

Orleans Fire Department Massachusetts



FIRE DEPARTMENT STAFFING AND ORGANIZATIONAL STUDY



February, 2020

Table of Contents

Executive Summary	4
Overview	4
Summary Findings	4
ESCI Preferred Staffing Recommendation	4
Emergency Services Consulting International Project Team.....	6
Evaluation of Current Conditions	7
Current Service Delivery Infrastructure	7
Organizational Planning Processes	12
Staffing	16
Personnel Management	22
Training Program	26
Fire Prevention Program	26
Service Delivery and Performance.....	26
Operating Budget and Funding	46
External and Internal Customer Assessments.....	59
Orleans Fire Department Staffing Recommendations	64
Strengths of the Current Orleans Fire Department Staffing Model	64
Weaknesses of the Current Orleans Fire Department Staffing Model	64
ESCI Preferred Staffing Recommendation	69
Orleans Fire Department General Recommendations	71
Conclusion	76
Appendix A: Training Program.....	77
Appendix B: Public Education Program.....	85
Appendix C: External Customer Assessment Survey Results	90
Appendix D: Internal Customer Assessment Survey Results	96
Appendix E: Table of Figures.....	111

Executive Summary

On December 5, 2019, the Town of Orleans, Massachusetts contracted with Emergency Services Consulting International (ESCI) to provide a Fire Department Staffing and Organizational Study. The purpose of the study was threefold:

1. To assess and evaluate the department's current staffing, organization and delivery of services, with the primary focus being emergency medical response;
2. To identify existing strengths, weaknesses, and costs in these areas;
3. To present potential options, recommendations, and implementation strategies for structural and procedural improvements in these areas.

OVERVIEW

The men and women of the Orleans Fire Department have consistently provided the highest possible level of emergency service to the Orleans community within the confines of the resources provided to them by the Town of Orleans. ESCI's in person meetings with firefighters and members of the community, as well as ESCI's review of the internal and external customer surveys, all indicate that the Orleans Fire Department is comprised of employees who not only serve, but genuinely care for, their community. Those efforts are very much noticed by the residents of Orleans.

While the staffing model that is in place within the Orleans Fire Department has served the community to date, it is ESCI's finding that this current staffing model is neither sustainable nor efficient. The fact that the current model has remained in place for as long as it has is a testament to the operational line personnel who are regularly making split-second decisions about the dynamic deployment of firefighters and apparatus.

SUMMARY FINDINGS

ESCI's review of the Orleans Fire Department identified that the current deployment structure includes the following critical weaknesses:

1. Inadequate Shift Staffing
2. Over-Reliance Fire Fighter Callbacks
3. Inefficient Staffing Deployment

ESCI PREFERRED STAFFING RECOMMENDATION

The ESCI Preferred Staffing Recommendation is based upon the totality of the factors evaluated within this report. This option provides the foundation to:

- Maintain current shift staffing of five firefighters per shift.
- Increase minimum staffing to four firefighters per shift.
- Change ambulance staffing from three to two firefighters.

- Staff three firefighters on the engine or ladder; two of which could potentially deploy a second ambulance if required.
- Eliminate the use of routine callback overtime for EMS calls.
- Elimination of routine callback overtime for EMS calls will allow the Town of Orleans to consider expanding the existing requirement for firefighters hired after March 8, 2000 to live within a seven-mile radius of the fire station within one year of the date of hire. Expanding this radius could increase the potential pool of new firefighters. This is important because the recruitment of new firefighters has become increasingly more challenging for the Orleans Fire Department in recent years.

The contract with the Orleans Fire Fighters is currently open for negotiation. This presents the Town with the opportunity to negotiate changes to the contract to implement the ESCI Preferred Staffing Recommendation or a variation of the recommendation. Changes to contract language regarding minimum staffing, the number firefighters that are allowed off per shift, and the use of administrative personnel for calls will be required in order to implement the ESCI Preferred Staffing Recommendation.

Emergency Services Consulting International Project Team

The ESCI Team for the *Orleans Fire Department Staffing and Organizational Study* was comprised of the following members:

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Evaluation of Current Conditions

CURRENT SERVICE DELIVERY INFRASTRUCTURE

The following evaluation and analysis of data and other information is based primarily on the internal data provided by the Orleans Fire Department, town demographic information, and other external resources. The Current Conditions section compares the department and its' operations to industry best practices, National Fire Protection Association (NFPA) standards, Commission on Fire Accreditation International (CFAI) self-assessment criteria, health and safety requirements, national mandates relative to emergency services, and generally accepted best practices within the emergency services community.

Each section in the following report provides the reader with general information about a specific element, as well as observations and analysis of any significant issues or pertinent conditions. Observations are supported by data validation through a site visit to the extent practical. Finally, specific recommendations are included to address identified issues or to take advantage of opportunities that may exist.

Organizational Overview

The Organizational Overview provides a summary of agency composition, configuration, and services provided by the Orleans Fire Department. ESCI analyzed data provided by administrative and management staff of the Orleans Fire Department. In addition, interviews with line personnel, bargaining unit representatives, supervisory and administrative staff, elected/appointed officials, and allied governmental agencies were combined with information collected during ESCI's fieldwork to develop the following overview.

The purpose of this section is two-fold. First, it verifies the accuracy of baseline information along with ESCI's understanding of the agency's composition and operations. This provides the foundation from which the Staffing and Organizational Study is developed. Secondly, the overview serves as a reference for the reader who may not be fully familiar with the details of the agency's operations. Where appropriate, ESCI includes recommended modifications to current observed departmental practices based on industry standards and best practices.

Service Area

The Town of Orleans is in Barnstable County, Massachusetts and is situated along the east-central shore of Cape Cod. According to the U.S. Census Bureau, the 2018 population in the Town of Orleans was 5,798. The town encompasses 22.7 square miles of which 14.1 square miles is land and 8.5 square miles, or 37.59%, is water. Orleans is bordered by Eastham to the north, the Atlantic Ocean to the east, Pleasant Bay and the town of Chatham to the south, Harwich to the southwest, Brewster to the west, and Cape Cod Bay to the northwest.

Orleans is 27 miles south of Provincetown, 22 miles east of Barnstable, 36 miles east of the Sagamore Bridge, and 90 miles southeast of Boston. The town is located on the inner "elbow" section of Cape Cod. It is dotted with bogs and ponds in the western part of town, with many inlets, islands and harbors along the eastern coast of the town, including Town Cove, Nauset Harbor, Pleasant Bay, and Little Pleasant Bay. Rock Harbor, bounded by and shared with the town of Eastham, is in the "crease" of the inner elbow and provides boating access to Cape Cod Bay. Cape Cod National Seashore lies along the coast as well.

Population & Demographics

Orleans is a small coastal town within in the Commonwealth of Massachusetts. With its population of 5,798 people and two constituent neighborhoods, Orleans is the 233rd largest community in Massachusetts.

Orleans is also a town of artists. Orleans has more artists, designers, and people working in media than 90% of the communities in America. This concentration of artists has helped to shape the character of the Town.

A relatively large number of people in Orleans telecommute to their jobs. Overall, approximately 11.64% of the Town's workforce works from home. While this may seem like a small number, as a fraction of the total workforce, it ranks among the highest in the country. These workers are often telecommuters who work in knowledge-based, white-collar professions.

Orleans is an extremely popular destination for tourists and seasonal residents. So much of the population is seasonal that the town's population swells significantly during the vacation season, June through September, and drops again when the season ends. Because of this, much of the local economy is centered around tourism; some businesses operate only during the high season. During the low-season, year-round residents will notice that the city is a substantially quieter place to live.

Orleans is an attractive community for families. With an enviable combination of good schools, low crime, college-educated neighbors who tend to support education because of their own experiences, and a high rate of single-family home ownership, Orleans has many desirable features for families that plan to raise children.

Another benefit to living in Orleans is the lack of traffic congestion. The average resident's commute to work is 19.10 minutes, which is substantially less than the national average. Not only does this mean that the drive to work is more pleasant for the driver, but noise and pollution levels are lower as a result as well.

Orleans has a very educated population with 55.40% of the adults in Orleans having earned a 4-year college degree, Master's degree, MD, law degree, or PhD. This is much higher than the national average of 21.84% for all cities and towns.

The people who call Orleans home describe themselves as belonging to a variety of racial and ethnic groups. The greatest number of Orleans residents report their race to be White, followed by Black or African American. The racial makeup of the town is 93.9% White; 4.5% Black or African American; 1.4% Hispanic or Latino, and 0.9% Asian. Predominate ancestries of the people in Orleans include Irish, English, German, Italian, and Portuguese. The most common language spoken in Orleans is English.

In the town, the estimated 2018 population age range was spread out with 2.7% under the age of 5 years, 13.9% persons under the age of 18, 43.8% between ages 18 and 64, and 39.6% persons 65 years and over. The median age for residents of Orleans is 61.4 years young.

History of the Orleans Fire Department

Members of the Orleans community are documented to have been concerned with fire protection as early as 1893. Community members voted at the Annual town meeting in 1893 to spend up to one thousand dollars for the purchase of a pumper and hose. During its service, the pumper proved its worth, saving

many structures including the Orleans Town Hall. The pumper was replaced by a motor driven chemical fire engine in February 1922. Shortly after the arrival of the chemical fire engine, the Orleans Fire Department was officially organized. In subsequent years, the Orleans community purchased pumpers, hose and ladder trucks in addition to selecting fire chiefs.

Governance and Lines of Authority

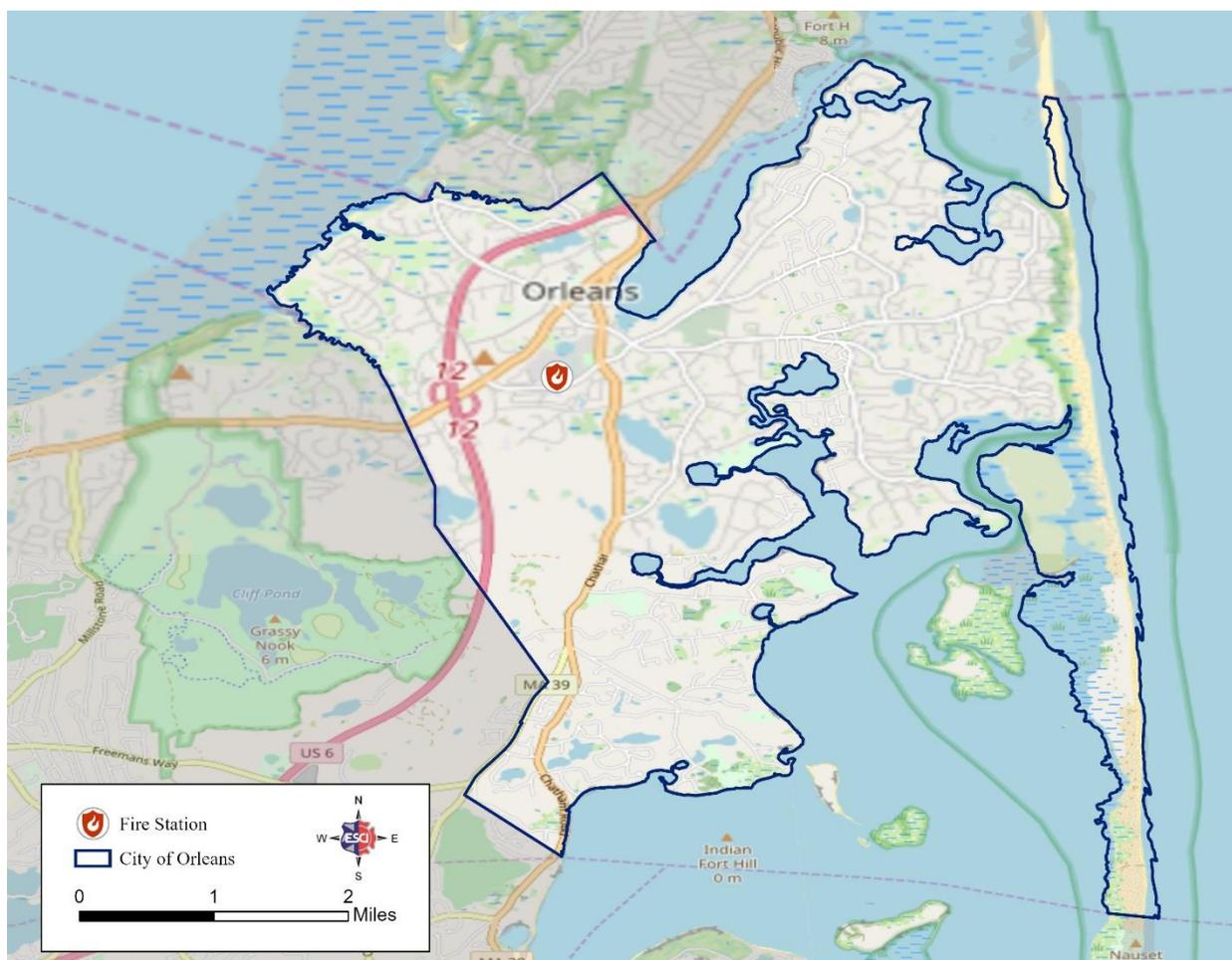
Orleans is represented in the Massachusetts House of Representatives as a part of the Fourth Barnstable district, which includes all the towns east and north of Harwich on the Cape. The town is represented in the Massachusetts Senate as a part of the Cape and Islands District, which includes all of Cape Cod, Martha's Vineyard and Nantucket, except for the towns of Bourne, Falmouth, Sandwich and a portion of Barnstable. The town is patrolled by the Second (Yarmouth) Barracks of Troop D of the Massachusetts State Police.

The Town of Orleans is governed by the open town meeting form of government and is led by a town secretary and a board of selectmen. The head of the elected governing body is known as Chairman – Board of Selectmen.

The top appointed official is the Town Administrator. The Administrator is responsible for implementing town policies and directives, leading the preparation of the Town's budget, and overseeing daily operations for the departments and offices in the town of Orleans.

The following figure reflects the service area of Orleans Fire Department.

Figure 1: Service Area Map



Foundational Policy Documents

The Orleans Fire Department's Rules and Regulations have not been recently reviewed or updated. Fire departments operate in a dynamic environment. Service demand, evolving technology, changes to industry standards and best practices all create a need for the regular review and update of fire department operations and the documents that govern those operations. **ESCI recommends that the Orleans Fire Department review and update all Rules and Regulations.**

Organizational Structure

The Orleans Fire Department provides traditional fire, rescue and Emergency Medical Services (EMS) including ambulance transport services to the community. The department has 29 total personnel including 25 that are full-time and 4 paid-on-call firefighters. The full-time employees include 20-line personnel, the Fire Chief, Deputy Fire Chief, the Fire Inspector, the EMS Coordinator, and the Principal Account Clerk.

The Orleans Fire Department operates out of one fire station with a combination of 13 pieces of apparatus and equipment. The department responds to just over 2,300 calls for service annually. Operating within a broad range of services, the department responds to not only fire and medical emergencies, but they also

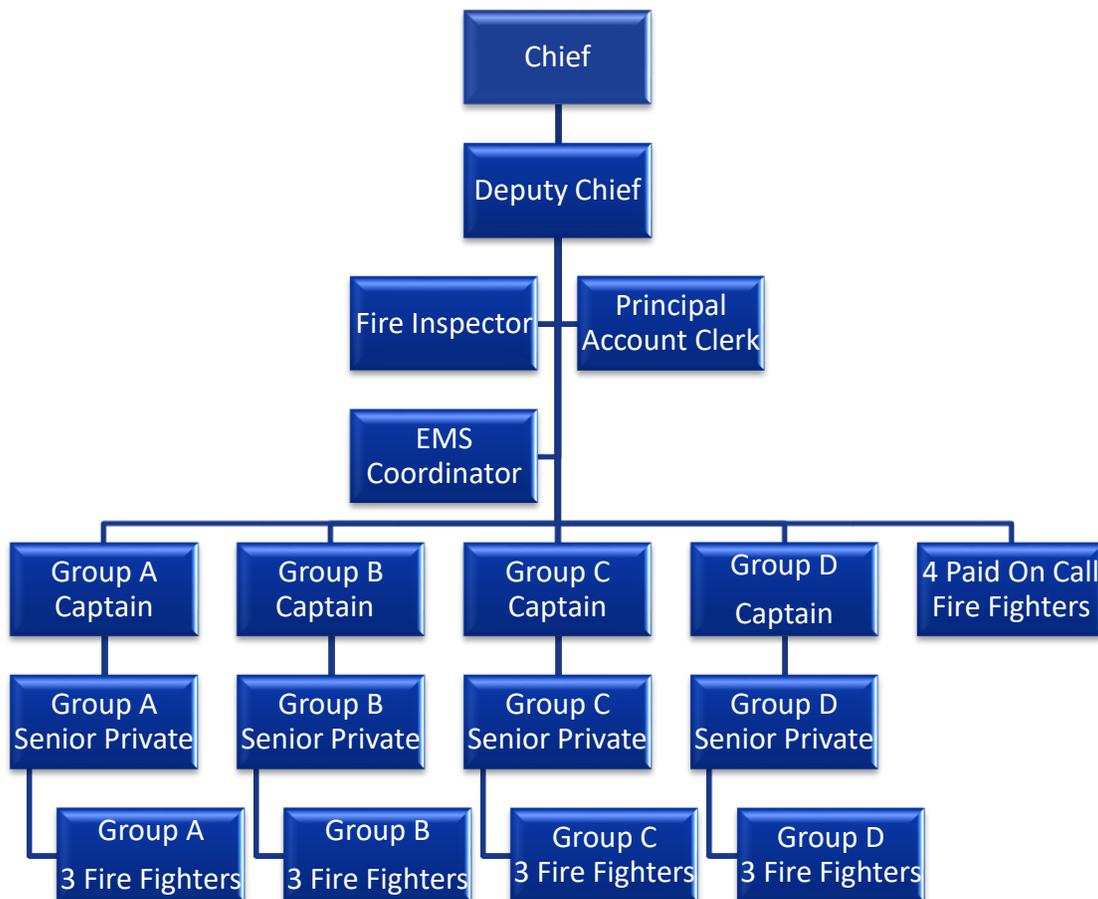
respond to fire alarms, carbon monoxide alarms, motor vehicle accidents (MVAs), beach/water rescues, hazardous materials spills, technical rescues, boating emergencies, investigations and citizen assists.

The Fire Chief is hired by contract and reports to the Town Administrator. The Fire Chief has the authority to hire and fire personnel. The department is not subject to Civil Service Rules. Legal Counsel is available to the Fire Chief through the Town Attorney. In addition to the Town Attorney, advice from a specialized labor attorney is available to the Fire Chief.

To operate effectively, the structure of a fire department should be clearly defined in the form of an organizational chart. The chart institutionalizes the agency's hierarchy, identifies roles and, most importantly, reporting authority. It also helps assure that communication flows appropriately, as well as limiting opportunities to circumvent the reporting structure.

The Orleans Fire Department has a well-defined organizational chart that achieves this purpose and illustrates that it operates under a traditional top-down manner. Lines of authority are clear and depicted. The Orleans Fire Department organizational chart is reflected in the following figure.

Figure 2: Fire Department Organizational Chart



ORGANIZATIONAL PLANNING PROCESSES

Emergency services exist in a rapidly changing environment. Along with the improved tools and various technologies that are now used to provide service, there is increased regulation of activities, new risks to protect, and other challenges that can quickly catch the unwary off guard. Only through continuous internal and external environmental awareness, assessment and periodic course corrections can an organization stay on the leading edge.

Internal Assessment of Critical Issues

The planning process within the Orleans Fire Department has satisfied the Town's needs to date. While the community has grown and developed, the department was consistently able to provide the level of service desired by the community. The Orleans Fire Department is now facing several challenges related to delivery of fire service within the community that will require the planning efforts of the fire department to be more formally integrated with the community it serves. Discussions with Orleans Fire Department labor and management revealed that both groups share some of the same unanswered questions: Where does the Orleans Fire Department's current service delivery stand in relation to the needs of the community, what should the fire department look like in 5 and 10 years, and how do "we" get from here to there?

The fire department leadership further identified what they considered to be the five most critical issues facing the Orleans Fire Department. The identified issues, prioritized with the number one being the most critical issue, were as follows:

Figure 3: Five Most Critical Issues

Five Most Critical Issues Facing the Orleans Fire Department	
1.	Critical staffing shortage
2.	Building out of space 10+ years ago.
3.	Poorly situated facility
4.	Poor morale due to above issues
5.	Outdated organizational structure.

Through appropriate planning, the Orleans Fire Department should establish a vision for the future, create a framework within which decisions are made, and chart its course to the future. The quality and accuracy of this planning function will determine the success of the organization.

To be truly effective, the Orleans Fire Department must consider planning on four distinct levels:

Figure 4: Planning for the Future

Planning Level	Description
1. Tactical Planning	The development of strategies for potential emergency incidents.
2. Operational Planning	The organization of day-to-day activities, as primarily outlined by a department's standard operating guidelines and procedures. This includes the integration of the agency into other local, regional, or national response networks.
3. Master Planning	Preparation for the long-term effectiveness of the agency as the operating environment changes over time.
4. Strategic Planning	The process of <i>identifying</i> an organization's mission, vision, and values <i>and prioritizing goals and objectives</i> for things that need to be accomplished in the near future.

Tactical Planning

A firefighter's first visit to a building often occurs when the building is involved in a fire or another emergency. This is also the point in time where the internal environment is at its worst. Contrary to movie portrayals of the inside of a building on fire, visibility is at or near zero due to smoke. A lack of familiarity with a building can easily lead a firefighter to become disoriented or injured by an unfamiliar internal layout, or by equipment or other hazards that might be encountered.

It is critically important that firefighters and command staff have comprehensive, accurate information readily at hand to identify hazards, direct operations, and use built-in fire-resistive features. This can only be accomplished by building familiarization tours, developing pre-fire plans, and conducting exercises, either on-site or by tabletop simulation.

ESCI found that the Orleans Fire Department does not have pre-incident plans, but that target hazards have been identified. **The Orleans Fire Department is encouraged to develop and maintain effective pre-incident and special hazard plans and to incorporate the plans routinely into dispatch communications.**

Pre-incident plans should be easy to use, quick reference tools for company officers and command staff. At a minimum, a pre-incident plan should include information such as:

- Building construction
- Occupant characteristics
- Incorporated fire protection systems
- Capabilities of public or industrial responding personnel
- Water supply
- Exposure factors
- Facility layouts

NFPA 1620 is the fire service industry standard for the development and use of pre-incident plans and should be used as a reference. Once pre-incident plans are established or updated, training should be provided to all personnel who may respond to an incident at those locations. In addition, copies of pre-incident plans and drawings should be available on each response vehicle and incorporated into dispatch procedures.

Operational Planning

Operational planning includes the establishment of minimum staffing policies, standardized response protocols, regional incident command planning, mutual aid, automatic aid planning (locally and regionally), resource identification and planning, and disaster planning.

Within an agency, operational plans should be in place to ensure that adequate volumes of the appropriate types of resources are deployed to an emergency. Doing so involves:

- Identification of potential risk types;
- Determination of resources needed to mitigate an incident affecting the particular risk type; and
- A methodology of assuring that adequate resources are dispatched to an incident via 911 center protocols.

Looking outside of the agency's own resources, operational plans should address the timely implementation of mutual and automatic aid. Best practices include identifying risk exposures and resource needs that are incorporated into mutual aid agreements. Further, and of significant importance, automatic aid deployment should be seamlessly incorporated into the 911 center's Computer Aided Dispatch (CAD) systems.

The 20 fire departments within Barnstable County participate in the Barnstable County Fire Chiefs Mutual Aid Plan. These fire departments have entered into a mutual aid agreement to provide effective response to both routine and large-scale incidents. The fire departments that participate in the Barnstable County Fire Chiefs Mutual Aid Plan are listed in the following figure.

Figure 5: Barnstable County Fire Chiefs' Mutual Aid Plan

Automatic Aid Community	
1.	Barnstable Fire Department
2.	Bourne Fire Department
3.	Brewster Fire Department
4.	Centerville Fire Department
5.	Chatham Fire Department
6.	Cotuit Fire Department
7.	Dennis Fire Department
8.	Eastham Fire Department
9.	Falmouth Fire Department
10.	Harwich Fire Department
11.	Hyannis Fire Department
12.	Joint Base Cape Cod
13.	Mashpee Fire Department
14.	Orleans Fire Department
15.	Province Town Fire Department
16.	Sandwich Fire Department
17.	Truro Fire Department
18.	Wellfleet Fire Department
19.	West Barnstable Fire Department
20.	Yarmouth Fire Department

Field interviews with Orleans Fire Department labor and management representatives revealed that both groups were very satisfied with the aid that is both received and given by the Orleans Fire Department as part of the Barnstable County Fire Chiefs Mutual Aid Plan.

Master Planning

Department leadership, firefighters from every rank and shift, and members of the community all articulated the need for a stronger planning process. Engaging in a long-range master planning process will assist the Orleans Fire Department in answering the following three questions:

- Where is the organization today?
- Where will we need to be in the future? and,
- How will we get there?

A master plan is particularly essential in a community undergoing change or that is growing. Additionally, it is important in effectively identifying agency needs and planning for future emergency responses. A Master Plan is designed to provide a view of the organization in a 10- to 15-year time frame. Implementation of the master plan findings should be accomplished by way of an implemented strategic plan. Should the department choose at some point in the future to work toward international accreditation from the Center for Public Safety Excellence, the presence of a community-based master plan will be a significant consideration.

The Orleans Fire Department should consider the need for a long-range planning effort by undertaking this master planning process. The master planning process will give the department a clear idea of where it is today. The Master Plan will also project the Orleans Fire Department's future needs as well as strategies for meeting them. This Master Plan is designed to provide a view of the organization in a 15-year time frame.

Strategic Planning

A strategic plan involves a three- to five-year planning window and establishes prioritized goals and objectives for the organization. The planning approach is particularly important when a master plan has been completed. The reason for a strategic plan is that a master plan identifies multiple recommendations and future strategies, which then require evaluation and prioritization within the strategic plan.

Establishing a customer-oriented strategic plan accomplishes the following:

- Development of a mission statement giving careful attention to the services currently provided and which logically can be provided in the future.
- Development of a vision statement for the agency moving forward.
- Establish the values of the members of the agency.
- Identification of the strengths, weaknesses, opportunities, and challenges of the agency.
- Determination of the community's service priorities.
- Understanding of the community's expectations of the agency.
- Establishment of realistic goals and objectives for the future.
- Identifications of implementation tasks for each objective.
- Definition of service outcomes in the form of measurable performance objectives and targets.

A strategic plan is a dynamic tool that, when kept current, can be used to assist in guiding an agency. It provides not only a defined sense of purpose and direction, but also a map to chart the course for the agency moving forward. **ESCI recommends that the Orleans Fire Department consider engaging in a Strategic Planning process to prioritize goals and objectives for the organization to achieve within the next three to five years.**

STAFFING

The Orleans Fire Department's greatest asset is its people. It is important that special attention be paid to managing human resources in a manner that achieves maximum productivity while ensuring a high level of job satisfaction for the individual. Consistent management practices combined with a safe working environment, equitable treatment, opportunity for input and recognition of the work force's commitment, and sacrifice are key components impacting job satisfaction.

The size and structure of an organization's staffing is dependent upon the specific needs of the organization and the community it serves. These needs must directly correlate to the needs and financial capabilities of the community and a structure that works for one entity may not necessarily work for

another agency. This section provides an overview of the Orleans Fire Department staffing configuration and management practices.

Fire department staffing is divided into two distinctly different groups. The first group is the “operations unit.” The operations unit is comprised of emergency response personnel. The second group is the “administrative unit.” The administrative unit provides the support needed by operational personnel to effectively respond to and mitigate emergencies.

Emergency Response Staffing

The Orleans Fire Department operates a continuous fire fighter staffing model that is comprised of twenty full-time, line firefighters. The department has four Shift Captains, four Senior Private Fire Fighters, and 12 full-time firefighters that are organized into four groups. These groups are called Group A, Group B, Group C and Group D and together, provide 24-hour staffing. The department also employs four paid-on-call firefighters.

In order to put the appropriate emergency apparatus and equipment to its best use in mitigating incidents, an adequate and properly trained staff of emergency responders is required. Insufficient staffing at an operational scene decreases the effectiveness of the response and increases the risk of injury to all individuals involved as well as the community.

Tasks that must be performed at a fire can be broken down into two key components—life safety and fire flow. Life safety tasks are based on the number of building occupants, and their location, status, and ability to take self-preservation action. Life safety related tasks involve search, rescue, and evacuation of victims. The fire flow component involves delivering a sufficient volume of water to extinguish the fire and create an environment within the building that allows entry by firefighters.

The number and types of tasks needing simultaneous action will dictate the minimum number of firefighters required to combat different types of fires. In the absence of adequate personnel to perform concurrent actions, the command officer must prioritize the tasks and complete some in chronological order, rather than concurrently which may negatively affect outcome. These tasks include:

- **Command**
- **Scene safety**
- **Search and rescue**
- **Fire attack**
- **Water supply**
- **Pump operation**
- **Ventilation**
- **Back-up/rapid intervention**

The first 15 minutes are the most crucial period in the suppression of a fire. This 15-minute period does not start when the firefighters arrive at the scene but begins when the fire initially starts. How effectively and efficiently firefighters perform during this period has a significant impact on the overall outcome of the event. This general concept is applicable to fire, rescue, and medical situations. Critical tasks must be conducted in a timely manner to control a fire or to treat a patient. The Orleans Fire Department is responsible for ensuring that responding companies can perform all the described tasks in a prompt, efficient, and safe manner.

While it is the community served who must establish the levels of fire and rescue services provided, considerable debate surrounds the matter of firefighter staffing. Frequently, this discussion is set in the context of firefighter safety. The 2020 Edition of NFPA 1710, *Standard for Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments* specifies the number of firefighters assigned to a particular response apparatus, often characterized as a “minimum of four personnel per engine company.”

ESCI notes that the more critical issue is the number of firefighters that are assembled at the scene of an incident in conjunction with the scope and magnitude of the job tasks expected of them, regardless of the type or number of vehicles that arrive. Setting staffing levels is a determination that is made at the community level based on risk, capability, citizen expectations and willingness/ability to fund. There are not mandated requirements that fit all situations, although NFPA 1710 has objectives to meet regarding the number required for some typical scenarios.

Some terms are used nearly interchangeably, such as the assembly of firefighters on an incident, which may be called the “Initial Full Alarm Assignment,” the “Effective Firefighting Force” (EFF), or the “Effective Response Force” (ERF). ESCI outlines the NFPA 1710 levels for this effective response force for three different scenarios in the figures below.

The following figure describes an initial full alarm assignment for a single-family 2,000 square foot 2-story residential structure without a basement and with no exposures. This type of structure is common throughout the Town of Orleans. The ERF for a structure fire in a single-family residential home is 17 firefighters.

Figure 6: Initial Full Alarm Assignment for Residential Structure Fire

Initial Full Alarm Assignment—2,000 SF Residential Structure Fire	
Incident Commander	1
Water Supply Operator	1
2 Application Hose Lines	4
1 Support member per line	2
Victim Search and Rescue Team	2
Ground Ladder Deployment	2
Aerial Device Operator	1
Incident Rapid Intervention Crew (2FF)	4
Total	17

The following figure describes an initial full alarm assignment for an open-air strip type shopping center. This type of structure is also common throughout the Town of Orleans. The ERF for an open-air strip shopping center is 28 firefighters.

Figure 7: Initial Full Alarm Assignment for Strip Shopping Center

Initial Full Alarm Assignment Open Air Strip Shopping Center (13,000 SF to 196,000 SF)	
Incident Commander	2
Water Supply Operators	2
3 Application Hose Lines	6
1 Support member per line	3
Victim Search and Rescue team	4
Ground Ladder Deployment	4
Aerial Device Operator	1
Rapid Intervention Crew (4FF)	4
EMS Care	2
Total	28

The following is an initial full alarm assignment for a three-story apartment building with a single 1,200-square foot apartment fire. This third type of occupancy is also common throughout the Town of Orleans. The ERF for a three-story apartment building is 28 firefighters.

Figure 8: Initial Full Alarm Assignment in a Three-Story Apartment Building

Initial Full Alarm Assignment 1,200 SF Apartment (3-story garden apartment)	
Incident Commander	2
Water Supply Operators	2
3 Application Hose Lines	6
1 Support member per line	3
Victim Search and Rescue Team	4
Ground Ladder Deployment	4
Aerial Device Operator	1
Rapid Intervention Crew (4FF)	4
EMS Care (1 crew)	2
Total	28

As previously noted, the Orleans Fire Department participates in the Barnstable County Fire Chiefs Mutual Aid Plan. The Barnstable County Mutual Aid Plan establishes "run cards" which assign fire apparatus for up to four alarms within Barnstable County. Figure 9 illustrates the first three alarms that would respond to a working structure fire within the Town of Orleans. For the purposes of fire response, Orleans is divided into two planning areas. Those are identified within the following table as "A" and "B". The Barnstable County Fire Chiefs Mutual Aid Plan establishes minimum staffing for each type of apparatus in the plan. The established minimum staffing is used below to calculate the number of firefighters that can reasonably be expected with each alarm. While fire apparatus may respond with more than the required minimum staffing, the minimum staffing number was used in the following calculations to provide a safety

factor within the staffing plan. Of additional note, the Orleans Fire Department is listed in the run cards as providing two engines, a ladder truck and an ambulance to its own calls on a first alarm. This response would include 11 firefighters based on the Barnstable County Fire Chiefs Mutual Aid Plan minimum staffing requirements. As the Orleans Fire Department staffs only five firefighters on a shift, the 11-fire fighter total for the first alarm was reduced to five firefighters.

Based on the current run cards, in order to achieve an effective fire fighting force of 17 firefighters for a single-family residence, Orleans will require 1 or 2 alarms. In order to satisfy the ERF of 28 firefighters for a strip shopping center or an apartment building, Orleans will require a second alarm response from the Barnstable County Fire Chiefs Mutual Aid Plan. **ESCI recommends that the Orleans Fire Department work with the Barnstable County Mutual Aid Plan to assure that run cards reflect current fire department minimum staffing and that adequate resources are dispatched to a working fire in a single-family home to initially respond at least 17 firefighters and that at least 28 fire fighters are initially dispatched for working fires in strip malls and apartment buildings.**

Figure 9: Barnstable County Fire Chiefs Mutual Aid Plan: 1st and 2nd Alarm Fire Fighter Totals

1st Alarm				2nd Alarm			
A		B		A		B	
Apparatus	Minimum Staffing	Apparatus	Minimum Staffing	Apparatus	Minimum Staffing	Apparatus	Minimum Staffing
Orleans E175	3	Orleans E175	3	Eastham 156	3	Brewster E239	3
Orleans E177	3	Orleans E177	3	Chatham E185	3	Eastham E155	3
Orleans L176	3	Orleans L176	3	Harwich L66	3	Harwich L66	3
Orleans A174	2	Orleans A174	2	Wellfleet A97	2	Harwich A72	2
Harwich E65	3	Eastham E156	3	Eastham C151	1	Harwich C62	1
Brewster E239	3	Brewster L237	4	Chatham C181	1	Chatham C181	1
Chatham A183	2	Harwich E65	3				
Brewster C231	1	Brewster A243	2				
		Brewster C231	1				
Harwich C62	1	Eastham C151	1				
Alarm Total Adjusted	14		19		13		13
Adjusted Cumulative Scene Total	14		19		27		32
Adjusted for Actual Staffing:							
Run Cards Show Orleans as responding 11; this number is adjusted to 5 for actual Staffing Level							

Using the same planning assumptions that were established when calculating the number of firefighters that could reasonably be expected to respond to first or second alarm for structure fire in the Town of Orleans, ESCI further calculated the number of firefighters that could reasonably be expected to respond to a third or fourth alarm for a structure fire in Orleans. Those numbers are illustrated in the following figure.

Figure 10: Barnstable County Fire Chiefs Mutual Aid Plan: 3rd and 4th Alarm Fire Fighter Totals

3rd Alarm				4th Alarm			
A		B		A		B	
Apparatus	Minimum Staffing	Apparatus	Minimum Staffing	Apparatus	Minimum Staffing	Apparatus	Minimum Staffing
Harwich E69	3	Chatham E185	3	Harwich E64	3	Wellfleet E94	3
Brewster E234	3	Harwich E69	3	Eastham E155	3	Yarmouth E42	3
Dennis E111	3	Dennis E111	3			Dennis E115	3
Brewster A243	2	Dennis A104	2			Wellfleet C81	1
						Yarmouth C551	1
	11		11		6		11
	38		43		44		54

These are generalizations that are representative of different types of structures and risks. Fire departments may handle these types of fires with fewer or more personnel, however, this describes the work functions that must take place for the mitigation of a fire.

When a fire escalates beyond what can be handled by the initial assignment, unusual characteristics such as a wind-driven fire are present, or the fire is accelerated with a highly flammable compound, additional personnel will be needed. Other scenarios such as mass casualty incidents, explosions, tornadoes, etc., may also require additional staffing. It is difficult or impossible to staff for these worse case incidents, which is why a strong mutual aid or automatic aid plan is needed.

STAFF SCHEDULING METHODOLOGY

The regular work schedule for Orleans shift personnel is an average of forty-two (42) hours per week. The work schedule consisting of 24 hours on duty, followed by 24 hours off duty, followed by 24 hours on duty, followed by five days (120 hours) off duty. An average of 42 hours is worked over an eight-week period.

All personnel are trained as firefighter Emergency Medical Technicians with most trained at a minimum of Emergency Medical Technician Paramedic (EMT-P) level and the department provides Advanced Life Support (ALS) services.

Administrative and Support Staffing

One of the primary responsibilities of Orleans Fire Department’s administrative team is to ensure that the operational segment of the organization has the ability and means to respond to and mitigate emergencies in a safe and efficient manner. The appropriate balance of administration and support compared to operational resources and service levels is critical to the success of the department in accomplishing its mission and responsibilities.

Typical responsibilities of administration and support staff include planning, organizing, directing, coordinating, and evaluating the various programs within the department. This list of functions is not exhaustive, and other functions may be added. It is also important to understand that these functions do

not occur in a linear fashion and can more often occur concurrently. This requires the Fire Chief and administrative support staff to focus on many different areas at the same time.

The current administrative organizational structure includes a Fire Chief and Deputy Fire Chief position as well as a full-time Principal Account Clerk. This is a total of three administrative positions out of 29 total full-time and paid-on-call members of the fire department. The administrative and support staff makes up 10.34 percent of the total Orleans Fire Department workforce.

ESCI has noted that appropriately and effectively staffed small to mid-size departments maintain administrative staff levels in the 10 to 12 percent range. ESCI's assessment is that overall the department is appropriately staffed administratively in comparison to the operational staff within the Orleans Fire Department. **ESCI Recommends that if the Orleans Fire Department increases operational staffing, that consideration be given to increasing administrative positions to maintain administrative staffing levels within the ten to 12 percent range.**

PERSONNEL MANAGEMENT

While the purchase of capital equipment can appear expensive when viewed as a one-time expense, personnel expenses typically account for more than 70 percent of an organization's annual expenditures. It is important that special attention be given to managing human resources in a manner that achieves maximum productivity while ensuring a high level of job satisfaction for the individual. Consistent management practices combined with a safe working environment, equitable treatment, opportunity for input, and recognition of the workforce's commitment and sacrifice are key components impacting job satisfaction.

In this section, ESCI will review and analyze personnel management related activities of Orleans Fire Department.

Compensation

An agency's ability to attract, hire, and retain employees has a direct impact on its ability to effectively and efficiently provide the desired services. The Orleans Fire Department is no different. Agencies should provide periodic reviews of current compensation structures, market competitiveness, and department compensation philosophies. These internal and external comparisons of equitable positions and workloads ensure the agency can attract and maintain an effective workforce.

One concern that was repeatedly expressed during interviews with both the management and labor of the Orleans Fire Department was the disparity between the salaries in the Orleans Fire Department and those offered by other fire departments in Cape Cod and the ability to attract new fire fighter paramedics. The Town of Orleans has recently struggled with recruiting new fire fighter paramedics.

The following table illustrates the salaries offered by the Orleans Fire Department in comparison to the salaries offered by the fire departments that directly border Orleans. Salaries represented in this table are current through 2020 except for Orleans. The Orleans collective bargaining agreement contract expired in 2018, which is a secondary detractor to salary in the Town's ability to attract new paramedic firefighters.

Figure 11: Salary Comparison: Orleans and Bordering Fire Departments

Fire Department	Fiscal Year	Base Salary Including EMTP	% Higher Than Orleans
Harwich	2020	\$72,899	35.7%
Chatham	2020	\$62,028	15.5%
Brewster	2020	\$60,495	12.6%
Eastham	2020	\$59,263	10.3%
Orleans	2018	\$53,716	NA

The towns that directly border Orleans are currently offering starting fire fighter paramedics between 10.3 percent and 35.7 percent higher base salaries than is being offered by Orleans. All the surrounding towns have current contracts with their firefighters. **The Town of Orleans should make it a priority to settle a contract with its firefighters that includes salaries that are competitive with its border towns. Without a competitive contract, the Orleans Fire Department should plan for it to become increasingly more difficult to attract new fire fighter paramedics for open positions within the fire department.**

Labor-Management Relationships

ESCI's meetings with the management and labor groups of the Orleans Fire Department revealed that there is room for improvement within the Labor-Management Relationship. Currently, a disconnect exists between management and labor that could easily be resolved with regular communication. **ESCI recommends that, in accordance with the collective bargaining agreement, it be a priority for the new fire chief to comply with the following sections of the labor contract:**

27.2 Regular officer's meetings shall be held by the Chief and/or Deputy Chief.

27.2.1 The purpose of these meetings shall be to disseminate information from the Chief to the officers and for the officers to discuss concerns about the department with the Chief.

27.2.2 These meetings shall be limited in time, shall be conducted from an agenda, and a maximum of one (1) hour of overtime compensation per officer per meeting may be paid.

29.1 There shall be a labor-management committee consisting of two (2) Union representatives and the Fire Chief and/or Deputy Fire Chief for the Town. The Committee shall meet on request of either party a minimum of six (6) to a maximum of twelve (12) monthly meetings per year to discuss all matters of mutual concern. The Committee shall have the authority to make recommendations to the Union and Fire Chief.

It was readily apparent to ESCI during the site visit that labor and the current Chief do not have a close working relationship or associated level of trust. While the appointment of a new chief may help to improve this situation, it is ESCI's opinion that the Orleans Fire Department would benefit from outside assistance establishing a solid foundation for the labor-management relationship between the firefighters and the new chief. **ESCI suggests that the Orleans Fire Department may benefit by bringing the International Association of Fire Chiefs' new program Member and Leadership Collaboration (MLC)**

into the Orleans Fire Department. This program is focused on leveraging behavioral analysis to manage group dysfunction through understanding DISC behavioral styles. DISC is an acronym that stands for the four prominent behavior styles - Dominance, Influence, Steadiness and Conscientiousness.

The program begins with a comprehensive personality assessment and is designed for emergency services organizations facing the challenges of service delivery within the fire department system. The workshop is specifically designed to open lines of communication and focus the organization on common goals to provide the highest level of service. Experienced chief officers serve as facilitators to deliver this interactive program on-site which includes:

- Assisting department key leadership personnel in gaining an understanding of the unique challenges facing their organization.
- Allowing input from external and internal stakeholders through an in-depth analysis based on local and national trends and needs of the organization.
- Establishing organizational and personal goals that recognize and support the value of the volunteer, part-time, and career components of the organization.

The MLC is administered over two days with two facilitators. Requesting agencies are required to pay a flat fee for the workshop which includes all facilitator travel and custom behavioral style reports for up to 10 key leadership personnel. This program can be contracted through the International Association of Fire Chiefs and may, if desired by the Township, be facilitated by all or part of the ESCI team that conducted the Orleans Fire Department site visit.

Counseling Services

Our nation's firefighters are faced with emotional needs that are very different and unique to the occupation. The percentage of firefighters struggling with career-related stress is very high, with suicide rates climbing each year. These issues manifest themselves through higher divorce rates and addictions such as alcohol, drugs, or gambling. Frequently seen in recent studies and another major concern is Post Traumatic Stress Disorder (PTSD). As these symptoms occur, employees need a support system in place that is readily accessible from someone who is qualified and truly understands his or her circumstances.

The Orleans Fire Department offers mental health services through the Town's insurance carrier. As part of this arrangement, firefighters may seek free, confidential mental help for themselves or a member of their household.

Recruitment, Promotion and Disciplinary Processes

The Orleans Town Administrator's office is responsible for managing the human resources aspects of the fire department. This includes recruitment and employment, classification and compensation plans, contract negotiations, personnel policies, discipline, employee assistance and training programs, and compliance with federal and state employment laws. The Town of Orleans is an Equal Opportunity Employer.

The fire department promotional process requirements are very clearly detailed within the collective bargaining agreement. The contract requires the fire chief to maintain a current promotional eligibility list and that testing shall be given a minimum of every three years or whenever the eligibility list falls below four members.

In accordance with the contract, the Promotional process will consist of a Written Exam, an Oral Board Review and a Chief's interview and shall be administered by an independent, recognized testing agency. The Written Exam will constitute 40 percent of the final grade. The Oral Board will constitute 50 percent of the final grade, and the Chief's interview makes up the final 10 percent of the grade. The minimum passing score for the Written Exam is 70 percent. Candidates who pass all three portions of the promotional process with a minimum cumulative grade of 70 percent are considered to have successfully passed the complete promotional process. The chief is required to list the top four scores on the eligibility list and designate those individuals as senior privates. The fire chief must then review the promotional list and choose, without prejudice, the candidate the he/she feels will best serve the department in that capacity from the top four candidates.

ESCI's review of the Orleans Fire Departments current recruitment and promotional processes finds that that the department is following best practices and industry standards.

Health and Safety Programs

NFPA 1500: *Standard on Fire Department Occupational Safety and Health Program*, is the industry standard for development and administration of a fire department safety program. At the time of this report, the collective bargaining agreement established a safety committee; however, employees would like to see the committee become more active. The establishment and empowerment of a safety committee can be one of the best tools to increase the safety of firefighters. **ESCI strongly encourages the department to ensure all activities of the safety committee are in alignment with Chapter 4 of NFPA 1500.** To be effective, safety committees must be diverse in their representation from across the department, ensuring representation by shift, rank, function, and interest, and including representation from non-uniformed and staff members as well.

The safety committee should meet monthly and include in its mission the raising of awareness and modifying of member behaviors that will result in a safe work environment. Additionally, the committee should review all accidents, injuries, near-miss incidents, and workplace safety suggestions. The committee should analyze the information before them and report their findings to the fire chief. In contrast to being reactionary through the development of additional rules, it is recommended that the committee should work to implement member safety education programs and encourage members' safety self-awareness. The committee should maintain regular and open meeting times and locations; and minutes of the meetings should be recorded and posted for all members of the department to review. ESCI underscores the importance of maintaining a functioning Safety Committee.

While the Orleans Fire Department Staffing and Organizational Study does not specifically include evaluation of the fire department's fixed facilities as part of the scope of work, ESCI personnel did take note of a number of issues within the fire station that could have an impact on the health and wellness of Orleans fire department personnel.

In recent years, the fire service has become increasingly concerned with the issue of firefighter cancer, and cancer-prevention practices. Within the Orleans Fire Department, there are cancer policies in place. Firefighters have been provided with training, extra hoods, wipes, and protocols for both cancer prevention and decontamination. An additional preventative measure that could be taken by the Orleans Fire Department is to limit/reduce firefighter exposure to toxic products of combustion which occur *after the fire* (aka, off-gassing). **The Orleans Fire Department should take steps to store turnout gear in a well-ventilated room to prevent additional firefighter exposure to off gassing of chemicals absorbed into turnout gear during a fire. To that end, the Orleans Fire Department should also relocate the current fitness area that is in the apparatus bay to a location where firefighters can exercise without exposure to the toxic products of combustion.**

TRAINING PROGRAM

A comprehensive training program is one the most critical factors for helping to ensure the safe and effective provision of emergency services. ESCI conducted a full evaluation of the Orleans Fire Department Training Program. The Training Program evaluation is included in this report as Appendix A.

FIRE PREVENTION PROGRAM

Fire Prevention has three traditional segments: code enforcement, fire investigation and public education. ESCI conducted a full evaluation of the Orleans Fire Department Public Education Program. The Fire Prevention Program evaluation is included in this report as Appendix B.

SERVICE DELIVERY AND PERFORMANCE

While there are many components of an emergency services agency that may be evaluated, perhaps the most important aspect is the agency's ability to deliver services to their community. When evaluating service delivery and performance, each of the components listed below should be included in the analysis and continually monitored. The following major components of service delivery and performance were evaluated for the Orleans Fire Department:

- Service Demand
- Resource Distribution
- Resource Concentration
- Response Reliability
- Response Performance

Service Demand Study

Incident Type Analysis

While service demand can be measured simply as the number of incidents within a given time period, seeing that same demand categorized by incident type provides policy makers the ability to assess current demand and plan for future demand.

The National Fire Incident Reporting System (NFIRS) has developed a classification system in order to categorize various types of incidents. These codes identify the various types of incidents to which the fire department responds and allows the fire department to document the full range of incidents it handles.

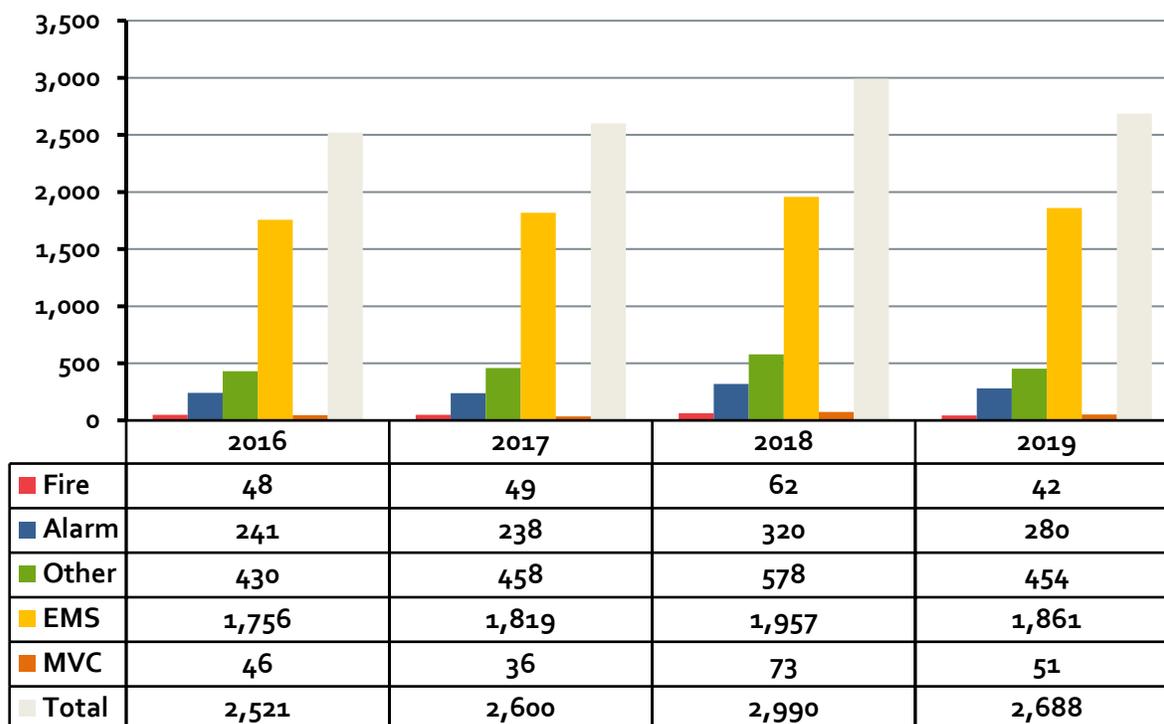
This information can be used to analyze the frequency of different types of incidents, provide insight on fire and other incident problems, and identify training needs. The codes are three digits and are grouped into series by the first digit as illustrated in the figure below.

Figure 12: NFIRS Classification System

Incident Series	Incident Heading
100-Series	Fires
200-Series	Overpressure Rupture, Explosion, Overheat (No Fire)
300-Series	Rescue and Emergency Medical Service (EMS) Incidents
400-Series	Hazardous Condition (No Fire)
500-Series	Service Call
600-Series	Cancelled, Good Intent
700-Series	False Alarm, False Call
800-Series	Severe Weather, Natural Disaster
900-Series	Special Incident Type

While the above grouping is utilized to provide an in-depth analysis of the response data, the data provided by the Orleans Fire Department did not include the NFIRS incident type codes. Instead, the figure below illustrates an historical view of incidents for the Orleans Fire Department based upon the CAD response type field placed into higher level groups. **ESCI recommends that the Orleans Fire Department utilize an established NFIRS reporting system to record this data and the many other data points that will enable them to have important information available used to plan for prevention and response activities.**

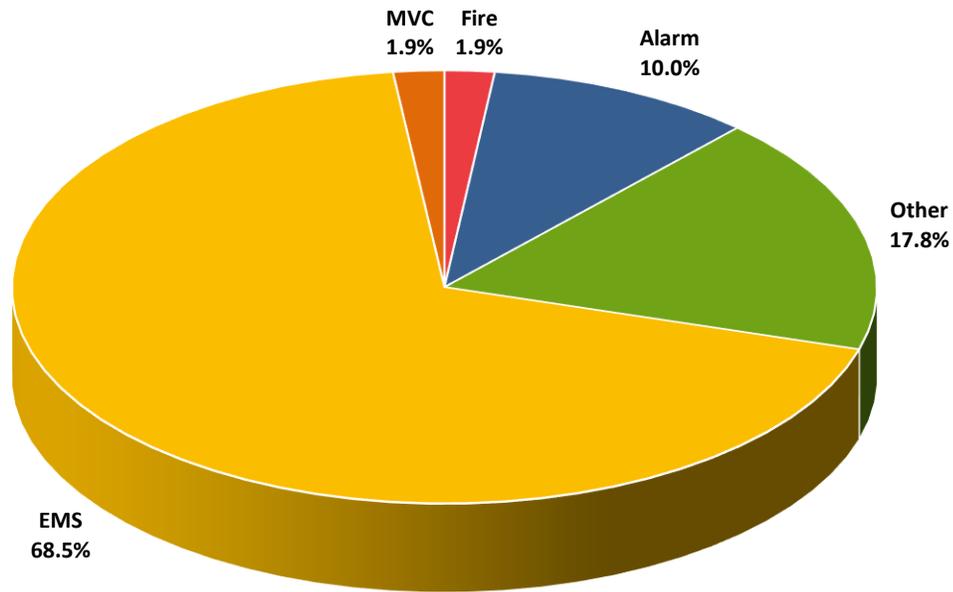
Figure 13: Service Demand by Incident Type 2016–2019



During the study period, from 2016 to 2019, there was an overall 6.6% increase in service demand. With an average increase of 3% annually, the outlier is the change in service demand during 2018. From 2017 to 2018, there was a 15% increase followed by a 10% decrease in 2019. This outlier was the result of a year that involved multiple coastal storms and a microburst during the months of January, March and August. The 2019 total incident volume appears consistent with the years prior to 2018.

While the figure above illustrates a more detailed analysis of the incident types and a year-to-year trend, it is also important to understand the percentage of each category as it compares to the whole. The figure below illustrates this same service demand data for the various incident types as they compare to the whole. As shown, most incidents are for emergency medical services. This ratio of call types to the whole is similar to that typically found with other all-hazard departments across the United States.

Figure 14: Service Demand by Incident Type 2016–2019

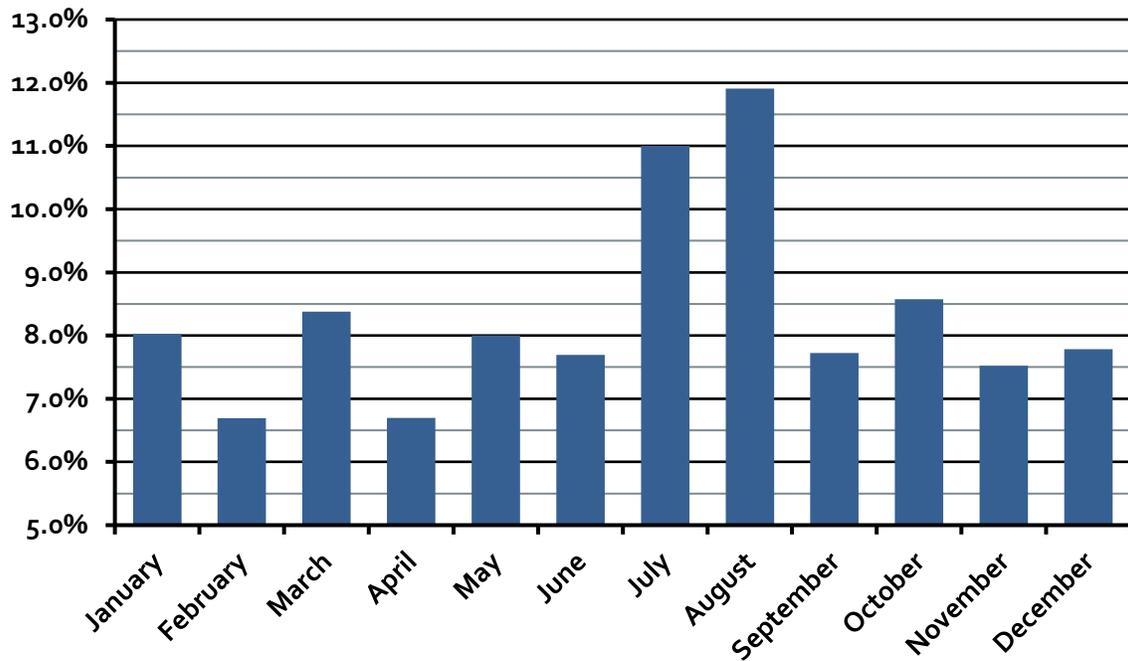


Temporal Analysis

While the incident type analysis provides leadership knowledge as to the various types of services needed, understanding the temporal component is of equal importance. Through an analysis of the various temporal components, leadership can better plan for non-incident activities such as training, apparatus maintenance, hydrant testing, hose testing and pre-fire planning. Each temporal component is presented as the percentage relative to the total service demand that occurred during the study period.

The figure below illustrates the temporal variation by month for the Orleans Fire Department. This component has the greatest impact on balancing non-incident monthly activities. As illustrated, the greatest service demand occurs in July and August. The lowest service demand occurs in February and April. The remaining months are fairly consistent, without great variation from each other.

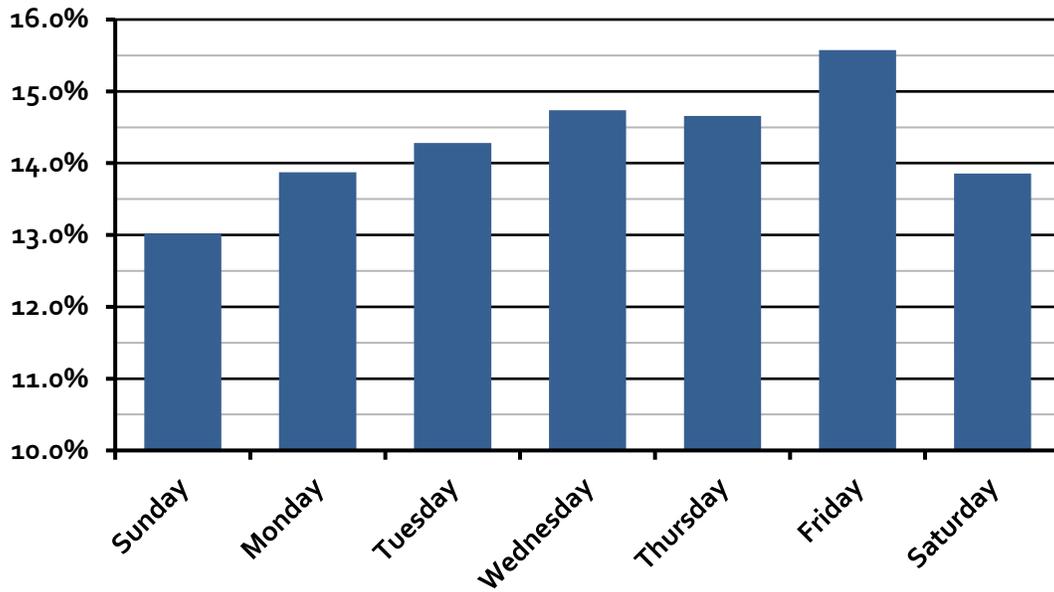
Figure 15: Service Demand by Month 2016–2019



Although the fire department has historically “upstaffed” from June 15 through September 15 to compensate for an increase in calls during the summer months, the last four years of data indicates that an increase in activity only occurs in July and August. Further evaluation revealed that the 4-month period, June 15 through September 15, has trended between 30.35 percent and 31.46 percent of the annual calls for service during the last four years. This is a normal distribution of annual calls for service. **ESCI recommends that the Orleans Fire Department regularly evaluate trends within service demand and that staffing be adjusted as necessary according to current data.**

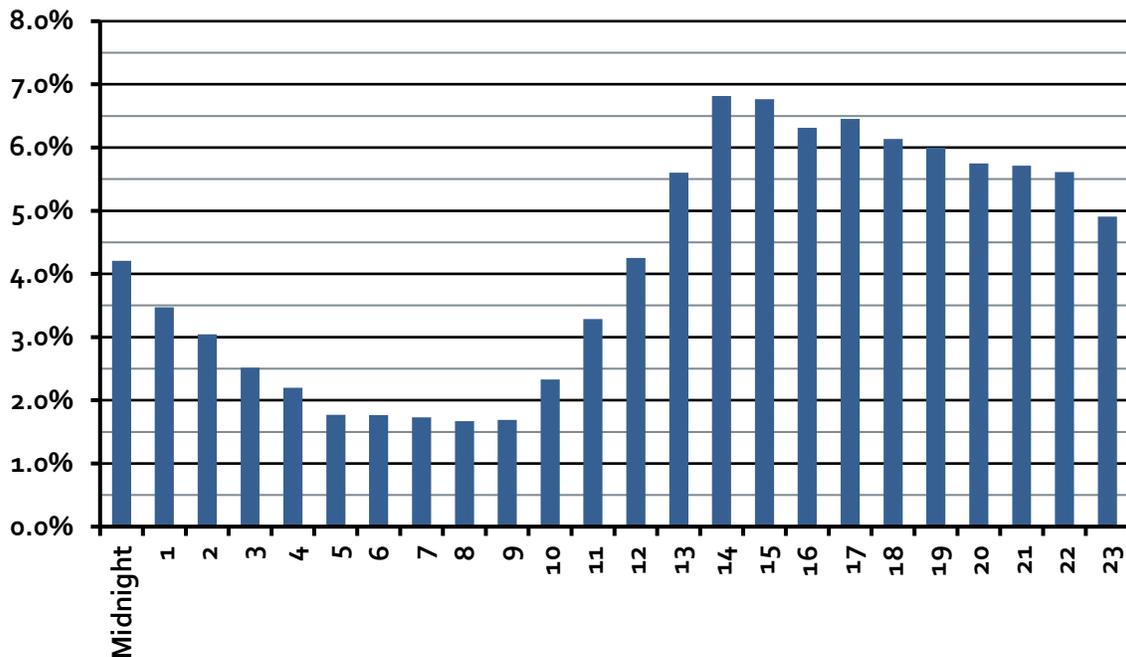
The second temporal variation is by day-of-the-week. As illustrated, the lowest demand for service occurs on Sunday. Demand increases throughout the week, reaching its peak on Friday. It then decreases on Saturday.

Figure 16: Service Demand by Day of Week 2016–2019



The final component of temporal analysis is call volume by time-of-day. The figure below illustrates this component for the Orleans Fire Department. Calls for service begin increasing at 10 AM and continue to a peak at 2 PM. This is followed by a general decrease throughout the afternoon and evening until midnight. After midnight, there is a greater decline in service demand, reaching the lowest demand from 5 AM until 9 AM.

Figure 17: Service Demand by Time of Day 2016–2019



The combined temporal analysis for the Orleans Fire Department indicates that the highest demand for service during the last four years occurs on Fridays during the midafternoon in July and August. While service demand is lowest during those early morning hours, it should be noted that most fatal residential fires occur most frequently late at night or early in the morning. Based on findings from a national study, from 2014 to 2016, residential fatal fires were highest between 1:00am to 2:00am, and 4:00am to 5:00am. The 8-hour peak period (11pm to 7am) accounted for 48 percent of residential fatal fires¹.

ISO Distribution

The Insurance Services Office (ISO) is a national insurance industry organization that evaluates fire protection for communities across the country. ISO assesses all areas of fire protection and breaks them down into four major categories including emergency communications, fire department, water supply, and community risk reduction. Following an on-site evaluation, an ISO rating, or specifically, a Public Protection Classification (PPC®) number is assigned to the community ranging from 1 (best protection) to 10 (no protection). The PPC® score is developed using the Fire Suppression Rating Schedule (FSRS), which outlines sub-categories for each of the four major categories, detailing the specific requirements for each area of evaluation.

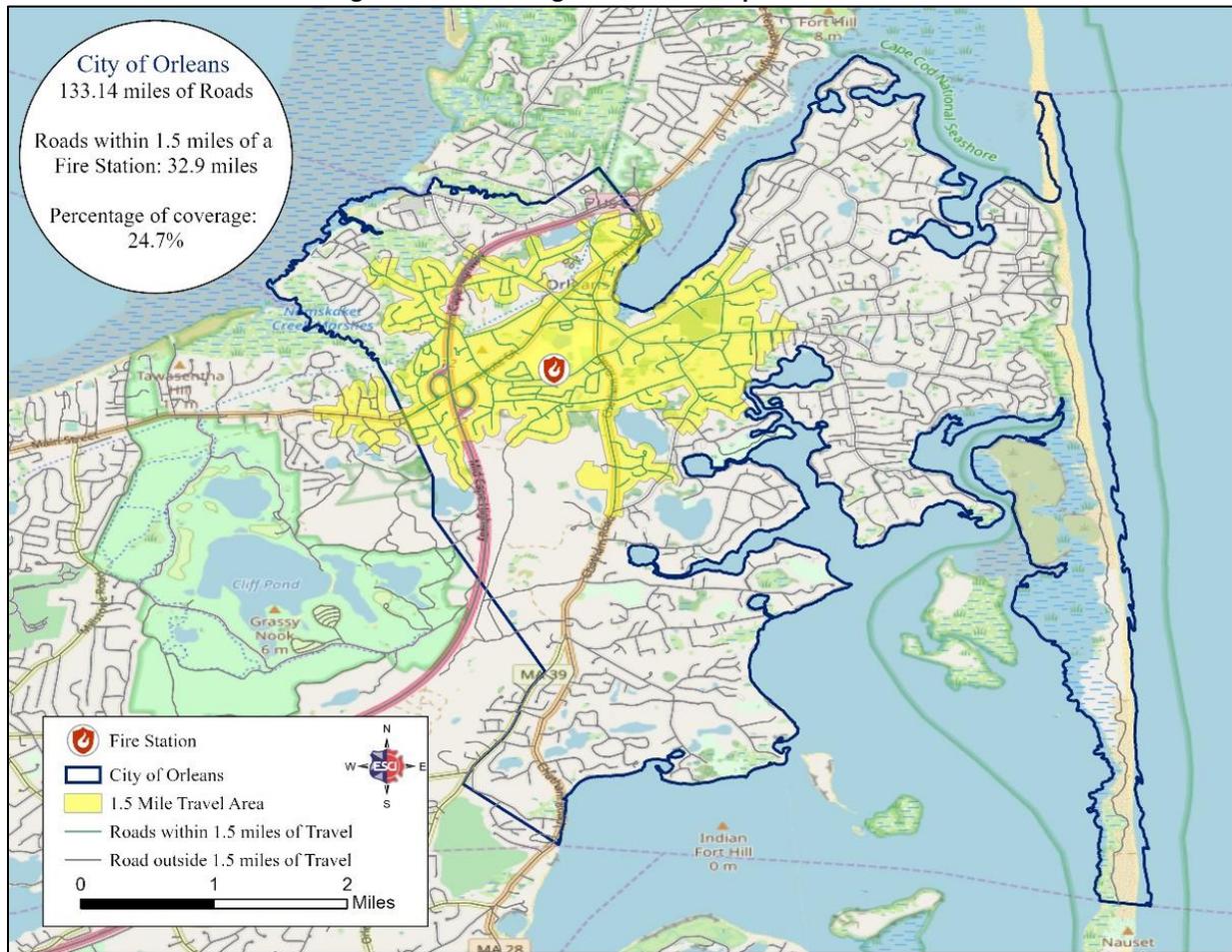
A community's ISO rating is an important factor when considering fire station and apparatus concentration, distribution, and deployment due to its effect on the cost of fire insurance for the residents and businesses. To receive maximum credit for station and apparatus distribution, ISO evaluates the percentage of the community (contiguously built upon area) that is within specific distances of fire stations, central water supply access (fire hydrants), engine/pumper companies and aerial/ladder apparatus.

Travel Distance from a Fire Station

The percentage of the service area that falls within 1.5-miles travel distance from a staffed fire station is the first travel component evaluated by ISO. As illustrated in the figure below, only 24.7% of Orleans, MA service area falls within this distance.

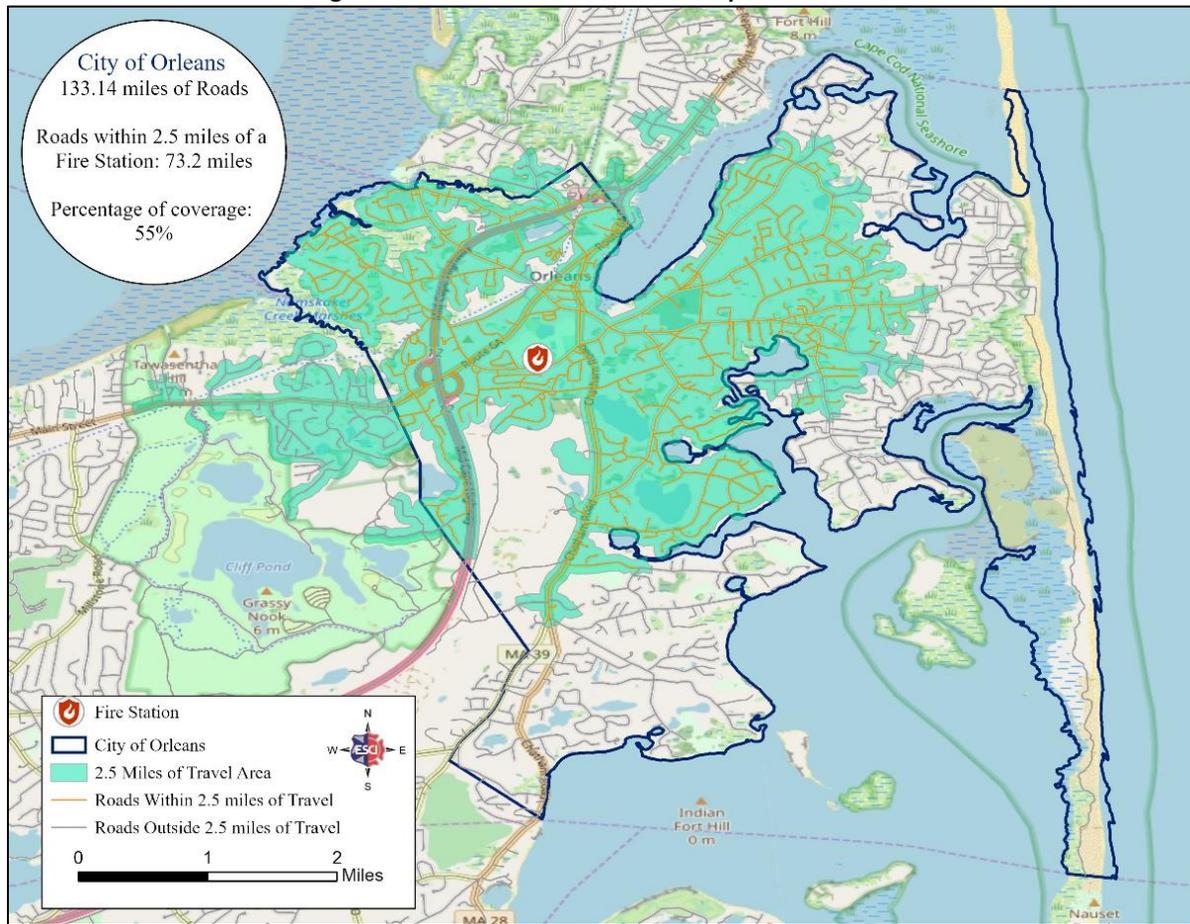
¹ Fatal Fires in Residential Buildings (2014-2016), Topical Fire Report Series Volume 19, Issue 1 /June 18, U.S. Department of Homeland Security, U.S. Fire Administration, National Fire Data Center.

Figure 18:.5-Mile Engine Distribution per ISO Criteria



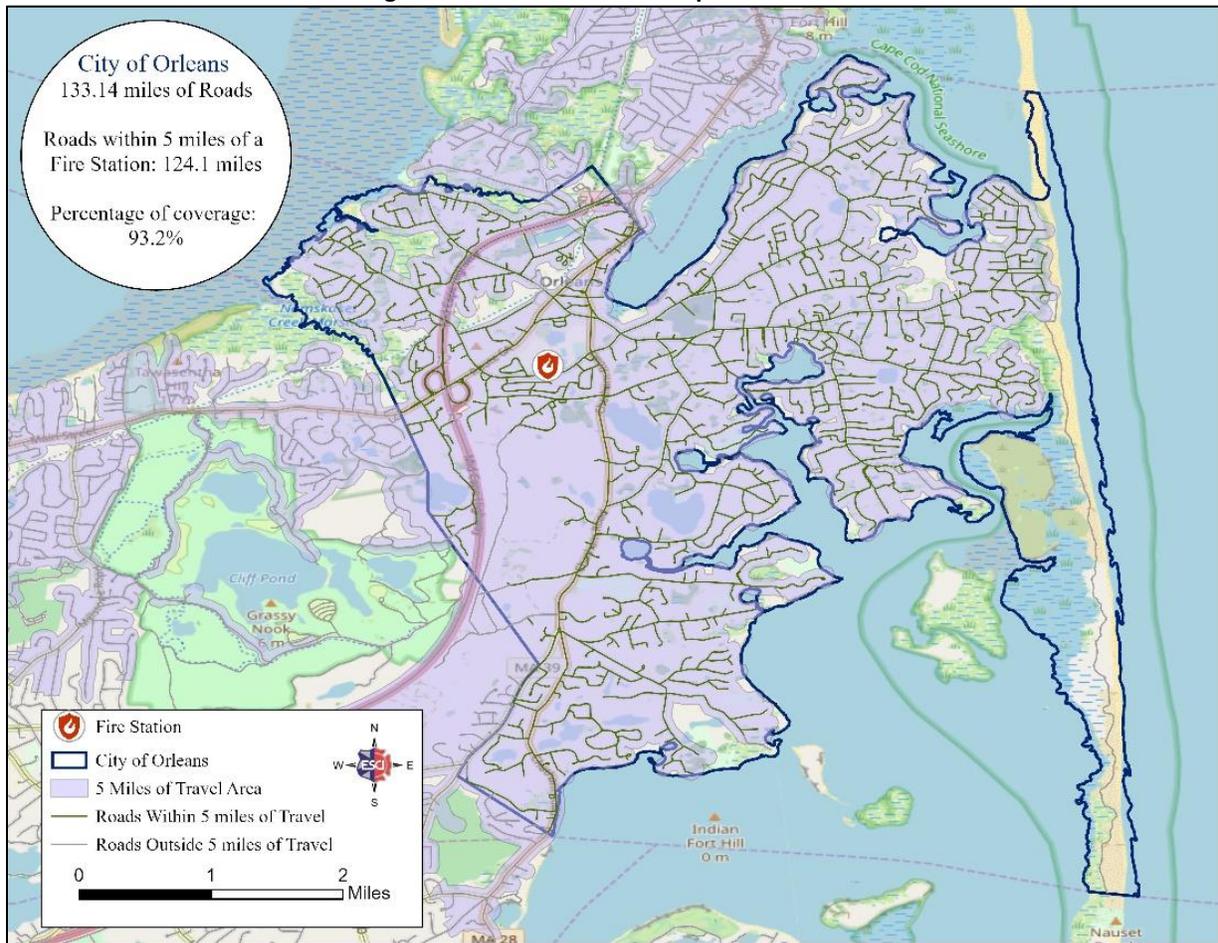
The second travel component evaluated by ISO is the percentage of service area that falls within a 2.5-mile travel distance from a staffed aerial apparatus. As illustrated in the figure below, 55% of Orleans falls within this distance.

Figure 19: 2.5-Mile Truck Distribution per ISO Criteria



The final travel component evaluated by ISO is the percentage of service area that falls within 5-mile travel distance of a staffed fire station. As illustrated by the figure below, 93.2% of Orleans falls within this distance.

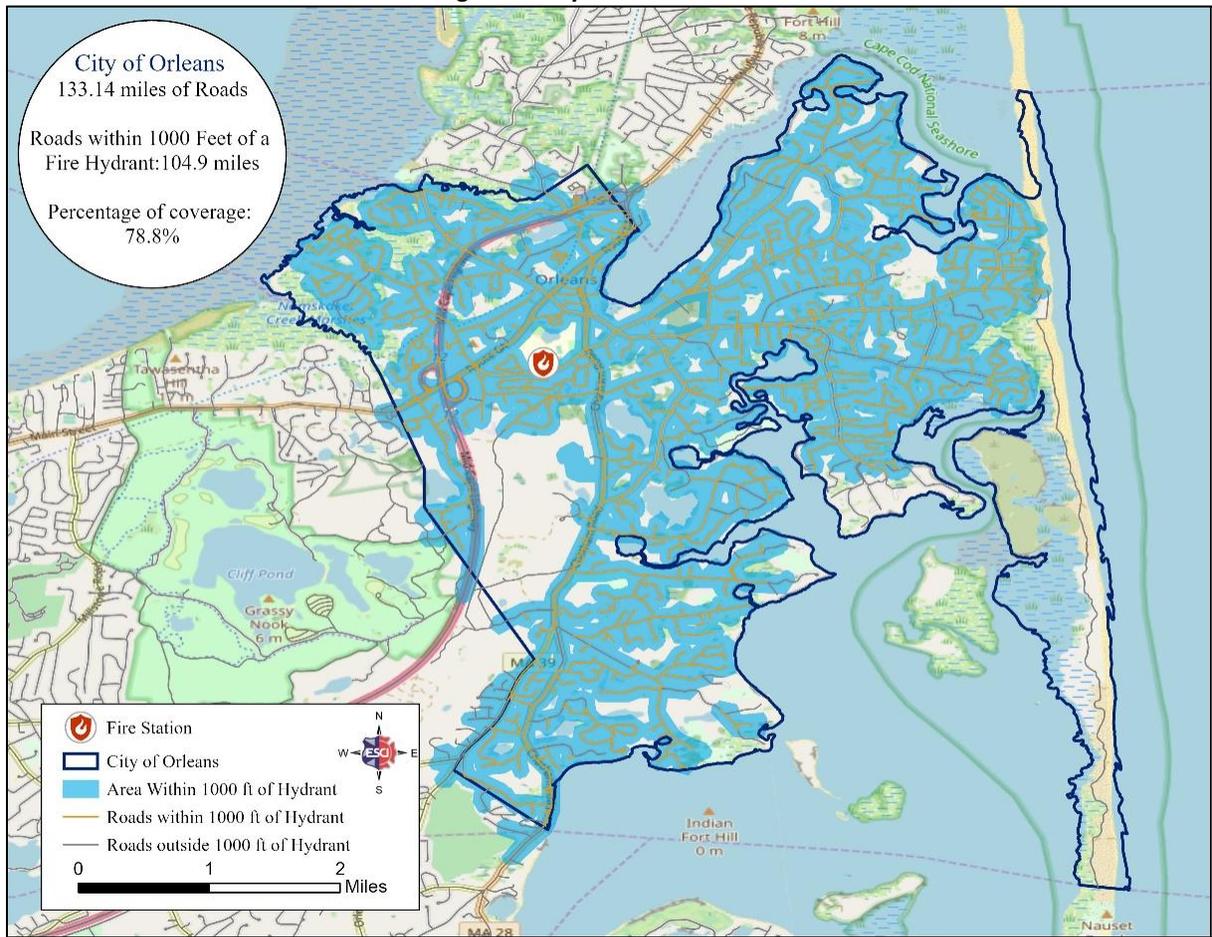
Figure 20: 5-Mile Distribution per ISO Criteria



Water Supply Distribution

ISO evaluates a community’s availability of a sufficient water supply, which is critical for the extinguishment of fires. Included in this evaluation is the geographic location and distribution of fire hydrants. Structures outside a 1,000-foot radius of a fire hydrant are subject to a lower Public Protection Classification® rating than areas with adequate hydrant coverage, thus signifying limited fire protection. Exceptions are made when a fire department can show that either a dry hydrant or a suitable water tanker operation is possible to provide the needed volume of water for fire suppression activities for a specific period. As illustrated by the figure below, 78.8% of the Orleans service area is within 1,000 feet of a fire hydrant.

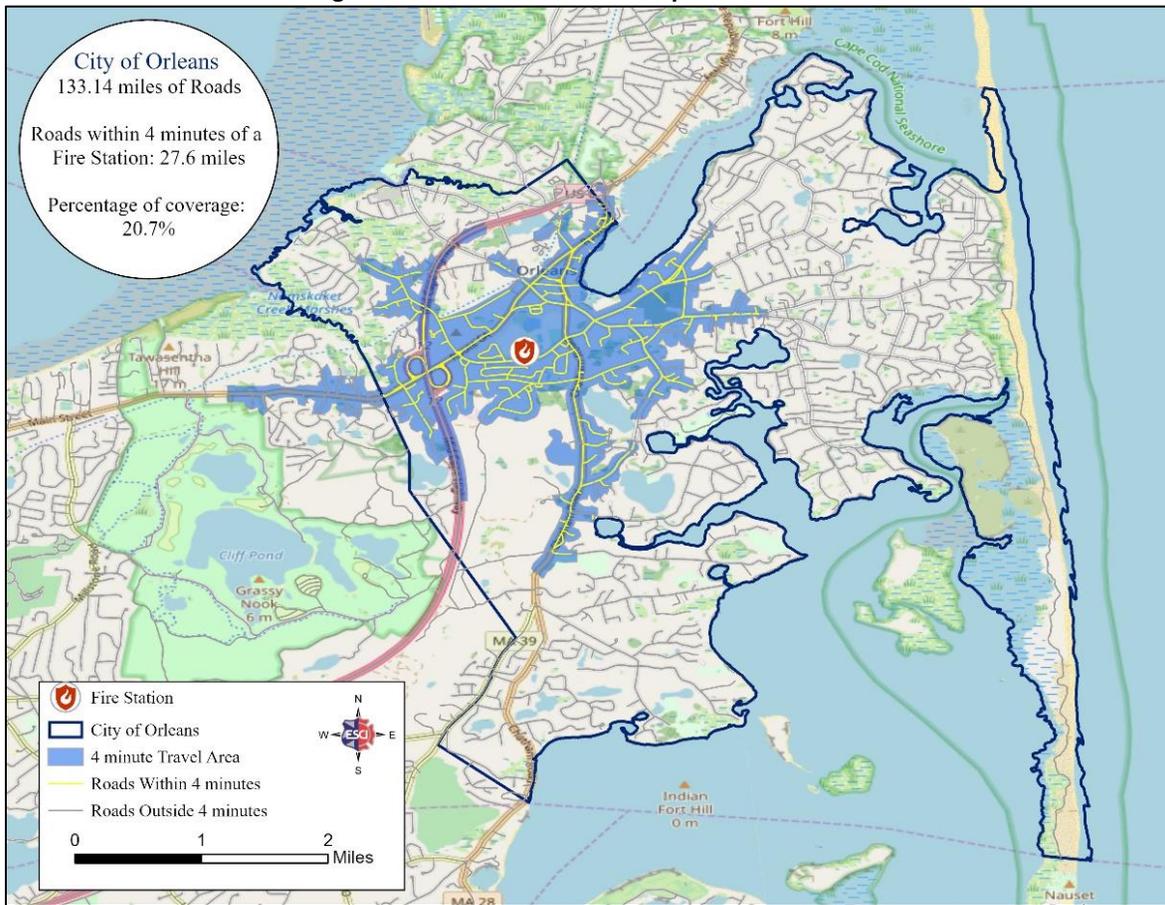
Figure 21: Hydrant Distribution



NFPA Distribution

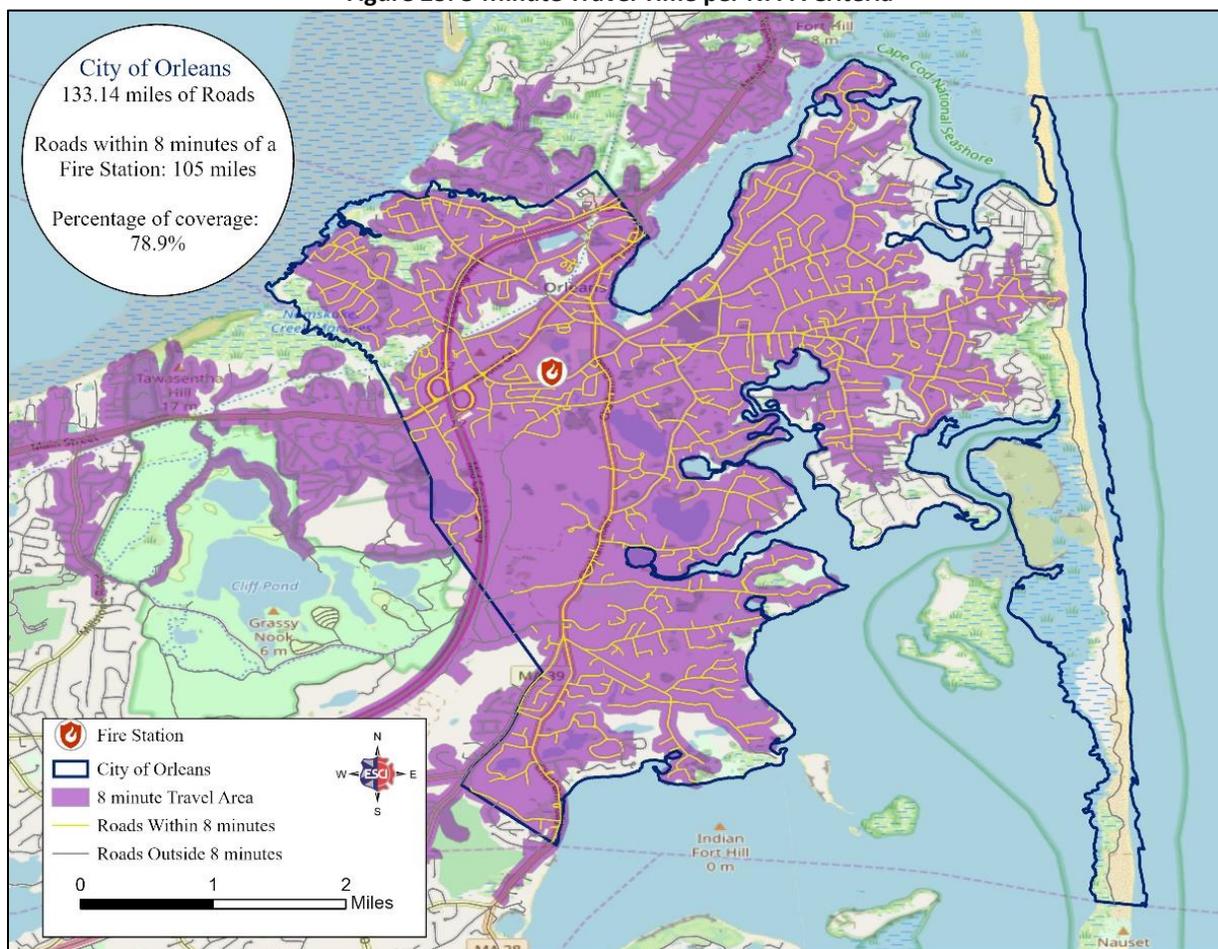
National Fire Protection Association (NFPA) standards and the Center for Public Safety Excellence (CPSE) accreditation of fire departments both evaluate response time criteria for purposes of analyzing resource distribution. For low/medium hazard incidents, the first unit should arrive within 4 minutes and the full assignment should arrive within 8 minutes. Travel time is calculated using the posted speed limit and adjusted for negotiating turns, intersections, and one-way streets. As illustrated by the following two figures, 20.7% of the service area is within the 4-minute travel distance and 78.9% falls within the 8-minute travel distance. This impact will be seen when looking at response time performance as travel time can be one of the factors with greatest impact on total response time.

Figure 22: 4-Minute Travel Time per NFPA Criteria



As illustrated in Figure 22, coverage based on NFPA 1710 requirements for first due responding units are only met in approximately one fifth of Orleans. Based on this figure, it would be anticipated that travel time performance will be elevated compared to national standards. Next, the projected travel time performance at 8-minutes is displayed. Eight minutes is the amount of time specified for the arrival of an ambulance or the balance of an effective response force to the scene of an emergency.

Figure 23: 8-Minute Travel Time per NFPA Criteria



The majority of the Town, 78.9%, lies within an 8-minute travel time of the fire station. As the majority of incidents within Orleans are EMS in nature, the department should have the capability to provide emergency transport services at or near industry standards.

Response Reliability Review

As previously identified, the ability of an agency to respond to calls for service in a timely manner is a key component of service delivery and performance. This ability to respond is impacted by two key reliability factors—workload and call concurrency.

Workload/Unit Hour Utilization

While number of calls presents a view of workload, the greater value is provided by analyzing the amount of time spent on calls by the various responding units. This measure is referred to as unit hour utilization and represents the amount of time in service that a unit is assigned to response activities. The data provided by Orleans did not provide the unit level detail to analyze the workload of each unit. As recommended in the incident type section, **ESCI recommends the use of an established NFIRS reporting system—along with accurate entry by crews on each incident—the department would be enabled to track the workload by unit to use as part of the consideration for needs to change resource distribution.**

Call Concurrency

Workload and incident location have great impacts on the ability to provide timely service. Call concurrency refers to the number of incidents occurring at the same time within the jurisdiction and impacts the ability to provide timely service. While there is no specific standard to which the data can be compared, this provides insight as to the ability of the department to at least provide an initial responding unit to calls within the Town. The figure below illustrates the call concurrency for the Orleans Fire Department for 2016–2019. With two units providing primary response, Orleans, MA can provide one unit to approximately 91% of incidents with the immediate resources on hand. It is important to note, however, that this does not mean that the Town provides the necessary resources for 90% of its calls. In the event any of these incidents requires more than 2-4 firefighters, mutual or automatic aid would be required.

Figure 24: Concurrent Incidents 2016–2019

Concurrent Incidents in Progress	Number of Incidents	Percent of Total Incidents
Single Incident	7,076	65.41%
Two Incidents	2,802	25.90%
Three Incidents	717	6.63%
Four Incidents	137	1.27%
Five Incidents	26	0.24%
More than Five Incidents	60	0.55%

Response Performance Summary

Perhaps the most publicly visible component of an emergency services delivery system is that of response performance. Policy makers and citizens want to know how quickly they can expect to receive emergency services.

For policy makers and citizens to make informed decisions concerning response performance, it is essential that jurisdictions record and report the various components of the jurisdiction's current performance.

In analyzing response performance, ESCI generates percentile measurements of response time performance. The use of percentile measurement using the components of response time follows the recommendations of industry best practices. The best practices are derived by the Center for Public Safety Excellence (CPSE), Standard of Cover document and NFPA 1710.

The "average" measure is a commonly used descriptive statistic also called the mean of a data set. The most important reason for not using the average for performance standards is that it may not accurately reflect the performance for the entire data set and may be skewed by outliers, especially in small data sets. One extremely high or low value can skew the average for the entire data set.

The "median" measure is another acceptable method of analyzing performance. This method identifies the value at the middle of a data set and thus tends to not be as strongly influenced by data outliers.

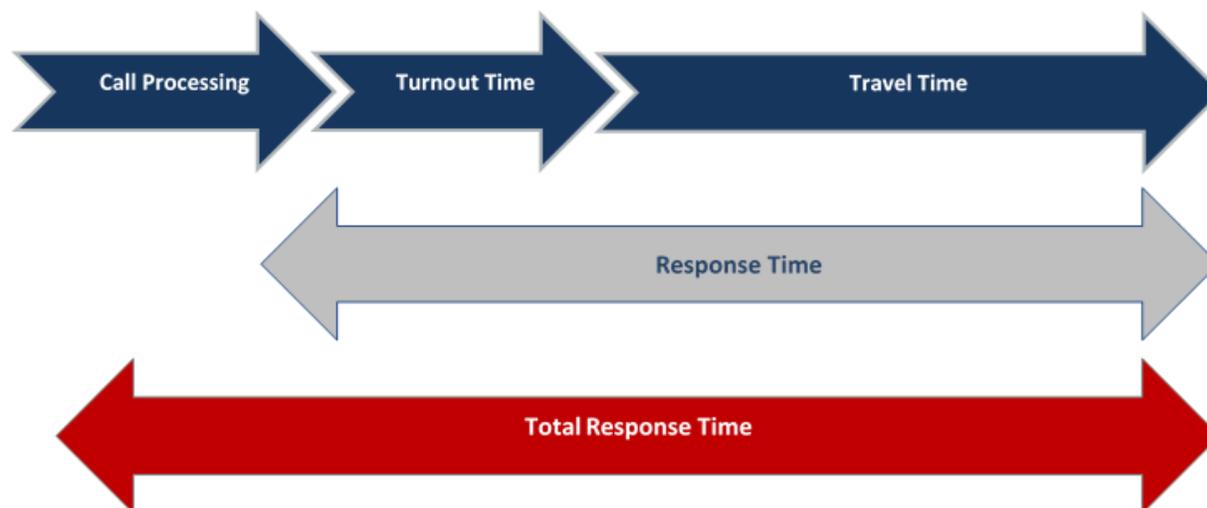
Percentile measurements are a better measure of performance because they show that most of the data set has achieved a particular level of performance. The 90th percentile means that 10 percent of the values are greater than the value stated, and all other data are at or below this level. This can be compared to the desired performance objective to determine the degree of success in achieving the goal.

As this report progresses through the performance analysis, it is important to keep in mind that each component of response performance is not cumulative. Each is analyzed as an individual component, and the point at which the fractile percentile is calculated exists in a set of data unto itself.

The *response time continuum*—the time between when the caller dials 911 and when assistance arrives—is comprised of several components:

- *Call Processing Time*—The time between a dispatcher getting the call and the resources being dispatched.
- *Turnout Time*—The time between unit notification of the incident and when they are responding.
- *Travel Time*—The time the responding unit spends on the road traveling to the incident.
- *Response Time*—A combination of turnout time and travel time, this is the most commonly used measure of fire department response performance.
- *Total Response Time*—The time from when the 911 call is answered until the dispatched unit arrives on the scene.

Figure 25: Response Time Continuum



Total response time is the amount of time a resident or business waits for resources to arrive at the scene of an emergency beginning when they first placed a 911 call. This process begins for the fire department once the appropriate unit is dispatched by the communications center. The NFPA standard for alarm handling and call processing is derived from NFPA 1221: *Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems* and provides for communication centers to have alarm handling time of not more than 15 seconds, 90 percent of the time and not more than 20 seconds, 95 percent of the time. Additionally, NFPA 1221 requires the processing of the call to occur within 64

seconds, 90 percent of the time for high-priority incidents. Similarly, NFPA 1710 requires the call processing time to be 60 seconds or less, 90 percent of the time, as does ISO.

Figure 26: NFPA 1710 Standards for Fire/EMS Responses

Response Interval	NFPA/CAI Recommendations
Call Processing	60 seconds or less at 90%
Turnout Time	60 seconds or less at 90%
Travel Time	240 seconds

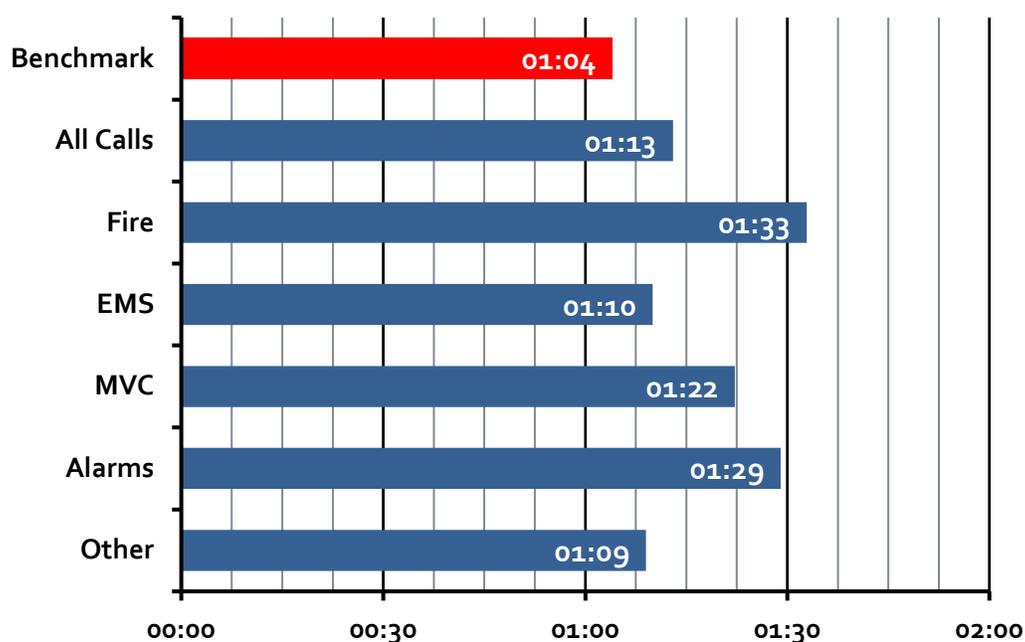
Tracking the individual components of response time enables jurisdictions to identify deficiencies and areas for improvement. In addition, knowledge of current performance for the components listed above; is an essential element of developing response goals and standards that are relevant and achievable. Fire service best practice documents recommend that fire jurisdictions monitor and report each of the components of total response time. As identified in the previous sections, the data provided by Orleans did not have unit level detail.

The following analysis is based on the CAD data provided. While it provides an overall picture of response time performance, it does not provide for in-depth analysis and accuracy that would be available with unit level data. The data also did not separate emergency response from non-emergency response. **ESCI recommends that the Orleans Fire Department track its responses with the ability to separate emergency from non-emergency responses at the unit level.** This should be kept in mind when reviewing the analysis, since times generally improve when focused only on the emergency response to incidents.

Call Processing Performance

Call processing is the time between the dispatcher's receipt of the incident and dispatch of units. This generally falls under the control of the dispatch center, but department leadership should work with that entity to monitor performance. As illustrated in the figure below, for incidents overall, the call processing time is only 9 seconds greater than the expected standard. When grouped into the incident type, call processing ranged from 1 minute, 9 seconds on other incidents to 1 minute, 33 seconds on fire incidents.

Figure 27: Call Processing Time Performance 2016–2019

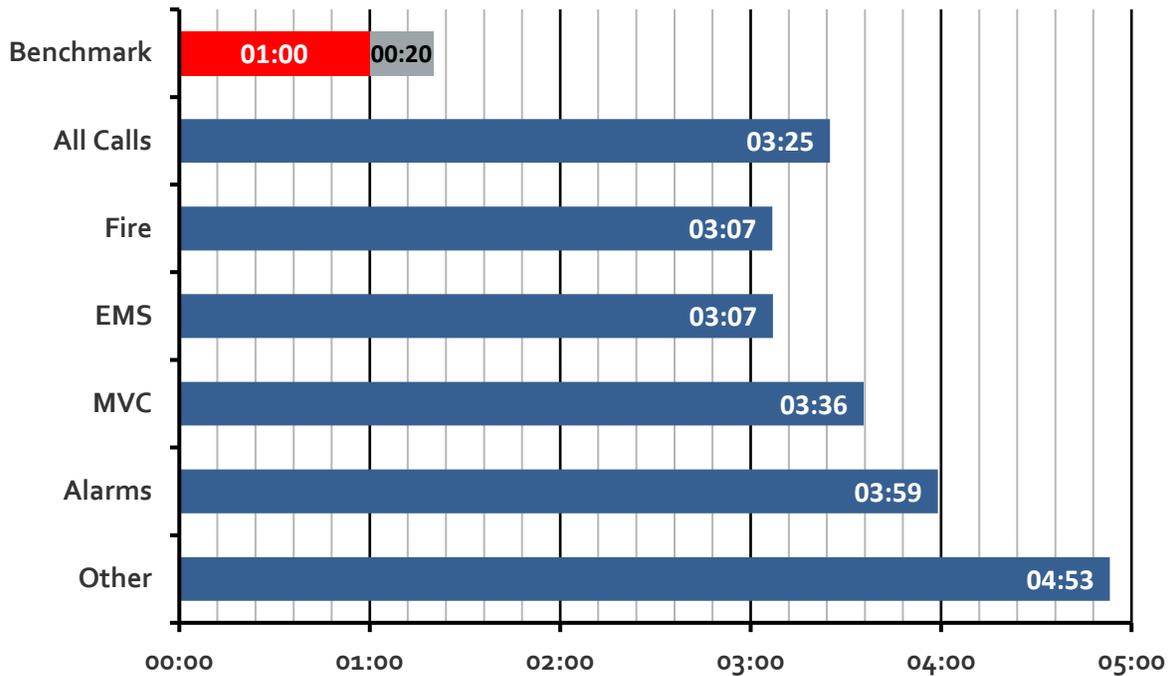


Turnout Time Performance

The first component of response performance that is under direct control of the fire department is turnout time. This is the time it takes personnel to receive the dispatch information, move to the appropriate apparatus and proceed to the incident. NFPA 1710 specifies that turnout time performance should be less than 60 seconds (01:00), measured at the 90th percentile for incidents other than fire and special operations. For those incidents, turnout time performance should be 1 minute, 20 seconds (1:20).

Figure 28 illustrates the turnout time performance for the Orleans Fire Department. With an overall turnout time of 3 minutes, 25 seconds, the department is exceeding the standard by approximately 2 minutes. When analyzed by individual call types, performance ranged from 3 minutes, 7 seconds for fire and emergency medical incidents to 4 minutes, 53 seconds for other incidents. **Leadership should analyze the various components associated with turnout time to determine any methods of improving this performance.** This may include dispatch notification systems, layout of the fire station as it relates to movement to the apparatus and personnel activities during duty hours. **The layout of the current fire station, in which firefighters normally occupy areas that are very remote from the apparatus and must then transcend long stairways to reach the bays, is likely a key contributor to the long turnout times that currently exist in Orleans.** Fire department leadership should prioritize the need for an efficient fire station design when considering future fire station improvements.

Figure 28: Turnout Time Performance 2016–2019

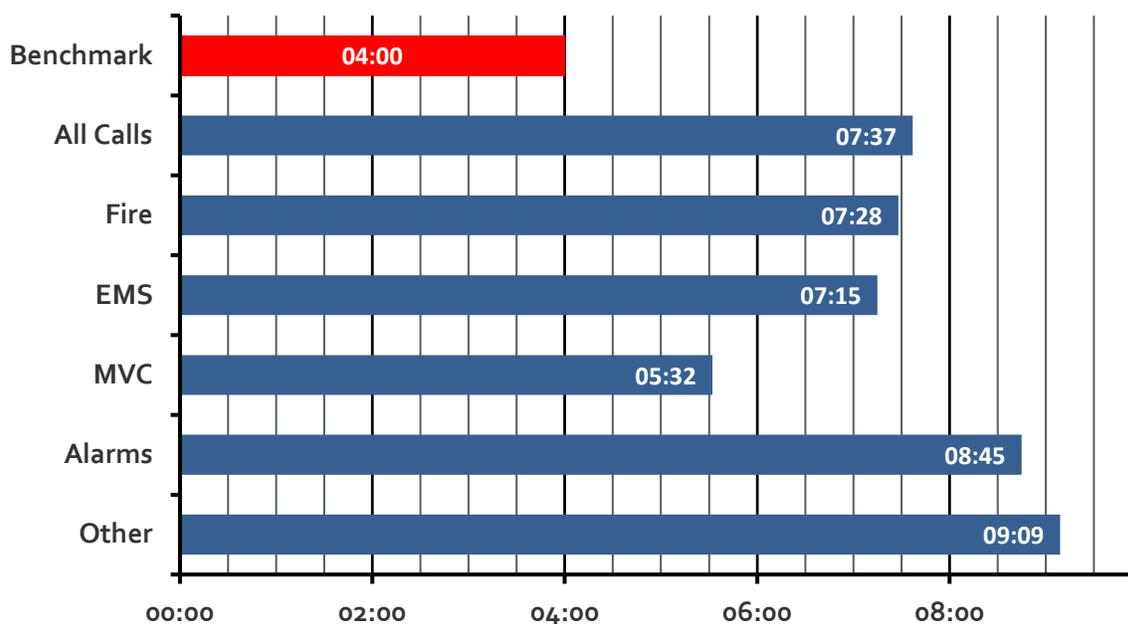


Travel Time Performance

Since the geographic location of the incident as it relates to location of the unit responding has the greatest impact on travel time performance, this is potentially the longest component of total response time.

The figure below illustrates the travel time performance for the Orleans Fire Department. As shown, the overall travel time performance is 7 minutes, 37 seconds which is approximately 3.5 minutes greater than the expected performance. This performance does coincide with the expected performance based on the projected NFPA travel time reviewed previously. However, it should be noted that in order to meet the requirements of the standard, departments often have to add significant additional resources that may not be balanced out by the service demand. **ESCI recommends that the department leadership review all aspects of travel time response and determine the travel time goal for their community and what resources it will require to meet that goal.**

Figure 29: Travel Time Performance 2016–2019

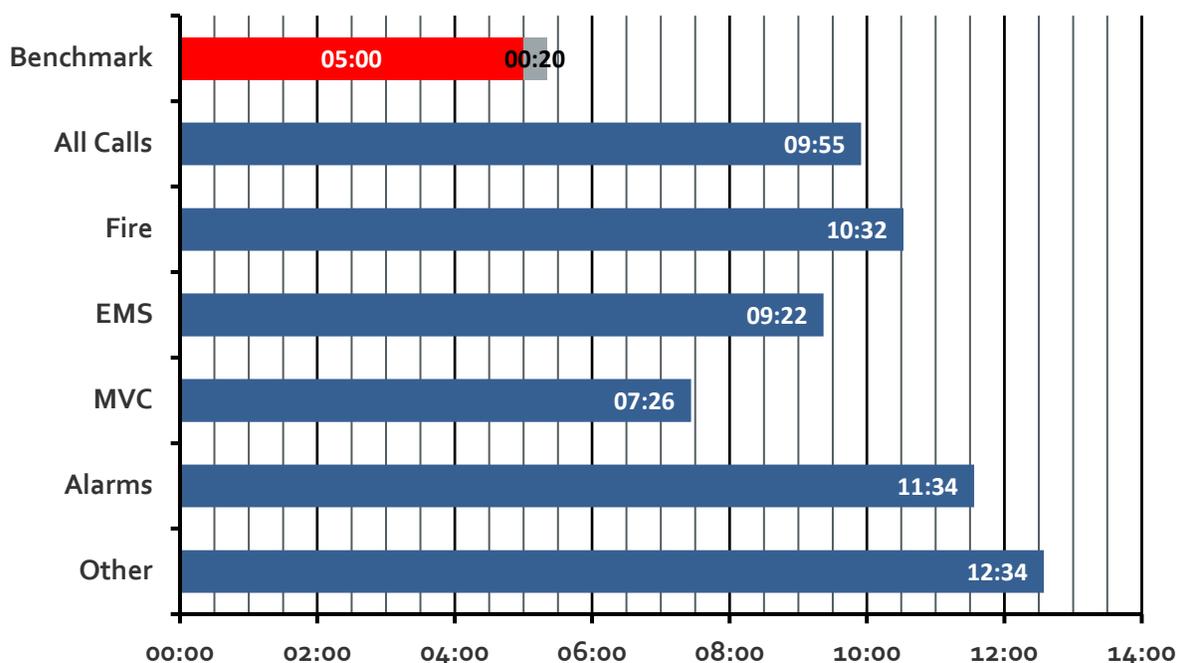


Response Time Performance

When turnout time and travel time are combined, this is expressed as fire department response time with an expected performance of 5 minutes or less. This is perhaps one of the most often tracked and reported response time performance measures, as it is comprised of components under direct control of the fire department.

As illustrated in the figure below, the overall response time performance for the Orleans Fire Department was 9 minutes, 55 seconds—approximately 4.5 minutes greater than the national standard. By incident type, the response time performance ranged from 7 minutes, 26 seconds for motor vehicle collision incidents to 12 minutes, 34 seconds for other incidents. While geography and resources may not be able to be adjusted to improve response time performance, improvement in turnout time performance will improve response time performance.

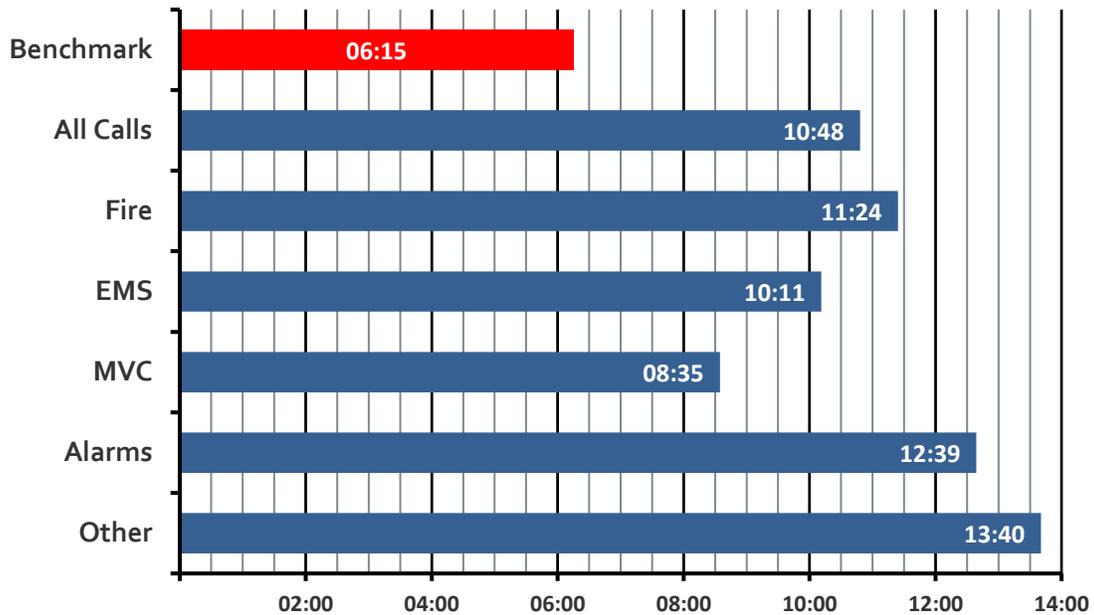
Figure 30: Response Time Performance 2016–2019



Total Response Time Performance

The final performance measure combines all components of the response—from the initial 911 call handling in the communications center until the first fire department unit arrives at the incident. The figure below illustrates that the overall total response time for the Orleans Fire Department is 10 minutes, 48 seconds which is approximately 4.5 minutes greater than the national standard. When viewed by incident type, performance ranged from 8 minutes, 53 seconds for motor vehicle collision incidents to 13 minutes, 40 seconds for other incidents.

Figure 31: Total Response Time Performance 2016–2019



OPERATING BUDGET AND FUNDING

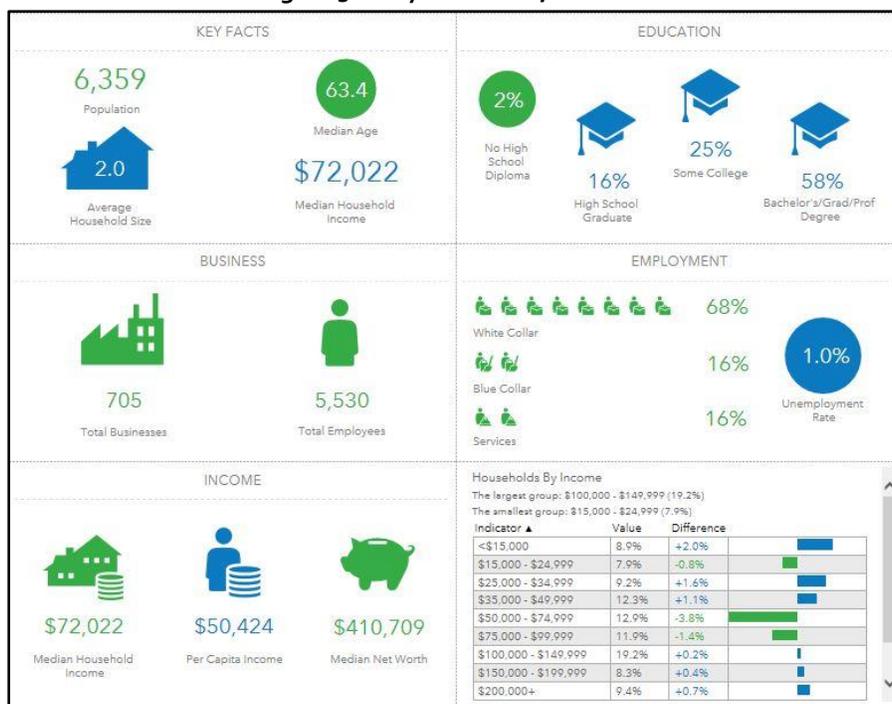
The Town of Orleans Fire and Finance Departments provided ESCI with considerable financial information and background data to develop the financial overview. This section is intended to provide elected officials, administrators, and the general public with a summary of the recent financial history and near-term outlook for the fire department based upon current information. A historical analysis and subsequent status quo forecast for the department and all its functions will serve as the basis for evaluating the financial impact of various future options.

The Orleans Fire Department is a department of the Town of Orleans and is funded through the Town’s General Fund (GF). The review of the fire department’s finances begins with a brief overview of Orleans’ community and its General Fund, followed by specific analysis the fire department budget. As public safety (fire and police) represent the second largest area of spending for Orleans, changes to the fire department’s budget may affect how the Town allocates future resources. The Town operates under a July 1 to June 30 fiscal year and the day-to-day operations of the Town are managed by the Town Administrator. Orleans uses a zero-based budget approach to finance based on current financial resources and a modified accrual basis of accounting.

Trends of Key Indicators

Using Esri software, demographic information based upon 2020 estimates of key indicators were collected. Within the Town of Orleans, the median household income of \$72,022 was slightly less than that of the State of Massachusetts at \$74,176, but approximately 17% below the median household income of Barnstable County, \$86,621. Additionally, with a median age of 63.4, this is a mature community well above the median age of the state median age at 39.4, and of Barnstable County’s median age of 52.4. Predominately, Orleans is a well-educated community and possesses a low unemployment rate of 1%.

Figure 32: Key Indicators, Esri 2020



It is important to understand the financial makeup of Orleans and the surrounding area because the ability to fund staffing, operating equipment, capital equipment, and upgrade existing facilities will depend on the community's ability and willingness to fund those improvements.

The following figure illustrates the population, median income, per capita income, and median house values of Orleans and immediately surrounding communities. This information is based upon 2017 American Community Survey data, which was the most current data available from the U.S. Census at the time of the report.

Figure 33: Orleans and Surrounding Community's Population, Median Income, Per Capita Income, and Median House Value Comparison: 2017²

Town	Population	Median Income	Per Capita Income	Median House Value
Orleans	5,827	\$62,386	\$40,742	\$622,000
Eastham	4,956	\$62,143	\$39,357	\$453,400
Brewster	9,820	\$69,479	\$44,211	\$432,300
Harwich	12,243	\$73,468	\$41,819	\$378,900
Chatham	6,125	\$74,875	\$54,908	\$614,000

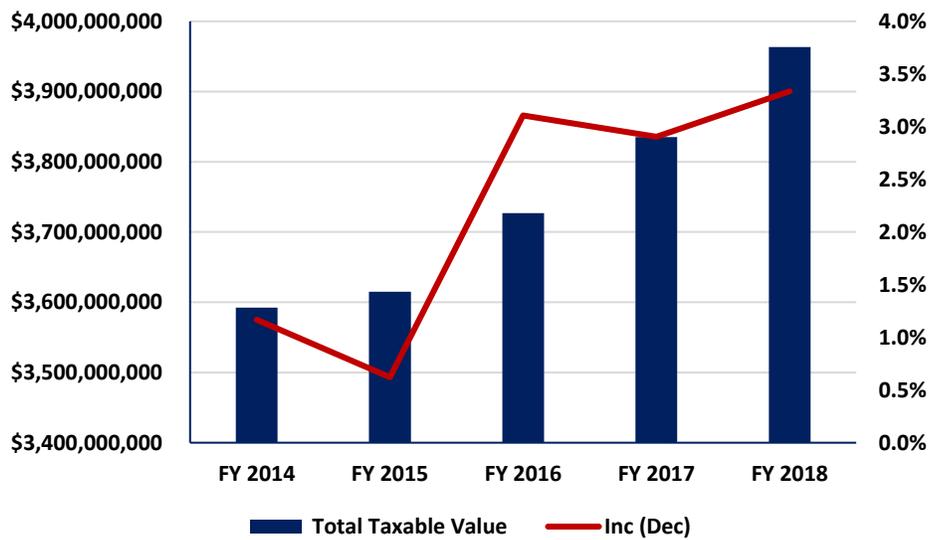
The total population reported for a community is an important consideration when evaluating the demand for fire and rescue services; however, Orleans' population is somewhat unique due to its location on the coast and recognition as a summer destination. According to data provided by Orleans, the Town's

² Data provided by the United States Census Bureau.

homeowner composition is comprised of 44% residents and 56% nonresidents (second homeowners) who pay the annual tax levy, with an overall 47% resident and 53% nonresident split. Additionally, during summer months, tourism within the Town can raise population levels in excess of 20,000 people at certain points during this time³. When comparing population, housing, and income statistics of Orleans and communities immediately adjacent, Orleans possesses one of the lower populations and income while also having the greatest median home values relative to its neighbors.

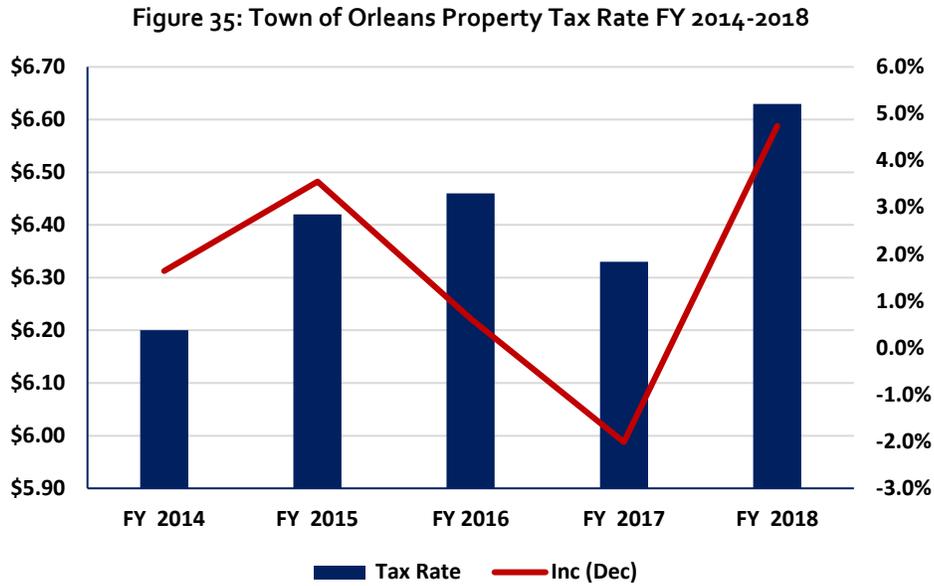
Figure 34 displays the total taxable value within the Town from 2014-2018. During this 5-year period, the total taxable values have increased 10.3% from 2014 through 2018.

Figure 34: Total Taxable Values FY 2014-2018



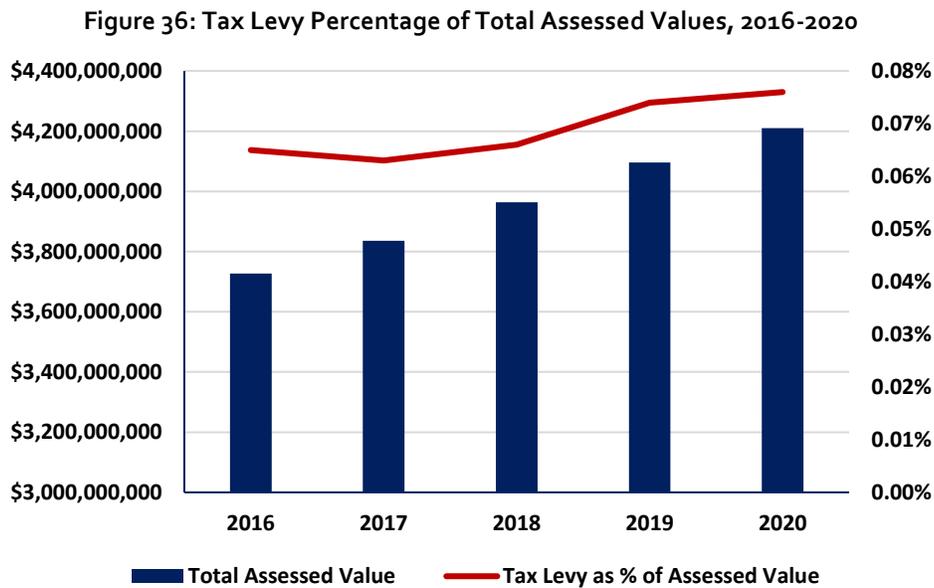
Next, the Town’s property tax rate is compared over the same period. The property tax rate assesses an amount per \$1,000 of all classes of property owned by residents of the Town.

³ Town of Orleans



As increases to the total taxable value occurred year to year, a similar trend is seen in the tax rate within Orleans. From 2014 to 2018, an overall increase of 6.7% occurred, slightly lower than the increase seen in total taxable values for the same time period. From 2018 to the approved budget in 2020, the tax rate increased from \$6.63 to \$7.56, an increase of 14.0%.

The assessed valuation of property within Orleans has experienced a steady increase since 2016. In Figure 36, the annual assessed values are displayed along with the Town’s annual tax levy shown as a percentage of the total assessed values for that year. The general trend during this period is an increase in the relative tax levy percentage along with an increase in assessed property values.



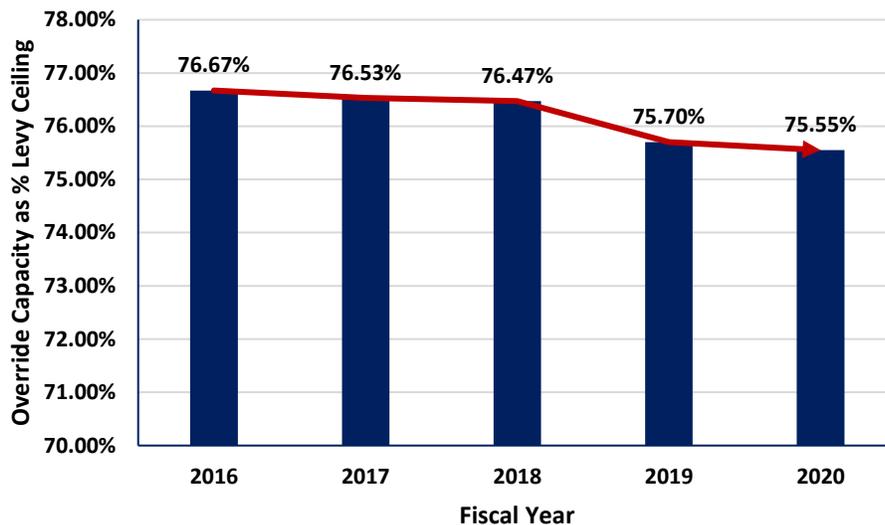
The annual increase in property taxes that the Town of Orleans can raise annually is limited by Massachusetts General Law (MGL. c. 59, § 21C), commonly referred to as Proposition 2 ½ which limits

property tax assessments by municipalities. Proposition 2 ½ limits the total tax that may be assessed to real and personal properties at 2.5% annually.

Should a municipality require additional revenue through taxation, such as when declining or flat property valuations inhibit the municipality’s ability to fund current services, a Levy Limit Override may be used to generate additional revenues. A Levy Limit Override must be placed on an election ballot and pass by a majority vote. At passage, it becomes a permanent increase to the amount of property taxes the Town can raise and increases at a rate of 2.5% annually, and the additional taxes raised can be used for any municipal purpose.

Municipalities can also seek funding for specific projects by adopting a Capital Override, which is a one-year increase in the property tax levy for the specific item or project. Alternatively, if a municipality wishes to finance a project, a Debt Exclusion may be adopted to increase the property tax level to pay the annual debt service on the project to be financed. Both a Capital Override and Debt Exclusion requires a ballot vote and a majority to approve passage. Unlike General Overrides, Capital Overrides and Debt Exclusions are temporary increases to property taxes. Debt Exclusions expire with the final payment to the debt service to which the debt exclusion was attributed. With the exception of debt service paid by fees (such as for Water Projects), the majority of the Town of Orleans debt service are collected annually through debt exclusions.

Figure 37: Override Capacity as a Percentage of the Levy Ceiling



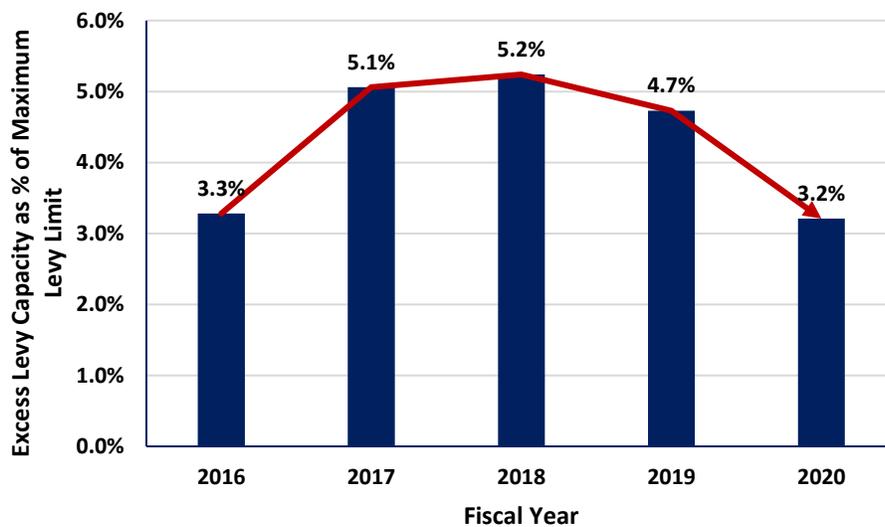
Unlike some municipalities within Massachusetts who have at some point reached the levy ceiling to raise additional revenues, Orleans possesses an override capacity of approximately 75% of the levy ceiling. The levy ceiling is the maximum amount that a municipality can tax based upon the value of 2.5% of its total annual assessed values, plus additional credit for annual growth. In 2008, a 5-year trend began in which a depressed real estate market resulted in lower assessed valuations in addition to annual 2.5% increases in collection through Proposition 2 ½. As expenditures began to outpace the ability to collect additional revenues at the capped rate, some municipalities “hit the ceiling” as their annual levy limits approached

or matched their levy ceiling⁴. When this occurs, a communities’ override capacity approaches zero. Override capacity is an indicator of the health of a community, and while Orleans possesses a relatively significant capacity at this time, the trend since 2016 is a slight but gradual decline.

Within Proposition 2 ½, municipalities have the ability to increase taxes by up to 2 ½ percent each year; however, they are not required to do so. When an annual increase is set below 2.5%, the difference between the maximum amount available for assessment and the actual amount assessed is the excess levy capacity. Excess levy capacity may be saved for subsequent fiscal years and applied in addition to the maximum 2.5% assessed in a given year. Municipalities may choose to tax at a lower rate for a number of reasons; however, the ability to assess a lower rate in one year and set an increased rate (above 2.5%) in another is advantageous as it allows revenues to be collected without permanently increasing the tax rate on top of the annual maximum 2.5% as would occur with an override. This also gives municipalities flexibility in managing their budgets without eliminating services when changes to the environment occur that are outside of their control, such as the Great Recession in 2008.

Figure 38 illustrates Orleans’ excess levy capacity as a percentage of the maximum annual levy limit.

Figure 38: Excess Levy Capacity as a Percentage of the Maximum Annual Levy Limit

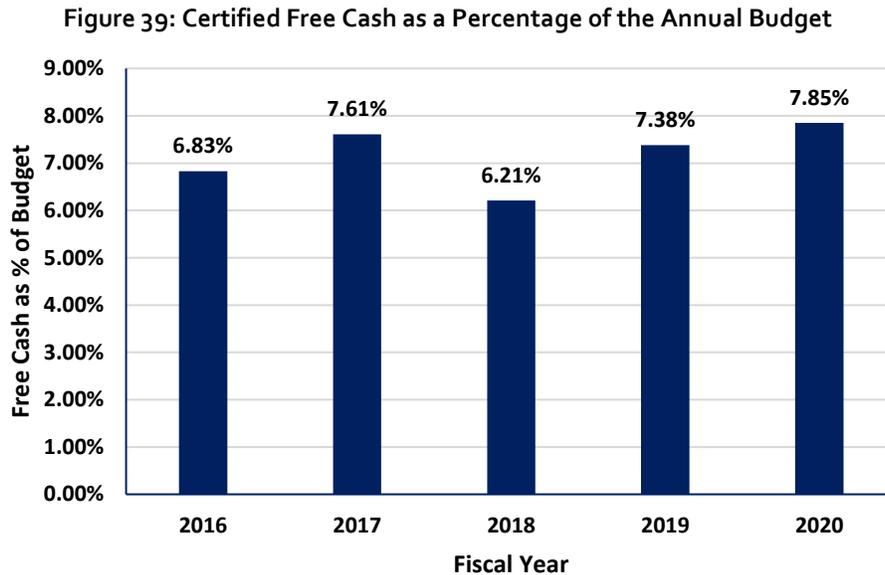


Since 2018, Orleans excess levy capacity has declined 38.5%, from 5.2% to 3.2%. In FY 2020, nearly \$451,000 of excess levy capacity was lost. Although levels had remained relatively stable from 2017-2019, if cost control measures cannot curb this downward trend, an override may be required in subsequent years. If the decline in 2020 continues at the same rate moving forward, an override would be needed in 2022 when Orleans excess levy capacity would be depleted.

In addition to raising taxes, the Town of Orleans possesses other means to collect revenue, offset expenses and maintain services. Free cash is a source of unrestricted revenue resulting from the

⁴ How Close is Your Ceiling, 2016, City and Town

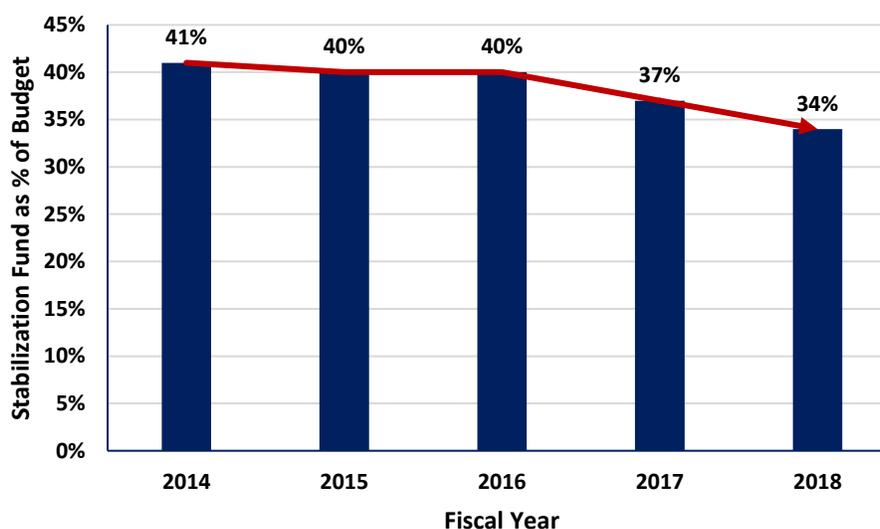
municipality spending less than it budgeted. This nonrecurring revenue source can be used for one-time expenditures, capital projects, transferred to other accounts, or used to offset the amount of the annual tax levy to realize excess levy capacity and place less of a burden on taxpayers for that year. In Figure 39, the percentage of free cash available to Orleans as a percentage of the annual budget is displayed.



The amount of free cash available to Orleans has remained between 6% and 8% of the Town’s budget since 2016. Although the dollar amount of free cash has increased annually, increases to the Town’s General Fund for operations have increased at a similar rate resulting in a relatively stable ratio. The Government Finance Officers Association (GFOA) recommends maintaining a reserve balance of between 5% to 15% of the municipalities’ General Fund budget.

In addition to free cash, Orleans also maintains a stabilization fund. In Figure 40, this is displayed as a percentage of the annual budget for that fiscal year. While the total dollar amount remained relatively stable, increases to the cost of operations resulted in a year-to-year decline in this fund when presented as a percentage of the annual budget.

Figure 40: Stabilization Fund as a Percentage of the Budget



As the costs of operations increase, and the ability of the Town to raise sufficient revenues to cover those costs through mechanisms such as free cash, reserve funds, and excess levy capacity, the Town could potentially encounter a situation where a decision must be made to either increase revenues through an override or debt exclusion or reduce services. Cost saving measures, such as those identified within the recommendations section of this report, are intended to assist the Town in maintaining efficient and effective levels of service while operating within the ability of its citizens to fund those services.

Fire Department Budget and Funding

The Orleans Fire Department provides fire rescue and emergency medical transport services to the Town of Orleans. While funded by the General Fund, the department collects fees for emergency medical transport services and receives a transfer of funds annually based upon the collection rate. Since 2015, the department's budget generally maintained a trend of increased total spending, with a 12.5% increase from FY 2015 to the approved FY 2019 budget. Figure 41 provides an overview of department spending year-to-year and FY 2020 is included to illustrate how the current year's proposed budget compares to prior years actual expenditures.

These figures are provided in a condensed version to allow for a more simplistic evaluation of the department's budget. Categories within the actual budget provided by the Town were combined based on their commonality, (i.e. electricity, heating fuel, trash collection, and telecommunications were combined into the Utilities category), and line items that experienced significant change are presented separately to highlight how funding within these areas changed over time. Within the administration category, the increase in spending occurring in the 2020 budget is due to the addition of an EMS Coordinator position.

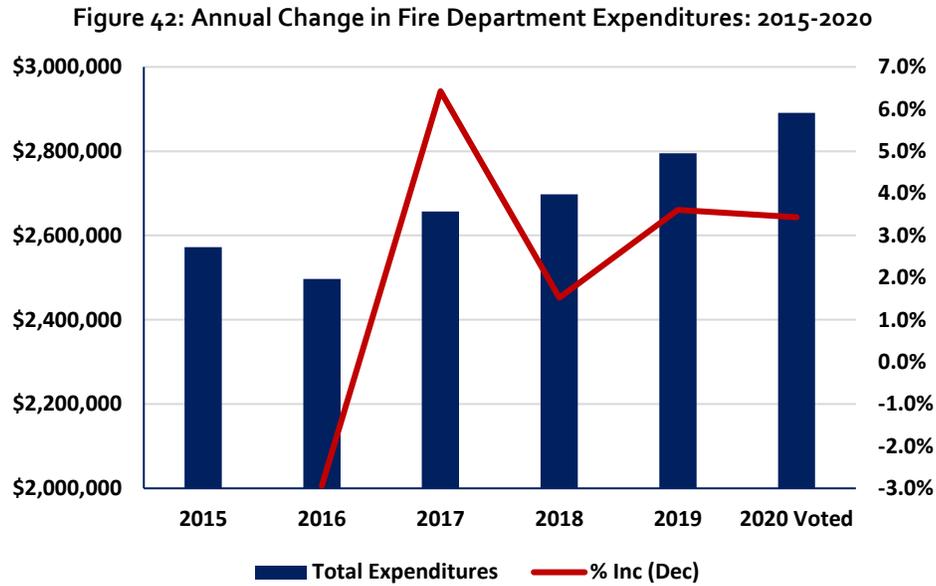
Figure 41: Orleans Fire Department Annual Budget: 2015-2020

Expenditures:	2015	2016	2017	2018	2019	2020 Voted
Administration	\$277,293	\$284,439	\$290,626	\$300,735	\$307,261	\$390,724
Personnel	\$1,893,157	\$1,912,562	\$1,973,303	\$2,071,108	\$2,135,509	\$2,155,371
Utilities	\$31,600	\$23,450	\$23,273	\$28,731	\$24,163	\$28,218
Equipment Repair	\$538	\$1,704	\$3,180	\$17,513	\$14,241	\$13,260
Professional Services	\$110,161	\$76,503	\$84,818	\$87,571	\$85,719	\$104,317
Training	\$13,782	\$30,165	\$7,658	\$4,800	\$4,995	\$19,017
Maintenance Contracts	\$7,514	\$10,272	\$14,167	\$33,450	\$37,082	\$32,790
Office Supplies	\$16,561	\$19,349	\$18,438	\$4,703	\$4,281	\$6,896
Vehicle Maintenance	\$45,504	\$30,273	\$73,798	\$58,498	\$86,685	\$50,897
Maintenance/Supplies	\$114,800	\$88,467	\$123,278	\$75,598	\$79,541	\$72,996
Uniforms	\$22,858	\$19,492	\$44,537	\$15,296	\$15,293	\$16,250
Capital Outlay	\$38,500	\$0	\$0	\$0	\$0	\$0
Total Expenditures	\$2,572,265	\$2,496,672	\$2,657,074	\$2,697,552	\$2,794,769	\$2,890,736

To provide a comparison of actual expenditures year-to-year, the following statistics compare FY 2015 and FY 2019, and the percentages provided indicate the amount of change between the two audited budgets over the 5-year period. Operational personnel costs increased at nearly the same rate as the total budget at 12.8% and include a 17.3% increase in overtime spending with a 64.5% decrease in paid-on-call spending. Utilities, professional services, maintenance and supplies, and uniforms all decreased within a similar range, 22.2% to 33.1%. Spending in training and office supplies also decreased by 63.8% and 74.2%; respectively. The costs of vehicle maintenance increased by 90.5%, while maintenance contracts increased 393.5%, and equipment repair by 2,547.0%. This would suggest that either the department severely underfunded these categories in the past or that the replacement of current vehicles and equipment are needed.

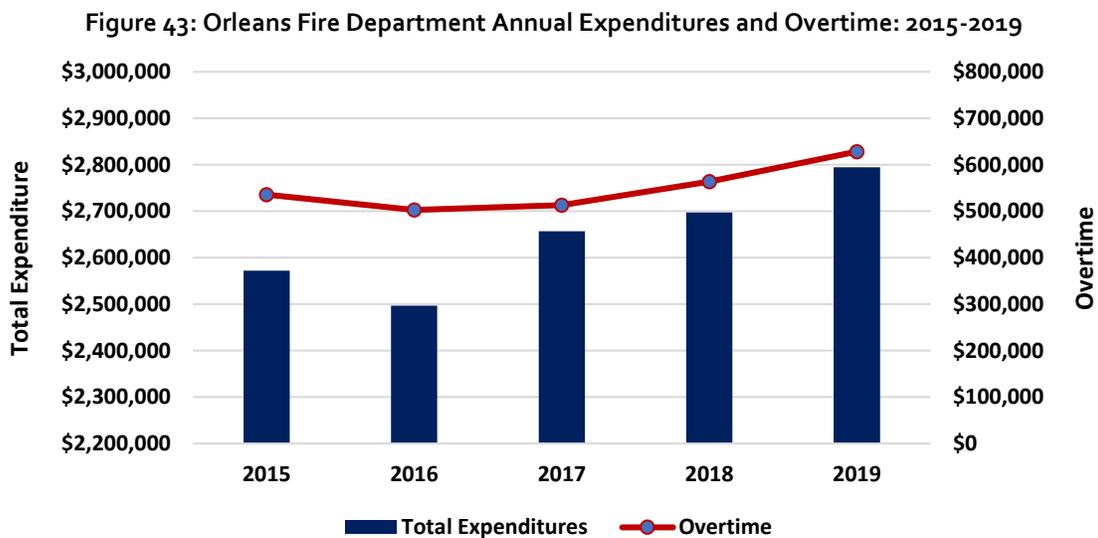
Although capital outlay only shows spending in 2015, motor vehicle and equipment purchases are achieved annually through the Motor Vehicle and Equipment Stabilization Account. Each year, departments submit capital vehicle and equipment requests. These requests are entered into a 10-year forecast or capital improvement plan. The forecast is presented at a Town meeting, and a tax override for Capital purchases funded at a standard amount is approved each year. Currently, this account is funded at \$570,000. Finally, overall operating costs for Orleans Fire Department decreased by 3.1%.

In Figure 42, the total expenditures of the fire department are displayed with the amount of increase or decrease in annual expenditures year-to-year.



Although the department experienced a slight decrease in spending from 2015 into 2016, overall the department’s budget has increased 8.9% from 2015 to 2019 and 12.4% when the adopted 2020 budget is included.

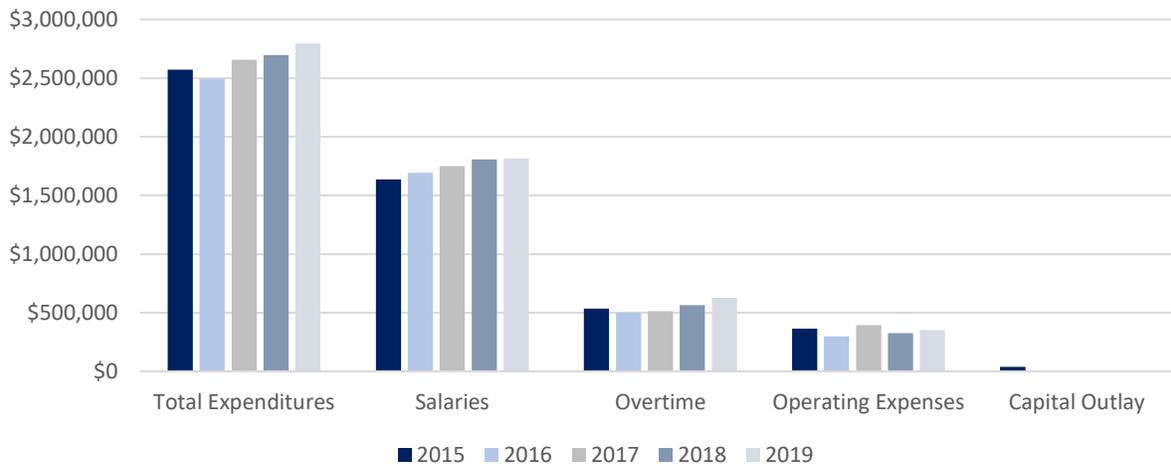
Within the fire department, personnel costs represent the greatest proportion of expenses. While total operational personnel costs have maintained pace with increases in total taxable value and tax rates, overtime expenses have increased at a faster rate while the use of paid-on-call firefighters decreased. Figure 43 illustrates the changes to the department’s budget and use of overtime from 2015 through 2019 based upon independently audited financial statements.



With overtime expenses representing 22.5% of the department’s spending in FY 2019, operating expenses representing 12.6% and salaries (minus overtime) the remaining 64.9%, the fire department should strongly consider a reevaluation of how resources are deployed within the Town.

Figure 44 provides an overview of the major components of the fire department’s budget from 2015-2019.

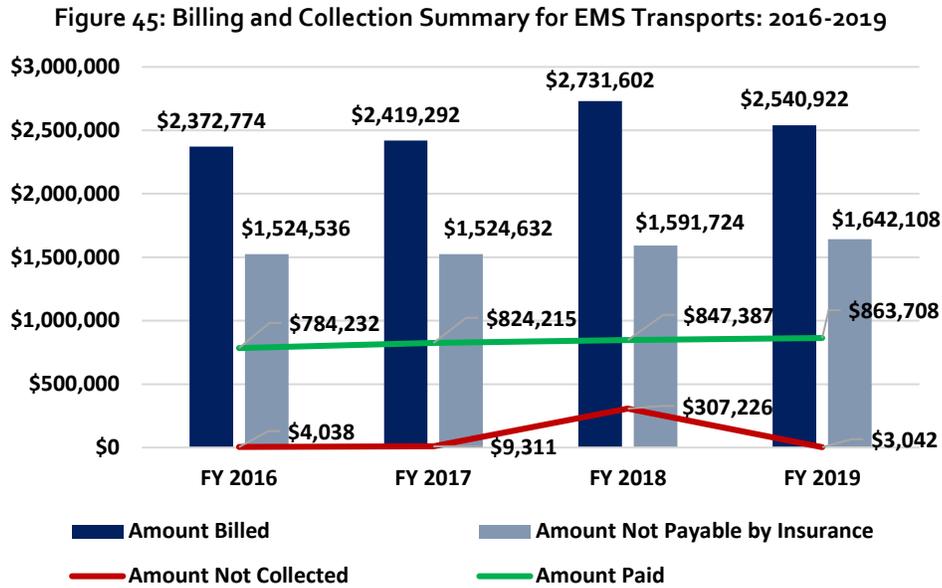
Figure 44: Fire Department Budget Overview: 2015-2019



When major components of the fire department’s budget are compared year-to-year, operating expenses remained consistent and capital outlay was present only in 2015. In all other categories, increases to salaries and overtime costs have driven the overall increasing expenditures of the fire department each year.

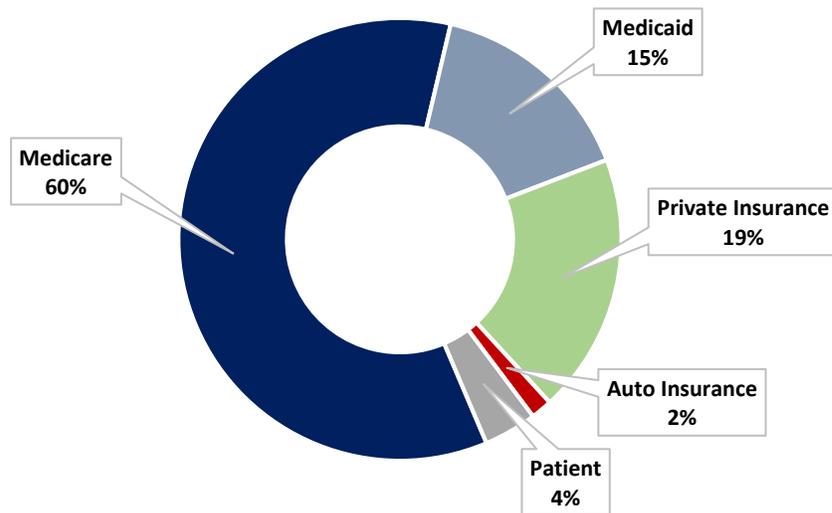
EMS Transport

The Orleans Fire Department provides Advanced Life Support (ALS) and Basic Life Support (BLS) transport services to the Town. Ambulances are staffed with a minimum of three personnel to deliver those services.



In the previous figure, the discrepancy in billing versus collections for the Orleans Fire Department is illustrated. On average from 2016 through 2019, the department collected 33.0% of what was charged to provide transport services. Factors affecting collection rates include the ability of the patient to pay and the type of insurance held, what the insurance provider is willing to pay, costs that must be absorbed due to an inability to pay for services, and how much the department must charge due to staffing or equipment configurations.

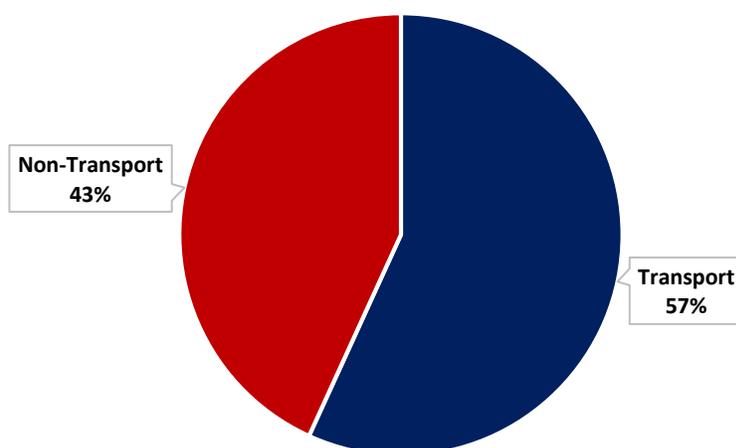
Figure 46: EMS Transport Payor Mix: 2017-2019



The majority of patients transported by the Orleans Fire Department, 75.5%, are covered by Medicare or Medicaid. These types of providers limit the payments that a transport agency will receive, regardless of what they actually bill. Because of this limitation in ability to collect revenue, and that these types of transports represent three quarters of the transport provided, Orleans Fire Department should consider options to reduce the costs of providing services while still meeting industry standards and state statutes.

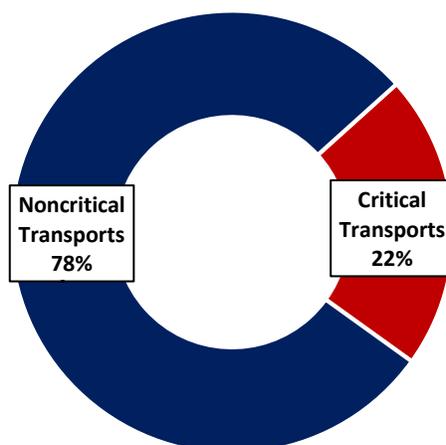
Finally, the next two figures display the frequency and types of transports provided by Orleans Fire Department in FY 2019. It is important to understand that not all emergency medical calls result in a patient being transported to the hospital and likewise, not every medical call requires a paramedic to provide care. Additionally, some calls require the care of two paramedics based on medical director protocols. Information for this figure was provided by the fire department and contained a total of 1,080 incidents for 2019.

Figure 47: Ratio of EMS Responses Resulting in a Transport vs. Non-transport, 2019



For FY 2019, Orleans transported just over half (57%) of the patients requesting emergency medical services. Transport data showing when two paramedics were required by medical protocol was provided by Orleans Fire Department. The date range provided was from 8/01/2018 through 6/30/2019 and contained records for 954 transports.

Figure 48: High Priority Transports, 8/1/2018 – 6/30/2019



Detailed accounting for the incident types which require two paramedics was not available at the time of the report; however, the figure shown above provides some insight into the frequency of this occurrence. Due to the generality of the information available, assumptions were made such as all airway obstruction or cardiac related calls required the use of two paramedics for the transport.

The Orleans Fire Department staffs three personnel on transport units with at least two paramedics at all times. Although a rough estimation, if 22% of transports are critical and require two paramedics, and 57% of medical responses involving an ambulance result in a transport, based on the 2019 totals, Orleans would have needed a second paramedic for 12.5% of the calls that occurred in 2019. Additionally, medical director protocols do not require three personnel on an ambulance. Staffing the ambulance with one paramedic and one EMT would have been sufficient for 87.5% of the Orleans Fire Department service demand in 2019.

EXTERNAL AND INTERNAL CUSTOMER ASSESSMENTS

ESCI team members conducted stakeholder interviews to determine internal, external, and policy-maker expectations of the Orleans Fire Department. Stakeholder groups included members of the Orleans Community and members of the Orleans Fire Department including fire department leadership, the representatives of the fire department labor union, and Town officials.

External Survey Results

In order to solicit input from the Orleans Community, ESCI created a seven-question online survey. The survey was open for participation from January 13-24, 2020. The Orleans Fire Department posted the link to this survey on the department Facebook page and shared information about the survey through its other normal communication channels. 47 people completed this online survey. This is less than 1% of the Orleans year-round population and includes 17 participants who claim not to be Orleans Residents. The results of this survey are not necessarily representative of the majority of Orleans Residents.

On the evening of January 14, 2020, ESCI facilitators held a Community Forum at the Orleans Fire Department. The Orleans Fire Department Deputy Chief welcomed the members of the community to the fire station and provided a brief overview of the operations of the Orleans Fire Department. He then thanked the members of the community for taking the time to participate in this process and left the room.

ESCI facilitators then introduced themselves and explained ESCI's approach to the Orleans Fire Department Staffing and Organizational Study. Following a question and answer session, the ESCI facilitators led the participants through the same seven-question survey that was available online. 19 people took this survey in person during the Community Forum.

The survey results reported by ESCI include the responses from the 47 people who took the survey online and the 19 people who took the survey in person at the Community Forum for a combined total of 66 external survey participants.

The people who participated in the Orleans Fire Department External Customer Assessment Survey were, in general, very pleased with the services offered by the fire department. This is a credit to the men and women of the Orleans Fire Department who provide a consistently high levels of service to the community every day.

An overwhelming majority of survey participants felt that Paramedic Ambulance Service and Fire Suppression services were "critical". 97 percent of the participants rated Paramedic Ambulance Service as critical while 95 percent of the participants rated Fire Suppression as critical. This is an indication that the services provided by the fire department are valued by the community.

Survey participants appreciated the public education opportunities that are offered by the Orleans Fire Department and expressed an interest in additional programs being offered. Survey participants suggested that the fire department consider offering, or continuing to offer, a Citizens Fire Academy, Stop the Bleed, Severe Weather Emergency Training, Water Rescue Services, and Training for Mental Health Issues. None of the survey respondents felt that that fire department should stop providing any of its current services.

It is notable that the majority of survey participants felt that the of the fire department service was appropriate, that the response performance of the fire department was appropriate, but that the staffing was understaffed / too light.

The single most common response to this question by more than half of the survey respondents was that they expected a fast, professional response to emergencies.

Survey participants did express concerns about the staffing and ability of the fire department to respond to all of the demands for service within the community. They were also concerned about the condition and size of the existing Orleans Fire Station.

In general, the people who participated in the External Customer Assessment Survey valued the service that is offered by the fire department. Survey participants repeatedly used the words "professional" and "caring" to describe their firefighters. The work done by the men and women of the Orleans Fire Department has not gone unnoticed by their community.

The External Survey and a detailed breakdown of the results for each question are included in this report as Appendix C.

Internal Survey Results

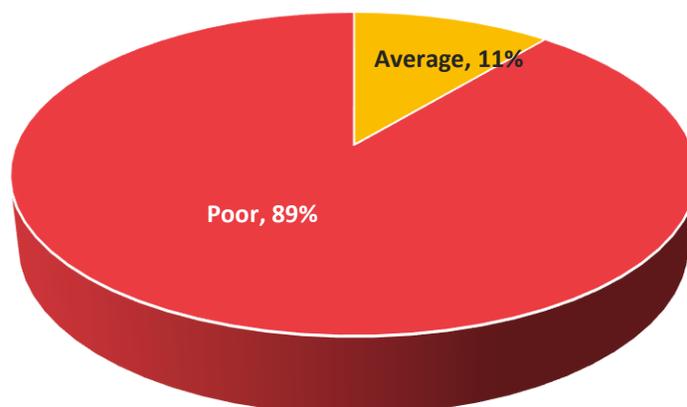
Input from the Orleans Firefighters was solicited using a 20-question online survey. The survey was open for participation from January 10-24, 2020. The Orleans Fire Department shared this link with their firefighters and encouraged their participation. Eighteen Orleans Fire Fighters completed this survey, which is 90% of the department's firefighters. This survey can be considered to be representative of the majority of the Orleans Fire Fighters.

In addition to the online survey, ESCI solicited input from Orleans firefighters through two in-person meetings. The first was with the Union Leadership and the second was open to all Orleans Fire Fighters. The feedback from the in-person sessions is incorporated into the Staffing and Personnel Management sections of this report. The following summarizes the results of the online external survey.

All of the internal survey participants reported six or more years of service with the Orleans Fire Department. The respondents were evenly distributed with 33% (six people) having six to ten years of service, 39% (seven people) having ten to 20 years of service, and 28% (five people) having more than twenty years of service. Almost half, 44 percent, of the survey participants held the rank of fire fighter. This equated to seven firefighters. Twenty-five percent (four people) held the rank of Private and an additional twenty-five percent (four people) held the rank of Captain. Six percent (1 person) who completed the survey identified themselves as a Chief Officer.

The internal survey revealed that the overwhelming majority of Orleans Fire Department personnel were very united in their feelings. Most of the survey participants shared the same concerns about the future of their fire department, and most valued the same elements of their fire department that their fellow members valued. This bodes well for the future of the fire department as the survey results indicated a united desire among the fire department membership to be proactive, take care of the members of the fire department so they can take care of the community, and to continue to provide a high level of service. With that said, the survey also revealed some very serious concerns on the part the membership that could limit the future success of the Orleans Fire Department if they are not immediately addressed.

The survey results indicated that there exists within the Orleans Fire Department a significant morale problem. The majority – 89 percent (16 people) classified morale within the fire department as poor. The second most common response was that morale was “average” with 11 percent of the participants (2 people) selecting that answer. Not a single one of the survey participants felt that morale within the Orleans Fire Department was Excellent or even Good.

Figure 49: Internal Survey: Morale

An analysis of the individual results of the 20-question internal survey presents a very clear picture of the current state of the Orleans Fire Department. Fire Department personnel believe that the fire department has a good image within the community. The survey participants take great pride in providing outstanding EMS Care, but they also feel that the department should more actively engage members of the community.

The survey participants were much less complimentary when assessing the internal operations of the Orleans Fire Department. While the overwhelming response by the majority of survey participants indicated that the members of the Orleans Fire Department are by far its greatest strength, major critical issues that were repeatedly cited throughout the survey were that the department is currently suffering from a lack of leadership, including inconsistent handling of personnel and poor communication. Other aspects of the fire department that are directly contributing to low morale include poor fire station facilities, lack of a current contract, low pay, and the need for more training.

The survey participants did express excitement at the prospect of a new fire chief and the opportunity for change within the department. ESCI recommends that the next chief of the Orleans Fire Department review the results of the Internal Survey and then meet with fire department personnel to discuss those results in person. After meeting with the members of the department, the new fire chief will be well-positioned to prioritize and begin to address the issues identified.

ESCI suggests that the major concerns that were identified in the Internal Survey are a logical starting place for a Fire Chief in the Orleans Fire Department but caution that they are not a substitute for Strategic Planning. ESCI further recommends that following the appointment of a permanent Fire Chief, that it be a priority for the Orleans Fire Department to engage in both the Master Planning and Strategic Planning Processes.

The culture that currently exists within the Orleans Fire Department is not a positive work environment and is not contributing to the overall success of the organization. It is ESCI's opinion that most, but not all, of the fire department members that attended the workshop with ESCI could be an asset for drastically

improving the culture of the Orleans Fire Department if they were placed under the direction of a strong fire chief who clearly communicated with them the plan for the future, and also demonstrated a willingness to support them in their efforts to implement that plan.

The next Orleans Fire Chief must actively take steps to address issues of immediate concern. The members of the Orleans Fire Department crave structure and stability. This is entirely consistent with Abraham Maslow's Hierarchy of Needs. This hierarchy suggests that people are motivated to fulfill basic needs before moving on to other, more advanced needs. Until the basic needs—including security and safety—are met, the members of the Orleans Fire Department will not seek successively higher self-fulfillment needs, including achieving their full potential.

The Internal Survey and a detailed breakdown of the results for each question are included in this report as Appendix D.

Orleans Fire Department Staffing Recommendations

STRENGTHS OF THE CURRENT ORLEANS FIRE DEPARTMENT STAFFING MODEL

The men and women of the Orleans Fire Department have consistently provided the highest possible level of emergency service to the Orleans community within the confines of the resources provided to them by the Town of Orleans. ESCI's in-person meetings with firefighters and members of the community, as well as ESCI's review of the internal and external customer surveys, all indicate that the Orleans Fire Department is comprised of employees who not only serve, but genuinely care for, their community. Those efforts are very much noticed by the residents of Orleans.

While the staffing model that is in place within the Orleans Fire Department has served the community to date, it is ESCI's finding that this current staffing model is neither sustainable nor efficient. The fact that the current model has remained in place for as long as it has is a testament to the operational line personnel who are regularly making split-second decisions about the dynamic deployment of firefighters and apparatus.

WEAKNESSES OF THE CURRENT ORLEANS FIRE DEPARTMENT STAFFING MODEL

ESCI's review of the Orleans Fire Department identified that the current deployment structure includes the following critical weaknesses:

1. Inadequate Shift Staffing
2. Over-Reliance on Fire Fighter Callbacks
3. Inefficient Staffing Deployment

Inadequate Shift Staffing

The current Orleans Fire Department staffing model allows for as few as two firefighters on shift year-round excluding the Chief and Fire Inspector. There is an increase to three firefighters per shift between June 15th and September 15th; however, the Fire Chief and Deputy Chief count toward this increased level of staffing.

A financial analysis was conducted to provide additional information to Orleans Fire Department regarding the financial impact of varying staffing configurations. To accomplish the analysis and compare how adequate staffing versus the costs of overtime impact the department, a relief factor was included. A relief factor is the amount of additional staffing required, in excess of the daily minimum staffing, to theoretically eliminate the need for overtime.

While in practice it is difficult to completely eliminate all situations that could potentially generate overtime, this model assumes that 25% of the time an employee will use sick or vacation time from each job class listed. The total cost of the model employing additional staffing is then compared to the model which relies on overtime and the difference in costs calculated between the two. For this analysis, staffing configurations were calculated based on the actual 2019 salaries of the 20 Orleans line firefighters, a relief factor of 25%, a fringe benefit rate of 37% of base salary, and overtime calculated at 1.5 times the salary of the respective position. Because the number of hours worked and pay rate also affect how fringe benefits are calculated, this is included to provide Orleans with a better understanding of the true costs of

staffing. In Figure 50 the following staffing configurations are compared: a 4-shift model with and without a relief factor and a 3-shift model with and without a relief factor.

Figure 50: Financial Impact of Staffing Configurations with a 37% Fringe Benefit Rate

With Relief Factor				
Minimum Staffing	Annual Cost	FTEs	Additional FFs Needed	Total
5 (4 Shifts)	\$2,240,623	25	5	\$2,240,623
4 (4 Shifts)	\$1,809,076	20	0	\$1,809,076
7 (3 Shifts)	\$2,327,787	26.25	6	\$2,327,787
6 (3 Shifts)	\$2,004,127	22.5	3	\$2,004,127
No Relief Factor				
Minimum Staffing	Annual Cost	FTEs	Additional FFs Needed	Total
5 (4 Shifts)	\$1,792,498	20	0	\$2,464,685
4 (4 Shifts)	\$1,447,261	16	-4	\$1,989,983
7 (3 Shifts)	\$1,862,230	21	1	\$2,560,566
6 (3 Shifts)	\$1,603,302	18	-2	\$2,204,540

When 3 and 4-shifts models are compared with and without a relief factor, the most cost-effective option is a 4-shift model, a minimum staffing of 4 firefighters, and a relief factor provided with a 5th firefighter on each shift. This staffing configuration requires 20 FTEs and matches the total number of personnel currently assigned to each shift combined. While the second most cost effective option is a 4-shift model, a minimum staffing of 4 firefighters, and no relief factor, this option has two immediate drawbacks aside from costs: a 4 person minimum staffing with no relief factor would reduce the total number of firefighters on shift from 5 to 4 at all times, whereas the previous configuration assumes 5 firefighters would be on shift 75% of the time, limiting the department's flexibility to adapt to varying response needs. Second, the number of FTEs would be reduced from 20 to 16 FTEs. Based on current and predicted future demand, ESCI does not recommend reducing staffing from its current levels. Other options include the deployment of a 3-shift configuration with a minimum staffing of either 6 or 7 firefighters. Although the total number of firefighters per shift increases daily in three of the four scenarios, the 3-shift model is not used within the Cape Cod area and a change of this type would necessitate impact bargaining. At this time, ESCI does not view the 3-shift model as a feasible option for consideration.

To provide a shift configuration model in line with how salaries and overtime are displayed within the fire department's budget, the same staffing configurations are displayed without the 37% fringe benefit rate added to the totals.

Figure 51: Financial Impact of Staffing Configurations with no Fringe Benefits Added

With Relief Factor				
Minimum Staffing	Annual Cost	FTEs	Additional FFs Needed	Total
5 (4 Shifts)	\$1,635,491	25	5	\$1,635,491
4 (4 Shifts)	\$1,320,493	20	0	\$1,320,493
7 (3 Shifts)	\$1,699,115	26.25	6	\$1,699,115
6 (3 Shifts)	\$1,462,867	22.5	3	\$1,462,867
No Relief Factor				
Minimum Staffing	Annual Cost	FTEs	Additional FFs Needed	Total
5 (4 Shifts)	\$1,308,393	20	0	\$1,799,040
4 (4 Shifts)	\$1,056,395	16	-4	\$1,452,543
7 (3 Shifts)	\$1,359,292	21	1	\$1,869,026
6 (3 Shifts)	\$1,170,293	18	-2	\$1,609,153

Figure 51 provides the same analysis as shown in Figure 50, but matches the format of how salaries and overtime are provided within the annual budget for the department. Once again, the configuration that matches current fire department staffing numbers with a minimum staffing of four and a relief factor is the most cost-effective option. In Figure 52, a comparison of the calculated costs of staffing 5 firefighters across 4 shifts (current practice) with a minimum staffing of 4 per shift is compared with the actual base salary and overtime costs in 2019.

Figure 52: Comparison of Calculated Shift Staffing Costs versus Actual FY 2019 Expenditures

Staffing Configuration	Cost
Current Base Salary + 2019 OT	\$1,814,263
Calculated Cost of 4 shifts, Minimum Staffing of 4 with a Relief Factor	\$1,320,493
Difference between Actual and Calculated	\$493,770
% Difference	37.4%
% Savings	27.2%

Based on the assumptions within the model, should Orleans decide to utilize the 4-shift model, a minimum staffing of 4 firefighters, and a relief factor provided with a 5th firefighter on each shift, an annual reduction in overtime spending of \$493,770 annually, assuming all other factors remain constant, which represents a 37.4% difference in spending and a savings of 27.2% annually.

Since Orleans current minimum staffing is either 2 or 3 firefighters per day, a major contributor to the difference in spending is likely due to the use of call back overtime where employees are paid overtime for responding back to the fire station on their days off and receiving a set amount of time or greater for each call back. Because some overtime is likely to occur throughout the year, Orleans should continue to allocate funding to the overtime line item; however, Orleans has the current potential to drastically reduce overtime if managed appropriately.

The common practice of staffing one unit with a minimum staffing of 2 or 3 personnel while maintaining a shift staffing of 5 FTE's and call back overtime policy significantly impact the efficiency and effectiveness of the department. **ESCI recommends that the Orleans Fire Department increase minimum staffing to 4 firefighters on all shifts while maintaining 5 budgeted FTEs per shift.**

Over-Reliance Fire Fighter Callbacks

The present staffing model relies on a callback system where firefighters respond back to the station in response to a radio tone. Whenever the staff on duty are actively engaged on a fire or rescue call which takes them out of the Town of Orleans, the station will tone the call twice allowing a maximum of ten minutes to fill the station with a minimum of two off duty staff who also hold a current EMT certification prior to filling the station with the Fire Inspector during his duty hours or staff who hold a First Responder Certification. The current contract requires that all members will remain at the station for 60 minutes for rescue call backs and 30 minutes for fire call backs. Requested callback coverage for the primary rescue is three firefighters and two firefighters are requested for each additional ambulance thereafter.

This staffing model is inconsistent and expensive. There is no guarantee that the required number of firefighters will respond to callback. Fire Fighters who chose to respond to the callback must then drive to the station. Although the current contract requires all members that are hired after March 8, 2000 to live within a seven-mile radius of the fire station within one year of the date of hire, this travel to the station still creates a delay in staffing the station. ESCI's estimation is that the current callback system is the major contributor to the nearly \$494,000 difference in calculated versus actual costs of annually spending in salaries + overtime based on the assumption of a 25% relief factor to cover all of the shifts. **ESCI recommends that the Orleans Fire Department discontinue the current fire fighter callback system in favor increasing minimum shift staffing.**

Inefficient Staffing Deployment

The current Orleans Fire Department staffing model regularly assigns three firefighters to the ambulance. The configuration of this crew varies with staffing but can include between one and three paramedics. While staffing three personnel on an ambulance is consistent with other Cape Cod Fire Departments, this is not the practice throughout most of the rest of the country. Ambulances throughout the United States are typically staffed with a total of two personnel, only one of which is generally a paramedic.

A review by the New Jersey State Legislature's Office of Legislative Services in 2013, determined the following:

- "A majority of states require staffing [of ALS units] by two EMTs" but "do not specify whether both...must be capable of performing paramedic skills."
- "Several other states require ALS ambulances to be staffed by only one certified emergency medical responder—i.e., one paramedic or one EMT.
- "In summary, ... it does not appear that any other state [except New Jersey] requires ALS vehicles to be staffed by a minimum of two paramedics..."

A 2010 study of 10,298 out-of-hospital cardiac arrests evaluated whether more paramedics (three or more vs. two paramedics) resulted in improved outcomes. No difference was found in survival to discharge and return of spontaneous circulation wasn't associated with a greater number of paramedics.⁵

The Code of Massachusetts Regulations (CMR) 105 Section 170.305 requires that when an ALS Ambulance transports a patient receiving care at the Paramedic level, the ambulance must be staffed with a minimum of two EMTs, at least one of whom is certified at the Paramedic level. The CMR further specifies that such ambulances must implement criteria, approved by its affiliate hospital medical director and in accordance with administrative requirements of the Department, for determining those EMS calls when two Paramedics would be required to provide appropriate care, based on the patient's medical condition and acuity. The service must implement a procedure to ensure that a second Paramedic is immediately dispatched if the EMTs determine appropriate care of the patient's medical condition and needs requires a second Paramedic.

The Orleans Fire Department currently has this protocol in place and uses it on any calls that do not initially include a two-paramedic response. Figure 53 provides a comparison of the costs of staffing a 3-person ambulance using a captain, senior private, and firefighter versus the costs of staffing an ambulance with 2 firefighter/paramedics based on 2019 base salaries. As the common practice within Orleans is to staff 3 personnel per shift, staff the ambulance with 3 personnel with multiple ranks on that unit, and request call back overtime when that unit is dispatched, the 3-person model with no relief factor appears to accurately represent the department's current practice. When compared with the 2 firefighter/paramedic model with a relief factor, which would be the case in ESCI's preferred staffing recommendation, the difference in salary and overtime costs for the ambulance could be as great as \$476,050 annually.

Figure 53: Costs of Staffing Ambulances with a Captain, Senior Private, and Firefighter Versus 2 Paramedics

With Relief Factor			
Minimum Staffing	Annual Cost	FTEs	Total
3 per Ambulance Captain, Senior Private, Firefighter	\$1,005,496	15	\$1,005,496
2 per Ambulance FF/PM	\$629,995	10	\$629,995
No Relief Factor			
Minimum Staffing	Annual Cost	FTEs	Total
3 per Ambulance Captain, Senior Private, Firefighter	\$804,396.43	12	\$1,106,045
2 per Ambulance Firefighter/Paramedic	\$503,996.36	6	\$692,995

In addition to reducing operating costs on the ambulance, the ratio of annual expenditures to operate this service versus the amount of revenue collected must also be considered. In 2019, Orleans collected \$863,708 in revenue related to EMS transport and billed \$2,540,922 based on the currently adopted fee schedule. This represents a difference of \$1,677, 214 annually. A reduction in salary and overtime costs to

⁵ Eschmann NM, Pirrallo RG, Aufderheide TP, et al. The association between emergency medical services staffing patterns and out-of-hospital cardiac arrest survival. *Prehosp Emerg Care.* 2010;14(1):71–77.

operate the ambulance would directly impact the department's return on investment for EMS transport expenses versus revenues generated and, in both models, the 2-person staffing of the ambulance with firefighter/paramedics allows Orleans to staff these units at a cost below the revenue received. Likewise, the 3-person staffing of the ambulance exceeds the annual revenue collected by as much as \$476,050 per year. By maintaining a 5-person crew with a 4-person minimum staffing, and staffing at least one paramedic on the engine/ladder truck, Orleans will effectively double the number of units in service daily, reduce the costs of providing EMS transport, and have the ability to provide a second paramedic when required.

ESCI recommends that the Orleans Fire Department redeploy existing staff by discontinuing the practice of staffing three people on an ambulance in favor of staffing an additional engine, ladder truck, or other unit as deemed appropriate based on the nature of the incident.

ESCI PREFERRED STAFFING RECOMMENDATION

The ESCI Preferred Staffing Recommendation is based upon the totality of factors evaluated within this report. This option provides the foundation to:

- Maintain current shift staffing of five firefighters per shift.
- Increase minimum staffing to four firefighters per shift.
- Change ambulance staffing from three to two firefighters.
- Staff three firefighters on the engine or ladder; two of which could potentially deploy a second ambulance if required.
- Eliminate the use of routine callback overtime for EMS calls.
- Expand the radius for hiring personnel. – The elimination of routine callback overtime for EMS calls will allow the Town of Orleans to consider expanding the existing requirement for firefighters hired after March 8, 2000 to live within a seven-mile radius of the fire station within one year of the date of hire. Expanding this radius could increase the potential pool of new firefighters. This is important because the recruitment of new firefighters has become increasingly more challenging for the Orleans Fire Department in recent years.

Deployment of the ESCI Preferred Staffing Recommendation

As illustrated in the Service Delivery Section of this report, 65.41 percent of Orleans Fire Department's calls occur without other calls happening at the same time. The Orleans Fire Department had two simultaneous incidents in progress 25.90 percent of the time. This means that by increasing minimum shift staffing to four fire fighters, the Orleans Fire Department will be positioned to immediately deploy two fire fighters each to 91.31 percent of its calls for service and be positioned to meet 90th percentile performance goals as units would presumably be available over 90% of the time. This is an improvement compared to the current deployment model which often staffs only one unit and relies on fire fighters

being called back to the fire station, thus creating a delayed response or potentially no response until mutual aid is requested.

The Orleans Fire Department had three concurrent incidents in progress an additional 6.63 percent of the time for a total of three or fewer incidents concurrently in progress within the town 97.94 percent of the time. The Service Delivery Section of this report further illustrated that historically, peak demand for service within the Orleans Fire Department is on weekday afternoons in July and August. The Orleans Fire Department is staffed with a Chief, Deputy Chief, EMS Officer and Fire Inspector during these peak demand weekday hours. These employees are trained and maintain fire and medical certifications and should be deployed as necessary. The Orleans Fire Department currently relies on mutual aid to assist with four or more concurrent incidents in progress and would continue to do so under the ESCI Preferred Staffing Recommendation.

Implementation of the ESCI Preferred Staffing Recommendation

The contract with the Orleans Fire Fighters is currently open for negotiation. This report presents the Town with the opportunity to negotiate changes to the contract to implement the ESCI Preferred Staffing Recommendation or a variation of the recommendation. Changes to contract language regarding minimum staffing, the number firefighters that are allowed off per shift, and the use of administrative personnel for calls will need to be negotiated.

ESCI recognizes that although a preferred recommendation is offered within this report, the ultimate decision on how this process will proceed is the purview of the citizens of the Town of Orleans.

Orleans Fire Department General Recommendations

ESCI was contracted to perform a Staffing and Organizational Study for the Orleans Fire Department. While the focus of this project was to assess and evaluate the department’s current staffing, organization and delivery of services, ESCI also identified a variety of other areas for improvement within the Orleans Fire Department.

Each of the following recommendations listed below previously appeared within the narrative or in an appendix of this report in a bold font. This list represents the totality of ESCI’s general recommendations and prioritizes them into Short Term, Mid Term and Long-Term Recommendations.

- **Short Term Recommendations:** These recommendations can reasonably be accomplished within twelve months.
- **Mid Term Recommendations:** These recommendations can be expected to require between one and three years to accomplish.
- **Long Term Recommendations:** These recommendations can be anticipated to require three years or longer to accomplish.

ESCI offers the following recommendations to improve the delivery of fire and emergency services to the community served by the Orleans Fire Department.

Figure 54: Orleans Fire Department General Recommendations

Duration	Recommendations
Short Term 0–12 Months	<ol style="list-style-type: none"> 1. ESCI recommends that the Orleans Fire Department review and update all Rules and Regulations and establish SOPs/SOGs. 2. Through appropriate planning, the Orleans Fire Department should establish a vision for the future, create a framework within which decisions are made, and chart its course to the future. The quality and accuracy of this planning function will determine the success of the organization. 3. The Orleans Fire Department is encouraged to develop and maintain effective pre-incident and special hazard plans and to incorporate the plans routinely into dispatch communications. 4. The Orleans Fire Department should consider the need for a long-range planning effort by undertaking this master planning process. The master planning process will give the department a clear idea of where it is today. The Master Plan will also project the Orleans Fire Department’s future needs as well as strategies for meeting them. This Master Plan is designed to provide a view of the organization in a 15-year time frame. 5. ESCI recommends that the Orleans Fire Department consider engaging in a Strategic Planning process to prioritize goals and objectives for the organization to achieve within the next three to five years. 6. ESCI recommends that the Orleans Fire Department work with the Barnstable County Mutual Aid Plan to assure that run cards reflect current

Duration	Recommendations
	<p>fire department minimum staffing and that adequate resources are dispatched to a working fire in a single-family home to initially respond at least 17 firefighters and that at least 28 fire fighters are initially dispatched for working fires in strip malls and apartment buildings.</p> <ol style="list-style-type: none"> 7. The Town of Orleans should make it a priority to settle a contract with its firefighters that includes salaries that are competitive with its border towns. Without a competitive contract, the Orleans Fire Department should plan for it to become increasingly more difficult to attract new fire fighter paramedics for open positions within the fire department. 8. ESCI recommends that, in accordance with the collective bargaining agreement, that it be a priority for the new chief to comply with the following sections of the labor contract: <ul style="list-style-type: none"> 27.2 Regular officer's meetings shall be held by the Chief and/or Deputy Chief. <ul style="list-style-type: none"> 27.2.1 The purpose of these meetings shall be to disseminate information from the Chief to the officers and for the officers to discuss concerns about the department with the Chief. 27.2.2 These meetings shall be limited in time, shall be conducted from an agenda, and a maximum of one (1) hour of overtime compensation per officer per meeting may be paid. 29.1 There shall be a labor-management committee consisting of two (2) Union representatives and the Fire Chief and/or Deputy Fire Chief for the Town. The Committee shall meet on request of either party a minimum of six (6) to a maximum of twelve (12) monthly meetings per year to discuss all matters of mutual concern. The Committee shall have the authority to make recommendations to the Union and Fire Chief. 9. ESCI suggests that the Orleans Fire Department may benefit by bringing the International Association of Fire Chiefs' new program Member and Leadership Collaboration (MLC) into the Orleans Fire Department. This program is focused on leveraging behavioral analysis to manage group dysfunction through understanding DISC behavioral styles. DISC is an acronym that stands for the four prominent behavior styles - Dominance, Influence, Steadiness and Conscientiousness. 10. ESCI strongly encourages the department to ensure all activities of the safety committee are in alignment with Chapter 4 of NFPA 1500. The safety committee should meet monthly and include in its mission the raising of awareness and modifying of member behaviors that will result in a safe work environment.

Duration	Recommendations
	<ol style="list-style-type: none"> 11. The Safety Committee should review all accidents, injuries, near-miss incidents, and workplace safety suggestions. 12. The Orleans Fire Department should take steps to store turnout gear in a well-ventilated room to prevent additional firefighter exposure to offgassing of chemicals absorbed into turnout gear during a fire. 13. The Orleans Fire Department should also relocate the current fitness area that is in the apparatus bay to a location where firefighters can exercise without exposure to the toxic products of combustion. 14. The Orleans Fire Department should consider adopting minimum annual training requirements for all firefighters, as it will ensure a standard method of evaluation of knowledge, skills, and abilities of staff. 15. ESCI recommends that the Orleans Fire Department utilize an established NFIRS reporting system to record the data points that will enable them to have important information available used to plan for prevention and response activities. 16. ESCI recommends that the Orleans Fire Department regularly evaluate trends within service demand and that staffing be adjusted as necessary according to current data. 17. ESCI recommends the use of an established NFIRS reporting system—along with accurate entry by crews on each incident—the department would be enabled to track the workload by unit to use as part of the consideration for needs to change resource distribution. 18. ESCI recommends that the Orleans Fire Department track its responses with the ability to separate emergency from non-emergency responses at the unit level. 19. Leadership should analyze the various components associated with turnout time to determine any methods of improving this performance. 20. With overtime expenses representing 22.5% of the department’s spending in FY 2019, operating expenses representing 12.6% and salaries (minus overtime) the remaining 64.9%, the fire department should strongly consider a reevaluation of how resources are deployed within the Town. 21. ESCI suggests that the major concerns that were identified in the Internal Survey are a logical starting place for a Fire Chief in the Orleans Fire Department but cautions that they are not a substitute for Strategic Planning. ESCI further recommends that following the appointment of a permanent Fire Chief, that it be a priority for the Orleans Fire Department to engage in both the Master Planning and Strategic Processes. 22. ESCI recommends that the Orleans Fire Department increase minimum staffing to 4 firefighters on all shifts while maintaining 5 budgeted FTEs per shift.

Duration	Recommendations
	<ul style="list-style-type: none"> 23. ESCI recommends that the Orleans Fire Department discontinue the current fire fighter callback system in favor of increasing minimum shift staffing. 24. ESCI recommends that the Orleans Fire Department redeploy existing staff by discontinuing the practice of staffing three people on an ambulance in favor of staffing additional ambulances, engines or the ladder truck.
<p style="text-align: center;">Mid Term 1–3 Years</p>	<ul style="list-style-type: none"> 25. Although not currently required, Orleans Fire Department should consider adopting NFPA 1021, <i>Standard for Fire Service Officer Professional Qualifications</i> as their standard to achieve as baseline knowledge, skills, and abilities of fire officers. 20. Orleans Fire Department does not have a designed practice of maintaining fire and EMS service training files for personnel. Currently the employee’s personnel records are used to include any training certifications submitted by employees. NFPA 1401, <i>Recommended Practice for Fire Service Training Report and Records</i> provides a recognized standard Orleans Fire Department could model their efforts after. 21. It is recommended Orleans Fire Department continue to refine its regularly scheduled training by implementing training drills developed using NFPA 1410: <i>Standard on Training for Emergency Scene Operations</i>. This standard can serve as the basis for delivering drills that objectively measure the performance of personnel responding to emergency incidents. 22. The Orleans Fire Department should provide a training manual as well as procedural guidelines for conducting training evolutions. 23. The workload for the Fire Inspector’s Office is high and would benefit from additional manpower. This can come in the form of a part-time inspector, additional clerical support staff, or providing additional training to current line captains so they may assist with inspections and such while on duty. 24. Efficiency of operations could be improved in the Fire Inspector’s Office with improvements in the day-to-day tracking of duties, making appointments, and communication with construction professionals. There are several software options to assist with this and to ensure that all required work is being done in a timely fashion and follow up is efficient. 25. The Orleans Fire Department should review its reporting practices related to fire loss reporting to assure that the data collected by the fire department accurately reflects the true fire loss. 26. ESCI recommends that the department leadership review all aspects of travel time response data and determine the travel time goal for their community and what resources it will require to meet that goal. 27. The majority of patients transported by the Orleans Fire Department, 75.5%, are covered by Medicare or Medicaid. These types of providers limit the amount of payments that a transport agency can bill. Because of this limitation in ability to collect revenue, and that these types of transports represent threequarters of the transport provided, Orleans Fire Department

Duration	Recommendations
	<p>should consider options to reduce the costs of providing emergency medical services while meeting industry standards and state statutes.</p>
<p>Long Term > 3 Years</p>	<p>28. ESCI Recommends that if the Orleans Fire Department increases operational staffing, consideration be given to increasing administrative positions to maintain administrative staffing levels within the ten to 12 percent range.</p> <p>29. To effectively train in a more efficient and effective manner without negatively impacting the ability to respond to incidents within the Orleans Fire Department jurisdiction, it is recommended that the department evaluate the effectiveness of establishing a training facility within the center of the response jurisdiction.</p> <p>30. The layout of the current fire station, in which firefighters normally occupy areas that are very remote to the apparatus and must then transcend long stairways to reach the bays, is likely a key contributor to the long turnout times that currently exist in Orleans. Fire department leadership should prioritize the need for an efficient fire station design when considering future fire station improvements.</p>

Conclusion

The ESCI project team began collecting information about the Orleans Fire Department in December of 2019. The team members recognize this report contains a large amount of information, and ESCI would like to thank the Orleans Fire Department staff and Orleans Town officials for their efforts in bringing this project to fruition.

It is ESCI's sincere hope the information contained in this report is used to its fullest extent, and the emergency services the Orleans Fire Department provides to the citizens in and the surrounding area will be improved by its implementation.

Appendix A: Training Program

A comprehensive training program is one of the most critical factors for helping to ensure the safe and effective provision of emergency services. This is especially true of organizations such as the Orleans Fire Department, that provide a broad range of services throughout the community. To ensure maximum effectiveness and safety in complex environments, firefighters and officers must acquire and maintain sufficient initial training, ongoing training, and continuing medical education (CME). Failure to provide necessary training endangers firefighters and citizens and exposes the fire department to liability. In addition, a well-trained workforce substantially contributes to better emergency incident outcomes and community services.

Newly hired firefighters must participate in probationary firefighting training. The National Fire Protection Association (NFPA)—in its standard NFPA 1001 (Firefighter I and II)—identifies the minimum training requirements that can serve as the basis for entry-level firefighters. This training is voluntary in Massachusetts but required by Orleans Fire Department which is commendable. The NFPA recommends other standards that address initial and ongoing training for firefighters and officers in a variety of specific topics.

Following initial training, firefighters (i.e., all emergency services personnel) should actively participate in ongoing training that includes testing to ensure that practical skills and knowledge are maintained. In its Fire & Emergency Service Self-Assessment Manual (8th edition), the Commission on Fire Accreditation International (CFAI) addresses “Training and Competency,” and lists a number of performance indicators under the headings of training and education program requirements, performance, and resources. Some of these competencies include the following:

- The organization has a process in place to identify training needs. The process identifies the tasks, activities, knowledge, skills, and abilities required to deal with anticipated emergency conditions.
- The agency's training program is consistent with the mission statement, goals and objectives and meets its needs.
- The training program is consistent with legal requirements for performing mandatory training.
- The agency identifies minimum levels of training required for all positions in the organization.
- A command and staff development program are in place that encourages pursuit of professional credentialing.
- A process is in place to ensure that personnel are appropriately trained.
- The agency provides a training schedule that meets the organization’s needs.
- The agency evaluates individual and crew performance through validated and documented performance-based measurements.
- The agency analyzes student evaluations to determine the reliability of training conducted.
- The agency maintains a training records management system that meets recognized standards.

- Facilities and apparatus are provided to support the agency's all hazards training needs. The agency has plans addressing any facilities and apparatus not available internally to complete training activities.
- The agency has instructional personnel with teaching qualifications and expertise to meet its needs.
- Instructional materials are current, support the training program, and are easily accessible.
- The agency has a process for purchasing, developing, or modifying existing curriculum to meet its needs.
- Equipment utilized for training are properly maintained in accordance with the agency's operational procedures. The agency makes training equipment readily accessible to instructional personnel.
- The agency maintains a current inventory of all training equipment and resources.
- A selection process is in place for training and educational resource materials.
- Training materials are evaluated at least annually, to reflect current practices and meet the needs of the agency.

Furthermore, the Insurance Services Organization (ISO) requires detailed hours of specific training as part of their fire department ranking. Below is a summary of the initial as well as recurrent annual ISO required training hours for each firefighter.

- Facilities Training: 18 Hours
- Company Training: 192 Hours
- Officer Development Training: 12 Hours
- New Driver Training: 60 Hours
- Driver Continuing Education: 12 Hours
- Hazardous Materials Training: 6 Hours
- New Recruit Training: 240 Hours
- Pre-fire Planning: Annual Review

Even though the Insurance Service Organization (ISO) requires specific detailed required training for department personnel, training programs must go beyond simply fulfilling mandatory hours. Emergency services training administrators and instructors must ensure that firefighters, EMS personnel, and officers are not only competent, but also self-confident in the variety of skills necessary to perform effectively in high-stress situations.

In the following section, ESCI has reviewed the various training practices and resources of the Orleans Fire Department, compares them to assorted standards and best practices, and makes recommendations where indicated.

General Training Competencies

Training is most effective when it is based on established and proven standards. The Massachusetts Fire Training Council has the statutory authority, under Massachusetts General law Chapter 670, Section 165A, to administer the fire service certification process in the Commonwealth. The Massachusetts Fire Training Council is a board appointed by the governor made up of representatives of the major fire service organizations of the state and citizens of the Commonwealth. In Massachusetts, the firefighter Job Performance Requirements (JPR) utilized are based on the NFPA standards for Firefighter I and Firefighter II. Completion of the standardized training helps to prepare personnel for the National Board on Fire Service Professional Qualifications (commonly referred to as The Pro Board). The Council entered into this system voluntarily to validate their program against international expectations. This rigorous assessment assures evaluations meet best national practices. The following figure lists the general training competencies found at Orleans Fire Department.

Figure 55: General Training Competencies

Training Competency	Description
Fire Fighter Recruit Training	NFPA Firefighter I & II Preferred, not required Provided through the Massachusetts Fire Fighting Academy 6-month lead time
Fire Officer Training	Current Officers are all certified to at least the Fire Officer I level, but this is not required by Orleans Fire Department.
Incident Command System Training	Orleans Fire Department trains all personnel on the National Incident Management System (NIMS)
Special Rescue Training	Orleans Fire Department belongs to the Barnstable County Rescue Team. 5 Orleans Fire Department Members are trained
Hazardous Materials Training	All Orleans Fire Department Personnel are trained to the Hazardous Materials Awareness Level
Emergency Vehicle Operations	Practical and Simulator training sessions are provided by the Orleans Fire Department Insurance Carrier
Emergency Medical Training	Orleans Fire Department EMS Supervisor provides on-going training. Orleans Fire Department personnel attend a two-week training academy through the Cape and Islands EMS Systems to accomplish all of their required annual CMEs.
Other Training Competences	Vehicle Extrication, Small Tools, Power Tools, and Radio Communications Training are all provided in-house by Orleans Fire Department personnel.

All Orleans Fire Department firefighters are required to have firefighter I or II training to get hired while waiting to attend the Massachusetts Fire Fighting Academy. Orleans Fire Department does not have annual required renewal of JPRs. **The Orleans Fire Department should consider adopting minimum annual training requirements for all firefighters, as it will ensure a standard method of evaluation of knowledge, skills, and abilities of staff.** All Lieutenants and Captains are highly encouraged to maintain

Fire Officer I and/or II certifications. **Although not currently required, Orleans Fire Department should consider adopting NFPA 1021, *Standard for Fire Service Officer Professional Qualifications* as their standard to achieve as baseline knowledge, skills, and abilities of fire officers.**

Orleans Fire Department uses the Incident Command System and requires all employees to be trained in the National Incident Management System (NIMS). Orleans Fire Department firefighters are required to have completed NIMS 100, 200, and 700. Officers are encouraged to complete NIMS 300 and 400 training. The department uses an accountability system for tracking members during emergency operations.

Training Administration

ESCI evaluated the administrative functions, staffing and resources of Orleans Fire Department Training. The following figure lists several of the administrative components related to training.

Figure 56: Training Program Administrative Components

Training Program Administrative Components	Orleans Fire Department
Director of Training Program	Senior Private Firefighter as fire training coordinator & EMS coordinator
Training goals & objectives identified	No
Use of Certified instructors (qualifications)	Yes, all instructors are certified by Massachusetts Fire Training Council in accordance with NFPA 1041
Annual training report	No
Procedures manual	No
Administrative training support	No

To function effectively, a training program must be managed. An additional element of effective administration is the development of program guidance in the form of training planning, goals, and defined objectives. Orleans Fire Department training is overseen by two training coordinators, one responsible for fire training and the other EMS training. In the case of Orleans Fire Department, a fire training coordinator is established through a senior private who oversees the department's fire training needs. This is an operational position that has administrative duties assigned for training requirements, and by design can be hampered by normal department mission requirements. As such it is difficult to maintain a training calendar. EMS training requirements are managed by a separate designated EMS training coordinator. This position was established and implemented recently and is helping to ensure the department meets EMS related training requirements. Orleans Fire Department does not have anyone assigned to help provide clerical support for daily training needs.

Instructors & Instructor Requirements

Orleans Fire Department uses internal instructors for training. These instructors are trained and certified through Massachusetts Fire Training Council to NFPA 1041, Standard for Fire and Emergency Services Instructor Professional Qualifications. This practice is an industry standard and should be continued.

Training Records & Recordkeeping

Orleans Fire Department does not have a designed practice of maintaining fire and EMS service training files for personnel. Currently the employee's personnel records are used to include any training certifications submitted by employees. The training coordinators are responsible for entering and maintaining class records, as well as individual records for all personnel in the department when they lead the training. Company Officers, firefighters, and other staff are accountable for maintaining their individual training and continuing education records. Daily company training is entered into ImageTrend®. Orleans Fire Department used the Firehouse® RMS for previous years but recently made the transition to ImageTrend® software. **NFPA 1401, Recommended Practice for Fire Service Training Report and Records** provides a recognized standard Orleans Fire Department could model their efforts after.

The following figure lists information regarding training records and recordkeeping.

Figure 57: Training Records & Recordkeeping

Recordkeeping	Orleans Fire Department
Individual training files	No
Computerized records and files	Records Management System- ImageTrend®
Annual training hour tracking	Image Trend
Daily training records	Yes
Company training	Yes
Responsibility for training records	Yes, Company Officer
Training equipment	Fire- props EMS- Full array of equipment available for check out

Personnel Trained

Orleans Fire Department has made a commitment to training and is commended for the evident dedication assuring that department personnel are trained to operate safely on the emergency scene. The department's needs for training are an ever-difficult balance to achieve while providing emergency services with limited staff. All of Orleans Fire Department's efforts provide multiple avenues to ensure responders are trained and prepared to handle emergencies of any kind. Emergency medical services training and continuing medical education is delivered by Cape and Islands EMS Systems through a two-week training class designed to provide EMS providers with all of the required ongoing training CME's. This training is in conjunction with the Medical Director and assures Orleans Fire Department that all of their practitioners are meeting current standards of practice.

Training Schedule

As with many fire departments, one of the challenges at Orleans Fire Department with conducting training sessions with on-duty firefighters is the necessity to maintain sufficient personnel and apparatus to ensure adequate response-emergency response capability during drills and classes. Because of the lack of sufficient resources, competency-based training sessions occur infrequently at Orleans Fire

Department. Orleans Fire Department, like many fire departments across the United States do an exceptional job of training personnel to entry-level requirements, but many fall-short in the delivery of on-going training of employees. In addition to ensuring personnel have the quality knowledge, skills, and abilities necessary to deliver effective and efficient emergency services, training programs have an added effect of improving employee morale.

Training Methodologies

To deliver effective training to fire and EMS personnel, some resources are necessary to arm the trainer with the tools needed to provide adequate educational content. The greatest expenses related to this training involve props, facilities and locations to host the training, and audio-visual support when needed. In addition to tools, effective methodologies must be employed if delivery is to be sufficient to meet needs. The Orleans Fire Department training coordinator utilizes a variety of effective training methodologies. Some include lectures and hands on tactile training. Most of these trainings done within Orleans Fire Department are achieved by on duty crews in between answering calls for service. This makes delivery very difficult to complete without interruption. The Orleans Fire Department has worked hard to incorporate new and emerging technologies in the fire service into their daily routine by bringing outside training to its members. For instance, the Nozzle Forward class has been delivered twice for the department. More of this type of training should be conducted.

Manipulative skills are used to train employees in various topics of pumping, apparatus operations, ladders, structural firefighting tactics, extrication, and fire ground skills to name a few. Task proficiency should be reviewed for department performance and establishing training goals for the future.

It is recommended that the Orleans Fire Department continue to refine its regularly scheduled training by implementing training drills developed using NFPA 1410: *Standard on Training for Emergency Scene Operations*. This standard can serve as the basis for delivering drills that objectively measure the performance of personnel responding to emergency incidents.

A significant component to ensuring the safety of firefighters includes conducting an effective post-incident analysis (PIA) of fire department operations. An effective PIA provides the opportunity for firefighters and officers to learn from their personal actions and experiences. In addition to improving firefighter performance, the PIA has the added value of improving firefighter safety. Orleans Fire Department provides for a PIA to be conducted following each major incident. This is an excellent way for crews to identify both good things and bad things to learn from. Consideration of using them on even small-scale incidents will add value to training.

Training Facilities

The ability to train in a realistic environment is critical to developing and maintaining skills. Many of the skills necessary to be truly effective must be taught and practiced in a controlled environment allowing for skill development and yet ensures firefighters are as safe as possible. Additionally, ISO requires the regular use of dedicated training locations to gain maximum credit for Public Protection Classification scoring.

Currently, Orleans Fire Department must rely upon space at the fire station and other publicly available locations. The use of these spaces is limited based upon availability at the time of need. The use of non-

fire department locations (i.e., business parking lots) can have a negative impact by interfering with the operations of the respective businesses. The use of available public spaces does not allow for consistency in conducting training evolutions as the availability may change on a daily or hourly basis.

The department does not have dedicated training facilities and relies on movable props built by department staff. These props are great additions to the training methods and practices, and include hose deployment trays, entanglement and wall breach simulators. Acquired structures are also used when available. **To effectively train in a more efficient and effective manner without negatively impacting the ability to respond to incidents within the Orleans Fire Department jurisdiction, it is recommended that the department evaluate the effectiveness of establishing a training facility within the center of the response jurisdiction.** This evaluation should include an analysis of a strategic location to reduce travel time to and from and maximize the ability to quickly respond to incidents occurring within the jurisdiction. The lack of a dedicated training facility presents a number of challenges in delivering the minimum training requirements for Orleans Fire Department firefighters.

Ideally, Orleans Fire Department should have its own training facility located strategically and easily accessible from the fire station. Current plans involve using the nearby fire station in Brewster that has additional training props constructed there. Many departments use mobile burn facilities and facilities constructed from shipping containers. These facilities are relatively economical to construct, require very little space, and provide very realistic training environments. The Orleans Fire Department should consider this as an option to provide the necessary training facility.

Training Program Goals and Objectives

Each facet of the department requires established goals and objectives to ensure success. The department's training program is no different. Discussions with staff yielded the following critical issues regarding training within Orleans Fire Department.

Figure 58: Critical Issues Regarding Training

Critical Issues	Deputy Fire Chief's Perspective
First	Lack of live fire training
Second	Dedicated time for members to receive training
Third	Established goals and objectives for department training

Without a dedicated facility to provide live fire training, Orleans Fire Department will struggle to ensure firefighters remain proficient with operating inside an Immediately Dangerous to Life and Health (IDLH) environment. Fire departments must ensure their organizations can be prepared for these challenges. NFPA 1403, *Standard on Live Fire Training Evolutions* and NFPA 14, *Standard on Facilities for Fire Training and Associated Props* provide guidance and direction for establishing ways to meet these needs.

The Orleans Fire Department will continue to have challenges providing adequate training as long as staff is limited. The Orleans Fire Department should establish dedicated staff to provide training as well as coordinate the efforts of the training program.

Goals and objectives provide the foundation for an effective training program. These goals and objectives can be determined by creating a training committee of dedicated employees who are passionate about department training. An analysis of the department's ability to complete tasks and evolutions outlined in NFPA 1410 will provide the basic evaluation of where to begin. Furthermore, PIA review can also provide much needed information as to weaknesses and gaps in service ability. Once these gaps are identified, the training program can be constructed to address the deficiencies.

Training Procedures and Manuals

Orleans Fire Department does not have dedicated training procedures or manuals. Currently many different textbooks and mediums are available to provide necessary content and support for training items. Several publishers like International Fire Service Training Association and Jones & Bartlett produce textbooks with a variety of subjects for the fire service. Often very detailed and structured information can be found on the world wide web and through social media platforms for free. A general search of topics related to the fire service on the web will yield information for use. **Once a dedicated training division or group is established and a full-time staff member is identified, Orleans Fire Department should strive to provide a training manual as well as procedural guidelines for conducting training evolutions.**

Appendix B: Public Education Program

Fire Prevention has three traditional segments: code enforcement, fire investigation and public education. The specific person responsible for these duties within the Orleans Fire Department is the Fire Chief. The Chief has delegated these responsibilities to staff and line personnel with assignment of these duties at the will of the Fire Chief. The Fire Chief has delegated code enforcement operations to the Fire Inspector. The fire investigation component is the responsibility of the Deputy Chief or the shift Captain on duty when a fire occurs. Fire prevention duties are shared by two personnel and they are assisted by the line firefighters.

Fire Code Enforcement

The Fire chief is the Authority Having Jurisdiction (AHJ) and is also referred to the head of the department in Massachusetts General Law (MGL). MGL Part I, Title XX, Chapter 148, section 4, provides the Fire Chief with the power to delegate inspection duties, and in Orleans, these duties are generally delegated to the Fire Inspector. In times when the Fire Inspector is away, the Deputy Fire Chief will typically cover the duties normally assigned to the Fire Inspector during that time. The inspector works four days a week for ten hours per day during a normal work week. The fire inspector is expected to adhere to a daily schedule of appointments unless the department responds to a high priority call.

For budgeting purposes, the Fire Inspector position is listed as one of the fire department captains. It is not a fire department line position and it shares a single support staff member, Melissa Clayton. Her duties are to assist the Fire Chief, the Deputy Chief and the Fire Inspector Office.

The Fire Chief is deemed the local enforcement officer as defined by MGL Part I, Title XX, Chapter 148A. This law clarifies that the Chief may designate this to someone else in the department or the local building inspector. The Fire inspector and the Building Inspector work together frequently but the Building Official does most of the formal code abatement in Orleans. The current code is the Massachusetts Comprehensive Fire Safety Code (527 CMR 1.00). This document is based upon NFPA 1-Uniform Fire Code with Massachusetts amendments.

The inspections that the town of Orleans is required to perform are found in MGL Part I, Title XX, Chapter 148A.

Qualifications

The State of Massachusetts qualifications to perform the duties of Fire Inspector are relegated to the local municipality to determine. General qualifications are State fire prevention classes, approximately five modules online and pass a test. There are continuing education requirements and additional classes to improve knowledge base for fire inspections.

According to the Fire Inspector job description, the Fire Inspector is required to obtain The Fire Prevention Officer I designation within one year of appointment. The Fire Prevention Officer Level I and Level II Credential expire after 36 months. Anyone wishing to maintain their Level I and Level II credentials must accumulate 36 points or 72 points, respectively, of approved attendance and activities in a consecutive 36-month period that begins on the date the latest credential was issued. ESCI reviewed this job description and determined it to be appropriate to the current duties and requirements of the Fire Inspector position.

Fire Inspector Office Operations

Plan Review

Plan reviews are done primarily by the Building Official. If there is a fire code specific issue, they will request a consult with Fire Inspector to provide input as it relates to fire alarm, restaurant hood systems, and any other relevant items.

Inspections

The Orleans Fire Department performs more than 600 inspections per year. The inspector's office uses Fire House Software in which to keep track, numerically, of the inspections performed. Reports can be readily produced to present the workload tracking of the Fire Inspector's Office. Several state laws apply to regulate the inspection operations. In addition, the Orleans Board of Selectmen also issues permits/licenses to certain businesses such as assembly and those that serve alcohol. Inspections are required on these properties annually in order to maintain these permits/licenses.

Residential inspections are performed when a home is in the process of being sold. These inspections are done to ensure that there are adequate smoke and CO detectors. A fee of \$25-\$50 is received when the fire inspector inspects a residence for smoke and CO detectors.

MGL Part I, Title XX, Chapter 148, section 4

The head of the fire department or whom he delegates authority, shall make an inspection and submit a report, every three months of institutions as defined by the state building code, licensed by:

- Department of public health
- Department of public welfare

The head of the fire department shall also make an inspection every three months of the premises specified in innholder's licenses.

MGL PART I, TITLE XX, CHAPTER 148, SECTION 5

The head of the department or whom he delegates authority, shall, upon complaint, enter into buildings at any reasonable hour, and make an investigation as to the existence of conditions likely to cause fire. They shall notify the owner of the building in writing of the remedies for the accumulation of combustibles and obstacles to ingress or egress. In addition, they are authorized to make subsequent entry and remove the hazards at the expense of the building owner.

The workload for the Fire Inspector's Office is high and would benefit from additional manpower. This can come in the form of a part-time inspector, additional clerical support staff, or providing additional training to current line captains so they may assist with inspections and such while on duty.

Efficiency of operations in the Fire Inspector's Office could be improved by tracking of daily duties, making appointments, and communication with construction professionals. There are several software options to assist with this and to ensure that all required work is being done in a timely fashion and follow up is efficient.

Other Duties

Additional wide-ranging duties assigned to the Fire Inspector include: various consultations with citizens and contractors pertaining to fire safety questions; oil burner, oil tank and tanker inspections; complaint investigations; storage of hazardous materials inspections; Knox Box installations and key updates; rough inspections on construction projects; and witness of fire drills.

Fire Cause and Origin Investigations

Over the last three years, the number of structure fires was consistent (approximately 30). The procedure used by the Orleans Fire Department is to notify the Deputy Fire Chief and take direction. Consultation will take place between the Captain (or senior firefighter) on scene and the Deputy Chief in order to decide whether to contact the State Fire Marshal's Office or to conduct the investigation with the Orleans Fire Department staff. The State Fire Marshal's Office may be requested by Orleans Fire Department to respond to any fire when they are needed.

Small fires, such as brush fires, trash fires, and vehicle fires are investigated by the senior staff person on the fire apparatus. Additional reports are sent to the State when there is a fire involving a vehicle.

Per state law, the head of the department or whom he delegates authority, shall submit an annual report of all official action in relation to fires to the commissioner of insurance.

ESCI's review of the ten-year general fire loss revealed that there is a general trend of an increase in fire only calls, but the number of structure calls has not varied a great deal. Although the number of structure fires has averaged about 30 over the last five years, the reported loss amounts have increased during that same period of time. There is a noticeable inconsistency in the reporting of loss. When comparing the number of structure fires to the number that are reporting a loss, there is a wide gap in that reporting. Either this is inaccurate and there are a large number of structure fire with no dollar loss, or the monetary loss is under-reported and therefore the loss, in dollars, is underestimated. **The Orleans Fire Department should review its reporting practices related to fire loss reporting to assure that the data collected by the fire department accurately reflects the true fire loss.**

There were zero fire related fatalities in the last ten years and both fire service and civilian injuries are very low. Coupled with the relatively moderate number of structure fires and the reported dollar loss suggests that the enforcement and public education components are doing a satisfactory job.

Figure 59: Ten-Year General Fire Loss

Year	# Calls (less EMS)	Structure Fires ^a	Structure Fires reporting a dollar loss	Loss amount reported in Structure Fire	Civilian Injuries	Fire Service Injuries
2010	583	27	1	\$60,000	0	0
2011	601	17	2	\$122,000	1	0
2012	550	31	3	\$120,000	1	0
2013	757	21	2	\$455,000	0	0
2014	754	44	5	\$816,000	0	0
2015	753	39	10	\$1,528,000	4	1
2016	788	36	10	\$1,693,000	0	0
2017	807	35	2	\$588,000	0	0
2018	996	33	8	\$1,013,000	1	0
2019	774	33	5	\$219,000	0	0
Total	7,363	316	48	6,614,000	7	1

a-Fires which the Type of Alarm was reported as chimney fire, electrical fire, cooking incident, or structure fire.

Public Education

The duties of public education are delegated to a captain and fire fighter. The Orleans Fire Department provides a variety of public education programs to its citizens. In addition to these established programs, the Orleans Fire Department personnel routinely field citizen's questions and concerns, meet with residents on apartment safety, and perform home safety checks upon request. The following provides a summary of the Public Education Programs offered to by the Orleans Fire Department. The Orleans Fire Department's public education efforts are many and varied and are very well received by the community based on the results of ESCI's External Customer Assessment. The results of this External Customer Assessment are detailed later in this report.

Student Awareness of Fire Education (SAFE)

This program is delivered to the elementary school children in Pre-K through grade 5. SAFE is a program sponsored by the State of Massachusetts. It is the goal of the Public Education Division to provide instruction to all elementary school students in the Orleans community.

Citizens Fire Academy

The academy is run by the Orleans Fire Department during which approximately 15 citizens learn about the fire department and fire safety. The academy has many different topics that are presented once evening a week for six weeks. The Citizens Fire Academy runs the full program once to twice per year.

Open House

This is an annual event held at the fire station in October. The fire department welcomes the community to the firehouse with a concentration on fire safety.

Block Party

The Orleans Police Department sponsors an annual block party held in August and the fire department operates a booth. This is a large community event that provides an opportunity for the public education to talk to residents and visitors about fire safety.

Appendix C: External Customer Assessment Survey Results

The first question asked survey participants if they were residents of the Town of Orleans.

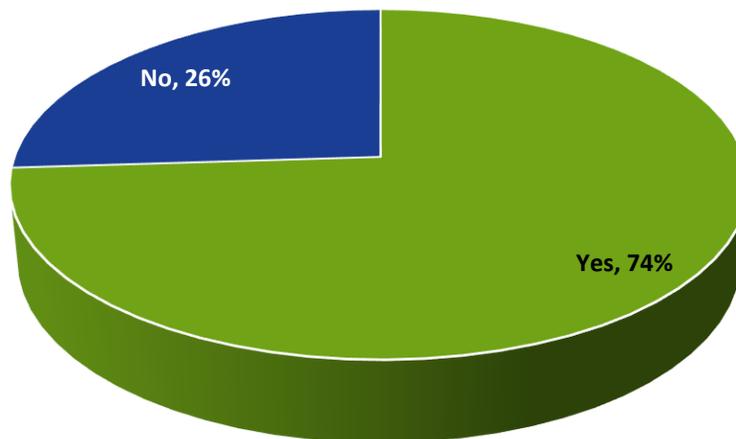
Figure 60: External Survey Question 1

1. Are you a current resident of the Orleans, MA?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

Out of 66 total survey participants, 74%, or 49 people, identified themselves as current residents of Orleans and 26%, or 17 people, reported that they were not a current resident of Orleans. The results of the first question are illustrated in the following figure.

Figure 61: External Survey Question 1 Results



The second question on the asked respondents to identify their personal interactions with the fire department during the last year.

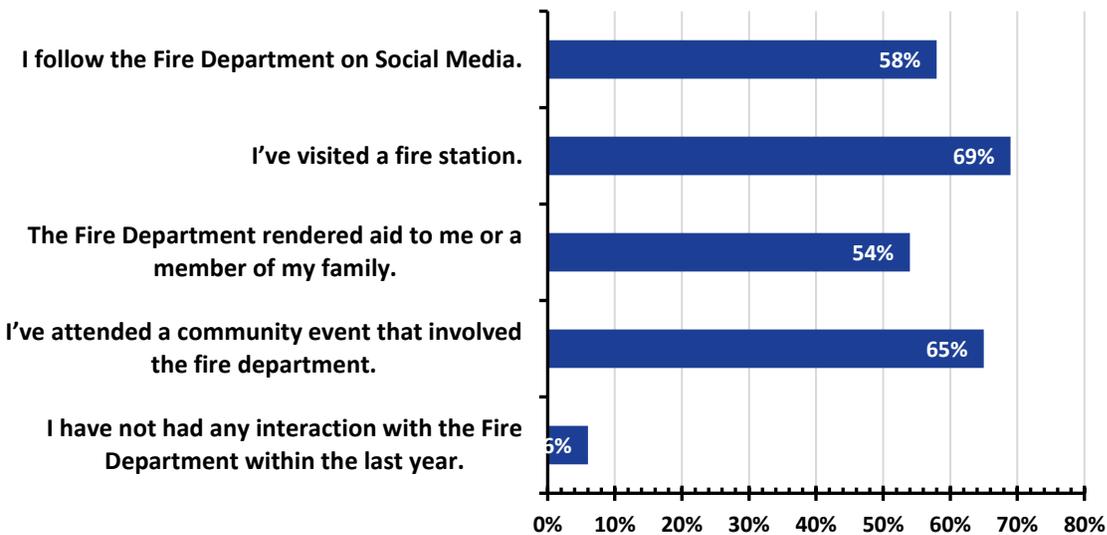
Figure 62: External Survey Question 2

2. Please check the boxes next to all the interactions that you have had with the Orleans Department during the last year.

- The Fire Department rendered aid to me or a member of my family.
- I've visited a fire station.
- I've attended a community event that involved the fire department.
- I follow the Fire Department on Social Media.
- I have not had any interaction with the Fire Department within the last year.
- Other interaction, please specify:

The most common interaction with the fire department reported by 69% of survey participants (46 people) was a visit to the fire station. The second most common interaction was attendance at a community event attended by the fire department (43 people or 65%). The results of the second question are illustrated in the following figure.

Figure 63: External Survey Question 2 Results



There were three parts to the third survey question.

Figure 64: External Survey Question 3

- 3. This is a three-part question.**
- A. Please rank the following services provided by the Orleans Department as Critical (1), Important (2) or Not Important (3).**
 - B. If you would like to see a service added, please list it in the blank at the bottom of the following list.**
 - C. Cross out any services you feel shouldn't be provided by your fire department.**

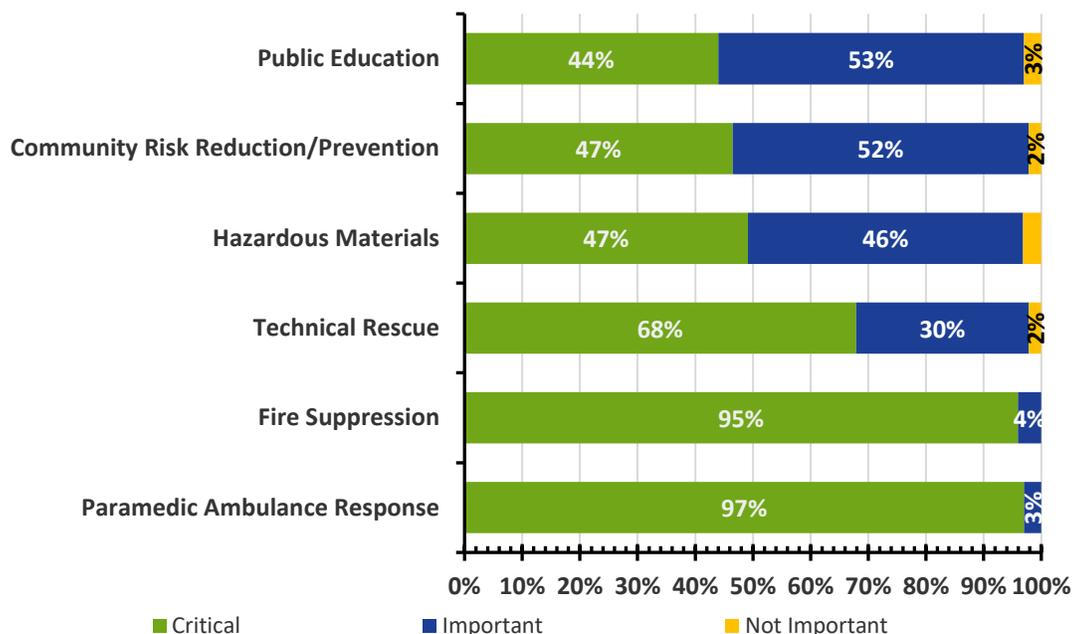
1: Critical 2: Important 3: Not Important

- _____ Paramedic Ambulance Response
- _____ Fire Suppression
- _____ Technical Rescue
- _____ Hazardous Materials
- _____ Community Risk Reduction - Prevention
- _____ Public Education
- _____ Add:

The two services that were most highly ranked as "Critical" were Paramedic Ambulance Response (97% or 64 people) and Fire Suppression (95 percent or 63 people). Services such as Technical Rescue, Hazardous Materials, Community Risk Reduction and Public Education were identified as critical by many survey participants but were identified as "Important" rather than "Critical" by almost half of the participants.

Survey Respondents suggested that the fire department consider offering, or continuing to offer, a Citizens Fire Academy, Stop the Bleed, Severe Weather Emergency Training, Water Rescue Services, and Training for Mental Health Issues. None of the survey respondents felt that that fire department should stop providing any of its current services. The results of the third question are illustrated in the following figure.

Figure 65: External Survey Question 3 Results



In the fourth question, participants were given an opinion poll and asked to check one box under each of the headings of Staffing, Response Performance, and Cost of Service.

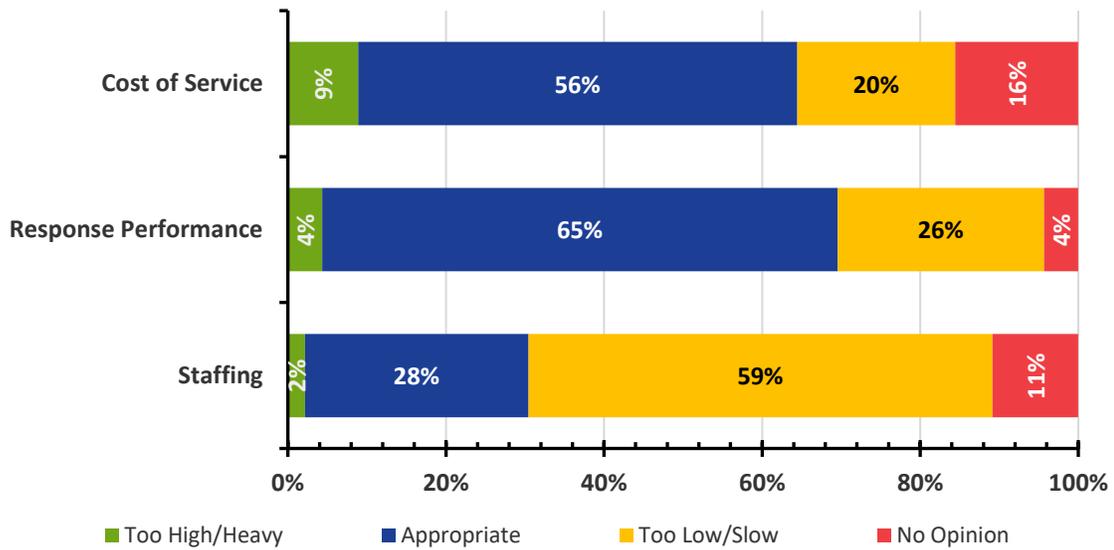
Figure 66: External Survey Question 4

4. Please check the boxes that reflect your *opinions* as they relate to staffing, response and costs. Please add any explanatory comments in the notes section immediately following the table.

<u>Staffing</u>	<u>Response Performance</u>	<u>Cost of Service</u>
<input type="checkbox"/> Overstaffed	<input type="checkbox"/> Response too heavy	<input type="checkbox"/> Too expensive
<input type="checkbox"/> Staffed appropriately	<input type="checkbox"/> Response appropriate	<input type="checkbox"/> Appropriate
<input type="checkbox"/> Understaffed	<input type="checkbox"/> Response too slow/light	<input type="checkbox"/> Underfunded
<input type="checkbox"/> No Opinion	<input type="checkbox"/> No Opinion	<input type="checkbox"/> No Opinion

The results of the fourth question are illustrated in the following figure.

Figure 67: External Survey Question 4 Results



It is notable that the majority of survey participants felt that the of the fire department service was appropriate, that the response performance of the fire department was appropriate, but that the staffing was to understaffed / too light.

The fifth question asked survey participants to identify their expectations for their fire department.

Figure 68: External Survey Question 5

5. Please list the expectations you have of your fire department:

The single most common response to this question by more than half of the survey respondents was that they expected a fast, professional response to emergencies. The other most frequent responses to this question are illustrated in the following figure.

Figure 69: External Survey Question 5 Results

time provide **Fire** timely fashion **respond** called **emergencies**
 Fast **needed** emergency medical **response** life professional

The sixth survey question asked participants to identify any concerns that they had about their fire department.

Figure 70: External Survey Question 6

6. Please list any concerns you have regarding your fire department:

The most common concern cited by survey participants was the ability of the fire department to respond to all of the demands for service in the community. The second most common concern was the condition and size of the current fire station. The other most frequent responses to this question are illustrated in the following figure.

Figure 71: External Survey Question 6 Results

pay_{people} need_{building} fire need_{new} station low staffing
 feel None_{enough} town_{concerned} department

The seventh and final question invited survey participants to share what they believed were the strengths of their fire department.

Figure 72: External Survey Question 7

7. Please list any strengths you would like to share regarding your fire department:

The two most common responses to this question were overwhelmingly that the survey participants felt that their fire department was both professional and caring. The other most frequent responses to this question are illustrated in the following figure.

Figure 73: External Survey Question 7 Results

best_{group} great_{job} professional caring people_{service}
 staff

Appendix D: Internal Customer Assessment Survey Results

The first survey question asked respondents how many years they have worked for the Orleans Fire Department.

Figure 74: External Survey Question 1

1. Please identify your total number of years of service for the Orleans Fire Department

Answer Choices

0-5 years

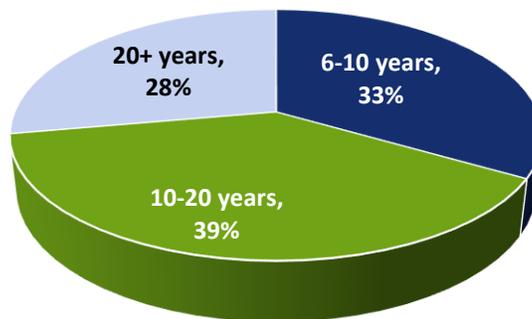
6-10 years

10-20 years

20+ years

All of the survey participants reported six or more years of service to the Orleans Fire Department. The respondents were evenly distributed with 33% (six people) having six to ten years of service, 39% (seven people) having ten to 20 years of service, and 28% (five people) having more than twenty years of service. The results of the first question are illustrated in the following figure.

Figure 75: Internal Survey Question 1 Results



The second survey question asked participants to identify their position within the Orleans Fire Department.

Figure 76: Internal Survey Question 2

2. Which one of the following best describes your current position?

Answer Choices

Fire Fighter

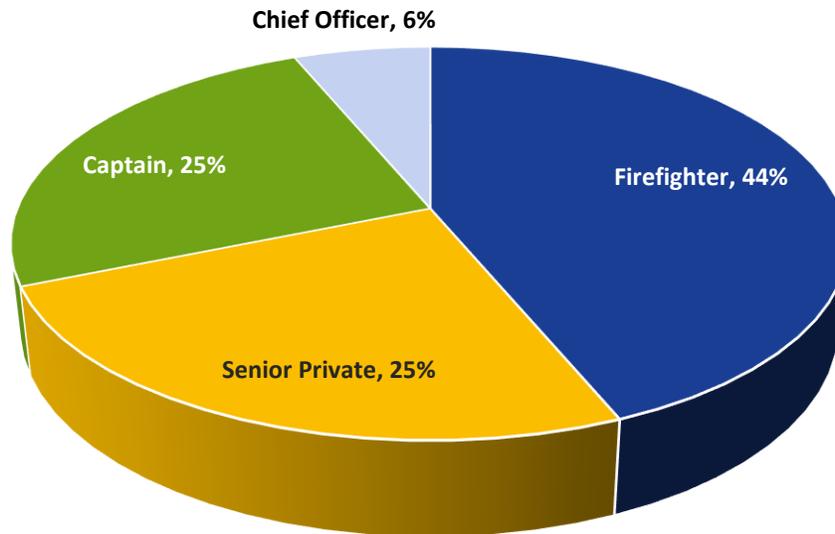
Senior Private

Captain

Chief Officer

Almost half - 44 percent - of the survey participants held the rank of fire fighter. This equated to seven firefighters. Twenty-five percent (four people) held the rank of Private and an additional twenty-five percent (four people) held the rank of Captain. Six percent (1 person) who completed the survey identified themselves as a Chief Officer.

Figure 77: Internal Survey Question 2 Results



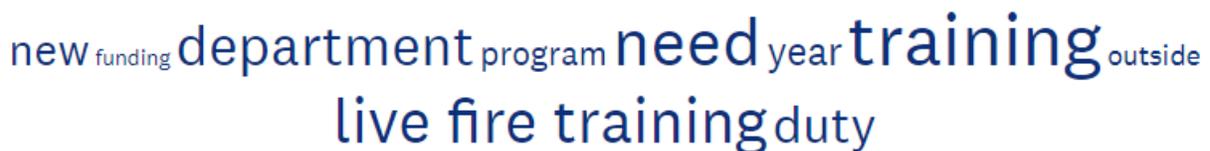
The third question asked survey participants to share their thoughts about the department’s training program.

Figure 78: Internal Survey Question 3

3. If you could change one thing about the department's training program, what would it be?

The most common answer to this question was that firefighters wanted more training. They also wanted off duty training and live fire training. The following figure illustrates the remainder of the most common responses.

Figure 79: Internal Survey Question 3 Results



The fourth question on the survey asked about communication within the Orleans Fire Department.

Figure 80: Internal Survey Question 4

4. In your opinion, what is the best way to communicate information at the Orleans Fire Department?

The overwhelming majority of firefighters felt that email was the best way to communicate information within the Orleans Fire Department. After email, many firefighters suggested that in person staff meetings in conjunction with email would go a long way to improving existing communications within the department. The following figure illustrates the other popular answers to this question.

Figure 81: Internal Survey Question 4 Results

Captains Also Officers memos shift Department
 text messages full department Email notice
 meetings POSTED communication information

The fifth question asked survey participants about morale within the Orleans Fire Department.

Figure 82: Internal Survey Question 5

5. How would you rate morale at the department?

Answer Choices

- Excellent
- Good
- Average
- Poor
- No Opinion

The overwhelming response – 89 percent (16 people) to this question was that morale was poor within the Orleans Fire Department. The second most common response was that morale was average with 11 percent of the participants (2 people) selecting that answer. None of the survey participants felt that morale within the Orleans Fire Department was Excellent or even Good.

Figure 83: Internal Survey Question 5 Results

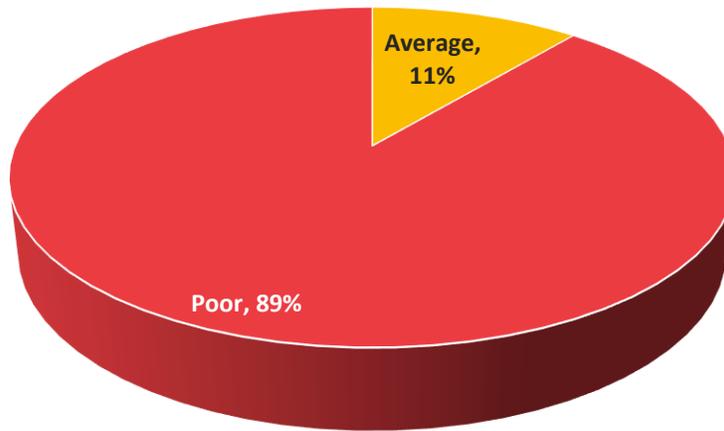


Figure 84: Internal Survey Question 6

6. What suggestions do you have for improving firefighter morale at the department?

The overwhelming majority of survey participants cited improved communication as being the best way to improve morale. Better wages and settling the contract were the next most common responses to this question. The other common responses to this question are illustrated in the next figure.

Figure 85: Internal Survey Question 6 Results



As a follow up to the question about morale, the seventh question asked survey participants what they thought the department’s leadership should be doing more of.

Figure 86: Internal Survey Question 7

7. In your opinion, what should the department's leadership be doing more of?

Survey participants were again overwhelmingly united in their response to this question. Most every given answer included some request for more, better or consistent communication. Other responses to this question are illustrated in the following figure.

Figure 87: Internal Survey Question 7 Results

need better shift FIGHTING staff future Communicating
training work goals captains members

The eighth question asked survey participants to rate their overall work experience within the Orleans Fire Department.

Figure 88: Internal Survey Question 8

8. How would you rate your overall personal work environment at the department?

Answer Choices

Excellent

Good

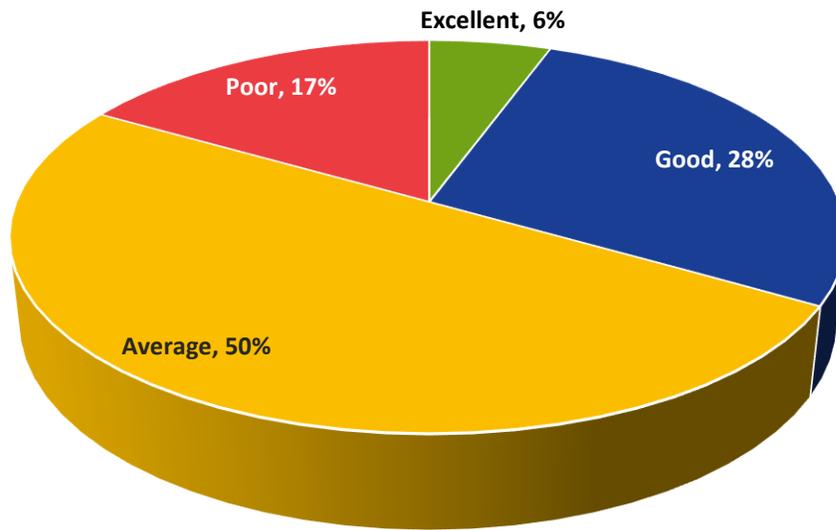
Average

Poor

No Opinion

Half of the survey participants (nine people) felt that their experience was average while 28 percent (5 people) rated it good, 17 percent (three people) felt that it was poor, and six percent (1 person) selected excellent. The following figure illustrates the breakdown of responses.

Figure 89: Internal Survey Question 8 Results



The ninth question asked survey participants to rate their level of pride related to being a member of the Orleans Fire Department.

Figure 90: Internal Survey Question 9

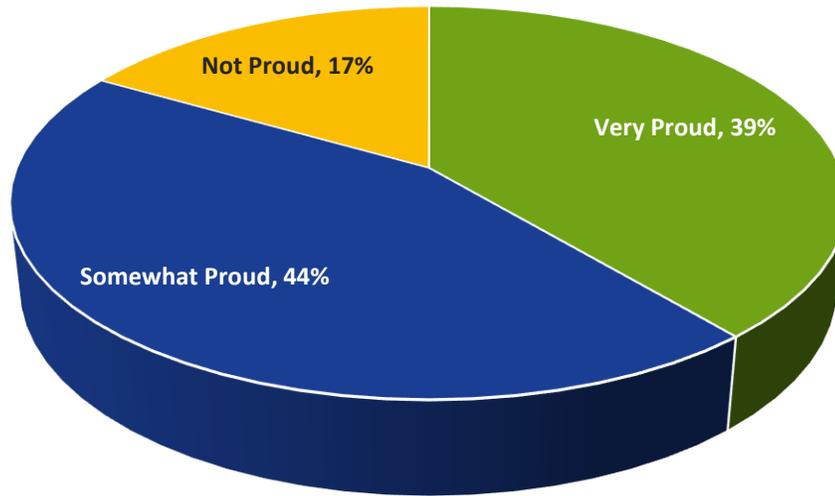
- 9. How proud are you to tell other people that you are a member of the Orleans Fire Department?

Answer Choices

- Very Proud
- Somewhat Proud
- Not Proud
- No Opinion

Almost half of the survey participants – 44 percent (eight people) were Somewhat Proud to be an Orleans Fire Fighter. An additional 39 percent (7 people) were Very Proud to be an Orleans Fire Fighter. Only seventeen percent (3 people) were Not Proud to be an Orleans Fire Fighter. The responses to question nine are illustrated in the following figure.

Figure 91: Internal Survey Question 9 Results



The tenth question asked survey participants to rate the various services provided by the Orleans Fire Department.

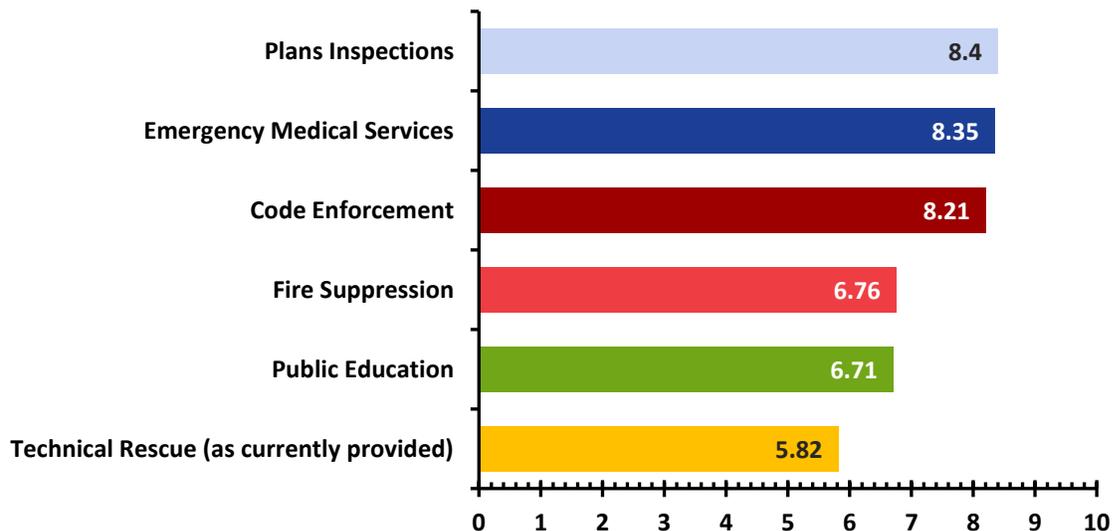
Figure 92: Internal Survey Question 10

10. On a scale of 1 to 10, where 1 is poor and 10 is excellent, how would you rate the following external services and programs provided to the public by the department?

- Fire Suppression**
- Emergency Medical Services**
- Technical Rescue (as currently provided)**
- Code Enforcement**
- Plan Inspections**
- Public Education**

Using the weighted average of the responses from the survey participants, the areas of Plans Inspections, EMS and Code Enforcement were all scored the highest, each earning scores in the eight range. Fire Suppression and Public Education were scored slightly lower in the sixes, and the lowest score was given to Technical Rescue with a 5.82. It is worth noting that the survey participants scored all of the services in the top half of the 10-point range with no service being rated with a weighted score below five. The answers to question ten are illustrated in the following figure.

Figure 93: Internal Survey Question 10 Results



The eleventh question asked survey participants to use the same ten-point scale from the previous question to rate internal services.

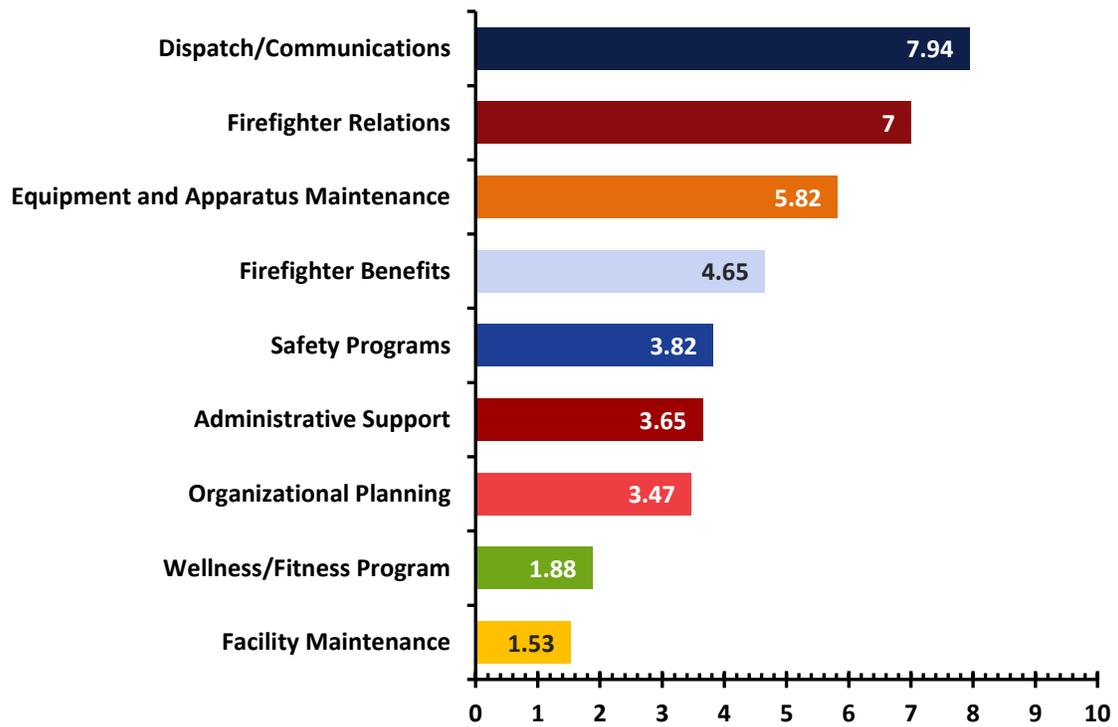
Figure 94: Internal Survey Question 11

11. On a scale of 1 to 10, where 1 is poor and 10 is excellent, how would you rate the following internal services and processes provided by the department?

- Organizational Planning
- Safety Programs
- Wellness/Fitness Program
- Administrative Support
- Firefighter Relations
- Firefighter Benefits
- Dispatch/Communications
- Equipment and Apparatus Maintenance
- Facility Maintenance

The internal services were generally rated lower than the external services. The Dispatch / Communications received the highest score at 7.94 followed by Fire Fighter Relations and Equipment and Apparatus Maintenance. The lowest ratings were earned by Facility Maintenance, Wellness / Fitness Programs and Organizational Planning. The responses to question eleven are illustrated in the following figure.

Figure 95: Internal Survey Question 11 Results



The twelfth question asked survey participants to share their opinion about the department’s facilities and apparatus.

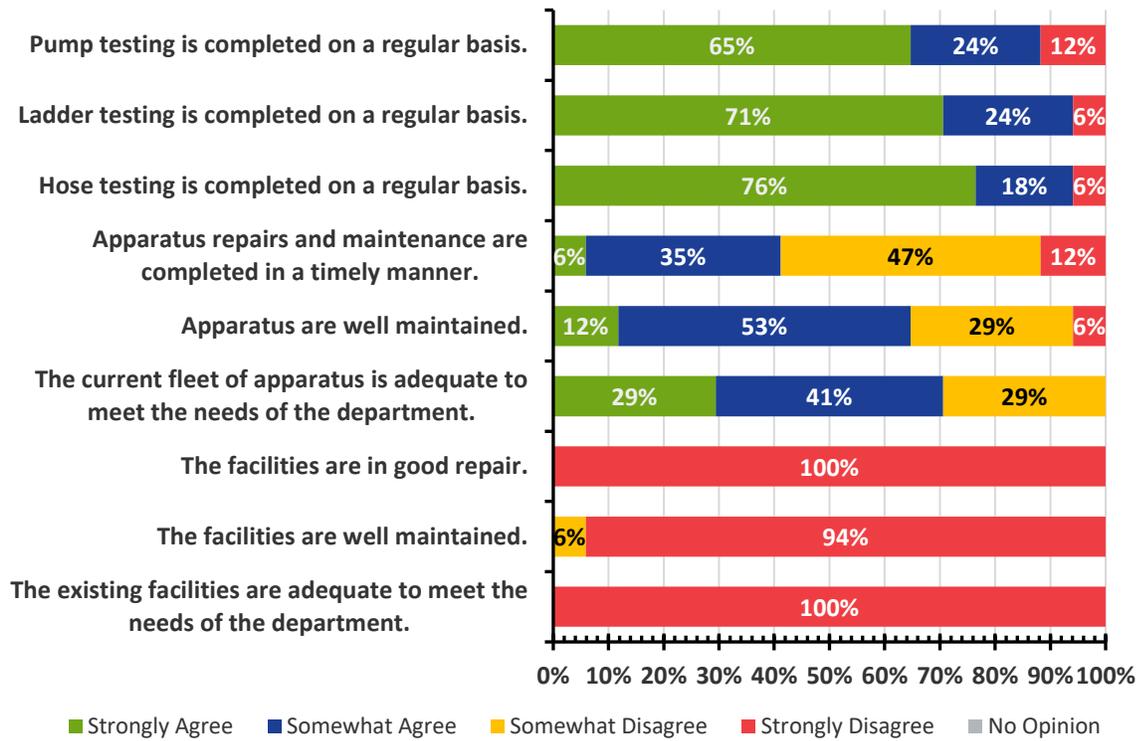
Figure 96: Internal Survey Question 12

12. Please identify your level of agreement with each of the following statements about the department's facilities and apparatus.

Answer Choices				
Strongly Agree	Somewhat Agree	Somewhat Disagree	Strongly Disagree	No Opinion
The existing facilities are adequate to meet the needs of the department.				
The facilities are well maintained.				
The facilities are in good repair.				
The current fleet of apparatus is adequate to meet the needs of the department.				
Apparatus are well maintained.				
Apparatus repairs and maintenance are completed in a timely manner.				
Hose testing is completed on a regular basis.				
Ladder testing is completed on a regular basis.				
Pump testing is completed on a regular basis.				

In general, survey participants agreed that equipment and apparatus were maintained and repaired. Survey participants almost unanimously disagreed with the statements about the facilities being maintained and in good repair. The answers to question twelve are illustrated in the following figure.

Figure 97: Internal Survey Question 12 Results



The thirteenth question asked survey participants to share what one thing they would like to change about the Orleans Fire Department.

Figure 98: Internal Survey Question 13

13. If you could change only one thing about the work environment at the Orleans Fire Department, what would it be?

The most common response to this question was a new / renovated fire station with better air quality and air movement. The next most common response was better communication.

The fourteenth question asked survey participants to share their opinions about the Orleans Fire Department’s community relations.

Figure 99: Internal Survey Question 14

14. Please identify your level of agreement with each of the following statements as they relate to the department's community relations.

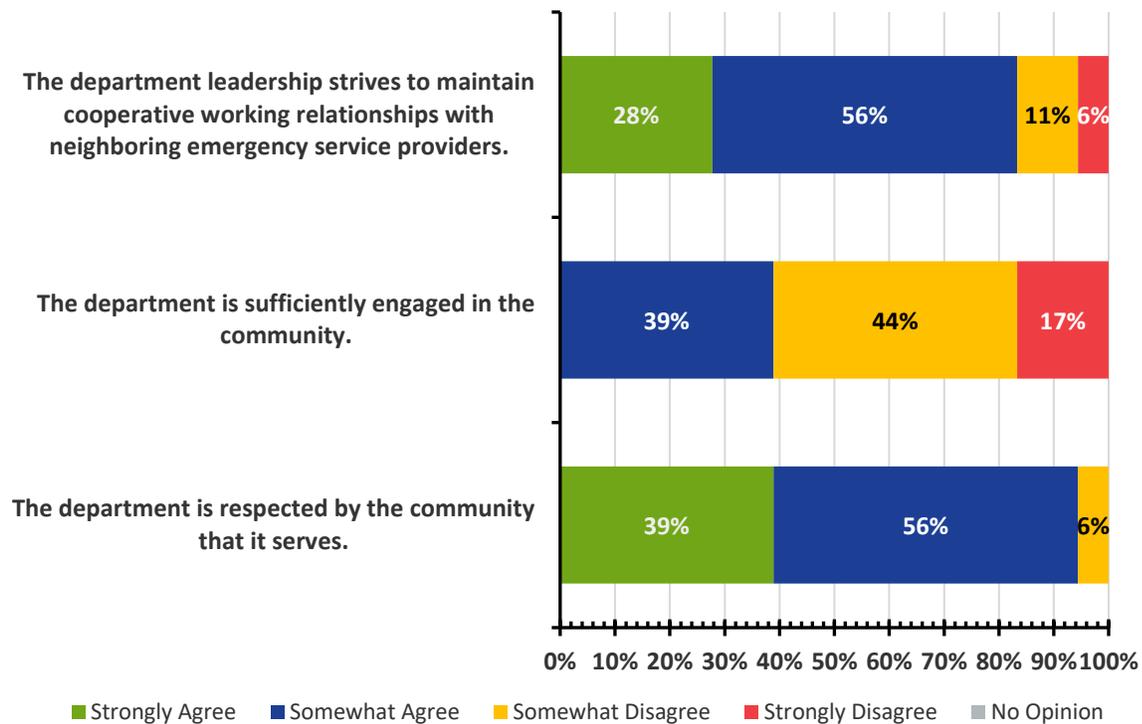
Answer Choices

Strongly Agree Somewhat Agree Somewhat Disagree Strongly Disagree No Opinion

The department is respected by the community that it serves.
 The department is sufficiently engaged in the community.
 The department leadership strives to maintain cooperative working relationships with neighboring emergency service providers.

The majority of the survey participants strongly agreed or agreed that the department leadership strives to maintain cooperative relationships with the community and that it is respected by the community. The majority of survey participants did not agree that the department is sufficiently engaged in the community. The responses to question fourteen are illustrated in the following figure.

Figure 100: Internal Survey Question 14 Results



The fifteenth question asked survey participants to rate the department’s overall image.

Figure 101: Internal Survey Question 15

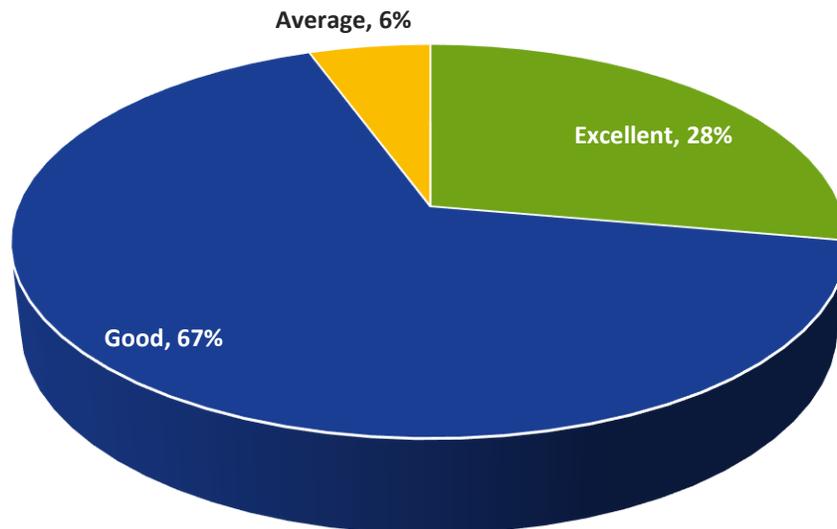
15. In your opinion, what is the community's overall image of the Orleans Fire Department?

Answer Choices

- Excellent**
- Good**
- Average**
- Poor**
- No Opinion**

The majority of survey participants - 67 percent - rated the department’s overall image as Good (12 people) and an additional 28 percent (5 people) rated it Excellent. Only six percent (1 person) rated the department’s image to the community as Average. None of the survey respondents rated the department’s image to the community as being Poor. The responses to question fifteen are illustrated in the following figure.

Figure 102: Internal Survey Question 15 Results



The sixteenth question asked survey participants to identify the department’s greatest strength.

Figure 103: Internal Survey Question 16**16. In your opinion, what is the department's single greatest strength?**

The overwhelming response by the vast majority of survey participants was that the members of the Orleans Fire Department are by far its greatest strength. The very distant second most common response to this question was that the Orleans Fire Department's greatest strength is providing outstanding EMS care.

Figure 104: Internal Survey Question 16 Results

EMS members firefighters

The seventeenth question asked survey participants to identify the department's single greatest weakness.

Figure 105: Internal Survey Question 17**17. In your opinion, what is the department's single greatest weakness?**

The overwhelming majority of survey participants identified leadership as the department's single greatest weakness. The lack of contract and shift staffing were very distant second and third place answers. The following figure illustrates the most common answers to question seventeen.

Figure 106: Internal Survey Question 17 Results

Current chief leadership staffing

Question eighteen asked survey participants to identify the single biggest opportunity for the department in the future.

Figure 107: Internal Survey Question 18**18. In your opinion, what single greatest opportunity should the department take advantage of in the future?**

The overwhelming majority of participants in the study identified the biggest opportunity for the Orleans Fire Department as being the appointment of a new fire chief. A summary of the answers to question eighteen is illustrated in the following figure.

Figure 108: Internal Survey Question 18 Results

chief Fire Department needs department

The nineteenth question asked survey participants to identify the single biggest threat to the department.

Figure 109: Internal Survey Question 19

19. In your opinion, what is the single most significant threat that the department faces in the future?

The overwhelming majority of participants responding to the survey identified the biggest threat to the Orleans Fire Department as losing personnel. Reasons for losing personnel were varied and included pay, lack of contract, low morale and staffing. A summary of the responses to question nineteen is illustrated in the following figure.

Figure 110: Internal Survey Question 19 Results

Morale_{pay} Losing_{low} departments leadership_{good} due_{good}
staffing employees

The twentieth question invited survey participants to share any final thoughts.

Figure 111: Internal Survey Question 20

20. Please use the space below to tell us your suggestions or final thoughts for improving the Orleans Fire Department.

The responses to the final question almost unanimously expressed excitement at the prospect of new chief and requested strong leadership, consistency, communication and a better work facility. A summary of the answers to question twenty is illustrated in the following figure.

Figure 112: Internal Survey Question 19 Results

changes_{need increase} department_{increase} building
Orleans Fire Department Pay_{good} staffing_{improve} work
members_{need} communication_{us}

Appendix E: Table of Figures

Figure 1: Service Area Map.....	10
Figure 2: Fire Department Organizational Chart	11
Figure 3: Five Most Critical Issues	12
Figure 4: Planning for the Future.....	13
Figure 5: Barnstable County Fire Chiefs’ Mutual Aid Plan	15
Figure 6: Initial Full Alarm Assignment for Residential Structure Fire	18
Figure 7: Initial Full Alarm Assignment for Strip Shopping Center	19
Figure 8: Initial Full Alarm Assignment in a Three-Story Apartment Building.....	19
Figure 9: Barnstable County Fire Chiefs Mutual Aid Plan: 1 st and 2nd Alarm Fire Fighter Totals	20
Figure 10: Barnstable County Fire Chiefs Mutual Aid Plan: 3 rd and 4th Alarm Fire Fighter Totals.....	21
Figure 11: Salary Comparison: Orleans and Bordering Fire Departments	23
Figure 12: NFIRS Classification System	27
Figure 13: Service Demand by Incident Type 2016–2019	28
Figure 14: Service Demand by Incident Type 2016–2019.....	29
Figure 15: Service Demand by Month 2016–2019.....	30
Figure 16: Service Demand by Day of Week 2016–2019	31
Figure 17: Service Demand by Time of Day 2016–2019	31
Figure 18: .5-Mile Engine Distribution per ISO Criteria	33
Figure 19: 2.5-Mile Truck Distribution per ISO Criteria	34
Figure 20: 5-Mile Distribution per ISO Criteria.....	35
Figure 21: Hydrant Distribution	36
Figure 22: 4-Minute Travel Time per NFPA Criteria.....	37
Figure 23: 8-Minute Travel Time per NFPA Criteria	38
Figure 24: Concurrent Incidents 2016–2019	39
Figure 25: Response Time Continuum.....	40
Figure 26: NFPA 1710 Standards for Fire/EMS Responses	41
Figure 27: Call Processing Time Performance 2016–2019.....	42
Figure 28: Turnout Time Performance 2016–2019.....	43
Figure 29: Travel Time Performance 2016–2019	44
Figure 30: Response Time Performance 2016–2019	45
Figure 31: Total Response Time Performance 2016–2019	46

Figure 32: Key Indicators, Esri 2020.....47

Figure 33: Orleans and Surrounding Community’s Population, Median Income, Per Capita Income, and Median House Value Comparison: 2017.....47

Figure 34: Total Taxable Values FY 2014-2018 48

Figure 35: Town of Orleans Property Tax Rate FY 2014-2018 49

Figure 36: Tax Levy Percentage of Total Assessed Values, 2016-2020 49

Figure 37: Override Capacity as a Percentage of the Levy Ceiling.....50

Figure 38: Excess Levy Capacity as a Percentage of the Maximum Annual Levy Limit 51

Figure 39: Certified Free Cash as a Percentage of the Annual Budget52

Figure 40: Stabilization Fund as a Percentage of the Budget..... 53

Figure 41: Orleans Fire Department Annual Budget: 2015-2020.....54

Figure 42: Annual Change in Fire Department Expenditures: 2015-2020..... 55

Figure 43: Orleans Fire Department Annual Expenditures and Overtime: 2015-2019 55

Figure 44: Fire Department Budget Overview: 2015-2019.....56

Figure 45: Billing and Collection Summary for EMS Transports: 2016-2019 57

Figure 46: EMS Transport Payor Mix: 2017-2019 57

Figure 47: Ratio of EMS Responses Resulting in a Transport vs. Non-transport, 201958

Figure 48: High Priority Transports, 8/1/2018 – 6/30/201959

Figure 49: Internal Survey: Morale 62

Figure 50: Financial Impact of Staffing Configurations with a 37% Fringe Benefit Rate65

Figure 51: Financial Impact of Staffing Configurations with no Fringe Benefits Added..... 66

Figure 52: Comparison of Calculated Shift Staffing Costs versus Actual FY 2019 Expenditures..... 66

Figure 53: Costs of Staffing Ambulances with a Captain, Senior Private, and Firefighter Versus 2 Paramedics 68

Figure 54: Orleans Fire Department General Recommendations 71

Figure 55: General Training Competencies.....79

Figure 56: Training Program Administrative Components 80

Figure 57: Training Records & Recordkeeping81

Figure 58: Critical Issues Regarding Training83

Figure 59: Ten-Year General Fire Loss..... 88

Figure 60: External Survey Question 1..... 90

Figure 61: External Survey Question 1 Results..... 90

Figure 62: External Survey Question 291

Figure 63: External Survey Question 2 Results91

Figure 64: External Survey Question 3 92

Figure 65: External Survey Question 3 Results93

Figure 66: External Survey Question 493

Figure 67: External Survey Question 4 Results 94

Figure 68: External Survey Question 5 94

Figure 69: External Survey Question 5 Results 94

Figure 70: External Survey Question 6.....95

Figure 71: External Survey Question 6 Results.....95

Figure 72: External Survey Question 795

Figure 73: External Survey Question 7 Results95

Figure 74: External Survey Question 1 96

Figure 75: Internal Survey Question 1 Results..... 96

Figure 76: Internal Survey Question 2..... 96

Figure 77: Internal Survey Question 2 Results..... 97

Figure 78: Internal Survey Question 397

Figure 79: Internal Survey Question 3 Results.....97

Figure 80: Internal Survey Question 4 98

Figure 81: Internal Survey Question 4 Results 98

Figure 82: Internal Survey Question 5 98

Figure 83: Internal Survey Question 5 Results 99

Figure 84: Internal Survey Question 6 99

Figure 85: Internal Survey Question 6 Results 99

Figure 86: Internal Survey Question 7 99

Figure 87: Internal Survey Question 7 Results.....100

Figure 88: Internal Survey Question 8100

Figure 89: Internal Survey Question 8 Results..... 101

Figure 90: Internal Survey Question 9 101

Figure 91: Internal Survey Question 9 Results102

Figure 92: Internal Survey Question 10102

Figure 93: Internal Survey Question 10 Results 103

Figure 94: Internal Survey Question 11..... 103

Figure 95: Internal Survey Question 11 Results.....104

Figure 96: Internal Survey Question 12105

Figure 97: Internal Survey Question 12 Results.....	106
Figure 98: Internal Survey Question 13.....	106
Figure 99: Internal Survey Question 14	107
Figure 100: Internal Survey Question 14 Results.....	107
Figure 101: Internal Survey Question 15	108
Figure 102: Internal Survey Question 15 Results.....	108
Figure 103: Internal Survey Question 16	109
Figure 104: Internal Survey Question 16 Results.....	109
Figure 105: Internal Survey Question 17	109
Figure 106: Internal Survey Question 17 Results.....	109
Figure 107: Internal Survey Question 18	109
Figure 108: Internal Survey Question 18 Results.....	110
Figure 109: Internal Survey Question 19.....	110
Figure 110: Internal Survey Question 19 Results.....	110
Figure 111: Internal Survey Question 20	110
Figure 112: Internal Survey Question 19 Results.....	110