • Training Development • ISO • Professional Development • Information Systems
Deputy Fire Chief -1	<ul style="list-style-type: none"> • Fire Operations • Fleet Services • Incident Safety Officer • Incident Commander

Executive Secretary	<ul style="list-style-type: none"> • Administration • Payroll • Human Resources • Town Liaison
Deputy Fire Chief - 2	<ul style="list-style-type: none"> • Health and Safety • EMS • Mental Health • Incident Safety Officer • Incident Commander
Fire Marshal / Assistant Fire Marshal	<ul style="list-style-type: none"> • Fire Prevention • Public Education • Fire Inspections
Deputy Fire Chief -3	<ul style="list-style-type: none"> • Logistics • Support Services • Staffing • Ocean Rescue • Incident Safety Officer • Incident Commander
Lieutenant	<ul style="list-style-type: none"> • Training
Lieutenant	<ul style="list-style-type: none"> • Equipment Maintenance
Lieutenant	<ul style="list-style-type: none"> • Fleet Services

The Fire Chief currently serves in a part-time capacity. There is discussion in the Town as to whether this should become a full-time position in the Department. The main concern is the lack of interaction between the Chief and other critical Town functions. Based on review of the workloads in the Department and how services are currently provided, utilizing a part-time Fire Chief can continue to serve the Town well. The key change needs to be to the contract and defining expectations for the Chief to maximize engagement in the Town during work hours. These will be further discussed in the contract analysis chapter which follows this section of the report.

Fire Prevention

This section of the report evaluates the effectiveness of the Fire Prevention efforts of the VFD. The importance of effective fire prevention services was brought to public attention with the publishing of America Burning in 1973, and in that report, public education was identified as a major goal for the national fire service. It wasn't until the late 1980's that a few departments became active in the public education and then life safety education became more widespread in latter part of the 1990's. The annual fire loss data clearly illustrates that the increased delivery of these programs along with stricter fire codes has resulted in the reduction of the incidence of fires and life loss due to fire in the country.

The Lauderdale-By-The-Sea Volunteer Fire Department has a well-defined fire prevention program and adheres to several best practices, these include:

- The Town has adopted fire prevention and building codes.
- All buildings requiring a fire inspection are inspected at least annually for compliance with applicable fire protection laws and local jurisdictional ordinances.
- Engine company personnel are involved in the annual inspection process.
- There is adequate staff with specific expertise to meet the goals and objectives for fire prevention services relative to the community risk of the Town.
- The Fire Marshal is trained in Fire Investigation and has regional support for the investigation of large suspicious fires.

The following table illustrates the workload in Fire Prevention related to annual inspections:

Inspection Activity	2018	2019	2020
Annual Inspection	506	446	441
Re-Inspection	185	32	43
Permit Inspection	233	511	400
Complaint Inspection	13	8	17
Vacation Rental	0	60	46
Event	0	1	4
Tax Receipt Inspection	0	42	33
Vacant Occupancy	0	16	17
Total	937	1,116	1,001

As illustrated above, the inspection workload is manageable for a single position in this area of the department. There are opportunities for improvement in Fire Prevention, specifically related to succession planning. There is currently only one person working in this area of the organization and without effective succession planning and developing personnel to have the required certifications to conduct inspections, fire investigations and public education activities the Department would have difficulty fulfilling fire prevention needs in the event of a vacancy in the Fire Marshal position. The VFD would benefit by training an Assistant Fire Marshal / Inspector that meets the requirements of the Fire Marshal position and fill in during any short or long-term vacancies in the Fire Marshal role.

It is also a best practice to conduct public education programs that target the specific risks, behaviors and audiences identified through analysis of emergency response incident data. Currently the only public education efforts identified are station tours, car seat installations, citizen outreach and smoke detector/fire extinguisher training. The department would benefit from conducting an annual analysis of the causes of emergencies in the Town and developing public education courses to reduce the

occurrence of these events. This could include topics such as cooking fire prevention, fall prevention, etc.

Recommendations

- Change the organizational structure to include one (1) Fire Chief, three (3) Deputy Fire Chiefs, one (1) Assistant Chief of Training, one (1) Fire Marshal/Inspector, one (1) Assistant Fire Marshal/Inspector and one (1) Fire Administrator.
- Develop a succession plan in the Fire Prevention Division to develop personnel to assist in this function.
- Conduct an annual evaluation of emergency calls to determine specific public education topics to mitigate risks present in the Town.

Training

The Training Division in any fire department is typically considered a major function and is generally responsible for the basic training received by new recruits, as well as the continuing education of the existing workforce. Training programs include fire suppression, emergency medical treatment, hazardous materials, technical rescue, officer development as well as basic perishable skill training. The Department has established minimum training requirements for all positions in the organization.

Continuing education is the major focus of the Training Officer within the Fire Department. The Fire Department places a considerable emphasis on its training program, offering training opportunities through both an online platform and in person classes to ensure all members receive 18 hours of training per month. The Chief works with the Training Officer to develop a monthly training plan. Training sessions are held Monday and Thursday evening and Saturday morning to maximize the ability of personnel to attend training sessions. Specialized training is conducted through a cooperative agreement with Coral Springs Regional Institute of Public Safety. In 2020 this training included:

- Introduction to LBTS VFD equipment and procedures with skills assessment (2x per year)
- Hose line, high-rise, search and rescue and Rapid Intervention Team operations under smoke and live fire conditions (2x per year)
- Driver Engineer Apparatus Hydraulics
- Driver Engineer Apparatus Operator

In 2020, there were approximately 6,886-man hours of training completed by members of the Department. A review of departmental training records indicated a broad spectrum of topics taken by the membership of the Department, much of which corresponds to the risks found in the Town, such as high-rise operations, ocean rescue, fire alarm systems and rescue and extrication.

The training component of the LBTS VFD generally complies with best practices for an organization of their size and complexity but could benefit from enhancements to the training program. These improvement opportunities include:

- Conducting multi-company evolution training drills with Fort Lauderdale and Pompano Beach to ensure effective performance on high-risk/low frequency events such as high-rise fires.
- Conducting a formal annual evaluation of the training program to ensure the program is in compliance with State regulations and meeting the organizational needs.

Recommendations

- Work with the Fort Lauderdale and Pompano Beach Fire Departments to conduct annual multi-company training drills on high-risk/low frequency events.
- Continue to offer training options both online and in person to maximize volunteer participation in training programs.
- Conduct an annual evaluation of the training program to ensure it remains in compliance with State regulations and meets the training needs of the members and Department.

Contractual Review

This section includes the Review of the existing contract and improvement opportunities moving forward with the Town contracting for Fire Services.

Contract Management and Administration Overview

A review of a contract can be placed in context of several contract management activities that can be summarized by the following graphic:



In brief, an effective contract contains six elements to allow for best-practice contract administration and management. These six elements are inter-related and often overlapping but provide a context in which the efficacy of a contract can be examined. With respect to this engagement, those three items under contract administration are reviewed.

While the assessment of contractual obligations is not intended to offer a legal perspective, our review of the existing contract does allow for the identification of potential areas in which contract enhancements, deletions, or other edits could occur consistent with best practices in contract management, operations, etc. The observations noted are intended to provide feedback which should help strengthen future contracts for Lauderdale-By-The-Sea with respect to emergency service delivery.

Compliance Monitoring

Compliance monitoring entails three key aspects related to this contract administration area:

- The contract is written such that methods are clearly available to ensure the terms and conditions of the contract are appropriately executed.
- That contract compliance monitoring is regularly performed.
- That upon completing compliance monitoring, it can be determined that the execution of the contract conforms to its intent.

The current contract language has created some level of confusion among different parties as it relates to a key element of its execution. The relevant contract language that leads to misinterpretation is abstracted below:

Article 2 Section 2.1.5 – The VFD shall provide beach first responder services, operating on a part-time basis, to promote safety and fire prevention and provide surveillance of and first responder services at all beach areas within the Town.

2.1.5.1 – The VFD shall maintain a presence in the beach areas for emergency situations according to a schedule approved by the TOWN, during special events, or upon request of the Town Manager.

The project team found no evidence of a formal beach patrol schedule that has been approved by the Town. The following table illustrates the number of beach patrol hours conducted by the Fire Department in 2018 - 2020.

Beach Patrol Hours 2018 – 2020

Year/Hours	2018	2019	2020
Hours	795	460	271*

It is important to note that the COVID 19 pandemic did cause beach closures in 2020, but there was also a significant reduction in patrol hours from 2018 to 2019.

Section 2.4 – Fire Marshal Services: The VFD shall retain a qualified Fire Marshal to provide the services specified in this Section. The selection of the Fire Marshal shall be subject to the prior written approval of the Town Manager. Within no more than 60 days following receipt of a written notice of the Town Manager’s dissatisfaction with the Fire Marshal, the VFD shall replace the Fire Marshal with another qualified Fire Marshal, and this selection of the replacement Fire Marshal shall also be subject to the prior written approval of the TOWN.

The project team found no evidence of succession planning for the Fire Marshal position in the VFD. The 60-day requirement for a replacement is unrealistic in terms of allowing proper recruiting, interviewing and onboarding a new Fire Marshal.

Article 3 Section 3.2 – The VFD shall maintain the following personnel at a minimum during the term of this Agreement: one (1) Fire Chief, one (1) Deputy Fire Chief, one (1) Battalion Chief, one (1) Fire Administrator, one (1) Safety Officer, one (1) Fire Inspector and one (1) Training Officer.

As discussed in the organizational assessment chapter of the report. The current staffing requirements do not reflect how the VFD staffs and operates on a daily level. The positions listed are from a period when there was annual voting by the membership on who would serve as command staff. Currently the Fire Chief appoints these positions. Also, there are positions listed where the position listed is being filled by another position and no longer is needed as the position is more functional in nature and not part of the daily staffing needs. This includes the Fire Inspector as these duties are handled by the Fire Marshal, the Safety Officer as these duties are handled by the Battalion Chief and the Training Officer as these duties are handled by the Assistant Chief.

Article 4 Section 4.2 – The TOWN and the VFD will consult with each other in advance of purchasing fire apparatus and equipment.

This section lacks two distinct areas that are needed to ensure the VFD maintains an appropriately sized fleet and has plans and funding in place for the replacement of the vehicles and apparatus at appropriate timelines. The only area in the contract that

stipulates the number and type of vehicles is in Article 2 Section 2.1, Subsection 2.1.5.4 where there is a requirement to operate two (2) all-terrain vehicles (ATV's) for providing first responder emergency services. The following table illustrates the current apparatus and vehicles in use by the VFD.

Unit ID	Year	Description	Type
Engine 12	2012	E-One	Type 1 Engine
Squirt12	1995	Pierce	Ladder Truck
Engine 212	1994	Pierce	Reserve Engine
Tower Ladder 12	1989	KME/Grumman	Reserve Ladder
Command 12	2016	Chevrolet Tahoe	Command
Utility 12	2007	Ford F250 Pickup	Utility
Prevention 12	2017	Chevrolet Colorado	Fire Prevention
Marine 212	2016	Yamaha, Jet Ski	Marine Unit
Marine 12	2017	Yamaha, Jet Ski	Marine Unit
Ocean Rescue 212	2016	Polaris Ranger 6x6	Ocean Rescue
Brush/Water Tank	2018	Polaris Ranger 1000	Utility
Ocean Rescue 12	2019	Polaris Ranger 1000	Ocean Rescue
Ocean Rescue 312	2020	Polaris Ranger 1000	Ocean Rescue

As illustrated above the VFD currently has a front-line engine and ladder truck as well as a reserve engine and ladder truck. They also have three (3) staff vehicles, two (2) watercraft and four (4) ATV's.

It is very uncommon for an agency the size of LBTS VFD to maintain a reserve ladder truck as if the front-line unit goes out of service this resource is immediately available from both Fort Lauderdale and Pompano Beach and can be immediately dispatched to an emergency requiring a ladder truck. The VFD also has three (3) Ocean Rescue and one (1) Brush Fire ATV's, which is two (2) more than required by the contract.

The Town and VFD should work together to develop an apparatus inventory requirement and replacement plan for the proper planning and funding of apparatus and vehicle needs. The following are the recommended number of vehicles and timelines for replacement.

Vehicle Type	Number	Front Line Years	Reserve Years
Engine	2	10	10
Ladder	1	15	0
Staff	3	6	0
Jet Ski	2	4	0
ATV Ocean Rescue	2	4	0
ATV Brush/Water	1	4	0

In this scenario the VFD and Town would plan for the replacement of an engine every 10 years, the ladder every 15 years, one (1) staff vehicle every two (2) years, one (1) jet ski every two years, one (1) ocean rescue ATV every two (2) years and the Brush ATV every four (4) years.

Article 7 Section 7.1 – The contract language requires the Fire Chief, Deputy Chief or a Battalion Chief to be on duty twenty-four (24) hours a day, seven days a week during the term of this Agreement with NO EXCEPTIONS. Currently it is practice to allow the Captain to also serve as Shift Commander to meet this requirement. As the Captain is functioning as a Shift Commander the position should be reclassified to a Deputy Chief to ensure a consistent chain of command.

While the language requires a Fire Chief, there is no discussion on expectations of this position. The contract should have clear direction as to how the Chief is expected to interact and participate with other key leadership positions in the Town. Examples may include the following:

- Attendance at weekly department head meetings with the Town Manager.
- Attendance at Town Commission meetings with a presentation quarterly regarding Fire Department workloads and performance.
- Other key meetings or events typically attended by Town leadership.

Financial Monitoring

Financial monitoring is another important aspect of contract administration. This entails consistent performance related to the monitoring of revenues, expenditures and the associated formulas used to derive any cost allocation. Ultimately, documentation should be available to any contractual party such that an annual audit can be conducted consistent with Generally Accepted Government Auditing Standards (GAGAS).

As noted, the existing contract between the Tow and Lauderdale-By-The-Sea can be improved in subsequent versions and financial monitoring is one additional component to ensure both parties receiving proper financial benefit from the agreement.

Article 6 – Payment for Services – The contract language requires the that an annual accounting of expenses be performed to allow a true-up by November 30 each year. There is no provision in this section requiring an annual audit of expenses by the VFD to ensure monies expended were in line with the approved budget by the Town Commission.

This type of audit would require such data as:

- Full accounting of stipend payments to ensure all IRS and FLSA provisions are being fully adhered to.

- Detailed accounting data of all income and expenses to ensure proper account coding and controls.

It is important to note that the financial benefit or disadvantage to either party in this interlocal service agreement is presently unknown since there is no audit of how true-up costs are calculated and arrived at.

Performance Monitoring

Performance monitoring provides the basis for ensuring that services contracted for are appropriately delivered. In effect, best-practice service contracts should stipulate various standards of performance such that the contract recipient can ensure services are delivered within expected benchmarks.

A review of the existing Service Agreement between the Town and VFD indicates there are minimal performance standards within the contract and those that included are not clearly defined. By example, there is a requirement that the first fire apparatus shall respond within nine (9) minutes to a minimum of 90% of all emergency fire rescue calls each month; however, there are no written explanation of what is meant by “respond” or an “emergency call”. While there is a requirement for the VFD to provide a monthly report on call and personnel response to the Town Manager and Town Clerk, there are no provisions for the VFD to periodically report their performance to the Town. The performance measures section of this report provides a basis for how this section of the contract should be developed to ensure consistent monitoring and reporting of system performance.

In sum, the current interlocal service agreement has opportunity for improvement as it relates to incorporating important service delivery performance expectations that should be regularly monitored and, if not accomplished, ultimately addressed.

Continuing the Contract

The Town of Lauderdale-By-The-Sea can continue the agreement as written. However, the project team has made several recommendations for improving the terms of the contract with the VFD.

Recommendations:

- Add contract language outlining the staffing expectations of beach patrol to allow the VFD to properly plan the staffing of this function.
- Add contract language authorizing an Assistant Fire Marshal position, with an effective hourly rate, that is qualified to serve as the Fire Marshal in both the absence

of the current Fire Marshal and if a vacancy in the position occurs to allow proper time to fill the vacant position.

- Amend the contract language to require one (1) Fire Chief, three (3) Deputy Fire Chiefs, one (1) Assistant Chief of Training, one (1) Fire Marshal/Inspector, one (1) Assistant Fire Marshal/Inspector and one (1) Fire Administrator.
- Clearly define the expectations of the Chief position and how it interacts and participates with other key Town leaders.
- Retain a firm to conduct an annual audit of the revenues and expenses of the VFD.
- Develop an apparatus and vehicle inventory requirement and replacement plan to allow the proper planning and funding for apparatus and vehicle purchases.
- Develop key performance indicators to allow objective measurement of emergency service delivery. These should include turnout time, travel time and a definition of what constitutes an “emergency call”. Require a quarterly presentation of system performance to the Town Commission by the Fire Chief or designee.

Facility Assessment and Space Needs

In addition to conducting a staffing and resource analysis for Fire operations, the project team conducted a facility condition assessment of the Volunteer Fire Department. The project team was onsite in July 2021 to meet with fire and other Town staff to walk through the current fire facilities and site to assess their conditions and to discuss future space needs.

This chapter will outline the current strengths as well as opportunities for improvement of the current facilities and identify future space and facility needs.

Facility Needs Assessment

The current fire station was constructed in the 1960's and since then several minor renovations have been completed. The station was originally designed to serve as a volunteer station and does not meet modern fire facility amenities and design standards. As the Department has grown and added staff and equipment, the building has been modified to help augment spatial shortfalls. This includes the construction of a canopy to the north of the building that provides limited protection from the elements. Moreover, the current station does not have office space for administrative personnel. Administrative staff are housed north of the Town Hall campus in a repurposed hotel.

There are multiple challenges with the existing facilities. These challenges are outlined below:

- Equipment and apparatus bays are inadequate. ATVs and Jet Skis are parked on the front lawn of the fire station and not protected from the elements, impacting the overall condition and life span of critical equipment. Nor is the equipment secure.
- Reserve apparatus is partially parked under the canvas canopy attached to the north side of the station. All apparatus should be housed indoors, especially in a highly corrosive environment that is present in a coastal community.
- Apparatus bays are not adequately sized for modern sized equipment. To check supplies and equipment, trucks must be pulled outside to conduct these checks. This is not ideal during inclement weather.
- Staff fire protection equipment is stored in close proximity to the apparatus bays and not properly vented to exterior.
- There is no apparatus exhaust ventilation system installed in the apparatus bays.
- Supplies and equipment are stored in plastic sheds under the canopy in an attempt to protect them from the elements.

- Additional supplies and equipment are stored under the canopy when they should be stored in climate controlled areas.
- There is one small restroom and shower in the fire station.
- Staff are comprised of mixed gender shifts. All staff cohabitate in the living area of the station. There is no separation of sleep areas by gender. Staff should be provided individual sleep areas.
- Staff do not have adequate food preparation areas. Staff may use Jarvis Hall for food preparation, which may impact turnout times for personnel.
- The station is constructed at grade and has limited protection from street flooding or storm surge.
- Administrative areas are separated from the fire station and on duty personnel. Challenges exist with the current administrative suite as it is comprised of multiple renovated hotel rooms.
- There is limited availability of training space for staff.
- There is limited ability to expand the current station due to adjacent site restrictions.
- The current facility is not designed to meet FEMA 543 Design Guidelines for Critical Facility Safety from Flooding and High Winds.

As noted in the points above there are many challenges associated with the current fire facilities. The project team was tasked with evaluating the current and future space needs for the Fire Department.

Facility Space Needs

The project team was tasked with identifying the space needs of the Fire Department. The Town also has contracted law enforcement and emergency medical services (EMS) staff that are in the same renovated hotel as Fire administrative personnel. Also, these two public safety entities have spatial challenges for their staff and equipment. Therefore, the project team interviewed staff from the Broward County Sheriff's Office (BSO) and American Medical Response (AMR) who provide the contracted law enforcement and EMS services, respectively, to understand their space and facility needs.

To understand the total space needs of public safety and emergency services in the Town, appropriate staff were provided an opportunity to discuss the types of spaces they would need in a new public safety facility. The end result of this engagement will be an architectural space program, which outlines the individual space components of a new, consolidated public safety facility.

There are several steps in order to develop the total space needs associated with a new facility:

- The project team developed a list of space types that would be required in a new facility.
- A square footage was assigned for the functionality of each space.
- The total departmental square footage needs by space type is determined.
- A departmental circulation factor is added to account for internal circulation, interior walls, mechanical spaces, etc. and added to the total departmental square footage.
- Finally, a building grossing factor was added to account for exterior wall thickness, building support spaces (e.g. HVAC mechanical room, stairs, elevator, etc.) and to determine the total building size.

In order to better understand the components of a space program, the following five items are included in the space program tables:

- 1) Space name is the nomenclature used to identify individual spaces or the user of a particular space.
- 2) # of Occupants / Space identifies the total number of spaces for the space type or the number of individuals who are in a shared space.
- 3) Space Standard refers to the standard size associated with that space. The space standard is exclusive of the surrounding walls or circulation areas, etc. This is the internal area of an individual space (e.g. the internal dimension inside of an office). This is also classified as the Usable Square Footage (USF)
- 4) Total USF refers to the total space needs dedicated to that space type. (Projected # of Staff/Space multiplied by the Space Standard). This calculation provides the total usable square footage needed for the respective space type.
- 5) The Notes column is utilized to provide pertinent details about the individual space, it may include dimensions, furnishings, adjacencies, etc.

Additional terms that are used include several expressions that are related to spatial area and size.

- The first term used is “usable square footage” as discussed previously. Usable square footage (USF) refers to the internal area of a space. This is the internal area inside the walls of a specific space. Square footage does not include wall thickness, circulation space, mechanical chases, etc.

- The second term used is a departmental circulation factor. Circulation factor refers to the square footage associated with usable space and includes circulation space, internal wall thickness, etc. The circulation factor is typically calculated by adding the usable square footages together and applying a percentage. The circulation factor varies depending on the type and size of the space.
- The third term is departmental square footage which takes the total usable square footage for a particular area and adds the departmental circulation factor to determine the total departmental square footage for that particular area.
- The fourth space term presented in the space program is building square feet. Building Square Feet (BSF) incorporates all of the building's elements including the exterior walls. For one story buildings it is the total square footage of the building's footprint.

The calculated building square footage is used by the architect to develop schematic designs of a new facility. This space program only analyzed the space needs for the facility and does not consider site needs (e.g. parking spaces, land area, etc.). Overall, a space program is developed to provide an estimated square footage for a new facility and to specify parameters for an architect to begin developing schematic design and site plan options.

A space program was developed for Fire, EMS, and the BSO. Also, spaces that could be shared by all three entities were included under a shared space table. The following tables summarize the space needs by functional area.

Fire Department Space Needs

Space Name	# of Occupants / Spaces	Space Standard	Total USF	Notes
Fire Administration				
Chief	1	250	250	Private office, desk and table for four.
Administrative Assistant	2	100	200	Shared office with two workstations.
Fire Marshall / Inspector	1	150	150	Private office with desk, work table, and 2 chairs.
Unassigned Office	1	100	100	Private office with desk and 2 chairs.
Conference Room	12	20	240	Conference room with seating for 12.
Administrative Storage	1	100	100	Secure storage adjacent to Administrative Assistant.

Space Name	# of Occupants / Spaces	Space Standard	Total USF	Notes
Records Storage	1	50	50	Secure storage adjacent to Administrative Assistant.
General Supply Storage	1	100	100	General office supply storage area, secure.
Public Education Storage	1	100	100	Adjacent storage area to Fire Marshall.
Telecom Closet	1	25	25	Secure network closet.
Restroom	2	60	120	Two unisex restrooms.
Janitor's Closet	1	40	40	Storage area with mop sink.
Total Net Square Feet			1,475	
<i>Departmental Circulation:</i>		<i>30%</i>	<i>443</i>	
Total Departmental SF			1,918	
Operations				
Apparatus Bay	3	900	2,700	Each bay is 18' wide by 50' long.
ATV Bays	4	100	400	ATV storage bay, may share with BSO ATV bay. Adjacent to Jet Ski storage.
Jet Ski Bays	2	150	300	Adjacent to ATV storage.
Gear Room	50	7	350	Gear storage area with open air lockers.
Cascade / SCBA	1	125	125	Room for Cascade equipment and bottle storage.
Washer / Extractor	1	125	125	Washer and extractor room. Adjacent to bays.
Supply Storage	1	100	100	Secure supply storage.
Equipment Storage / Work Room	1	200	200	Equipment storage area with work bench.
Hose Tower	1	125	125	Hose drying area with racks / tower.
Decontamination Area	1	100	100	Area to hose off PPE and FF. Adjacent to apparatus bay or on building exterior.
Total Net Square Feet			4,525	
<i>Departmental Circulation:</i>		<i>10%</i>	<i>453</i>	
Total Departmental SF			4,978	

Space Name	# of Occupants / Spaces	Space Standard	Total USF	Notes
Staff Support				
Shift Officer Work Area	1	100	100	Private office for shift officer.
Staff Work Area	3	36	108	Staff open workstations with computer and desk chair.
Sleeping Quarters	8	125	1,000	Individual sleeping area with single bed, desk, and chair.
Restroom	3	60	180	Three unisex restrooms.
Shower	2	40	80	Two unisex showers.
Kitchen	8	25	200	Dedicated kitchen for fire personnel.
Dining	8	15	120	Dining area adjacent to kitchen.
Living Area	6	30	180	Living area with six lounge chairs.
Janitor's Closet	1	40	40	Storage area with mop sink.
Laundry Area	1	100	100	Laundry room with household washer and dryer.
Total Net Square Feet			2,108	
<i>Departmental Circulation:</i>		<i>30%</i>	<i>632</i>	
Total Departmental SF			2,740	
Total Fire Department Square Feet			9,635	

A total of 9,635 departmental square feet is recommended for the Fire Department.

EMS Space Needs

Space Name	# of Occupants / Spaces	Space Standard	Total USF	Notes
Sleeping Quarters	6	125	750	Individual sleeping area with single bed, desk, and chair.
Kitchen & Dining Room	6	40	240	Kitchen area with stove, refrigerator, cabinets, and dining area for 6.
Living Area	6	30	180	Living area with six lounge chairs and TV.
Restroom	2	6	12	Two unisex restrooms.
Shower	2	40	80	Two unisex showers.
Storage	1	150	150	Secure storage.
Ambulance Bay	2	360	720	Ambulance bay that is 12' x 30'.
Total Net Square Feet			2,132	
<i>Departmental Circulation:</i>		25%	533	
Total Departmental SF			2,665	

A total of 2,665 departmental square feet is recommended for EMS operations. This includes both staff and operational areas.

Law Enforcement Space Needs

Space Name	# of Occupants / Spaces	Space Standard	Total USF	Notes
Staff Areas				
Captain	1	250	250	Private office, desk and table for four.
Lieutenant	1	175	175	Private office, desk, and small table.
Patrol Sergeant	4	75	300	Shared office with four workstations.
Detective	3	75	225	shared office with three workstations.
Administrative Support	2	100	200	Private office with workstation and 2 chairs.

Space Name	# of Occupants / Spaces	Space Standard	Total USF	Notes
Administrative Storage	1	100	100	Secure storage adjacent to office area.
Administrative Restroom	2	50	100	2 unisex restrooms.
Records	1	60	60	Secure record storage.
Multipurpose Meeting Space	12	20	240	Meeting room with seating for 12.
Interview Room	2	100	200	Adjacent to public lobby. 2 chairs and table.
Holding Cell	2	70	140	Includes a bench and combination toilet and sink.
Evidence Storage	1	100	100	Evidence storage lockers.
Equipment Storage	1	100	100	Secure storage room.
Firearms Storage / Work Area	1	100	100	Secure room that includes a small work bench.
Janitor's Closet	1	40	40	Storage area with mop sink.
Total Net Square Feet			2,330	
<i>Departmental Circulation:</i>		<i>30%</i>	<i>699</i>	
Total Departmental SF			3,029	
Support Areas				
Large Evidence Storage	1	200	200	Storage area on exterior of building for bulky items.
Motorcycle Storage	1	100	100	Indoor parking area for motorcycle.
Bicycle Storage	1	150	150	Indoor area for bike storage with wall mounted racks.
ATV Storage	4	100	400	Indoor ATV storage area, adjacent to Fire ATV storage.
Kitchenette	6	25	150	Includes counter, sink, refrigerator, and coffee pot.
Telecom Closet	1	50	50	
Male Locker Room	25	7	175	Full size lockers with adjacent bench.
Female Locker Room	15	7	105	Full size lockers with adjacent bench.
Male Shower	2	40	80	Full size lockers with adjacent bench.

Space Name	# of Occupants / Spaces	Space Standard	Total USF	Notes
Female Shower	2	40	80	
Male Restroom	3	50	150	
Female Restroom	3	50	150	
Total Net Square Feet			1,790	
<i>Departmental Circulation:</i>		30%	537	
Total Departmental SF			2,327	
Total Fire Department Square Feet			5,356	

A total of 5,356 departmental square feet is needed to accommodate BSO operations.

Shared Area Space Needs

Space Name	# of Occupants / Spaces	Space Standard	Total USF	Notes
Public Lobby	1	150	150	Shared public lobby for all three entities. Seating for 8.
Community Room	50	15	750	Flexible meeting space with moveable table and chairs. Adjacent to public lobby.
Community Room Storage	1	100	100	Secure storage area adjacent to Community Room.
Community Restrooms	8	50	400	Restrooms off the public lobby.
Staff Fitness Room	1	500	500	Fitness area accessible from staff area.
Building Mechanical Room	1	250	250	Secure room for building mechanical equipment.
Switch Gear	1	50	50	Room adjacent to emergency generator.
Building Storage	1	100	100	Secure storage.
Total Net Square Feet			2,300	
<i>Departmental Circulation:</i>		30%	690	
Total Departmental SF			2,990	

A total of 2,990 departmental square feet is needed for community and shared areas in a new consolidated public safety facility.

The following table summarizes the departmental space needs and the total building square footage for a new consolidated public safety facility.

Building Square Footage Summary

Agency	Departmental SF
BSO	5,356
Fire	9,635
EMS	2,665
Shared Areas	2,990
Total Departmental SF	20,646
<i>Building Grossing Factor (18%)</i>	<i>3,716</i>
Total BGSF	24,363

A total of 24,363 building square feet is needed for a new public safety facility. The current fire station is approximately 2,500 square feet for the fire station and 7,000 square feet for the public safety offices (former hotel) for a total of approximately 9,500 building square feet. The current facilities need approximately 14,863 more square feet to meet the current space needs.

Parking

In addition to the facility needs for public safety operations, adequate parking for staff and visitors is required. The following table summarizes the parking needs by area.

Parking Space Needs

Agency	Stalls
BSO	16
Fire	10
EMS	6
ADA	2
Visitor	4
Total	38

A total of 38 parking stalls are needed to accommodate the staff, agency vehicle, and visitor needs for a consolidated public safety facility.

Development Options

The primary town complex has limited ability to expand to address the building and parking needs for a new public safety building. This section will analyze potential options to address the facility and site needs.

Existing Site Analysis

The existing fire station adjoins other town buildings and has limited expansion capabilities to meet the current need of the Fire Department. The existing site has no expansion capability without the purchase of adjacent properties. The former hotel building is a potential candidate for demolition to accommodate the future public safety facility needs.

Alternative options include utilization of the existing park land between Poinciana Street and Bougainvillea Drive. However, there are deed restrictions that prevent the development of this parcel. The adjacent tennis and basketball court along with the public restrooms may be suitable for a new facility.

Due to current zoning regulations for this site, the building height is limited to 31 feet. Considering the first floor will primarily house apparatus bays, then any new building will be limited to two floors unless a height variance is requested and approved by the appropriate Town bodies. Based on past precedence, it is unlikely that a height variance would be granted.

The Town currently owns limited undeveloped land on their current campus and therefore the development of a new public safety facility will require demolition of existing infrastructure. Two development options are discussed in the next section.

Development Scenarios

Based on the limited availability of land for a new facility and the height restrictions for the town campus, the project team is assuming that a two-story building will be constructed to house public safety operations. Based on the previously detailed space plan, the foot print of the facility would need to be a minimum of approximately 12,250 to 13,000 building square feet to accommodate a two story building. A range is provided due to unknown factors related to site, building accessibility, and the final design of a new facility.

Based on the space program a two-story building will account for the fire operations and all apparatus / vehicle bays on the first floor and potentially a few support spaces. The second floor would account for the community spaces, law enforcement and EMS areas. The foot print of the building need to be approximately 100 feet by 130 feet. A minimum

width of approximately 90 feet is needed to account for all the apparatus / vehicle bay access. A minimum of 6 bays are required for three fire apparatus, two EMS units, and ATV/jet ski storage.

The following graphic overlays the building footprint on an aerial photo of the town hall campus.



As seen in the previous graphic, the foot print of the new public safety building can be accommodated at either location.

The following tables summarize the advantages and challenges for both options.

Option #1

Advantages	Challenges
Reuse existing site and does not impact existing recreation amenities.	Eliminates 23 parking spaces. Creates greater parking shortages on the campus. Additional spaces may be gained by reconfiguration of the current fire station area with an additional cost.
Replaces existing inefficient structure with new purpose built facility.	Use primary thoroughfare to back apparatus into bays.
Access directly onto primary thoroughfare.	Requires temporary relocation of BSO, EMS, and Fire staff during construction. Requires reconfiguration of existing drive aisle between community center and old hotel. Impacting site circulation and access.

Option #2

Advantages	Challenges
Does not impact existing operations during construction.	Removes existing tennis courts.
Potential option to have drive-through bays or double stacked apparatus bays. Greater flexibility on design.	Impacts adjacent public amenities during construction.
Could raze former hotel and convert to recreation, greenspace, parking, or other use.	Eliminates 10 parking spaces. Additional spaces may be gained by reconfiguration of the current fire station area with an additional cost.

Based on the above advantages and challenges noted above, Option 2 is a more feasible option and would have fewer negative impacts. Although it will have a greater impact on the general public during and after construction with the removal of the tennis courts.

Construction Cost Estimate Ranges for a New Facility

It is important to understand an order of cost magnitude for potential construction or renovation cost of a public safety facility.

The projected construction cost estimate is in current (September 2021) dollars and is based on the average construction cost in the region. For average construction cost, the project team consulted RSMeans 2021 Square Foot Cost Guide – Fire Station / Police Station to develop construction cost per square foot ranges. However, the project cost does not account for land acquisition, site development, demolition of existing facilities, site remediation, financing cost, or utility construction beyond normal circumstances.

Please note that the cost is in 2021 dollars and does not incorporate inflation or cost increases for projects that are constructed in the future.

The following table summarizes the construction cost range for a new public safety facility.

Facility	BSF	Low		High	
		Cost SF	Cost	Cost SF	Cost
Public Safety Facility	24,363	\$350	\$8,527,050	\$450	\$10,963,350

A new public safety facility estimated construction cost is between \$8.5 and \$11 million.

Financing Options

The construction of any new facility has a fiscal impact on local government operations. Lauderdale-by-the-Sea has been diligent in their finances and have not financed previous capital projects. While financing or bonding is an option for local governments, there may be alternative sources to help reduce the financial impact to the Town.

There are two primary options for governments to alternatively fund capital projects. The first is through the receiving of grants. The second option is entering into a public private partnership.

Grants are an excellent way to pay for new public safety facilities as they do not have to be paid back to the funding entity. Historically there have been numerous grant opportunities to pay for a portion if not all of a new public safety facility. Grants are often competitive and may have restrictions and thus may not be eligible for facility construction. Past and potentially future grant opportunities include:

- FEMA Assistance to Firefighter Grants program (AFG)
- FEMA Fire Management Assistance Grant Program (FMAGP)
- FEMA hazard mitigation grants
- FEMA replacement grants for damages due to natural disaster
- U.S. Department of Agricultural Rural Community Initiative Program
- Department of Energy Sustainability grants.
- Department of Justice COPS
- Cares Act Funding (2020 and 2021)
- Staffing for Adequate Fire & Emergency Response (SAFER) programs
- Community Development Block Grant funding (national and state level)
- Florida Firefighter Assistance Grant

Eligibility for some of the grants may be limited or have restrictions. However, the specific grant parameters for reoccurring grants may change annually and the City may not be eligible this year but could be next year. To find eligible grants, it is imperative that the city dedicate resources to track grant opportunities and their application periods.

In July 2021 legislation was initiated in the U.S. House of Representative that was titled Fire Station Construction Grants Act (H.R. 3728). This program would help local fire and EMS agencies modify, upgrade, and build new fire stations. The Town should monitor this pending legislation to see if it passed in upcoming legislative sessions.

A second financing source would be for the Town to enter a public private partnership. A public private partnership or P3 as it is also known is an alternative financing source. A municipality would sign a contract with a private company that would be responsible for the financing and construction of a new facility. The Town would then provide payments for a set term. Upon completion of the payment term, the ownership of the building would be turned over to the Town. This approach is a private financing mechanism that is similar to a municipal bond program. There are various iterations of P3 financing that may result in faster construction (eliminates a portion of the procurement process) to having the P3 company serve as the property manager during the term agreement. The Town would have the option to negotiate the terms of the agreement to best meet their needs.

Due to the demographic composition of the Town, grant funding opportunities may be limited. Also, the P3 approach may pose challenges due to the lower construction cost as many of these companies are looking for projects with a construction cost many times greater than what is estimated for this project. The Town should actively search and apply for grants.