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ADAMS FIRE DISTRICT FIRE DEPARTMENT

ORGANIZATIONAL ASSESSMENT

JUNE 2021

I. PROJECT OVERVIEW, PURPOSE, SCOPE, AND METHODOLGY

PROJECT OVERVIEW

The Adams Fire District (District) contracted with Municipal Resources, Inc. (MRI) to provide an organizational assessment and review of the manner in which fire and rescue services are provided within the community. The MRI team reviewed a number of organizational areas including the manner in which fire services are provided within the District. To accomplish this goal, the team developed a target hazard analysis, reviewed response metrics, evaluated the current facility, apparatus, budget, and conducted a number of interviews with various stakeholders.

Based on observations the project team has developed a number of recommendations for improvement that take into consideration the current and future needs of the Adams Fire District Fire Department (AFDFD). This report also provides a series of recommendations for the appropriate modifications of service delivery systems to provide the desired level of fire services to the District and the area protected under an intermunicipal agreement. This project will address the following four key questions:

1. Is the AFDFD able to meet present and future needs of the community and region?
2. What are ways to improve the AFDFD and to position it to meet future needs?
3. What are ways to improve the quality of service to the community as well as the efficiency and cost of such provision?
4. How does the current and future needs impact the strategic planning necessary to maintain a viable fire district based public safety organization?

SCOPE OF WORK

This study required the involvement of a number of key stakeholders within the District. This included conducting interviews with the District Prudential Committee, District Leadership including the Chief Engineer, Assistant Engineers, officers and firefighters, and other fire district personnel. This study was focused to determine whether the existing organizational model, staffing, facilities, apparatus, and equipment of the AFDFD are in line with generally accepted standards, and how the Fire Department compares to peer organizations. The project team reviewed the background information that impacts the AFDFD and performed a comparative analysis with other similar organizations. Items that were considered as part of this evaluation included:

A. The history, governance, and organization of the AFDFD;
B. Review of staffing levels and types of staffing used;
C. Community demographics and population;
D. Target fire hazards (residential, industrial, educational, and municipal features of the community);
E. Property values;
F. Services provided by the AFDFD.
G. Special hazards and risks (i.e., nursing homes, assisted living facilities, lakes, rivers and waterfronts, industrial facilities, hotels, road networks, and multi-story buildings);
H. Budgets;
I. Deployment strategy of manpower and apparatus by type of incident.

The MRI project team, evaluated the overall operations of the AFDFD to identify what works and what does not work:

- Analyzed resources and equipment;
- Reviewed budget and expenditures;
- Reviewed practices and policies of the Department;
- Analyzed call volume against the availability of resources;
- Reviewed the hours of the Chief Engineer;
- Reviewed organizational structure for appropriateness;
- Assessed the Department's on-call staffing, and recruitment and retention efforts that exist within the community;
- Identified major issues and concerns of the community regarding the operations of the Adams Fire Department;

- Achieved an understanding and appreciation of the values and "personality" of the community and the local government;
- Formed an understanding of the community's needs, wants, and desires regarding fire services in the future;
- Discussed planning for a strong partnership between the community and the Fire Department into the future;
- Identified potential areas of risk/liability and made recommendations to reduce those exposures.

Although this project was elongated by the Covid-19 pandemic, much of this plan of service was done face-to-face, during the on-site visit by MRI's project team. The project team spent time on-site; making observations, inspecting facilities, equipment and records and conducting interviews. In addition, a tour of the community as well as the identification of target hazards within the community was conducted.

The current Fire Department facility was evaluated for the requirements necessary to accommodate current and future staffing. In addition, the project team reviewed facility maintenance and key operational features including the isolation of protective clothing, decontamination for protective clothing and EMS equipment, and the general overall condition of the building.

The project team also conducted a review of the current organizational structure, command structure, and solicited input from department members to obtain further information on current operations of the AFDFD. The overall goal of this review was to identify current issues and challenges, as well as potential threats that could impact the Department's success in the years to come.

METHODOLOGY

Upon completion of the review, the project team has developed a series of recommendations for improvement that take into consideration the current and future sustainability and needs of the AFDFD, and the level of service provided to the District and the adjacent response area protected under an intermunicipal agreement. This report also considers the presence of regional resources. MRI has recommended appropriate modifications to the AFDFD delivery system to optimize response time and maintain the service level expected by the District. This document anticipates how current and future needs will impact the location and/or expansion of physical facilities and equipment, and whether the current fire and rescue staffing is appropriate to meet the goals outlined above.

Specific items addressed, included but were not limited to, the following:

A. Identified service needs, based on the characteristics of the community, statutory

and regulatory requirements for response and delivery, and comparison with current ability to fulfill the needs and expectations.

B. Identified the public safety risks and prioritize the level of risk that must be covered based on the data and operations of the fire and EMS operations. The type, frequency, distribution, response times, mutual aid and/or contractor provided services, staffing policies, reporting of emergency and routine responses to all services was included.

C. Assessed the current staffing plan for deploying the required number of fire officers and supervisors, along with vehicles and apparatus used and recommended cost-effective alternatives based on the type of incident. Evaluated whether there were recommended changes to improve efficiency and delivery of service.

D. Evaluated the response of personnel, including appropriate operational staffing, supervisors, management, and support staff, starting with the initial call for routine or emergency services, through generating the incident report and findings, and any subsequent proceedings such as court appearances, legal action, or insurance resolution or inspection.

E. Identified the required staffing levels that meet the needs of the community in the most cost-effective and complete manner including operating costs, personnel impact, and impact on the delivery of service and workload.

F. Evaluated the current fire facility to determine if it is a functional platform for the AFDFD. Identified facility needs in terms of critical operational components. Identified the viability of the facility to provide an effective base of operations for the next five years. Reviewed a previous facility study completed in 2008 to evaluate its current validity to current needs.

G. Conducted an evaluation of fire departmental policies and procedures that impact the efficient operations of the AFDFD. Included possible recommendations that may improve the current policies, procedures, training, and delivery of services in the most cost-effective manner.

H. Reviewed and commented on on-call recruitment and retention efforts within the District.

To accomplish these tasks, the project team utilized the following ten methodologies:

1. Reviewed pertinent service demand data

2. Conducted a review of response activity
3. Toured the community and reviewed target hazards
4. Evaluated fire service facilities and equipment
5. Interviewed the Prudential Committee
6. Interviewed the Chief Engineer
7. Interviewed a sampling of fire officers and firefighters
8. Interviewed several other stakeholders within the District
9. Reviewed various fire department documents and budgets
10. Developed study report.

II. COMMUNITY RISK ASSESSMENT

OVERVIEW

The Town of Adams covers 23.0 square miles of land and 0.08 square miles of water within northern Berkshire County. The Town is located in the upper northwest corner of Massachusetts. Adams is in proximity to the border with Vermont to the north and New York to the west. According to the 2010 census, the Town has a resident population of 8,377 residents with a population density of 381 persons per square mile. [1]

The Town has a household median income of $41, 940 (2017). The median age of Adams residents is 41 years old. The largest percentage of residents by age category are those in the 25 to 44 years of age range at 26.9%. Residents in the age range of 65 to 74 years of age make up 20.4 % of the residents in Adams.

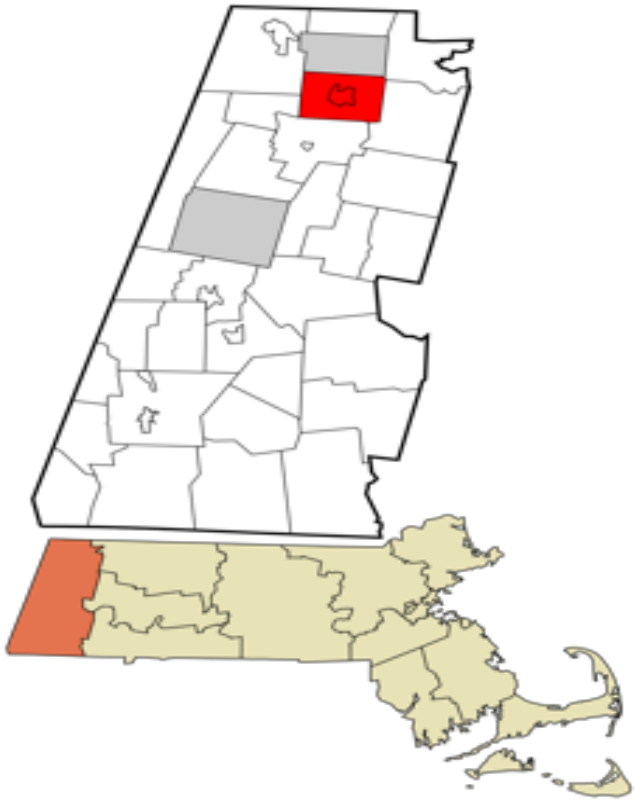

Figure II-1
Map of Adams MA

[1] *Wikipedia, "Adams Massachusetts, 2020*

Figure II-2
Adams Fire District Headquarters
3 Columbia Street
Adams Mass

AFDFD provides a wide variety of fire and rescue services. Services provided include both firefighting and rescue services such as vehicle extrication and limited technical rescue. First responder medical service is provided by the Fire Department with transportation and Advanced Life Support care (ALS) provided by Adams Ambulance Service Inc., a separate not for profit organization.

The AFDFD operates from a single existing fire station which is located at 3 Columbia Street in the District building. Fire Headquarters was occupied in 1960 and has served the community for 60 years. The two-story fire station has approximately 4,196 square feet of working space on the first floor for the AFDFD. The fire station holds five pieces of fire apparatus including two engines, one ladder, a rescue, and a utility vehicle.

The second floor of the fire station contains a meeting room, kitchen, bathroom and two other office type rooms. The second floor consists of just under 3,000 square feet of space. The basement area of the District building is utilized by the Adams Fire District Water Department (AFDWD) for vehicle and equipment storage. This basement area consists of approximately 6,700 square feet of area in which has a garage exit on Depot Street. The District administration have

their offices within the District building in a separate 2,550 square foot area on one side of the building.

Figure II-3
Adams Fire District Fire Department Apparatus

COMMUNITY RISK ASSESSMENT

Fire and rescue services generally have a common overall mission - the protection of life and property - however fire service organizations operate in communities with differing risk profiles and service expectations. Each individual fire service organization has very different operational needs, based upon a unique community risk profile, service demands, and stakeholder expectations present in the community. A basic assessment was done for this review and it should be understood that a thorough Community Risk Assessment should be done and would consist of minimum of 21 to 30 days to complete with a greater amount of time studying all aspects of the town including individual structures, water supply systems etc. Overall, the project team's assessment is that the District faces a moderate to high risk profile that is further detailed in (Figure II-23).

A community risk assessment is a comprehensive process to identify the hazards, risks, fire and life safety problems and the demographic characteristics of those at risk in a community. In each community there are numerous hazards and risks to consider. For each hazard there are many

possible scenarios and potential incidents that could be encountered depending on timing, magnitude, and location of the hazard or incident. A thorough risk analysis provides insight into the worst fire and life safety problems and the people who are affected. The analysis results create the foundation for developing risk-reduction and community education strategies.

Conducting a community risk analysis is the first step toward deciding which fire or injury problem needs to be addressed. Risk analysis is a planned process that must be ongoing, as communities and people are constantly changing. Too often, an objective and systematic community risk analysis is a step that is overlooked in the community education process. Many emergency service organizations address risks based on a perceived need for service that isn't there. This approach can be costly (i.e., misdirected resources, continued property loss, injuries or deaths)[2]. In short, a good community risk assessment will produce a picture of what the hazards and potentials for incidents are, identify who is at risk, and attempt to quantify the expected impacts (Figure II-4).

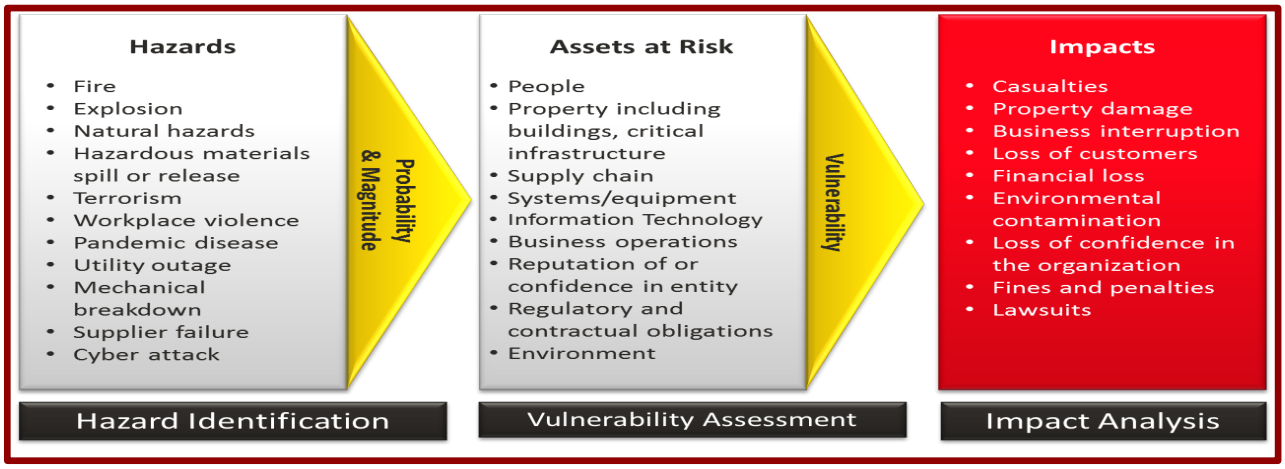

Figure II-4
Risk Assessment Process
Image credit: www.ready.gov/risk-assessment

Understanding the definition of hazards and risk is critical to the risk assessment process. Hazards are physical sources of danger that create emergency events. Hazards can be items such as buildings, roadways, weather events, fires, etc. Risks relate to the probability of a loss due to exposure to a hazard. People and property can be at risk. Consequences to the community are also factors to consider. Each of these factors is assessed during the community risk process.

A fire risk assessment is performed by assessing such factors as the needed fire flow, probability of an incident, consequences of an incident, and occupancy risk. The "score" established is then utilized to categorize the area…or even individual properties…as one of low, moderate, or high/maximum-risk. This categorization can assist the AFDFD with establishing fire risk and

[2] https://www.usfa.fema.gov/downloads/pdf/coffee-break/fm/fm_2014_2.pdf February 5, 2016

demand areas or zones. Having this information readily available provides the community and the Fire Department with a better understanding of how fire stations, response run cards, and staffing patterns can be used to provide a higher concentration of resources for higher risk scenarios or, conversely, fewer resources for lower levels of risk.[3] The community fire risk assessment may also include determining and defining the differences in fire risk between a detached single-family dwelling, a multifamily dwelling, an industrial building, and a high-rise building by placing each in separate category.

The community risk and vulnerability assessment evaluate the community as a whole and measures all property and the risk associated with that property and then classifies the property as either a high, medium, or low hazard.

According to the NFPA Fire Protection Handbook, these hazards are defined as:

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

Medium-hazard occupancies: Apartments, offices, and mercantile and industrial occupancies not normally requiring extensive rescue by firefighting forces.

Low-hazard occupancies: One-, two-, or three-family dwellings and scattered small business and industrial occupancies[4].

The NFPA also identifies a key element of assessing community vulnerability as fire department operational performance which is comprised of three elements: **resource availability and reliability, department capability, and operational effectiveness**[5].

Resource availability/reliability: The degree to which the resources are ready and **available** to respond.

Department capability: The ability of the resources deployed to manage an incident.

Operational effectiveness: The product of availability and capability. It is the outcome achieved by the deployed resources or a measure of the ability to match resources deployed to the risk level to which they are responding.[6]

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[3] Fire and Emergency Service Self-Assessment Manual, Eighth Edition, (Center for Public Safety Excellence, 2009), p. 49.
[4] Cote, Grant, Hall & Solomon, eds., Fire Protection Handbook (Quincy, MA: National Fire Protection Association, 2008), p. 12.
[5] http://www.nfpa.org/assets/files/pdf/urbanfirevulnerability.pdf.
[6] National Fire Service Data Summit Proceedings, U.S. Department of Commerce, NIST Tech Note 1698, May 2011.

The implementation of successful community risk reduction strategies after completion of a community risk assessment are linked directly to prevention of civilian and firefighter line of duty deaths and injuries. In fact, they directly address goals found in firefighter Life Safety Initiatives 14 and 15. Virtually every risk reduction program in the fire and emergency services will have elements of what are called "The 5 Es of Prevention". These include:

Figure II-5
The five "Es"

Education ▪ Enforcement ▪ Engineering Economic Incentives ▪ Emergency Response

Understanding and addressing only one element will not lead to a successful program. All five "Es" must be integrated into every program for it to be effective[7] (Figure II-5). ***Strong fire prevention codes have been shown to be an extremely effective means to reduce risk in a community.*** **The enforcement of fire prevention codes requires the investment in having someone consistently available to build upon and identify the life safety and fire prevention programs within the District.** Fire alarm and sprinkler systems mandates for not only commercial buildings, but all occupancies including single family dwellings, dramatically reduce fire risk and increase life safety. Code implementation that doesn't require these, creates an increased risk. Strong code provisions and enforcement have demonstrated a greater ability to decrease fire problems than continuing to acquire more traditional fire department resources.

INSURANCE SERVICES ORGANIZATION (ISO) *RATING*

The Town currently has an Insurance Services Office (ISO) rating of **03/3X** which is an exceptional accomplishment. ISO is an independent risk company that services insurance companies, communities, fire departments, insurance regulators, and others by providing information about the risk. ISO's expert staff collects information about municipal fire suppression efforts in communities throughout the United States. In each of those communities, ISO analyzes the relevant data and assigns a Public Protection Classification – a number from 1 to 10. Adams is one of 3,456 communities that is classified as a Class 3 community. This Class rating places the community on the higher end of having a commendable fire suppression program for its size. A Class 1 community represents an exemplary fire suppression program, and Class 10 indicates that the area's fire suppression program does not meet ISO's minimum criteria.

The Public Protection Classification (PPC) program provides objective countrywide criteria that may prove helpful in connection with fire departments and communities, planning and budgeting

[7] http://www.beaherosaveahero.org/2013/10/community-risk-reduction-crr-overview/ February 5, 2016

for facilities, equipment and training. When companies have fewer or lower claims to pay, the premiums they collect can be lower. Therefore, by recognizing the potential effect of improved fire suppression on fire insurance losses, in that respect, the PPC program can often serve as an objective mechanism that can help recognize communities that choose to maintain and improve their firefighting services.

PPC can also be an important factor in overall community resilience and provides a consistent measurement tool that can help in these efforts, from the structural fire response perspective. Given the potential effect on fire insurance rates, the PPC could also be a factor considered by some businesses and developers to determine where to make investments.

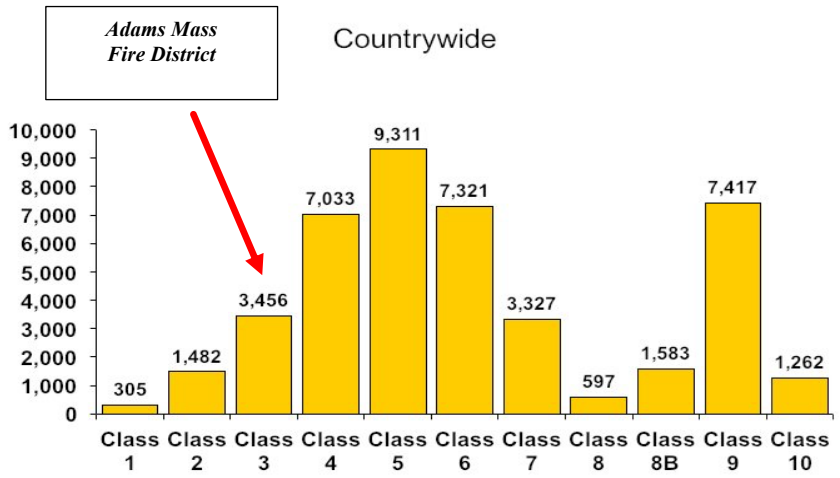

Figure II-6
ISO Grading Chart USA
2017

While ISO's primary focus is to measure the effectiveness of a community's ability to respond to first alarm structure fires for insurance purposes, there are many derivative benefits. These include providing a statistically-proven method of measuring performance; a methodology that can help as part of planning, budgeting for and making improvements; a tool that can be used to further the concept of community resilience; and a metric that can help encourage investment in a community.

The MRI project team reviewed the Insurance Services Office (ISO) report of May 2015. The Public Protection Classification used by ISO has three main components including the following:

1. Fire Department Capability
2. Water Supply

3. Emergency telecommunications

While the PPC grading can provide insurance underwriters with a snapshot of a community's risk, it also provides a community with a comparative perspective on fire service capability within the community. The Fire Department grading accounts for 50% of the total classification. ISO focuses on a fire department's first alarm response and initial attack capability that could minimize a potential loss. The rating for the Fire Department includes equipment, staffing, training, geographic distribution of fire companies, operational considerations, and community risk reduction.

Out of a potential 50 points under the PPC Fire Department classification, the District was awarded 30.94 points out of a possible 50 points. The two most prevalent identified as needs to improve, were in the Company Personnel and Training category. Overall, the PPC classification awarded was based on earned credits of 71.55 out of a possible 105.50 points.[8]

Further information on the ISO rating system is located at: https://www.isomitigation.com/ppc/fsrs/.

ADAMS FIRE DISTRICT FIRE DEPARTMENT

The AFDFD consists of 32 members composed the following members:

- 1 Chief Engineer
- 4 Assistant Engineers
- 6 Lieutenants
- 10 Firefighters
- 6 Firefighter/EMTs
- 2 Apprentices
- 3 Support Members

[8] *Public Protection Classification Summary Report, Adams Fire District, May 2015 prepared by Insurance Services Office, Inc. Mt. Laurel, New Jersey*

Figure II-7
Adams Fire Department Members

The Fire Department provides services of fire suppression including residential, commercial, and woodland properties. There is an autonomous Forest Warden Position and Forest Warden Department that is not part of the District which will be discussed further in the report.

The various types of fire department staffing are listed and defined below. Many departments have a hybrid make-up of the types of staffing and the determination of how this is made up is made by the department's administration and as budgets are approved by its residents.

- *Full-time – paid staff that works a minimum of 30 per week on a set schedule with benefits. The minimum number of hours is determined by the Fair Labor Standards Act and the Affordable Care Act.*
- *Part Time – paid staff that work generally from 1- 29 hours per week on a flexible schedule without a benefit package.*
- *Per-diem – Staff this is paid an hourly wage and generally works a set number of hours or shifts and have no benefits.*
- *Paid on call – Many departments pay their staff in several different ways. Some staff are paid an hourly wage and others are paid a stipend that is configured in a variety of ways. There is not set hours of work and no benefits. Based on our experience, In Massachusetts*

the pay scale for on-call personnel typically ranges from $15.00 to $ 20.00 per hour for a ProBoard certified firefighter and $18.00 - $23.50 for fire officers.

- *Volunteer Staff- are just that…. Volunteers. They are not compensated for any hours worked or receive any stipends or any other compensation. Although in title many departments have moved from this model to some type of compensation for services provided.*

The number of personnel listed in a call fire department can often be misleading, as within the ranks only about one-half to one-quarter of these personnel are truly active and respond to emergencies. MRI verified this with the Fire Chief and through review of response records. The AFDFD is not immune to this nationwide fire service challenge in the recruitment and retention of firefighters.

In addition, it should be expected that the roster of members continually fluctuates due to hirings and resignations. There is a growing nationwide gap in a community's ability to recruit and retain paid-on-call firefighters. Much of the gap is due to the heavy demands placed on on-call firefighters to balance their full-time career, family, and the rigorous and time-consuming requirements for certification as a firefighter. This growing dilemma is expected to continue leaving communities without the ability to provide adequate fire and emergency medical services to the community.

Another area noted was the age of current AFDFD Members. Clearly there are older than younger members. These older members have been with the Fire Department for a number of years. This is quantified by the statistics analyzed and the results of the current low response to fire and EMS emergencies. This area of concern is discussed in detail later in this report.

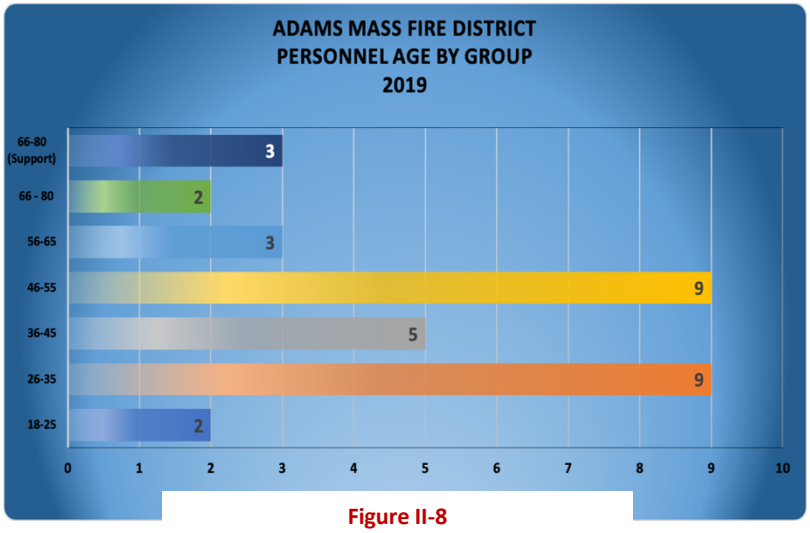

Figure II-8
Adams Fire District Fire Department
Members by Age

For the year ending December 2019, AFDFD responded to 372 calls for service. There were 15 incidents classified as structure fires and 1 other type of fire during the year. The largest category of calls was related to fire alarms to which the District responded to approximately 99 calls. Given the number of facilities and other businesses, these numbers of calls for fire alarms are consistent with what would be expected in a community of this size. Fire alarms typically result in a false alarm or system malfunction. The key to the reduction of false fire alarm activations is the ability of local fire officials to work closely with alarm system holders to assure their systems are verified, maintained and inspected annually.

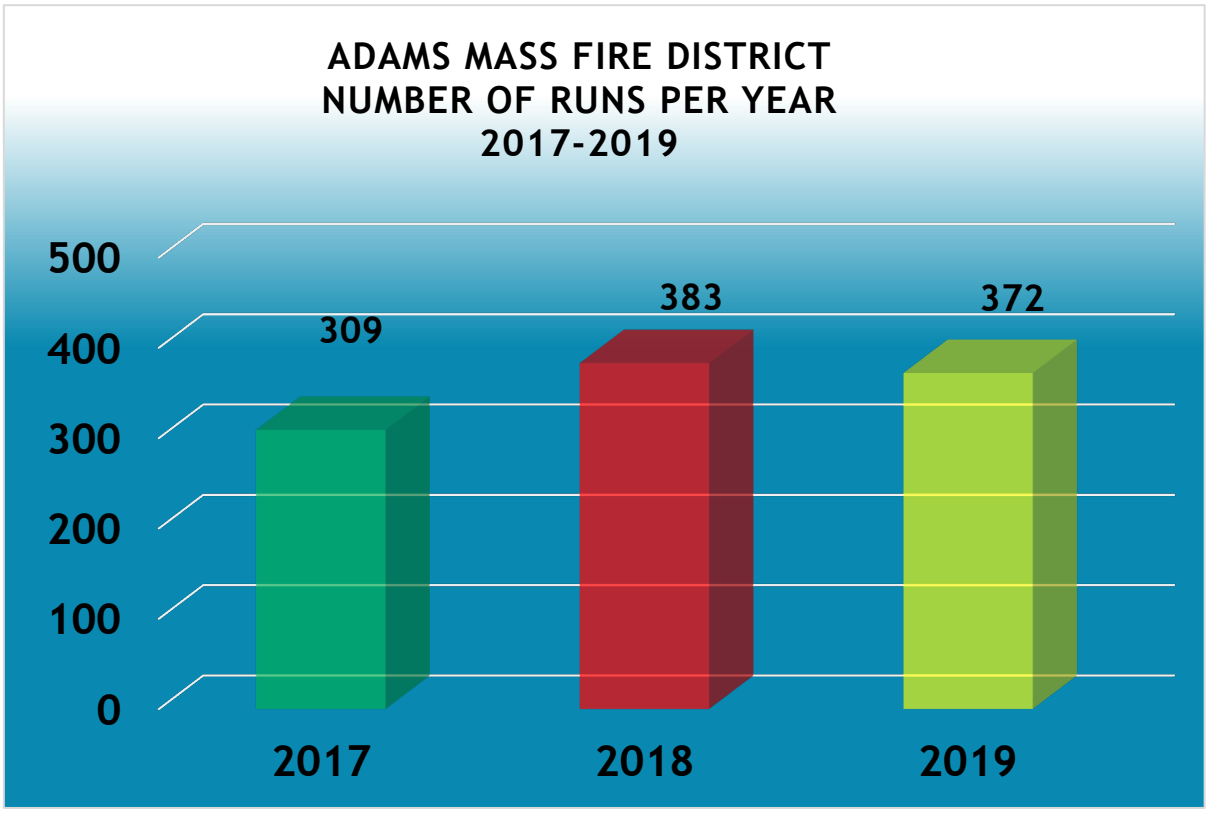

Figure II-9
Adams Fire District Fire Department Incidents
2017-2019

The three-year period from 2017 to 2019 reveals an average of 355 calls for service per year. The AFDFD 2019 operating budget, direct cost was approximately $183,401.15. The direct cost budget excludes a 30% contribution to the District's indirect expenses.

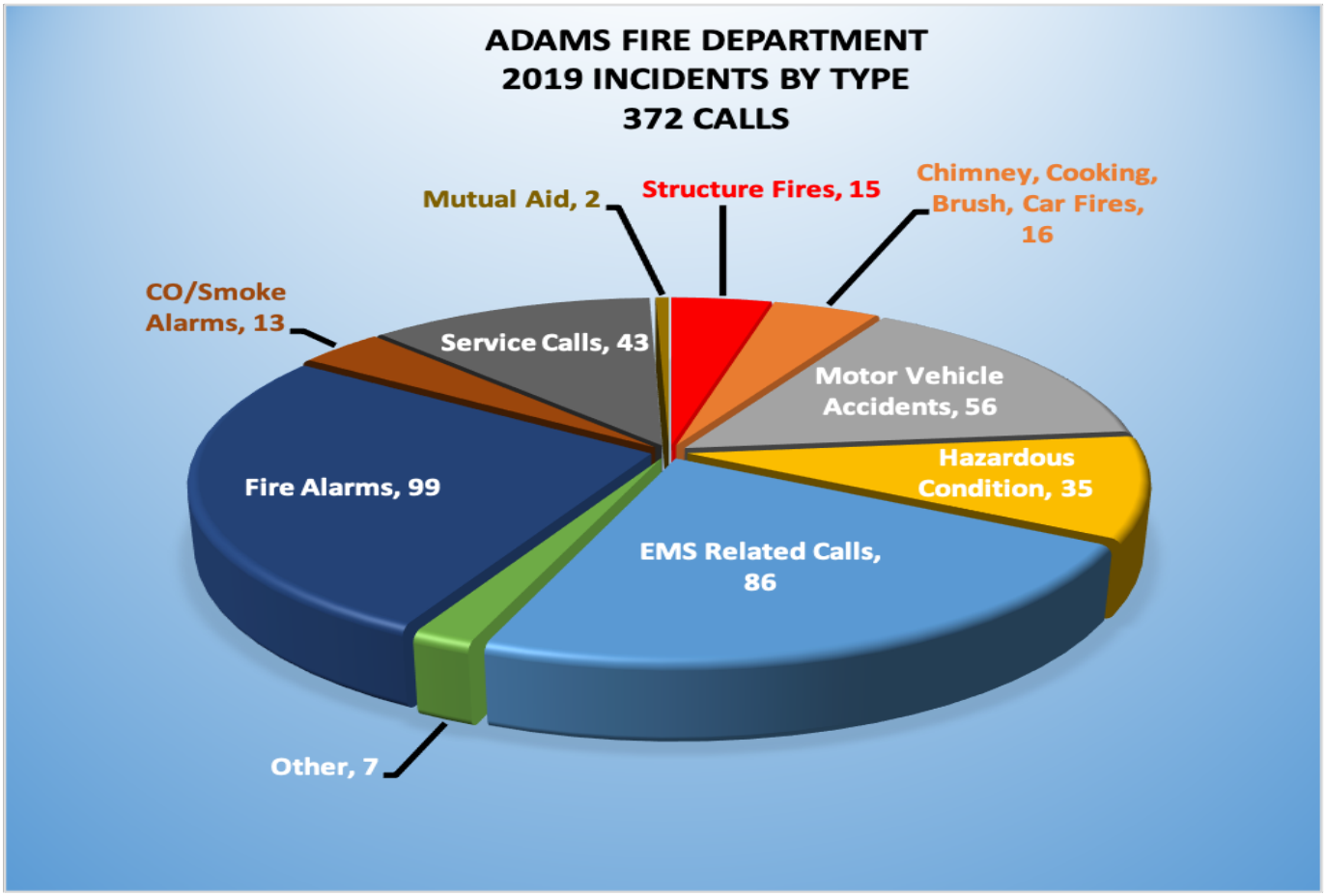

Figure II-10
Adams Fire District Fire Department 2019
Incidents by Type of Call

OBSERVATIONS

The MRI project team conducted a basic fire safety risk assessment of the response area. The greatest fire safety concern is the potential life loss in fires that occur in non-sprinklered, single and multi-family residential dwellings during sleeping hours, which is consistent with national trends. These fires are fueled by new "lightweight" construction and more flammable home contents.

Figure II-11
Image of the Town of Adams

In a series of studies conducted by Underwriters Laboratories (UL) researchers suggested that the time to escape a house fire has dwindled from about 17 minutes 20 years ago, to 3 to 5 minutes today. This poses a severe risk not only to occupants, but also to firefighters as they now have less time to do their job and save residents' lives and property.

Although the Town is a community that was at one time rural in nature, it is transitioning into more of a suburban nature. Adams provides an interesting mix of challenges and hazards that must be protected by its Fire Department. There are 3,992 households, (approximately 150 households reside outside of District boundaries) out of which 26.9% have children under the age of 18 living with them. Married couples are made up of 45% of the population and 17.7% were elderly residents. Although it remains primarily residential in nature, it does have remaining industry such as Specialty Minerals, that mines and processes limestone for calcium carbonate. This is used for antacids and food supplements, as well as paper whiteners and other industrial purposes. Adams also has limited light industrial operations, railroad transportation, and Mt. Greylock recreational area that the Fire Department is responsible for protecting through an Intermunicipal Fire Protection Agreement with the Town of Adams.

EXAMPLE TARGET HAZARDS

As noted previously the level of risk faced by a community can best be determined through a review of those occupancies that present unique challenges to the fire service. As the project team toured the response area they developed a risk profile for the community. Examples of the target hazards have been inserted on the following page:

Figure II-12
Specialty Minerals – Adams, Mass

Figure II-13
Adams Mass Housing

Figure II-14
The Spinning Mill Hoosac Street, Adams, Mass

Figure II-15
The Parish of Pope John Paul the Great

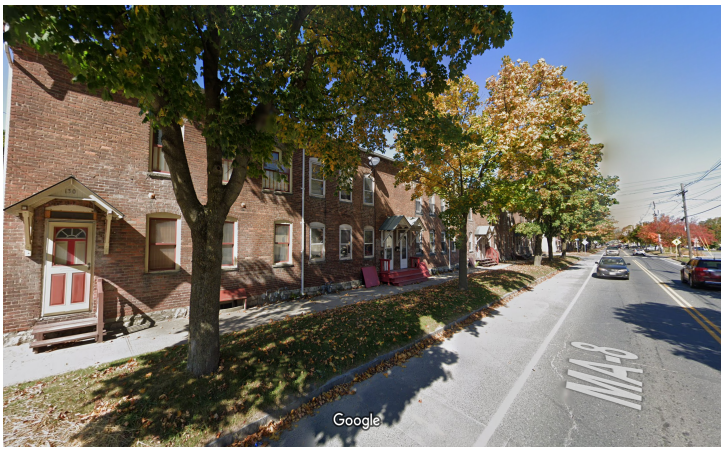

Figure II-16 Columbia Street, Rowe Housing, Adams, Mass

Figure II-17
Balloon Frame Residential Structure
Adams, Mass

Figure II-18
Hoosac train ride, Adams, Mass

The properties identified on the previous pages range from single and multi-family occupancies with no fire sprinkler or alarm systems, to fully protected commercial buildings. Many of these structures utilize older construction methods that can facilitate rapid and or hidden fire growth. The identification of specific fire protection features is not feasible, given the lack of sufficient preplanning technology and human resources that would be required to provide identification and inspection of these systems.

A fire sprinkler serves as a valuable asset, as these systems actually extinguish the fire, or, at a minimum frustrate fire growth and prevent flashover. These systems often hold a fire in the incipient stage until the Fire Department can fully mitigate the situation. The District should promote and advocate for the installation of fire sprinklers in both residential and commercial structures.

Studies conducted between 2007-2011 of fires in all types of structures, showed that when sprinklers were present in the area of fire origin sprinklers operated 91% of the time. When they operated, they were effective 96% of the time, resulting in a combined performance of operating

effectively in 87% of reported fires where sprinklers were present. ***In homes (including apartments), wet-pipe sprinklers operated effectively 92% of the time. When wet-pipe sprinklers were present in the fire area in homes that were not under construction, the fire death rate per 1,000 reported structure fires was reduced by 82%, and the rate of property damage per reported home structure fire was reduced by 68%.*** *In all structures, not just homes, when sprinklers of any type failed to operate, the reason most often given (64% of failures) was due to the system being shut off before fire began*[9].

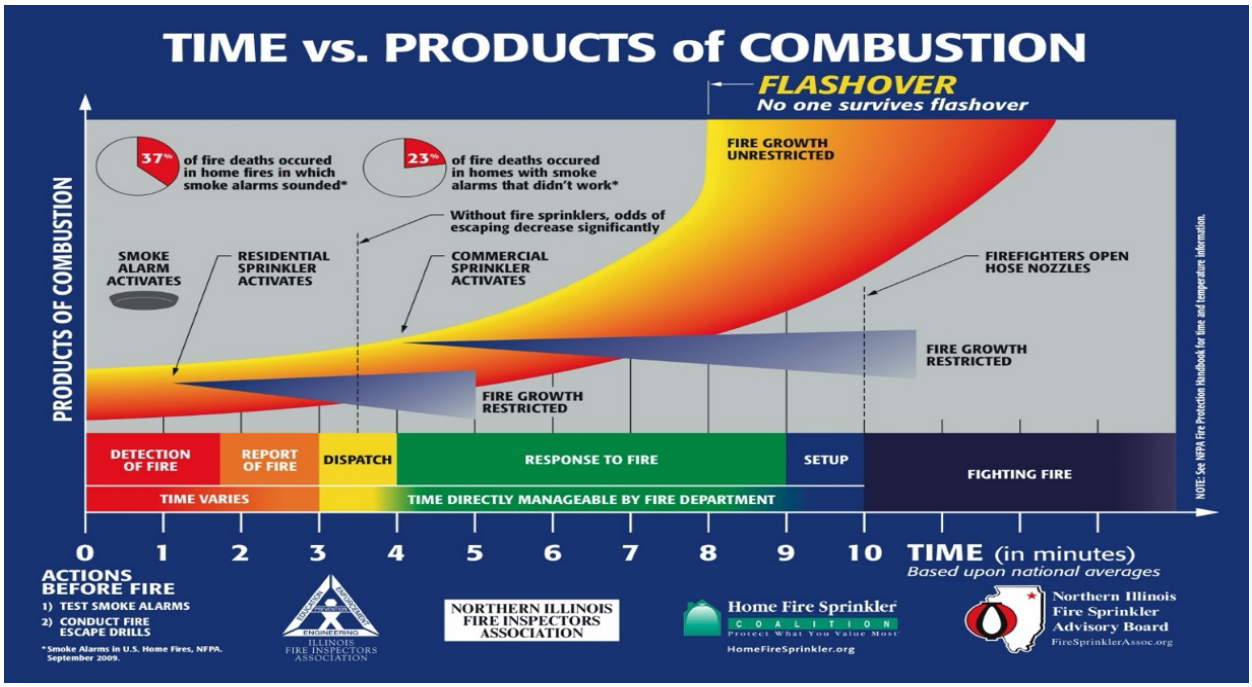

Figure II-17.
Time versus products of combustion curve showing activation times and effectiveness of residential sprinklers (approximately 1 minute), commercial sprinklers (4 minutes), flashover (8 to 10 minutes) and firefighters applying first water to the fire after notification, dispatch, response and set up (10 minutes).

Image credit: Northern Illinois Fire Sprinkler Advisory Board **http://firesprinklerassoc.org/images/newflashoverchart.jpg**

[9] *U. S. Experience with Sprinklers. John R. Hall, Jr. National Fire Protection Association, June 2013.*

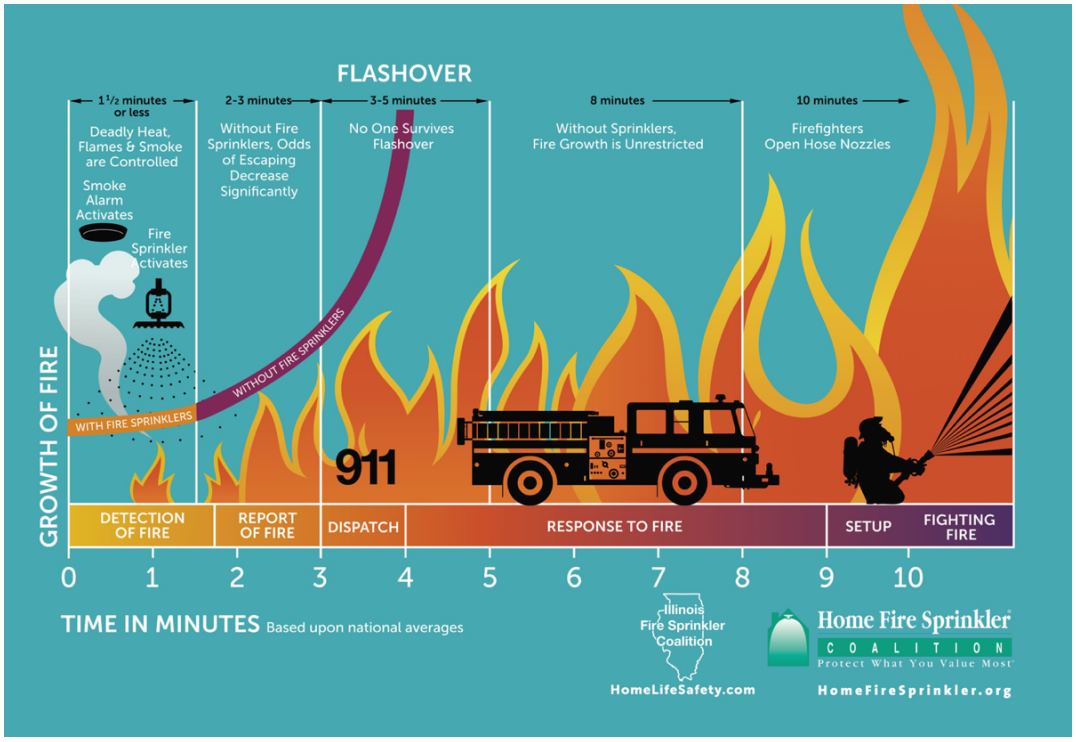

Figure II-18
Fire Growth – Fire Department Response Timeline

Like most communities, the District has various types of housing that is older, although still well maintained. Both single family residents and multi-unit apartment buildings can be found in the District. Most of these older residential occupancies are wood frame houses. There are also elderly housing units with mixed ages, as well as a group home, and homeless shelter. There are not any retirement or nursing homes.

Figure II-19
Millhouses of Adams Mass

In high life hazard occupancies, sprinkler systems greatly improve life safety for both residents and staff, and reduce the risk of a significant fire. However, as demonstrated in the November 2017 fire at Barclay friends Senior Living Community in West Chester, PA, even complete fire suppression systems cannot eliminate the possibility of a serious fire. This is particularly true if the sprinkler systems are not designed to protect non-living areas such as building attics. While the fire risk for a facility like this may be relatively low, the potential consequences should one occur, are high.

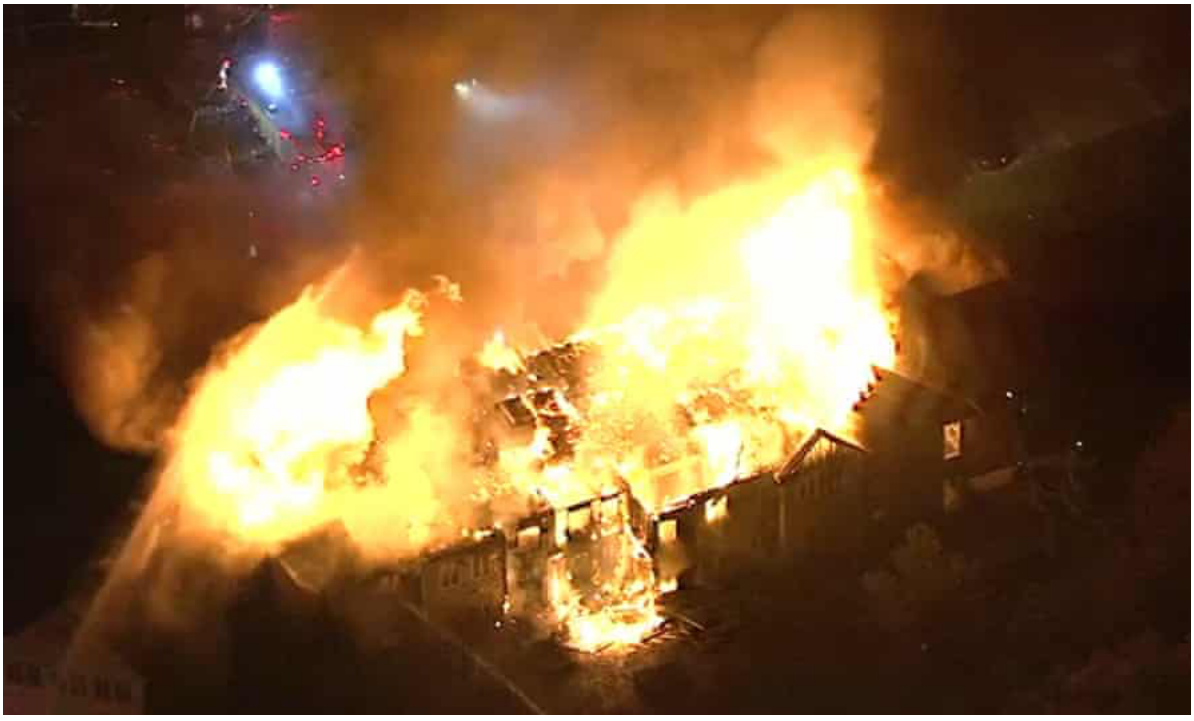

Figure II-20
Fire at Barclay Friends Senior Living Facility
Wester Chester, PA

The District is fortunate to be served by an excellent water supply system. Figure II-21 shows that while the central core and highly populated areas of the community are served by fire hydrants; there are some areas of the community that are not protected by the municipal water supply system. Development of an adequate water supply for firefighting purposes is perhaps the most critical, non-safety aspect of firefighting operations.

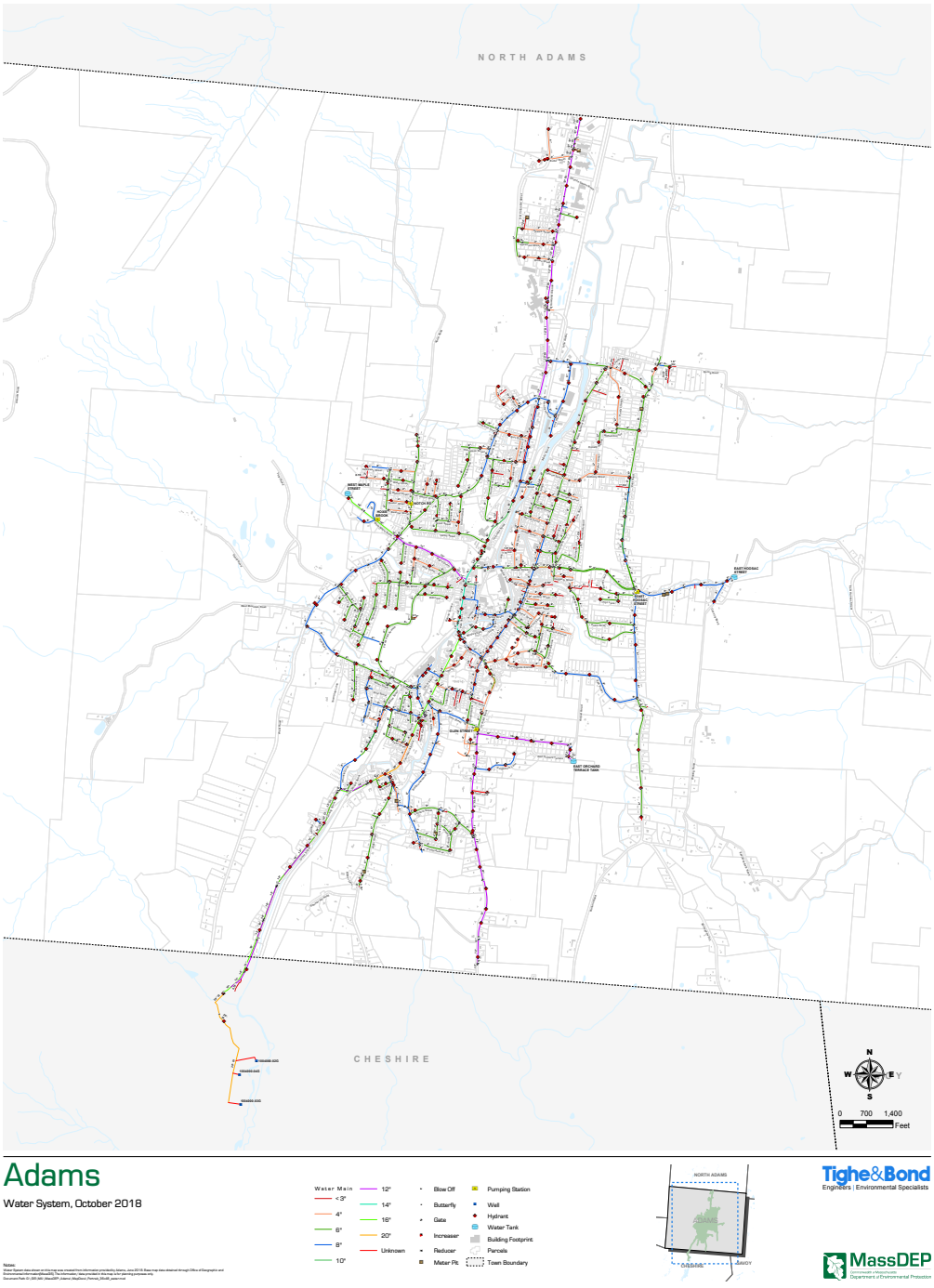

Figure II-21
Map of the District Water Supply System

If an adequate water supply cannot be established quickly and maintained, effective firefighting operations will simply not be possible. Rural communities that do not have a municipal pressurized water supply must supply their needs from other sources. Sometimes static water sources (lakes, rivers, ponds, cisterns) are utilized to supply the needed water supply to fight a fire.

In cases where static water sources are not readily available and often even if they are, fire departments must utilize water tankers/tenders to carry or shuttle the needed water supply from the source to the incident scene. In communities without staffed fire stations such as the District, there is an inherent delay in the response to a building fire. This delay is due to the Fire Department members having to respond to the station to staff and respond with the apparatus. This inherent delay allows the fire to increase in size before the arrival of the Fire Department. This situation can exacerbate the need for an adequate and sustainable water supply.

As an alternative to extending the municipal water supply system to additional areas of the community, several Massachusetts communities that have developing areas that are not served by the municipal water supply system; use self-contained automatic fire suppression systems or water supply cisterns to hold water necessary for fire suppression operations. The requirements for these systems are detailed in several NFPA standards. This is an important fire and life safety initiative for the rural areas of a community (figure II-22).

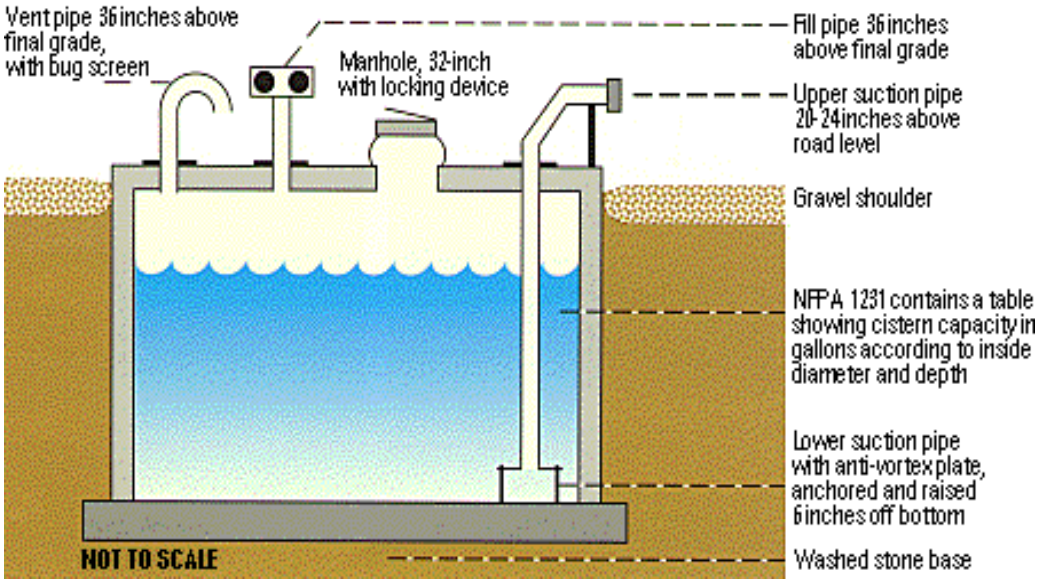

Figure II-22
Example Fire Cistern Design

The AFDFD should encourage the installation of residential sprinklers with developers, builders, owners, and discuss the benefits of these systems. In addition, through the Planning Board, the District should require that new development outside of the District, provide residential sprinklers, dry hydrants or cisterns for fire protection. There are several publications that the Fire Department can use as resources to market the benefits of residential fire suppression systems. The foundation of this information can be found within the National Fire Protection Association (NFPA) standards which guide design and installation of these critical systems.

The fire service further assesses the risk profile based on a number of factors. Properties with high fire and life risk often require the response of greater numbers of personnel and apparatus to effectively mitigate an emergency. Staffing and deployment decisions should be made with consideration of the level of risk within each area of a community.

Low Risk: Minor incidents involving small fires (fire flow less than 250 gallons per minute), single patient non-life-threatening medical incidents, minor rescues, small fuel spills, and small brush or outside fires.

Moderate Risk: Moderate risk incidents involving fires in single-family dwellings and equivalently sized commercial office properties (needed fire flow generally between 250 gallons per minute to 1,000 gallons per minute), life threatening medical emergencies, hazardous materials emergencies requiring specialized skills and equipment, technical rescues involving specialized skills and equipment, and larger brush and outside fires particularly if structures are exposed.

High Risk: High risk incidents involving fires in larger commercial properties with sustained attack (fire flows more than 1,000 gallons per minute), multiple patient medical incidents, major releases of hazardous materials, and high-risk technical rescues.

The potential emergency risks present in the District are not limited to just residential or commercial structural fire incidents. In the District the relative risk faced by the community is often impacted by weather, transportation, hazardous materials, and man-made disasters which add to the overall level of risk in the community.

The weather a community experiences can impact the Fire Department's ability to respond. Snow, ice, and other conditions can slow response. Major storms can create emergency situations that can overwhelm local emergency response forces. The Adams area enjoys a moderate climate typical of the New England region. However, severe thunderstorms, strong windstorms, and significant rain events happen several times in an average year. Tropical storms and hurricanes also occasionally impact the area. Snowfall is experienced annually and occasionally in amounts that can frustrate a timely response. Overall, the project team's assessment is that the District faces a moderate to high risk profile that is further detailed in (Figure II-23).

OCCUPANCY DESCRIPTION	RISK
Single Family Residential (unsprinkled)	*Moderate*
Multi-Family Residential (sprinkled)	*Moderate*
Multi-Family Residential (unsprinkled)	*High*
Institutional-Educational	*High*
Commercial (Retail and Office) (sprinkled)	*Moderate*
Commercial (Retail and Office) (unsprinkled))	*High*
Industrial	*Moderate/High*
Open Space	*Low*
Transportation Incident	*Moderate*

Figure II-23
Adams Fire District Fire and Life Safety Risk

The above information is intended to provide an overall community "snapshot" of the risk faced by the District. It is **not** intended to be applied to specific situations. Establishing the level of risk faced by a community is the foundation required for a community to develop the level of expected fire and rescue services. A moderate or high-risk designation does not infer that public safety is compromised or that significant safety concerns exist. The level of risk should be viewed as a tool that can guide the community, as decisions are made relative to the level of fire and rescue services that are necessary to provide the service level that is expected.

Ultimately, a comprehensive risk assessment should:

- Clearly identify and classify the District's current risks,
- Place the risks in context with the Fire Department's current operational capabilities and procedures,
- Reflect what the Prudential Committee feels is an acceptable level of risk for the District. The District should include the Town when discussing an acceptable level of risk, determining the standard of cover and overall level of service offered to the community.

Looking ahead, the Town of Adams is currently stagnant relative to growth and has experienced a slight population decrease. However, based on our tour of the area the potential of a small uptick in growth could occur based upon changes in the housing and commercial marketplace. While this development will have a definitive impact on the Town's emergency services, the exact amount is difficult to quantitatively and accurately predict. Increased development of any type will mean an increase in the number of people living, working, and traveling within the area. Each of these will reasonably be expected to result in an increased number of requests for services from the AFDFD. They can also impact response times through increased traffic and congestion.

It is likely, the most significant increase in requests for emergency services will be emergency medical service (EMS) related. More people simply increase the number of medical emergencies that occur. It would not be unreasonable to expect that the increase in EMS incidents would be proportional to the increase in population; however, that is not always the case. Although a number of demographic factors ultimately impact the volume of requests for EMS service, it could reasonably be anticipated that an increase in population, along with potential increases in employment from any significant commercial development, would translate into an increase in EMS incidents. While the AFDFD does not currently provide emergency medical transport and provides limited first responder assistance, MRI recommends the AFDFD includes emergency medical services training in their discussion when conducting strategic planning for the future.

FIRE DISTRICT FORMATION AND PRUDENTIAL COMMITTEE OVERVIEW

For the benefit of the general public who may review this report, the project team has included a short segment on the governance of the District. The District as now constituted was originally created by act of the State Legislature as, "The South Adams Fire District" by Acts and Resolves of 1873, Chapter 197; later changed to the "Adams Fire District" by the Acts of 1892, Chapter 222. The Act was for "Supplying South Adams with Pure Water". The Adams Fire District has always supplied the territory comprising the District with Water, Fire Protection and Street lights.

Title VII Chapter 48: FIRES; FIRE DEPARTMENTS AND FIRE DISTRICTS of the General Laws of the Commonwealth of Massachusetts provides the authority and governance structure of Fire Districts. Section 60 to 80 of Chapter 48 provides specific details on requirements and authority of Fire Districts. The governing body of the District consists of three Prudential Committee Members. There is a Chairman, Vice-Chairman, and the third person carries a member designation.

The District was established pursuant to a special act of the Legislature. The District is an independent entity not subject to the authority of the Select Board or the Town. It conducts its

own annual district meeting at which appropriations and other matters are approved.

RECOMMENDATIONS

II-1 The AFDFD should further develop and implement an internal risk management plan following the recommendations of NFPA 1500, Standard for a Fire Department Occupational Safety and Health Program, and NFPA 1250, Recommended Practice in Fire and Emergency Services Organization Risk Management. This management plan will assist in identifying the long-term needs of the Fire District related to reducing risk in the community.

II-2 The District should focus its future strategic planning efforts towards reducing risk. The District should develop staffing, facility, and apparatus needs based on that assessment.

II-3 To further define and identify definitive risks within the community the District will need to conduct a comprehensive risk assessment and incorporate the findings into a strategic plan for the future.

II-4 The District should continue to invest in technology-based records management and preplanning systems that provide first responders with site specific response information. As sufficient staffing/human resources do not exist to conduct a comprehensive preplanning effort, a part time position should be funded to provide peak staffing and populate, organize and periodically update operational pre plans.

II-5 The AFDFD should develop a long-term goal of implementing a compelling public education program that includes educating and discussing the benefits of installing residential fire sprinklers in new one- and two-family dwellings. This program should begin as a compensated part time or per-diem position.

II-6 The District should work with the Adams Planning Board to require that sufficient fire protection resources including residential sprinklers, cisterns and or dry hydrants be installed and maintained when development occurs in areas outside that are not covered by the municipal water supply system.

II-7 The AFDFD should work with Developers/Builders/Owners to consider the installation of automatic fire suppression systems, or fire water supply cisterns in new developments or in areas of the Town that are not covered by the municipal water supply system.

II-8 The District should adopt a False alarm by-law that has expectations and fines for continued issues with alarms with the fines coming back to the District.

III. STAKEHOLDER COMMUNICATIONS AND DIALOG

The ability of effectively communicating with stakeholders is a critical factor that is essential for the District to meet community service expectations in the future.

Despite the impact of the Covid-19 pandemic, the project team conducted one on one interviews with the three members of the Prudential Committee, the Chief Engineer, Assistant Engineers, Lieutenants, and a small group of firefighters. All of the stakeholders recognized the challenges facing the AFDFD. The top three responses encompassing the challenges included:

1. Recruitment and retention of on-call personnel
2. Facilities challenges
3. The reality of limited fiscal resources

During interviews, AFDFD fire officers and representation from the membership discussed the success they have had with applying for several grants including a grant to replace the ladder truck, and other grants to replace protective clothing. Of concern was that if they are not sucessful in obtaining future grants that funding for capital improvement programs (CIP) would be limited and not allow the organization to keep pace with modern firefighting practices.

During interviews, stakeholders were asked where they thought the AFDFD would be in five years. The majority of respondents indicated that they feel the District would not accept significant change and that much of this report would be ignored. Some members in the group interviews didn't feel that there was good communication between the Prudential Committee and the Fire Department. Others stated there was no clear long term plan for the Fire Department moving forward. Another theme presented during interviews noted that there is a lack of clarity regarding if revenues that were collected for fire department operations were fully utilized for those services; or reallocated to other initiatives within the District. Statements and questions that were communicated during these interviews lead to the observation that there is a communication gap between the Prudential Committee and the Adams Fire Department.

MRI recommends that the Prudential Committee and the Chief Engineer develop ways to open lines of communication including meeting regularly with the Chief Engineer and Assistant Engineers. Topics such as development of a capital improvement plan, apparatus replacement plan, establishing goals and objectives towards facility maintenance, repair or renovations, and development of the next fiscal year budget would enhance communication and foster continuity between the Prudential Committee and members of the Fire Department. In an effort to provide structure to the initial expansion of communications many departments reach out to the project team to provide structure, ground rules and facilitation to these intial meetings.

In addition, the Chief Engineer should open internal communications and provide a brief bi-weekly e-mail to all Fire Department members. This e-mail, often refered to by the fire service as a "Friday Report" should provide a summary of fire department activities that have occurred duirng the previous two weeks. Typical contents for this report includes a listing of emergencies responses, vehicle and apparatus status, training completed, inspections completed and other fire department related matters. This bi-weekly report should be shared with all Fire Department personnel and the members of the Prudential Committee.

RECOMMENDATIONS

III-1 The Prudential Committee and Chief Engineer should develop ways to open lines of communications including meeting regularly with the Chief Engineer and Assistant Engineers to discuss current events and engage in strategic planning for the future.

III-2 The Prudential Committee should provide structure, organization and facilitation to these meetings to ensure consistent communication and success of the process.

III-3 The Chief Engineer should provide the Prudential Committee and Fire Department personnel with a bi-weekly report of a summary of fire department activities that have occurred duirng the previous two weeks. Typical contents for this report includes a listing of emergencies responses, vehicle and apparatus status, training completed, inspections completed and other fire department related matters. This bi-weekly report is typically not longer than one page in length. The increased exchange of information between the Prudential Committee, command staff, and the general membership of the Department will lead to a better understanding of how each group contributes to Fire Department Operations.

IV. PRESENT AND FUTURE NEEDS FACING THE ADAMS FIRE DISTRICT

The community and the governing body of the District ultimately determines the level of emergency service delivery that is desired. This is often accomplished through the efforts of the Chief Engineer and Prudential Committee expressing their needs, and in turn the rate payers express their expectations during public meetings and through the approval of the District's operating budget. A review of the service levels provided by the District revealed that the residents of the District and the adjacent response area protected under an intermunicipal agreement expect an initial effective and timely response of at least a single fire suppression and/or rescue unit on a 24/7 basis.

A balance of effective and efficient emergency services delivery and the need to maintain a fiscally responsible District rate for the citizens is often the primary driving force in the delivery of emergency services. The basic tenant of emergency service in the District includes the provisions of basic fire protection, fire suppression, and rescue services. Emergency Medical Service (EMS) including Basic Life Support (BLS) and Advanced Life Support (ALS) are provided through a third-party service, Adams Ambulance Service, however when necessary, the AFDFD will provide assistance and acts in a first responder role.

Additionally, the AFDFD provides basic rescue services, including vehicle extrication, water rescue, wilderness rescue, and hazardous materials response.

ORGANIZATIONAL STRUCTURE

The structure of any organization or entity, whether public or private, establishes and illustrates the important hierarchical relationships necessary between various personnel and supervisors/subordinates within the organization, that allows it to function properly, operate effectively, and efficiently in its daily operations or the pursuit of its mission. Critical to the organizational structure is the leadership team that moves the organization forward. Currently the leadership team of fire officers of the District dedicate a significant amount of time and foster a strong level of commitment to the organization. The fire officers of the District have service time which ranges from 21 years to 34 years. This is a commendable service history for an organization of this size. **However, with that amount of experience is the observation that these fire officers are "aging out"; as many are within a few years of retiring from the AFDFD. This will certainly leave a leadership gap that should be addressed now rather than after the retirement of these members. Some of the younger members of the organization expressed concern with this gap not only in leadership, but also in fireground experience.**

Figure IV-1
Adams Fire District Fire Department Organizational Structure

As outlined within the AFDFD Organizational Chart (Figure IV-1) there are a number of officer positions including the Assistant Engineer and Lieutenants. Because the Chief Engineer and Assistant Engineer positions are elected, there is no ability to progress past the rank of Lieutenant; unless the person runs for elected office for the position.

Having a rank structure which allows for movement within the organization with increasing responsibilities, and which provides a succession ranking should someone leave the organization, is critical in maintaining the chain of command and continuity of the organization. The AFDFD must take action to encourage and develop members to be future leaders of the organization.

The AFDFD has served the community with distinction over the decades. They have been able to meet the needs of the response area given the resources and spirit of volunteerism from their members. They have also contributed to public safety within the region and Commonwealth through participation as a member of the Commonwealth of Massachusetts Region 4, Fire District 12 mutual aid system. In Massachusetts, regional fire districts are established by the Commonwealth to promote regional support and cooperation and prepare for the statewide response to major events. Districts consist of groups of fire/EMS agencies within a geographical area that work together to provide mutual assistance to one another on a routine basis. The agencies within a fire district share a common mutual aid control center for the coordination of an effective regional response. A coordinator is appointed for each fire district and is responsible for maintaining a current listing of available fire service resources within their respective region.

The use of mutual aid is designed to assist each community when they have exhausted all local fire and EMS resources available to them. Mutual aid is not a solution to staffing issues. If mutual aid is requested on a greater majority of the jurisdiction's emergency calls (other than automatic aid agreements), it is indicative of both a staffing deficit and the need to address this shortfall on the local level. Excessive use of mutual aid to make up for lack of response by a department's personnel can strain mutual aid relationships and place an unfair fiscal burden on those agencies that are frequently called upon to respond. Mutual aid from surrounding organizations who are called upon too often, will often experience an inability to respond to an abundance of "routine" mutual aid requests and become focused on the protection of their own communities.

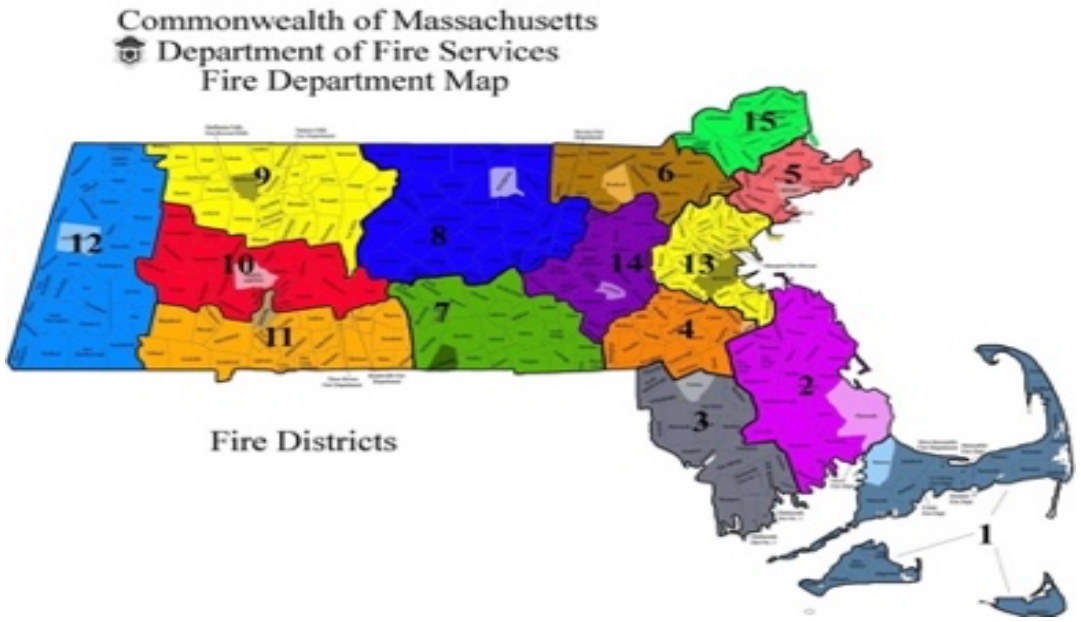

Figure IV-2
Massachusetts Fire District Map

Fire service organizations are mission driven organizations. The mission often becomes part of a fire departments organizational culture. It is a normal sense of one's duty, responsibility, and service, that provides the hallmark for fire and emergency services, and drives a sense of community pride and involvement, which are both proud traditions. However, because of the changing dynamics of today's fire service, organizations are looking to explore various alternatives to the traditional model of fire service delivery. These alternatives include broader sharing of resources through automatic aid agreements, establishing regional partnerships in applying for federal grant funding, and developing economies of scale, through shared purchasing initiatives. In order to meet its organizational goals, there are four fundamental areas of focus that the AFDFD needs to focus on to be successful. Those areas include the following:

Figure IV-3
Example Recruitment Poster

- Personnel recruitment;
- Retention of on-call personnel;
- Facilities;
- Apparatus and equipment.

The AFDFD should participate in discussions and initiatives that will assist them to accomplish these goals. Stronger recruitment and retention efforts will need to be a priority ongoing focus of the organization. The increasing decline in the number of on call firefighters, a nationwide trend, will continue and may impact the operational structure currently in place within the AFDFD.

The Town of Adams is currently stagnant relative to growth and has experienced a slight population decrease. However, based on our tour of the area the potential of a small uptick in growth could occur based upon changes in the housing and commercial marketplace. Like many communities across the United States an increase in the aging population requiring emergency medical services, and a decline in the recruitment, retention, and availability of paid on-call first responders is not uncommon. The once always available, effective group of paid-on-call first responders has been in a steady decline in recent years. Often, full-time work mandates, family commitments, increasing training requirements, required certifications, and other competing interests has diminished the availability of responders and ultimately affect the ability to provide a timely response to emergencies. In addition, younger generations tend to prioritize leisure time which can reduce the level of interest in becoming an on-call firefighter. Statistics indicate that the highest levels of response are from older members.

The District is not immune to this dilemma and is part of a nationwide problem in the on-call and volunteer fire service.

The District like many smaller Town Fire Districts is at a crossroads. For decades the AFDFD has used the dedication and service of volunteers and as time progressed, paid-on-call personnel (paid by a stipend based on call and training activities) to meet the needs of the community. Many of the day-to-day activities (emergency responses, fire inspections, permits, reports, checking apparatus, cleaning the station and equipment) required of the fire department would be completed when personnel had time to complete them. Volunteer personnel often worked in town and could leave their place of employment to complete fire service tasks or respond to emergencies.

Today, the expanded role that the AFDFD plays in the community, coupled with decreasing member availability, often results in a shortage of available responders. Consequently, it is not unusual to have a limited number of first responders in the response area during the weekday daytime hours. This shortage of human resources is the most prominent issue that will face the District in the coming years. A theme revealed through interviews found that member's ability to allocate time to the Fire Department was becoming more difficult. The Covid-19 pandemic has further complicated this issue as personnel navigate this unique public health crisis.

Another important point related to having sufficient personnel to respond to emergencies, is that the public assumes when they see a fire apparatus responding to an emergency, that there is a full crew of four firefighters on an engine or ladder. The reality is that the greater majority of time, it is a driver only or a driver and another firefighter that staff this apparatus. Often times, there is a significant delay in getting enough manpower to fight a fire and to meet the minimum number of firefighters on scene to comply with both the OSHA "Two In and Two Out" Standard, and NFPA 1720, which is the standard for the organization and deployment of fire suppression operations by on-call and volunteer fire departments.

The District has expressed a goal to retain a strong and viable on-call firefighting force. The MRI project team concurs with this goal. **The AFDFD should not become a combination department, where career staff are the primary responders on a 24/7 basis.** However, to meet service expectations, it is necessary to introduce a different staffing model which will provide consistency in service delivered to the public. This will take a commitment and strong leadership in the District.

The National Volunteer Fire Council (NVFC) www.nvfc.org issued a fact sheet https://www.nvfc.org/wp-content/uploads/2019/04/NVFC-Fact-Sheet-2019.pdf that provides the current status of today's Volunteer Firefighter statistics.

Among other things, the fact sheet highlights that the ranks of volunteer/call firefighters nationwide are declining, due at least in part, to an increasing demand for services. There are

also various other factors that are prevalent in the reduction in the number of volunteer and on-call firefighters in communities such as Adams. Among them is that the demographics of many communities today do not support a sufficient number of the type of people who are attracted to the fire service in the 21st century; someone with time to dedicate to public service or a young person who wants to make a career of it. MRI has found that on average, for every five on-call firefighters recruited, two will remain active after a period of 48 months has elapsed.

For both career and volunteer fire departments, the nature of their service is changing dramatically from a fire-based to a medical-based service.[10] As seen in Figure 30, the total number of fire department emergency responses, has increased to more than 31 million from its 1980s figure of just fewer than 11 million. This is the case in spite of the fact that the actual number of fires and mutual-aid responses has decreased from 3,262,000 in 1980 to 2,538,000 by 2013.

However, nationwide the number of medical calls has dramatically increased from just over five million in 1980 to more than 21 million by 2013. As a result, medical emergencies now account for 68 percent of emergencies that fire departments respond to, and EMS is often a fire department's primary responsibility. While the AFDFD currently does not provide transport EMS to the community, they should consider including in any future strategic planning a minimum of; EMS Certification at the First Responder or EMT Level, as part of a position description for firefighter.

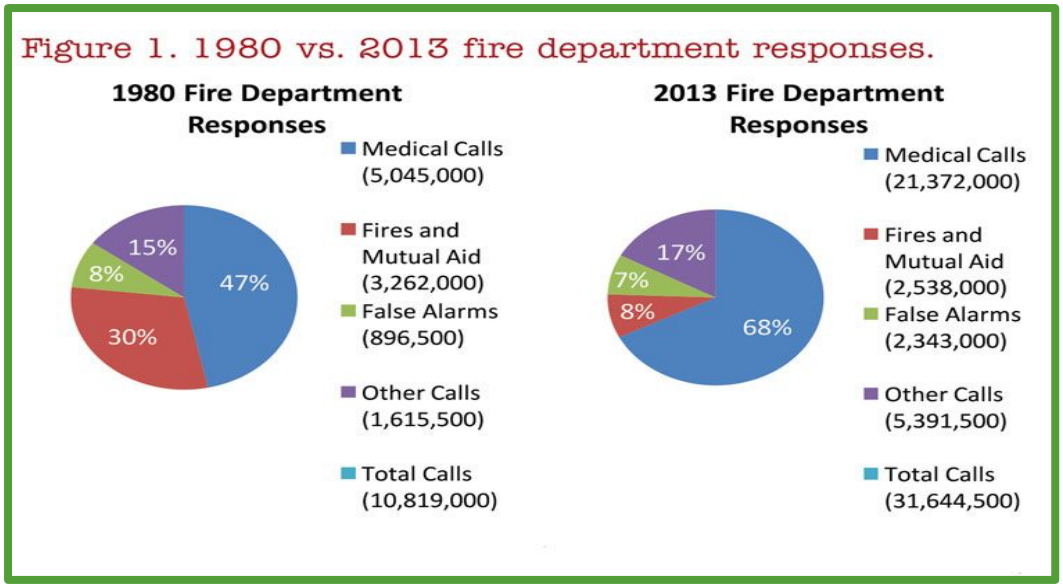

Figure IV-4
Adams Fire District Fire Department Responses 1980 Vs. 2013

[10] *SalterMitchell Inc. (2015) "Volunteer Firefighter Recruitment and Retention Formative Research Results" prepared for the National Volunteer Fire Council.*

The primary response role that members play within the AFDFD should be maintained, and this primary function should not be supplanted by the addition of 24/7 career staff. As the number of available responders decrease, a contingency plan to maintain the level of service expected in the community must be developed to address these emerging staffing deficits.

A number of fire departments throughout New England are adapting to this growing problem by adding full-time firefighters or part time per-diem firefighter coverage during the daytime, to fill the gaps that develop when the majority of on-call personnel are not available. This staffing transition supports the delivery of a timely response, during the day, when call members are least available. This strategy allows on-call members to focus their availability to respond on nights and weekends and assures that the community receives a consistent response force to emergencies.

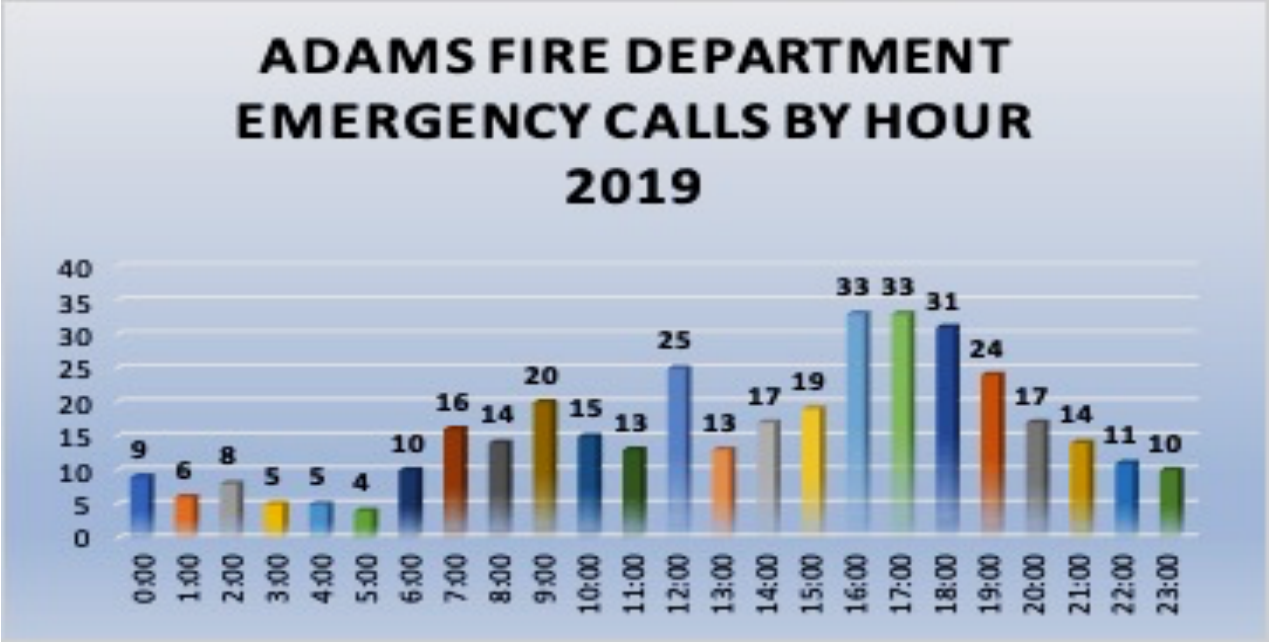

Figure IV-5
Adams Fire District Fire Department Emergency Calls by Time

A review of emergency calls by hour of the day for 2017, 2018, and 2019 revealed that the greatest number of emergency calls in the District was between the hours of 6:00 am and 6:00 pm. It is also important to note that the number of emergency calls after 6:00 pm were the second highest time period for the department. The overnight hours while having lower call

volume still demonstrates the need for response from on-call firefighters who may have to work the next day.

Chief Pansecchi provided the project team with a number of situations where emergency calls during the day resulted in the response of only two or three firefighters (including himself). Further contributing to the current staffing issue is the difficulty in recruiting and retaining skilled, and certified fire and emergency medical responders. As noted above, this is an emerging, nationwide issue that has been recognized as an operational problem as far back as 2004. The AFDFD is under an increasing level of pressure to provide the expected level of service to the community.

It is clear that the AFDFD will be challenged meeting the expectations of the community, and if unchecked and in fact not quickly reversed, the AFDFD will soon cease to be a viable emergency response organization providing consistent and equal levels of service to the District and the adjacent response area protected under an intermunicipal agreement.

The reasons for this demographic shift are numerous. First, fires are becoming much less common. Second, over the past 50 years, fire departments have gradually been expanding their role as medical providers. This evolution began largely as a result of the 1966 paper entitled **"Accidental Death and Disability: The Neglected Disease of Modern Society,"** which highlights the fact that accidents, especially automobile accidents, are the leading cause of death among persons under the age of 38. This report highlights the dismal state of emergency first aid and recommends training firefighters in emergency medical services.

Presently, the AFDFD has approximately thirty-two (32) members on its roster. On its own, this number would appear sufficient to provide an adequate level of emergency services to the District. However, in almost any call/volunteer emergency service organization, there is going to be a percentage of members whose names still appear on the "active" roster, yet they no longer are active (responding to calls) or are minimally active. The fact is that most members of the Fire Department have a primary job that limits their availability to respond to emergencies, which makes the current personnel picture much more of an operational concern.

Based upon this analysis, only a small number of the personnel are available to respond to incidents during daytime working hours on a regular basis.

The individual incident response participation was reviewed. The participation levels were evaluated for the time frames of Midnight to 0800, 0801 to 1600 and 1601 to midnight. The actual number of incidents within each time frame is shown on the chart below. The numbers indicate the number of incidents an individual responded to within that time period. The blue indicate below average, the yellow is the average and the green is the above average.

	0000 to 0800	0801 to1600	1601 to 2359
1	1	1	1
2	1	2	3
3	1	3	7
4	1	3	9
5	2	8	9
6	2	9	10
7	3	9	10
8	3	10	10
9	3	10	16
10	4	11	18
11	4	13	18
12	4	14	19
13	6	18	21
14	7	19	32
15	7	21	34
16	7	21	36
17	10	26	40
18	10	31	41
19	11	32	42
20	13	33	42
21	13	34	44
22	13	37	45
23	14	38	46
24	15	41	50
25	15	43	50
26	16	55	53
27	17	56	56
28	17	61	63
29	18	61	63
30	18	71	77
31	19	71	78
32	21	78	87
33	21	79	93
34	22	80	107
35	54	86	
36	55	124	

Each Column is a block of time
Each line indicates the number of incidents a particular person responded to within that time period.

Blue indicates below average
Yellow is the average
Green is above average

For Example:

In the block of 0000 to 0800 the range of incident responses was from 1 to 55
A Total of 19 people repsonded to less than 12 incidents
3 people had an average of thirteen responses
14 people had 14 and higher repsonses

Analysis of the data indicates that the from 0800 to 1600 is when the fewest people are participating or are below the average. The data also indicates the best responses are from the hours of 1600 to 2359.

NOTE
It should be noted that the data represents the calendar year of 2020. During this year many people worked at home due to the Corona virus pandemic and therefore the participation numbers may be better than any other normal year due to this factor.

Figure IV-6
FF incident participation 2020

Even if a change in the staffing model were to come about, there still also needs to be a proactive effort towards recruitment and retention of personnel. Although the District is far from alone in dealing with this reduction in staff, it is essential that addressing this situation is clearly identified as a top priority and adopted as a shared mission of the entire department. This goal, along with recommendations for future staffing will become the start of long-term sustainment of the AFDFD. The MRI team believes and supports that the AFDFD will always be predominantly composed of on-call firefighters, supplemented by a small group of per-diem personnel. The number and type of employment (full-time or per-diem) is a decision made at the District level.

The AFDFD presently conducts passive recruiting efforts; however, they do not have a formal recruitment and retention program for on-call fire and EMS personnel. Most recruitment is by word of mouth or are "walk-ins". There is limited use of the Department's website or social networking pages on the AFDFD, Alert Hose Company No. 1 (Alert Hose Company), and District's websites or social network pages. Recruitment advertising should be frequently displayed very prominently on the websites of call/volunteer departments.

Recruitment efforts should be a primary focus and ongoing activity within the AFDFD. The use of internal fire officers and personnel as a "recruitment team" should be considered. This assignment would foster a sense of participation and shared mission in making the organization successful. Utilizing an internal team assures that the recruitment efforts obtain the attention needed to meet staffing goals.

Even if the recruitment obstacles can be overcome, hurdles remain before a new member is a productive member of the Department. Once an individual becomes interested in becoming an on-call firefighter, they must achieve a level of ever-increasing specialized skills that is time-consuming. Often exit interviews reveal that the training commitment alone is daunting and one of the primary reasons that on-call personnel resign. Personnel turnover is also costly to the Department.

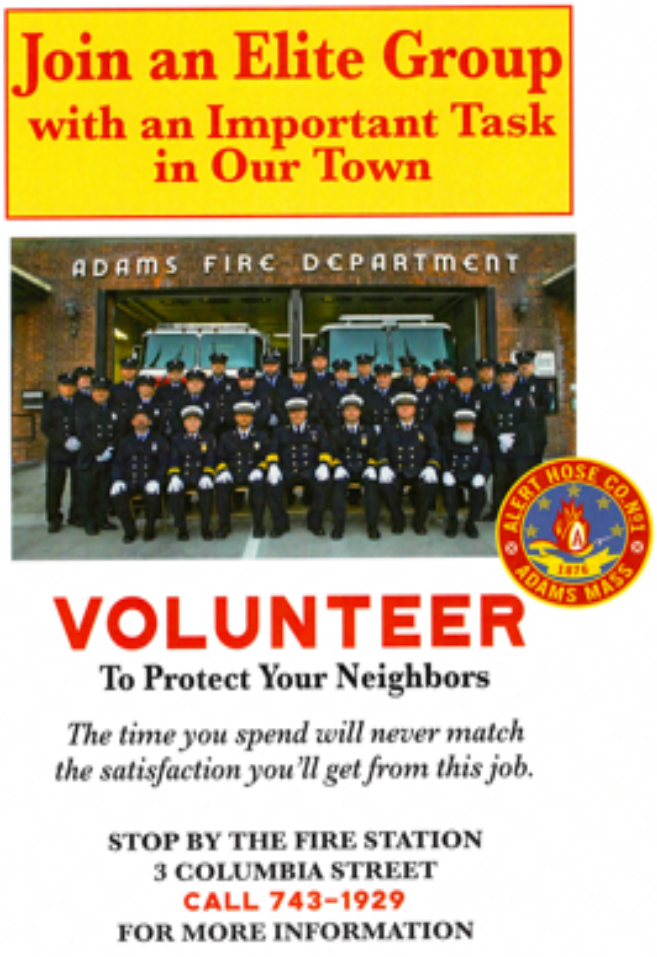

Figure IV-7
Adams Fire District Fire Department Recruitment Poster

To become a certified firefighter takes several hundred hours of intense training. Once certified, there are dozens of hours training annually spent maintaining firefighter skills and certifications. Unfortunately, in 2018, the average citizen does not want to spend a great deal of personal time dedicated to the fire and emergency services, especially when family commitments take priority.

Other reasons for difficulty in recruiting and retaining members include:

- An overall reduction in leisure time

- Employment obligations and the common need to maintain more than one job
- The virtual elimination of employers understanding and flexibility relating to this form of community service
- Increased family demands
- Generational differences
- Increasing training requirements
- The cost of housing in many affluent communities
- Organizational culture
- Internal respect
- Recognition of personnel
- Internal communication
- Department leadership styles and commitment

The number of volunteer firefighters and emergency responders in the United States has declined by more than 12 percent in just the past three decades – leaving nearly half of U.S. communities at increased risk during emergencies.[11] This declining number of volunteers coincides with an increased call volume and an increasing public expectation for more and better-quality fire and rescue services.

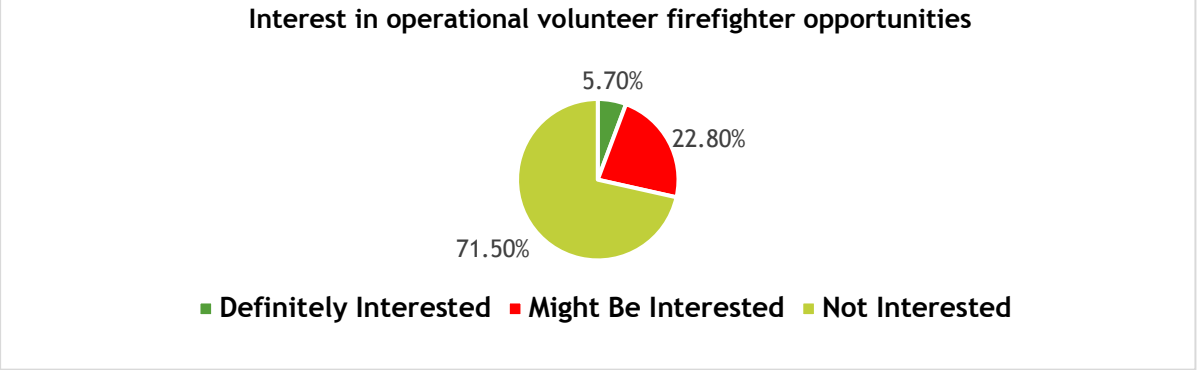

Figure IV-8
Nationwide Interest in Becoming an On-call Firefighter

It is easy to believe that increasing the number of on-call firefighters, can be a cure-all to resolve staffing, and thus response problems, however in 2019, it is clear to the project team that the current staffing model in place, must be changed to a model which assures an immediate response capability. Regardless of the need to consider various staffing models, the on-call firefighters within the District are the foundation of and will remain the primary response force into the future. The future staffing model may look different, but the long history of dedication

[11] *SalterMitchell Inc. (2015) "Volunteer Firefighter Recruitment and Retention Formative Research Results" prepared for the National Volunteer Fire Council.*

and public service by paid on-call members to the District is a value not to be overlooked by those changes. As noted repeatedly, a paid-on-call response component should always be considered as the primary AFDFD response force.

There is a grant from the federal government titled the **Staffing for Fire and Emergency Response (SAFER)** grant program (https://www.fema.gov/staffing-adequate-fire-emergency-response-grants). This grant program provides funding for staffing and also to assist in the recruitment and retainment of volunteer and on-call firefighters. It provides competitively awarded funds to municipalities to recruit and maintain on-call and volunteer firefighters. The grant funds pay for expenses, such as recruitment campaigns, tuition for college curriculums in fire science, EMT and paramedic training, health insurance for call members, physical fitness programs, uniforms, and various tax incentives offered to attract new candidates to join the Fire Department, and then stay for an extended period of time.

The project team recommends that the District should apply to secure a SAFER grant. This grant should note the staffing issue that currently exists and indicate that the grant would be an attempt to meet the NFPA 1720 fire response standard.

There is no easy or guaranteed solution to the staffing needs of the AFDFD. Building a successful organization for the future will require that several strategies be employed. It is also important to stress that what may work in one community with regards to staffing and call/volunteer recruitment and retention, may not work in another community. Each community must individually determine what programs, incentives, and motivations will work, and be most effective in their community.

The MRI team is confident that by proactively working on this issue, the District will avoid costly steps in the future. The project team believes a continued decline in personnel available to provide coverage for fire emergencies during the day and evening hours will continue to be a challenge, and recommends the District consider a transition into a staffing model which would meet current and future needs. The new staffing should consist of either full-time firefighters or part-time assigned per-diem firefighters, working peak hours when sufficient on-call personnel are not available. The specific classification of employee (full-time or per diem) is a decision that should be determined by the recommendation of the Chief Engineer and Prudential Committee and may require voter approval. The project team also recommends that paid on-call personnel currently on the AFDFD roster, who meet the qualifications of positions for full-time or per diem positions, be given consideration first before offering positions outside of the organization.

Alert Hose Company No 1

On May 20, 1876, Alert Hose Company No 1 of Adams Mass was formed as an organization for the purpose of, "The object shall be the extinguishing of fires and protection of life and property". The dedication and commitment of the Alert Hose Company was evident to the project team when walking into the firehouse. Membership in the Alert Hose Company is by vote of the membership. The Chief Engineer and Assistant Engineers are honorary members.

The Alert Hose Company could be considered the recruiting group for the AFDFD. A potential person interested in joining the Fire Department must be vetted through the Alert Hose Company's membership process; and then be voted in as a member. A committee of five members of the Alert Hose Company, are tasked with investigating a potential member using a minimum standard to the Investigating Committee Procedure. Membership to the Alert Hose Company has the following requirements:

1. Is restricted to 21 years of age or no older than 45 years of age to be elected to the Alert Hose Company.

2. There is a one-year apprenticeship requirement before being duly appointed as a member, however if a person has served as an active member of an organized fire department for a minimum of three years, they can be credited one month towards the mandatory one-year apprenticeship; for one year for each complete year, in excess of three years, with a maximum of six months allowable credit. If a member is under the age of 21, they must wait three years before becoming a fully recognized member of the Alert Hose Company.

3. Once deemed eligible by the Alert Hose Company, a potential member's name is presented before the membership for voting. Once appointed the member is presented to the Chief Engineer as member of the Alert Hose Company and for consideration as a Firefighter with the Department.

During the site visit, the project team was presented with the process of becoming a member of the AFDFD. In addition, the project team learned that the Chief Engineer and Assistant Engineers are not voting members of the Alert Hose Company No. 1 (sometimes referred to as Alerts) and are designated as honorary members. Research further into the by-laws of the Alert Hose Company No. 1; it was noted that anyone who is a member of the Alert(s) shall reside in the Town of Adams. If a member falls below 25% attendance at calls, officers shall meet with the member. Action from the Alert Hose Company by a 2/3 vote of the membership will decide if any action is necessary.[12]

[12] *Constitution and By-Laws of the Alert Hose Company 1 - Revised 2016*

The current by-laws of the District state, ***"The Adams Fire District shall recognize the Adams Alert Hose Company, individually and as a unit, for the prevention and suppression of uncontrolled fires, and under the direction of the Adams Fire District Engineers".*** [13]

Figure IV-9
Alert Hose Company 1

The MRI team recognizes and encourages the history, traditions, and service to the community that the Alert Hose Company has provided to the community since 1876. This organization is one hundred forty-four years old and has served the community with distinction. The efforts the Alert Hose Company takes to recruit members over the years is also commendable, however in today's municipal environment it is necessary to develop clear, actionable, non-discriminatory procedures in the hiring of personnel. Processes such as criminal and driving record checks, background checks, validation of claimed certifications, physicals, interviews with the Fire Department leadership and all the other local, state, and federal requirements for hiring of personnel have to be conducted.

The lack of a legally sanctioned hiring process by the AFDFD opens the District to liability. Further complicating this unique arrangement is that the Chief Engineer and Assistant Engineers are honorary members and do not have a vote on bringing a new member to the organization. The Chief Engineer commented that in the end, he does have the authority to decline putting a

[13] *Bylaws of the Adams Fire District May 15, 2012*

member on the AFDFD, however if that were to happen it would create some animosity between the two organizations.

The study team recommends that the AFDFD and Alert Hose Company collaborate to develop a hiring policy that follows the various local, state, and federal hiring requirements, as well as the requirements of the District such as requiring an application, CORI check, driving history, and an interview which includes the Chief Engineer or his designee before a candidate is brought forward to the membership of the Alert Hose Company.

Fundamentally the Alert Hose Company is not a hiring authority and is structured as a benevolent association, and therefore should operate in that capacity. However, the project team realizes the value of working with the Alert Hose Company in the hiring process as a method to build a team and to assist the Chief Engineer. Essentially the membership process for the Alert Hose Company can remain, however a vetting process that assures any member coming on, is of good character and does not have any past discrepancies that could become a liability to the District should be completed first; then forwarded to the Alert Hose Company, with a positive recommendation from the Chief Engineer for membership consideration.

The current membership age restriction (age 21 or older) causes the AFDFD to lose a significant pool of potential members. In fact, if a younger candidate is truly interested in the fire service, they may try to join another agency or even relocate to an area where they can participate. The need to attract younger, motivated individuals is critical to the success of the AFDFD. As the current leadership and active responders "age out", a large gap in the operation of the AFDFD will be created if the recommendations in this report are not considered and ultimately implemented. The Chief Engineer must take a leadership role and use this document as a tool to develop his own staffing and hiring plan, in order to prepare for the future of the AFDFD.

The Alert Hose Company should consider either revising their bylaws to reflect the current fire service hiring practices, or to establish that their By-Laws are in place for historical purposes only, and no longer reflect the needs and process in today's fire service. A revised set of By-laws could be implemented that would coincide with District operations and recognize the role that the Alert Hose Company should play in the organization. Certainly, legal counsel should be consulted to evaluate the legal precedence of such an action.

Figure IV-10
Alert Hose Company 1 1896

After a review of current staffing, number of active responders, time of day that the majority of calls are occurring; and in order to be prepared for the continuing decline in available personnel, MRI recommends that the District provide staffing of the fire station during daytime hours, when the highest demand for emergency services is greatest.

In 2019, the District voters were asked to fund a full-time position for the Chief Engineer and a Firefighter. The votes on both positions were defeated by a wide margin. It is the perspective of the MRI project team and the membership that a stronger unified marketing effort should be developed in the future.

The discussion with the Chief Engineer on the amount of time he spends performing fire safety inspections revealed that he is only scratching the surface, and not completing all required inspections. The Chief noted that there are often delays in conducting plan reviews, inspections of public places of assembly, inspection of fire alarm systems, life safety inspections of multi-family dwellings, and high target hazard buildings. The analysis indicated that many of these programs are not being fully completed.

This report should be used as a tool to bolster a marketing strategy to begin the staffing of a Fire Chief and a Firefighter. MRI recommends that these positions should be full-time, however given the will of the voters to not approve full-time positions at the present time, the Fire Chief and firefighter positions should start out as part-time positions with limited benefits in order to evaluate the effectiveness of having staffing during the day.

The MRI team has created some staffing models for consideration. These staffing models would provide full-time coverage or per diem coverage, supplemented by the paid-on-call firefighters. Current firefighters would also continue to respond during daytime hours when available. These are some examples of various staffing models the District should consider. The model implemented would be dependent on available funding and could be a phased implementation over multiple budgeting cycles:

1. Request the funding for a full-time Chief Engineer and Firefighter at the next annual District Meeting. This should be accompanied by an in-depth report and description of the requested positions, their advantages to enhanced public safety, and justification for the need of the positions. Educating District voters on the reasons and needs for these positions should be started immediately.

2. Request the funding for a full-time salary Chief Engineer and Firefighter at the next annual District Meeting. Hours would be scheduled for during the normal workweek, scheduled to cover gaps in coverage caused by the majority of members working or out of the area. This proposal should also be accompanied by an in-depth report and description of the requested positions, an overview of the need and benefits of funding this staffing model. Alternatively, the District could choose to start with

having the Chief Engineer become part-time at 30 hours a week, and then fund the position for the Firefighter in the next fiscal year to minimize the impact on the rate.

3. Hire 2 part-time firefighter/EMTs (assigned shifts) or per-diem firefighter (open day shifts) to work Monday through Friday to provide fire coverage from 6 am to 4 pm. On-call firefighters would continue to respond when available.

4. Replace the current stipend program and restructure the budget to provide on-call personnel with an hourly rate to provide standby coverage during weekday hours, weekends, special events, or during peak emergency call periods. This provides needed coverage while at the same time keeping personnel costs low, due to not having to include benefit costs.

There are a number of various funding sources which could be investigated, to help offset the cost of changing the staffing model to provide the level of service expected by the District. These include:

- Restructure the operating budget – shift costs based on priorities
- Increase the appropriated budget as approved by the District
- Apply for a SAFER Grant
- Other state and federal grants

Adams Forest Warden Department

During the review of the AFDFD, the project team was made aware that there was a separate Forest Warden Department independent and autonomous from the Fire Department. MRI further learned that the current Forest Warden was also a member of the District Prudential Committee. Mass General Law 48 Section 8, Appointment of Fire Wardens: Tenure provides the Board of Selectmen of a Town to appoint a Fire Warden. Alternatively, if a Fire District adopts the provisions of Section 42 and 43 of Chapter 48 Mass General Law the Fire Chief may be appointed as the Fire Warden.

The Town of Adams Forest Warden is charged with:

- Prevention and suppression of all outdoor fires within the boundaries of the Town of Adams.
- Enforcement of the outdoor burning regulations as stated in Chapter 48 of the Massachusetts General Laws and in 527 CM Section 1 and 310 CMR Section 7.
- Issuance of outdoor burning permits.

The current Forest Warden Department under the command of the Forest Warden also has fire apparatus consisting of an all-wheel drive military type vehicle, a water tanker, a fire engine, and a pickup truck brush unit.

Figure IV-11
Adams Forest Warden Fire Apparatus

The Forest Warden Department is not a duly registered fire department with the State of Massachusetts Department of Fire Services. The District has an inter-municipal agreement to provide fire protection and suppression services to the Town of Adams for properties outside District boundaries.

Both the Fire Department and Forest Warden Department operate independently and under their own organizational policies and procedures. The Forest Warden Department receives funding from the Town of Adams for their services. The District's sole revenue is through the rates of the District.

The MRI team recommends that the District seeks legal counsel on the need for implementation of a written inter organizational agreement between the District and Forest Warden Department that details specific expectations and services that both organizations would offer, as well as the indemnification of liability as part of having a cooperative agreement.

The MRI team recommends that the AFDFD and Forest Warden Department develop shared SOPs which detail the operations, incident command protocols that identifies the incident commander at each type of emergency, develop run cards that identify which apparatus should respond to requests for support, and seek to investigate if there are any potential collaborative initiatives that can be undertaken such as consolidation or increased support to each other.

The MRI team observed that within the group of the Assistant Engineers that there is a long history of service to the District and a majority of the Assistant Engineers will soon consider retiring from the AFDFD. The Assistant Engineer positions provide the Chief Engineer with his leadership team in the operation of the AFDFD. In interviews with firefighters, it was identified as a concern for them also having a potential leadership gap in the near future.

Chapter 48, Section 65 of the Mass General Laws defines the selection of engineers. The Chief Engineer and Assistant Engineer positions are elected positions for three-year terms. The election of fire officers is a fading practice in today's fire service. The complexities of fire and EMS emergency services delivery, requirements to meet certain levels of training in fire ground operations, hazardous materials response, life safety plans review, and skills in personnel management is compelling governing bodies to consider changing to an appointment of the Chief Engineer from an elected position. Within Section 65 of MGL 48, a fire district is empowered to appoint a Fire Chief following the adoption of Section 42 of Chapter 48.

The Prudential Committee when conducting strategic planning relative to the future of the AFDFD should consider appointing a Chief Engineer for long term continuity to the Fire Department. This recommendation is based on the changing dynamics of fire service organizations and does not reflect upon the current Chief Engineer or Assistant Engineers. The terms and the potential to have new leadership every three years does not provide any long-term continuity within the organization, with the only exception being that the Chief Engineer is re-elected for multiple terms.

RECOMMENDATIONS

IV-1 The AFDFD organizational rank structure utilizes Assistant Engineers as part of the command staff. The officer rank below Assistant Engineer is the position of Fire Lieutenant. We recommend that the District creates the position of Fire Captain. The addition of this rank will provide greater opportunities for individual growth within the organization, contributes to retention and maintains an effective span of control. This supervisory change will allow the Assistant Engineers to focus on organizational leadership and support of the Chief Engineer.

IV-2 Once the position of Fire Captain has been created one Captain should be assigned to lead the Department's recruitment and retention efforts. A second Captain should be assigned to support and document the training function.

IV-3 MRI recommends that the current department SOPS be reviewed, and others added. A sample list of SOP's and a sample SOP document has been included in Appendix A.

IV-4 The AFDFD should develop an officer training program or sponsor individuals to attend the Massachusetts Fire Academy Fire Officer Courses. This training should be offered to those members who are interested in becoming a Fire Officer in the future.

IV-5 The AFDFD should establish qualifications and job descriptions for the Fire Officer positions. This planning should also include succession planning for the Fire Chief's position.

IV-6 The Prudential Committee and the Chief Engineer should propose the creation of daytime hourly positions for per diem Firefighters, or increase funding for current firefighters to provide standby coverage during weekdays and weekends in order to ensure adequate response capability. A minimum of two staff should be used to cover the shifts. The hours should be based on a combination of need and availability. The level of the staff (officer, firefighter) should be determined by the Chief and the Engineers.

IV-7 The District should apply for a Federal SAFER grant for funding positions for per diem or paid on-call members, and for paid on-call recruitment and retention activities. This grant should be utilized to develop a comprehensive marketing program to attract new members and provide incentives for the retention of those personnel currently in the Fire Department. The grant also may be used for equipment and personnel costs related to the hiring of new members.

IV-8 The AFDFD should convene a focus group, to determine what concepts and recruitment and retention strategies are feasible and most attractive to potential candidates. The

group should also bring forth recommendations on incentives and strategies to recommend to the Prudential Committee.

IV-9 The AFDFD should make it a priority to develop an active on-call recruitment team led by the Alert Hose Company. At a minimum, this program should consist of:

- **Developing a recruitment brochure and mailing it to all residents;**
- **Holding periodic open houses at the fire station;**
- **Performing public out-reach through the local media;**
- **Contacting community and service groups;**
- **Developing an eye-catching banner on the District's, Town of Adams and Alert Hose Company's websites and conducting radio and media advertisements;**
- **Placing signs recruiting call/volunteer personnel at the main entrances to town;**
- **Placing signs for call/recruiting volunteers in local businesses, particularly high-volume locations;**
- **Implementing or enhancing a fire explorer program.**

IV-10 The AFDFD should obtain membership and seek assistance from the Massachusetts Call and Volunteer Firefighters Association (MCVFA) and Fire Chiefs Association of Massachusetts (FCAM) relative to enhancing recruitment and retention efforts in Adams.

IV-11 The Chief Engineer should obtain membership and seek assistance from the International Association of Fire Chiefs (IAFC) and the Volunteer Combination Officers Section (VCOS) within the IAFC to gain further information and education on best practices in leading a call firefighter organization such as the AFDFD, as well as enhancing recruitment and retention efforts in Adams. Additionally, the Chief Engineer should attend the annual VCOS symposium sponsored by the IAFC organization, in order to be able to network and gain unique ideas and perspectives from other chief officers related to combination fire departments. This is one of the largest symposiums which specifically addresses call and combination fire organizational needs.

IV-12 The AFDFD should seek membership with the National Volunteer Fire Council (NVFC) www.nvfc.org to obtain recruiting and retention suggestions and reports to support the recruitment and retention efforts of their membership.

IV-13 In 2021, the District should begin to build and obtain support to transition from a stipend paid to a full-time 40-hour salary Chiefs position. Our analysis indicates that a full-time Chiefs position is necessary in order to guide the department into a healthy and productive future.

IV-14 In 2022 the District should support the development of the full-time position of Fire Chief.

IV-15 MRI recommends that the District employs per diem firefighter position(s) to provide 30 hours of peak demand coverage during weekday business hours. This will supplement on-call response and provide two personnel (the Fire Chief and a firefighter) to respond to emergencies during the 30 busiest hours as demonstrated by call volume analysis.

IV-16 The District should develop a marketing plan to introduce the needs of the organization to the voters of the District. This strategy should include attending meetings with local groups, organizations, stakeholders, community leaders, state and federal representatives, visibility at local community events, tours of the fire station and apparatus.

IV-17 The AFDFD should seek out marketing and public relations volunteers to assist with the development of any presentation/business plan of organizational need and capital purchases capital projects. The Chief Engineer or his designated representative should expand the use of social media and involve other members of the Department in providing updated news, activities, and fire prevention tips and information to enhance the community's knowledge about fire safety, incident response and the role of the AFDFD.

IV-18 The District should propose the adoption of Chapter 48 Section 42 at the next Annual District meeting. Subsequent to adopting this section of Chapter 48, the Prudential Committee should transition the District from an elected Chief Engineer to an appointed Fire Chief.

IV-19 The District should seek legal counsel on the need for implementation of written inter organizational agreement between the District and Forest Warden Department that details specific expectations and services both organizations provide to each other, as well as the indemnification of liability as part of having a cooperative agreement.

IV-20 The AFDFD and Forest Warden Department should develop joint SOPs which detail operations where both agencies respond. These collaboratively developed documents should detail incident command protocols, identify who is the incident commander at various incidents; develop run cards to identify what resources should respond when assistance is requested.

IV-21 The District should investigate if there are any potential collaborative initiatives that can be undertaken such as consolidation or expanded automatic support between these two agencies.

V. FIRE STATION, APPARATUS, EQUIPMENT

Part of MR'Is Scope of Work was to establish how the AFDFD's current and future facility needs impact the District. Fire Stations are platforms that facilitate service delivery. These facilities support the overall mission of the organization in providing public safety services. Modern, well-designed and maintained fire station facilities enable staff to perform their duties effectively, efficiently, and safely.

Figure V-1
Historical Photo of the Current Adams Fire District Fire Department Station

For the rate payer, a modern facility that is energy efficient, low cost to maintain and operate, safe, and built to match with the character of the community are factors that should be considered. A modern fire department and facility contribute to the image of the community and in many ways contribute to the long-term viability of the on-call structure of the Fire Department.

The current District Building was occupied in the 1960s as a two bay, two story building with a full-length basement. The building was a former service station garage that was renovated for the use of the District. The existing ladder apparatus bays were expanded in order to accommodate a new aerial ladder.

The entire structure has a gross square footage of 15,560 square feet. The first floor of the facility has 4,196 SF, second floor has 2,097.46 SF, District Offices utilize 2,550.5 SF, and 6,716 SF in the basement level. The building construction consists of load bearing masonry walls and a flat roof. Since the renovation of the facility in the 1960s, other than the apparatus bay expansion and minor improvements and modifications, the facility has virtually remained unaltered.

The District Headquarters no longer provides efficient and effective shelter for fire apparatus and equipment. In addition, this facility is inadequate to provide a suitable platform for the AFDFD to serve the community. When this structure was repurposed, fire apparatus was smaller, and as a result older fire stations were designed to accommodate these smaller units. Today's fire apparatus is significantly larger, heavier, carry more water, and occupy larger areas of floor space.

In addition, the needs of the American Fire Service have evolved and become more complex. Modernization and modifications are required in order to accommodate decontamination needs, proper storage of protective clothing, and EMS and special operations equipment. Providing firefighters with a safe operating platform is a critical necessity. In addition, maintaining a comprehensive apparatus and equipment Capital Replacement Plan that provides the appropriate fire apparatus, that is designed to meet the needs of the community; rather than designing apparatus that can be force fit into and existing bay, is a fiscally sound best practice, that can reduce the cost associated with customizing apparatus around limited space parameters.

In the AFDFD station, the purchase of modern fire apparatus and equipment has minimized any working space previously available. The Fire Department's role and the need to decontaminate equipment and protective clothing after every fire and other special operations have produced significant change in functional fire stations. In the District, the station is not adequate and lacks designed areas for decontamination of medical equipment and the proper storage of firefighter protective clothing. In addition, several critical systems are at the end of their useful life span and lack energy efficiency.

The current fire station facility does not meet several local, state, and federal health and safety standards. The MRI team believes that to bring the facility up to standards, add additional space to accommodate all its electrical, plumbing, heating, and ventilation needs within the current footprint of the Columbia Street Headquarters, would not be cost effective to expand, renovate, and modernize. There are three immediate standards that were reviewed and determined the following:

1. The facility is not in compliance with the requirements and recommendations of **NFPA 1500:** Standard on Fire Department Occupational Safety and Health Program (National Fire Protection Association, Quincy, MA, 2013 edition), which provides requirements for facility safety, maintenance, and inspections.

2. The facility is not in compliance with the requirements and recommendations of **NFPA 1581:** Standard on Fire Department Infection Control Program (National Fire Protection Association, Quincy, MA), which has requirements to provide minimum criteria for infection control in the fire station.

3. The facility is not in compliance with the requirements and recommendations of the American with Disabilities Act. These requirements are codified in the Code of Federal Regulations (CFR) at 28 CFR parts 35 (title II) and 36 (title III).

A fire station supports the needs of the Fire Department and the community in which it is located. It must accommodate extremely diverse functions, including housing, recreation, administration, training, community education, equipment and vehicle storage, equipment and vehicle maintenance, and hazardous materials storage. While it is usually only occupied by trained personnel, the facility may also need to accommodate the general public for community education or out-reach programs. Fire stations will vary somewhat in design depending on the specific mission, i.e., the types of emergencies that will be responded to or the types of fires that will be fought. The location of the facility is largely driven by the need to minimize response times.

Figure V-2
Space Between trucks limited

Figure V-3
Tight Parking Areas

Figure V-4
Space Limitations

Figure V-5
Space Limitations

Figure V-6
Floor space taken up by storage

Figure V-7
Minimal work space

Figure V-8
Minimal Workspace

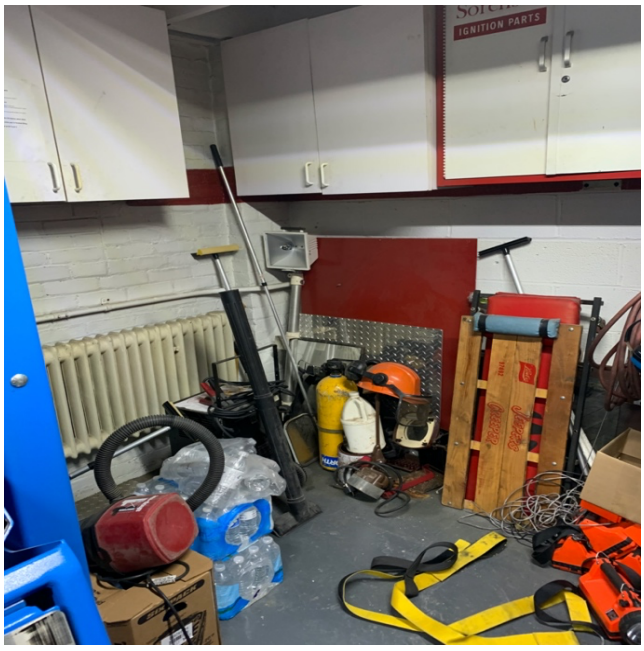

Figure V-9
Equipment stored on floor

Figure V-10
Gear Extractors

Figure V-11
Outdated Plumbing and Fixtures

Figure V-12
Single Use bathroom

Figure V-13
Shower and Decontamination Area

Figure V-14
Lack of Equipment Storage

Figure V-15
Lack of Equipment Storage

Figure V-16
Lines for Apparatus Backing

Figure V-17
Pavement Mark for Ladder Truck Backing

Major fire station functional areas include the following:

- **Apparatus bay(s)**: This is where the firefighting and emergency response vehicles are stored.
- **Apparatus bay support and vehicle maintenance**: These industrial spaces are where the vehicles and other firefighting equipment are cleaned, maintained, and stored.
- **Administrative and training areas**: These include offices, dispatch facilities, and training and conference rooms
- **Residential areas**: These include the dorm rooms, day room/kitchen, and residential support areas such as bathrooms and fitness spaces.

The two primary drivers for facility layout and functional space adjacencies in a fire station are the following:

1. Ensure that internal response times can be met (time for a firefighter to reach the apparatus and be ready to depart).

2. Separate the diverse and sometimes conflicting functions such as industrial maintenance spaces and residential spaces.

Recently based on a new level of understanding of how cancer is impacting members of the American Fire Service and the Covid-19 pandemic, have increased the need for cleaning, disinfecting and decontamination of personnel and equipment. These operations require the separation of functional spaces. In addition, other drivers include the need for male and female locker rooms, and bathrooms.

APPARATUS BAYS

Sizing the apparatus bay is critical, and it should be designed to accommodate variable vehicle sizes. Typically, the entire room is sized based on the bay size for the largest vehicle in the fleet or the largest anticipated vehicle. Bays also include vehicle exhaust removal systems, compressed air, and power drop lines, and hot and cold water connections. Bay doors must also accommodate the largest vehicle and include a manual means to open, in case of power failure. Ideally, the site will accommodate drive-through bays.

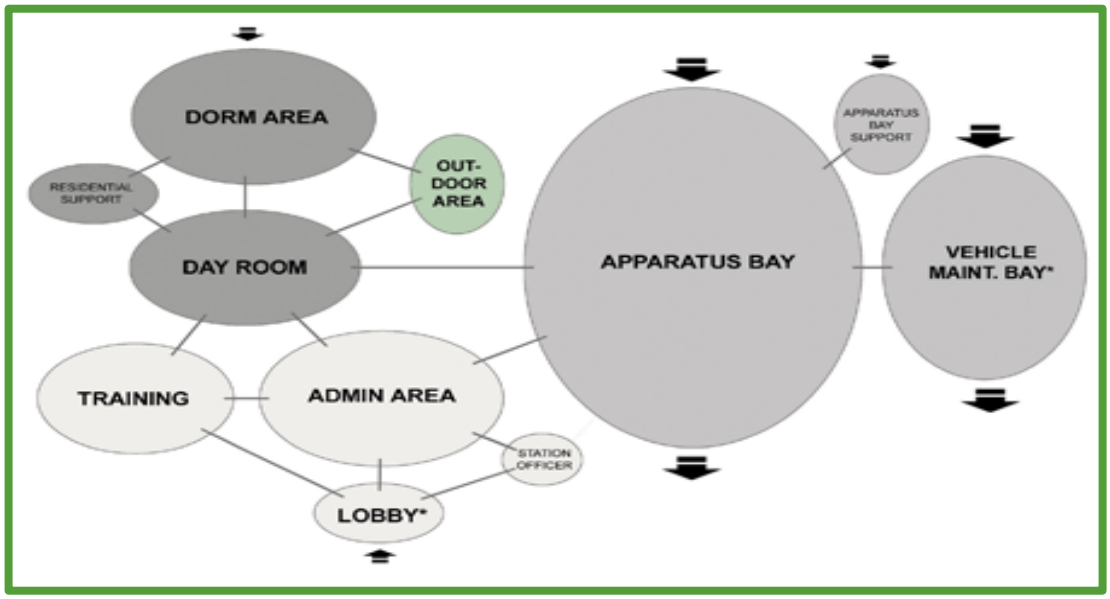

Figure V-18
Diagram of Modern Fire Station Design Elements

APPARATUS BAY SUPPORT AND VEHICLE MAINTENANCE

Apparatus bay support functions include cleaning and maintenance areas for the firefighter's self-contained breathing apparatus (SCBA), protective clothing, fire extinguishers, and other equipment. It also includes storage areas for firefighting gear and equipment and secure storage for medical supplies. Some of these areas are specialized spaces for disinfecting protective equipment and for maintaining and recharging the SCBA in a clean environment.

Fire suppression agent storage is typically provided in a single-story structure separate from the fire station building. It should be located along the drive leading into the apparatus bay for ease of loading and unloading of firefighting agents. In some cases, it may be attached to the main structure. A vehicle maintenance bay may also be included in a fire station.

ADMINISTRATIVE AND TRAINING AREAS

Administrative areas include standard offices and conference and training rooms. The area will also likely include additional specialized spaces such as the Chief's office, with sleeping and shower facilities and computer training/testing facilities, for firefighter continuing education. Some stations may include a highly specialized dispatch room for receiving emergency calls from the public.

RESIDENTIAL AREAS

The day room accommodates kitchen, dining, living and recreation functions. It is often separated into subspaces for those three functions, but an open design may also be effective to encourage interaction between the spaces. The dining space may also double as training or meeting space and might include provisions for audiovisual equipment.

When planning for a fire station, consideration should be given to incorporating dorm rooms into the design. Regardless if a fire station is manned full-time or a volunteer/call fire station, there are times when fire station coverage for long periods of time is needed. Prolonged weather events or disasters require long term response activities of fire personnel. Dorm room designs can vary widely from station to station and department to department. Each firefighter is provided with a place to sleep, work, and store personal items. Careful consideration should be given to the location and design of the area to ensure response times can be met. See Emerging Issues below for more information on dorm rooms.

Other residential areas include a laundry room, a physical fitness room, bathrooms and showers, and possible additional recreation spaces such as an outdoor patio and game room.

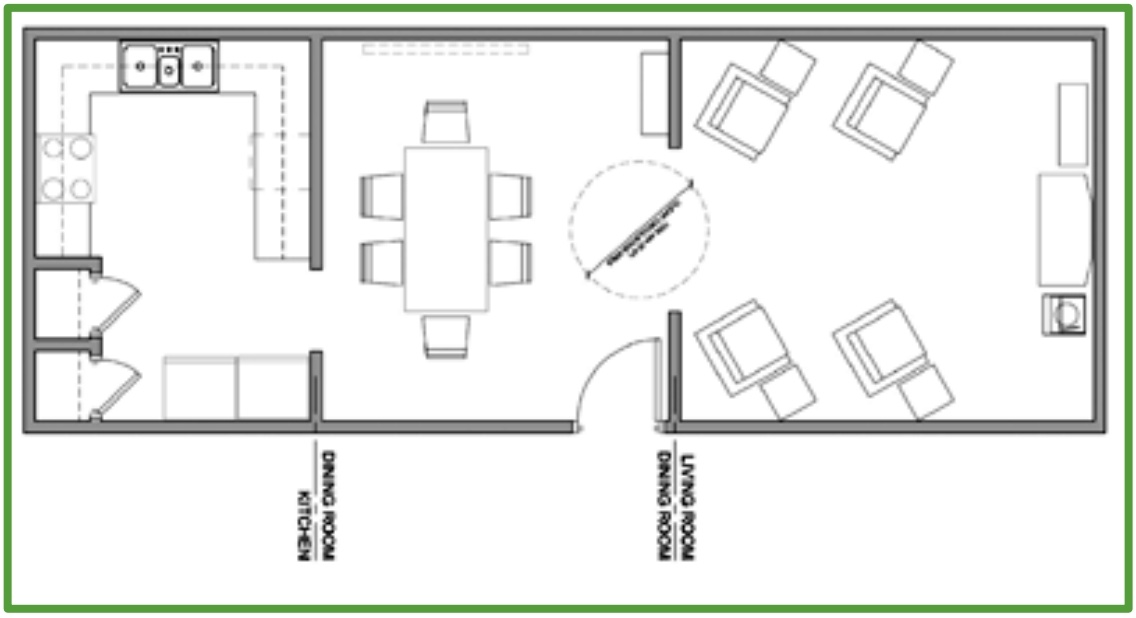

Figure. V-19
Residential Areas

DESIGN CONSIDERATIONS

Key design goals and considerations for fire stations include the following:

A. PROMOTE OCCUPANT QUALITY OF LIFE

Fire stations may be occupied 24 hours a day, seven days a week by personnel at various times and for various lengths. Therefore, ensuring a comfortable living environment for the firefighters is paramount:

- Provide ample natural light
- Provide individual dorm rooms, if budget allows
- Provide ample recreation areas and separate noisy areas (such as a game room) from quieter areas (such as a television room)
- Avoid institutional and unnatural finishes, textures, and colors

B. MAINTAIN A SAFE AND HEALTHY ENVIRONMENT

As above, due to the continuous occupation of the facility by firefighters and the presence of hazardous materials, special attention must be given to designing the facility to accommodate equipment and operational strategies to both protect the occupants and maintain a healthy environment. Consider the following critical elements:

- Provide a secure facility for both personnel and materials such as controlled medical supplies and hazardous fire suppression agents
- Use non-toxic building materials and improved maintenance practices
- Ensure good indoor air quality and abundant natural light in the residential and administrative areas
- Ensure good ventilation of industrial areas such as the apparatus bay and prevent contamination of clean spaces such as the SCBA maintenance areas
- Ensure that equipment, furnishings, and finishes do not contain asbestos or lead

C. ENSURE FLEXIBILITY

As firefighting technology evolves, fire stations need to evolve as well. Consider the following areas:

- Plan for potential expansion, both in the apparatus bay area and the residential areas
- Ensure appropriate product/systems integration
- Design for the changing nature of work

RECOMMENDATIONS

V-1 The District should begin the process of conducting a facility needs assessment for the replacement of the current District Building, including consideration of potential sites in the light industrial area, or replacement of the current facility on the foot print it currently is placed on. Consideration for future needs beyond 10 years should be included in any future planning for a new facility. An example of this would be including dormitory rooms and office space to provide storm/disaster coverage and to consider the future needs of the District.

V-2 To improve safety, accessibility, and mobility around the current fire station apparatus bays, storage should be reorganized and obsolete hose, gear, firefighting appliances, SCBA, or other items no longer in use should be disposed of, to enhance functionality and safety.

VI. APPARATUS AND EQUIPMENT

The MRI study team conducted a cursory review of the current fire apparatus fleet to determine the average age of vehicles. The average age of the AFDFD's fleet is 10.8 years. The oldest fire apparatus is Engine 1 at 25 years old. Engine 1 has exceeded its service life and should be replaced. A detailed apparatus replacement plan (capital improvement plan) should be developed and presented to the Prudential Committee for future planning.

Despite the lack of clear guidance in the various NFPA standards, there is a significant body of knowledge that suggests that fire apparatus definitely has a finite lifespan. The reasonable service life of fire apparatus will depend on a number of variables such as the level of use, local environment, and operating conditions, and very importantly, the scope of preventative maintenance. It is generally accepted that lower use fire apparatus, such as units serving communities that are suburban in nature, might still be mechanically sound after twenty years or more, due to their lower frequency of use. However, after twenty years, technical and functional obsolescence may make the apparatus less desirable to use even if mechanically sound and serviceable. Nevertheless, that does not mean that it will still not be serviceable as a spare or reserve apparatus. Based on experience, most communities the size of the District replace an engine at 20 years and a ladder between 25-30 years of age depending upon use and condition.

One of the biggest factors that can impact the serviceable life of the apparatus is the level of preventative maintenance that is received. NFPA 1911: ***Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Automotive Fire Apparatus*** **(2012 edition**) provides guidance on this important aspect of fire department support operations. Apparatus manufacturers also identify suggested programs and procedures to be performed at various intervals. As apparatus ages, it is reasonable to expect that parts will wear out and need to be replaced. It follows then that maintenance costs and overall operating expenses will increase. As a result, cost history and projected costs for the future must be considered as a factor in determining when to replace or refurbish a fire apparatus. In addition, the reliability of the apparatus must be considered. Experiencing low downtime and high parts availability are critical factors for emergency equipment maintenance and serviceability. A pro-active preventative maintenance program can assist with holding costs to an acceptable level.

Overall, the AFDFD fleet appears to be well-maintained and in serviceable condition. However, one of the department's engine is 25 years old, and at the end of its serviceable life span. Comparative to other similar size on-call fire service agencies, AFDFD appears to have an appropriate apparatus set that meets the needs of the community. Moving forward the community will need to invest and replace aging apparatus with more capable vehicles that provide a more effective operational response.

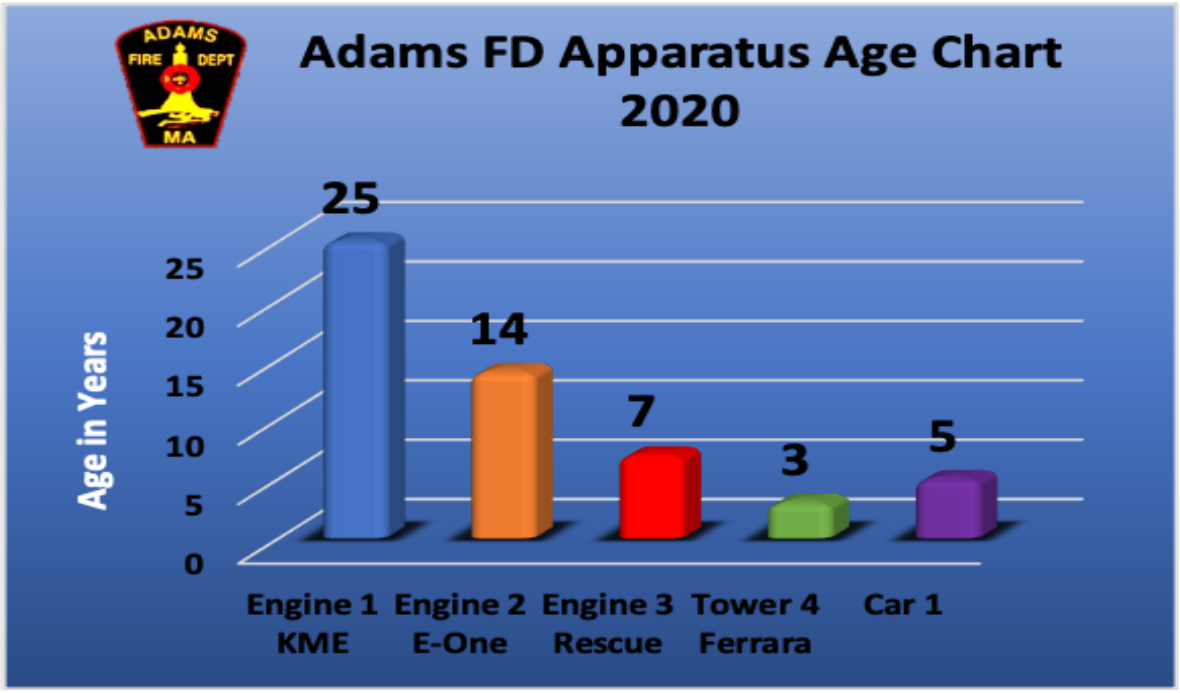

Figure VI-1

Adams Fire District Fire Department Apparatus Age Chart 2020

Figure VI-2
Adams Fire District Fire Department Engine 1

Figure VI-3
Adams Fire District Fire Department Engine 2

Figure VI-4
Adams Fire District Fire Department 2017 Tower 4

Figure VI-5
Adams Fire District Fire Department Rescue 3

A white paper developed by the Fire Apparatus Manufacturer's Association (FAMA) suggests that the front-line lifespan of active-duty fire apparatus in a suburban setting ranges from 16 to 19 years, with the possibility of an additional 9 to 10 years in a reserve, or spare status. The International City/County Management Association (ICMA) suggests that the lifespan of a fire pumper should be 20 years, and the lifespan of an aerial ladder should be 25 years. The National Fire Protection Association suggests 15 years in front line service with an additional five in reserve status.

One common recommended practice is to purchase one major piece of fire apparatus every 5 years. The goal of this strategy is to spread major purchases out over time in an effort to allow the governmental entity to maintain a consistent level of debt service. Regardless, the decision is left to each locality and represents a balancing of numerous factors: fire department activity levels, maintenance costs and history, individual vehicle reliability, funding availability, technological changes, firefighter safety, and vehicle use. Fire apparatus must be replaced before it becomes unreliable, but it must be held in service for as long as practical to maximize the benefit of the large initial investment from the community.

As the value of the apparatus or vehicle depreciates, the maintenance costs are evaluated along with the age, mileage, and engine hours so that expected maintenance costs do not exceed the value of the apparatus or vehicle. When considering apparatus usage, hours on the engine and pump must be taken into consideration. Fire apparatus typically spend more time idling while at the scene of emergencies, or when operating the fire pump at a fire. A rule of thumb that can be used is that each hour on the motor is the equivalent of 30 - 35 miles of actual driving mileage.

As newer technological improvements are introduced that increase safety and efficiency for the Department, the capital replacement plan should be evaluated in an ongoing manner, and these other factors should be considered as a component in scheduling replacement apparatus. An important component of the plan is that it allows front-line apparatus to be replaced before it is no longer serviceable due to safety or efficiency issues, but still be usable as a reserve or backup unit.

RECOMENDATIONS

VI-1 The District should authorize the replacement of Engine 1 in 2021.

VI-2 The District should develop a comprehensive apparatus replacement plan that projects needs for a 15-year period. The plan should include detailed specifications, anticipated cost, projected replacement date and any other information that will provide a cyclical road map of the replacement schedule.

VI-3 The AFDFD should ensure that all fire apparatus pumps are serviced, inspected, and tested annually, in accordance with NFPA and ISO standards. All tests conducted, results including deficiencies noted, and any corrective action taken should be documented.

VI-4 The AFDFD should ensure all department aerial and ground ladders are serviced, inspected and tested annually, in accordance with NFPA standards. All tests conducted, results including deficiencies noted, and any corrective action taken should be documented.

VI-5 The AFDFD should ensure that all department hose is inspected and tested, annually, in accordance with NFPA and ISO standards. All tests conducted, results including deficiencies noted, and any corrective action taken should be documented.

VI-6 The AFDFD should develop a complete inventory of all department equipment, review compliance with NFPA criteria (including the proper organization and mounting and securing of equipment in crew cabs and compartments) and assess the Department's

own operational and equipment needs. The inventory should be updated annually to ensure that it is current.

VI-7 The AFDFD should adopt a policy of purchasing new NFPA 1901 compliant equipment when new apparatus is purchased. This policy will ensure that equipment is the most technologically up-to-date and that it is safe and functional. It will also make it possible to keep reserve apparatus fully equipped for immediate use.

VI-8 The AFDFD should establish a formal replacement plan for equipment. The regular replacement of large cost items such as hose and SCBA on an incremental basis will avoid major one-time increases in the operating budget. The life expectancy of these items can be estimated based on usage and manufacturer's recommendations.

VI-9 The AFDFD should take advantage of the fire apparatus and ambulance group purchasing system that is sponsored by the Fire Chiefs Association of Massachusetts (FCAM) and the Metropolitan Area Planning Council (MAPC). Municipalities may select a specific design and manufacturer from a pre-determined bid list and are not required to establish their own bid process. It is estimated that this group purchasing system will save approximately five to ten percent of the cost of a fire truck (see www.mapc.org).

VI-10 The procurement of most of AFDFD's future apparatus needs will normally be funded at the annual meeting. However, in any given year, a federal Assistance to Firefighters Grant (AFG or Fire Act) could also be pursued as a way to obtain funding. The District has already demonstrated the ability to navigate this highly competitive process. This is particularly true if the requested apparatus is going to replace more than one unit. If the AFG grant application is successful, then any already capital project funding can be cancelled.

Note: The grant writers that developed the application that acquired the replacement ladder should be commended for their efforts. The acquisition of this apparatus is an unprecedented feat in this highly completive grant process.

VII. FISCAL FORECASTING & CAPITAL PLANNING

Emergency services budgets are more than the dollar amount allocated for the operation of the Department. The budget is a document that reflects the goals and objectives that the Fire Department established for delivery of services to the community. The budget should be used as a planning tool by the Department, and its members, and the budget should outline the resource needs required to properly and safely serve the public.

Budget preparation and management must be an ongoing process in every aspect of the Department. Before one budget cycle is completed, the next must already be in process. The Chief Engineer along with his/her other officers, must continuously monitor their department and their ongoing needs, as well as anticipate the demands that will be placed upon them in the future.

Most funds for the AFDFD budget come from a fee based on the number of units. **The current annual fee of $84.00 ($21.00 per quarter) is not sufficient to support the recommendations contained in this report or the needs of a modern-day fire service organization within the District.** The Fire Department budget also receives 30% of an annual $80.00 customer charge per account which represents the contribution to the indirect expenses of the District. Other funds also come from a wide variety of fees for services, grants, and other sources.

Some long-term capital funding may be included as part of a bond issue that will be paid back over a number of years. Some departments are using leases, and lease purchase programs, to assist with replacing undependable or unsafe apparatus and equipment. Contracting to provide shared services, such as for dispatching, has proven to assist with generating funds in some departments, or conversely, reducing expenses by joining another community.

While a comparative study can evaluate the level of effort and ability of customers to fund services, it cannot measure customers' willingness to pay over the long run. Caution should be used if looking for hard and fast answers using statistical comparisons on their face value alone. Every emergency services provider, and every town, has developed creative methods for service delivery, and cost labeling, based on specific needs. Additionally, the information that might be obtained from various municipalities could vary to some degree, as to how they report expenses such as employee benefits or vehicle maintenance.

The project team reviewed the budget documents provided by the AFDFD. The MRI team suggests that the current operating budget appears to be underfunded; based upon a comparison with the funding provided to other similar organizations. This provides a challenge for the District to meet the current needs of the Department in order to maintain the existing levels of service as a call fire department.

CAPITAL PLANNING

As noted previously, a capital improvement plan or CIP, is a plan that projects large organizational needs for at least the next decade. This plan which major (capital) projects and equipment purchases, organizes long term projects, provides a planning schedule and identifies options for financing the plan. The plan serves as a mechanism for decision-making, to identify priorities early, to allow for more deliberate planning of financial resources. The District should develop and update a CIP; and communicate the needs identified to the community. This plan should be updated annually.

Capital infrastructure is essential to all communities. In the case of the District, the focused services provided including fire service, water service, and street lighting, requires a high level of infrastructure to sustain the operations of the District. The quality of life of the District's residents depends on the reliability of its delivery of emergency services, and the quality of its water systems, and the accessibility of many other essential public services. Service quality can only be maintained if districts are committed to keeping their capital infrastructure in good condition.

Budgetary pressures often divert government resources away from capital appropriations. At a time when many governments are challenged by citizen demands for additional or improved services, and rate payer resistance to higher rates to pay for these services, the capital budget is often the first to be cut to balance the budget.

Careful planning is required to ensure that capital needs receive the full attention and commitment of government officials. A well-planned capital improvement program is a crucial tool to systematically plan for and manage capital needs. On-going service delivery can be assured only if adequate consideration is given to capital needs. If facilities and infrastructure are not maintained, they will deteriorate until costly maintenance is required, services are threatened, and community growth stagnates or declines.

It appears that the District is in relatively sound financial condition. This is a result of excellent fiscal management. The Town of Adams is currently stagnant relative to growth and has experienced a slight population decrease. However, based on our tour of the area the potential of a small uptick in growth could occur based upon changes in the housing and commercial marketplace. It is unclear whether the District has a current long-range capital plan. During this study a CIP was not provided to the team and based on discussion it appears that currently a long-term CIP is not in place.

Year	Description		Cost new	Current Age	Capital Year	Budget
1995	Engine 4 Smeal Simon/Duplex	23	$ 265,493	25	2020	$ 765,000
2012	Amb 1 Ford F550	6	$ 180,000	8	2020	$ 320,000
0	New Forestry Unit	0	$ 0	0	2021	$ 100,000
2011	Utility 1 Ford F350 Pick up	7	$ 41,000	10	2021	$ 60,000
2014	Med 3- Ford F550	4	$ 215,000	8	2022	$ 380,000
2015	Car 2 Explorer	3	$ 35,000	8	2023	$ 55,000
2016	Med 2 Ford E450 Road Rescue	2	$ 154,000	8	2024	$ 410,000
2016	Car 3 Explorer	2	$ 25,000	8	2024	$ 55,000
2017	Car 1 Explorer	1	$ 25,000	8	2025	$ 60,000
2017	Car 4 Ford F250	1	$ 28,000	8	2025	$ 60,000
1991	Ladder 1 E-One Hurricane 110' Aerial ladder	27	$ 320,000	34	2025	$ 1,750,000
2006	Engine 2 E-One	12	$ 362,000	20	2026	$ 800,000
2015	Utility 2 Ford Bucket Truck	3	$ 112,000	15	2030	$ 135,000
2014	2014 E-One Quint	4	$ 750,000	25	2039	$ 900,000
2017	Engine 1 E-One Cyclone	1	$ 575,000	25	2042	$ 850,000
2018	E-One Typhoon Heavy Rescue	0	$ 553,380	25	2043	$ 800,000

Figure VII-1
Example Capital Pan

As noted previously, MRI believes that an Apparatus Replacement Plan should be developed and followed by the District, relative to the AFDFD's apparatus fleet. An apparatus replacement plan that forecasts out as far as 15 years will help in determining long term capital financing needs; as well as maintaining stable rates for the rate payer, rather than spikes in the rates every few years due to the need to replace apparatus. Additionally, there are a number of various lease-purchase programs or financing options to assist with funding these capital projects.

HUDSON FIRE DEPARTMENT
PROPOSED APPARATUS REPLACEMENT SCHEDULE
LONG RANGE PROGRAM
October 2004

The following is being supplied as part of this package to identify the Proposed Long Range Apparatus Replacement Program for the Fire Department.

ENGINE - 1	1997	2012	2027	2042	Replace Every 15 Years
ENGINE - 2	1992	2007	2022	2037	
ENGINE - 3	1999	2014	2029	2044	
ENGINE - 4	1990	2005	2020	2035	
LADDER - 2	1995	2010	2025	2040	Replace every 15 Years
FORESTRY - 1	1969	0000	0000	0000	Replace Every 15 Years
FORESTRY - 2	2000	2015	2030	2045	
FORESTRY - 4	2002	2017	2032	2047	
AMBULANCE - 1	2000	2009	2018	2027	Replace Every 9 Years
AMBULANCE - 2	1998	2006	2015	2024	
AMBULANCE - 3	1993	2003	2012	2021	
TANKER - 1	1987	2008	2023	2038	Replace Every 15 Years
TANKER - 5	1989	2011	2026	2041	
RESCUE - 1	1989	2009	2029	2049	Replace Every 15 Years
CAR - 1	2004	2014	2024	2034	Replace Every 10 Years
CAR - 2	2004	2012	2020	2028	
CAR - 3	2000	2010	2020	2030	
FIRE PREV. VAN	1996	2009	2019	2029	
UTILITY PICK UP	1983	2006	2016	2025	
FIRE ALARM TRUCK	1970	2008	2028	2048	Replace Every 20 Years

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Figure VII-2
Example Capital Pan

GRANTS

There are a number of federal, state, and private grants available for fire departments and communities to consider for supplementing their budgets. If successful in receiving a grant award, most departments can acquire equipment, training, and programs that they would not be able to achieve through the normal budget process. Though the process can be difficult, and time consuming, the outcomes can be very beneficial to the AFDFD.

While the economic challenges of the last decade have had an impact on grants from private entities and foundations, fortunately, the federal grant programs targeted to the fire service, the Assistance to Fire Firefighters Grants for equipment (AFG), the Staffing for Adequate Fire and Emergency Response Grants (SAFER) for personnel, and the Fire Prevention and Safety Grants (FP&S) for fire prevention and public fire education programs, continue to be funded, although not anywhere near their authorized levels.

The AFG program provides financial assistance directly to fire departments to enhance their capabilities with respect to fire and fire-related hazards. The AFG supports fire departments that lack the tools and resources necessary to more effectively protect the life and safety of the public, and their emergency response personnel with respect to fire and all other hazards. Since 2001, AFG has helped firefighters and other first responders to obtain critically needed equipment, protective gear, emergency vehicles, training, and other resources, needed to protect the public, and emergency personnel, from fire and related hazards.

The goal of the SAFER grants is to enhance the Fire Department's ability to comply with staffing, response, and operational standards, established by NFPA and OSHA (NFPA 1720 and OSHA 1910.134). Specifically, SAFER funds assist the Fire Department to increase their staffing and deployment capabilities in order to respond to emergencies whenever they may occur. SAFER grants are awarded to departments for both hiring of career personnel, and recruitment and retention of volunteer/call personnel. However, a department cannot apply for both categories of grant in the same year.

FP&S grants support projects that enhance the safety of the public and firefighters from fire and related hazards. The primary goal is to target high-risk populations and mitigate high incidences of death and injury.

There are several other grants available to fire departments for various purposes. Some grants that may be available to the District are the Fireman's Fund Heritage Grants, Factory Mutual grants for fire investigation, and Wal-Mart community grants. Other large chains, such as Home Depot and Lowes, are frequently willing to provide funding, and/or enter into partnerships for specific projects. The key to success at this level is finding grants for which the Department may be eligible, and, ensuring that the application is tailored to the grant program's priorities.

Unlike most fire departments, the District has had a positive record of success regarding grants they have applied for. One of the shortcomings in the AFG program is that departments which submit grant applications that are ultimately not successful, are not informed as to why their application was not funded. Typically, only about 8% of all grant applications submitted are approved and funded. Nearly 50% of the applications fail to make it past the initial computer review, where statistical aspects of the application are reviewed, to determine their compatibility, with the established grant criterion/ priorities. This explanation is not, in any way,

meant to cast a negative light on District applications. It is included to illustrate the long odds of successfully obtaining a grant even with a strong application.

SOURCES OF ADDITIONAL FUNDING

In this era of extremely tight budgets, where every governmental entity is looking for alternative revenue streams to offset declining revenue, there are several other sources of potential revenue for the Fire Department that the District may want to explore and consider implementing. Among these are increased fire prevention business registration, inspection, and permit fees; billing insurance companies for response to motor vehicle accidents; registration fees for fire alarm systems; and the issuance of penalties for those whose systems generate repeat false alarms.

RECOMMENDATIONS

Throughout this report, the MRI project team has made several recommendations that could, if adopted, increase expenditures in the District. MRI believes that these recommendations are essential for the effective, efficient, and safe operation of the Fire Department. Other recommendations are intended to reduce overall financial risk and liability, or will have the effect of smoothing expenditure rates, and minimizing one-time spikes in the budget. Ideally, emergency services expenditures should result in programs that are well-justified and cost-effective, and that have measurable outcomes that result in an improved level of safety and protection for residents of the District, adjacent response area protected under an intermunicipal agreement and those who are visiting the District.

VII-1 The District should review all fees on an annual basis for possible increases in accordance with state law. The current fee schedule is not sufficient to support a modern-day fire service within the District.

Vll-2 The District should work with the Town of Adams to collect a fee on all the land, area and structures that are outside of the paying water district area. The services of the Fire Department is shared by all and only funded by some.

VII-3 The District and the AFDFD should explore additional potential ways to generate revenue to offset the Fire Department's operating costs. Consideration could be given to billing insurance companies for response to motor vehicle accidents, establishing registration fees for fire alarm systems and implementing fines for repeat false alarms.

VII-4 The AFDFD should identify and prioritize its most critical equipment, training and/or operational needs, and apply annually to the Assistance to Firefighters Grant (AFG) program. This should include making applications for apparatus capital replacement

projects that will otherwise be funded through the District's capital budget and at the District meeting.

VII-5 The District should apply for a federal SAFER grant in 2021 for the purpose of staffing and the recruitment and retention of current personnel.

VII-6 The AFDFD should prioritize its fire prevention and public fire education needs and apply annually to the Fire Prevention and Safety Grant (FP&SG) program.

VII-7 The District should actively search for other grant opportunities. Grants for fire protection, fire safety, fire prevention, domestic and emergency preparedness, and homeland security may be available from federal, state, corporate, and foundation sources.

VII-8 The AFDFD should actively seek out businesses that may be interested in establishing public/private partnerships that could provide, or assist with, funding for various programs, projects, or initiatives.

VII-9 The AFDFD should establish a formal replacement plan for equipment. The regular replacement of large cost items such as hose, ladders, PPE, portable radios, AEDs, and even SCBA on an incremental basis will avoid major one-time increases in the annual operating budget, where such purchases should be funded. For instance, the hose and ladders on one vehicle can be replaced in one fiscal year, another the following year, etc. The life expectancy of these items can be estimated based on usage and manufacturer's recommendations. Items such as hose and ladders can remain in service indefinitely, provided they continue to successfully pass their annual tests.

VIII. FIRE PREVENTION

OVERVIEW

The core service that a fire department provides to the public it serves, begins with fire prevention. Fire prevention activities are one of the most important missions of a modern-day fire department. A comprehensive municipal fire protection system should include, at a minimum, the key functions of fire prevention, code enforcement, inspections, and public education. Preventing fires before they occur, and limiting the impact of those that do, should be priority objectives of every fire department. Educating the public about fire safety and teaching them appropriate behaviors on how to react should they be confronted with a fire, is also an important life safety responsibility of the Fire Department. At some level, fire prevention efforts should involve all members of the Department, or on call departments such as the AFDFD, a team approach should be developed.

Fire prevention activities in a municipal fire department typically include fire safety inspections; fire code enforcement; issuance and oversight of permits; review of construction plans and the delivery of public fire safety education programs. Fire prevention should be approached in a truly collaborative manner as many community stakeholders have a vested interest and/or responsibility in these areas. Fire prevention activities such as plan review, permitting, and periodic inspections should be coordinated with similar activities in the municipal building inspection department and/or planning department.

Inspection and code enforcement procedures and policies must conform to the Commonwealth of Massachusetts statutory requirements, and the policies of the Massachusetts Department of Fire Services, Office of the State Fire Marshal. The local fire chief, or his/her designee, is authorized to enforce 527 CMR (Code of Massachusetts Regulations), Board of Fire Prevention Regulations, also known as the Massachusetts Comprehensive Fire Safety Code. Investigation of the origin and cause of fires also generally falls under the responsibility of the fire prevention bureau in a fire department. Although based on relative and frequency of events, AFDFD should pursue this as a regional effort.

OBSERVATIONS

From strictly a fire prevention perspective, the Chief's duties include:

- Plan reviews for new construction and renovations including fire sprinkler systems and fire alarm systems;
- Inspections of various construction and renovation projects;
- Signing certificates of occupancy for new and renovated buildings;

- Issuing permits and conducting various permit-related inspections;
- Conducting quarterly school inspections;
- Conducting annual liquor license inspections;
- Performing change of ownership smoke detector/carbon monoxide detector inspections in residential occupancies;
- Observing acceptance tests of fire protection systems (fire alarm systems, automatic fire sprinkler systems and fire extinguishing systems);
- Supervising underground tank removals;
- Performing oil burner and propane inspections;
- Supervising blasting operations within the community;
- Conducting public fire education programs; and
- Responding to citizen inquiries and complaints.

The Commonwealth of Massachusetts has implemented 3 levels of fire prevention credentialing. Level 1; allows personnel to perform basic company level inspections. Level 2; provides more advanced knowledge and understanding of the code and administrative procedures. Level 3; is for fire prevention administration and management. It is important to remember that performing fire prevention inspections is a life safety specialty. Using people who are not properly credentialed will present a significant liability to the District.

The Commonwealth of Massachusetts requires that the Fire Department and the Building Department work together to enforce their respective codes/regulations. There is significant overlap in their respective responsibilities, particularly in restaurants, assembly occupancies and educational uses, and in some areas, they share joint jurisdiction. Both departments need to sign off annually that required fire and life safety inspections have been satisfactorily completed, as required for businesses that hold a liquor license and some places of assembly uses. Assertion; the authority for the issuance of permits and licenses is pursuant to Massachusetts General Law (MGL) Chapter 148, or 527 CMR. The authority to charge fees is derived from MGL Chapter 148, section 10A. Most of the fees are established by the commonwealth and individual towns cannot charge more than the state maximum. An annual review of AFDFD fees should be performed.

If necessary, for larger and/or more complex projects the Department can utilize outside consultants to assist with plan review and/or inspections. This outside assistance can include fire protection engineers and personnel from the state fire marshal's Office of Code Enforcement. At the time of this assessment, the District does not have a false alarm billing bylaw, as permitted under MGL, to use as a tool against locations from which repeated false alarms are received. Under model bylaws, after 3 false alarms, a letter is sent to the facility/owner directing them to repair the system to proper working order. If compliance is not achieved, subsequent false alarms result in the levying of fines/penalties. Most communities only include commercial occupancies in their bylaw. Residential occupancies are exempt. MRI noted in the review of calls that there are approximately 99 fire alarm responses a year. Determining which of those alarms

are frequently false should be reviewed, and communications with the property owner to resolve the false alarms should be accomplished.

Investigation of the basic origin and cause of fires also generally falls under the responsibility of the fire prevention bureau in a fire department. The AFDFD does not have a formal written procedure in place regarding the investigation of fires. Generally, for any fire that results in property damage, the Fire Chief will conduct an initial investigation to provide fire cause and origin determination. Investigators from the state fire marshal's office are requested to assist with large or complex fire investigations, if the fire is deemed to be suspicious or incendiary, or when specialized investigative resources are required (such as an accelerant detection dog), which is typical for communities the size of the District. The state fire marshal's office is also called in for fires that result in a fatality. As mentioned previously the development of a fire investigation team should be pursued as a regional effort.

Fire prevention should be promoted as a key component of the vision of the AFDFD and should be a major aspect of its primary mission. Aggressive fire prevention programs are the most efficient and cost-effective way to reduce fire risks, fire loss, and fire deaths and injuries in the community. Fire prevention is a key responsibility of every member of the Fire Department and to the extent practical, every member of the Department should have a responsibility for fire prevention.

RECOMMENDATIONS

VIII-1 The AFDFD should encourage and support training and professional development activities for department members in the fire prevention and fire inspection areas. This can include, among other endeavors, attendance at the Fire Prevention Association of Massachusetts, and Massachusetts Firefighting Academy.

VIII-2 Should the District decide to staff personnel on a per-diem or standby status, the AFDFD should establish a formal in-service fire safety inspection program. The on-duty personnel can be assigned with the responsibility for "in-service" inspections to identify and mitigate fire hazards in buildings and to familiarize firefighters with the layout of buildings, identify risks that may be encountered during firefighting operations, and to develop pre-fire plans. On-duty personnel in many departments are assigned responsibility for permit inspections and public fire safety education activities. In order to establish an in-service inspection program, it will be necessary to:

- **Train personnel on proper procedures (all personnel should be credentialed at least to the Fire Inspector I level recommended above);**
- **Develop standard operating guidelines for in-service inspections;**

- **Establish inspection schedules;**
- **Establish a system for documenting inspections and notifying property owners of fire hazards;**
- **Establish a follow-up inspection system to ensure that hazards have been mitigated; and**
- **Require on-duty personnel to conduct regular in-service inspections of all building construction sites in the District and the adjacent response area protected under an intermunicipal agreement.**

VIII-3 The District should continue to update its website on a regular basis to provide its customers, and other interested parties, as much information as possible on fire safety, fire prevention, and the Department as a whole. The Department should also work actively to make on-line permitting, inspection scheduling, etc. a reality.

VIII-4 The District should consider the adoption of a bylaw as permitted under MGL Chapter 40 Sec 21D to allow enforcement action, including the issuing of fines/penalties for repeat false fire alarm activations. Other districts have been successful in addressing this issue by working collaboratively with the communities that they protect and developing a bylaw that provides a policy on how non-criminal disposition actions are addressed.

VIII-5 The AFDFD should make the delivery of year-round public fire safety education programs, in the schools, and throughout the community a top priority since this is the area where the fire service is most effective at preventing fires, injuries, and deaths. Personnel should be encouraged to obtain the Fire and Life Safety Educator certification issued by the state fire marshal's office.

VIII-6 The AFDFD should continue to maintain and enhance its library of fire prevention reference materials, including maintaining online subscriptions such as NFPA and its professional subscriptions.

VIII-7 The AFDFD should consider developing a regional red and blue joint fire investigation team, in a collaborative endeavor with other local fire departments and the Adams Police Department. This would allow routine fire cause and origin investigations to be conducted by local area public safety personnel. In most cases the "red" component, fire personnel, are a regional resource, while the "blue" component, police personnel, are from the local jurisdiction. When necessary, the State Fire Marshal can still be requested to assist with large or complex fire investigations or when specialized investigative resources are required (such as an accelerant detection dog). The State Fire Marshal's Office is also automatically called in for fires that result in a fatality.

IX. CONCLUSIONS AND IMPLEMENTING CHANGE

Based upon this analysis of the organization and operations of the AFDFD, the project team concludes that there are four areas that should be a priority and need to be addressed. They are as follows:

1. Development of a staffing model that includes a salaried full-time fire chief and per diem coverage during peak hours to meet increasing emergency service demands and address dwindling response resources;

2. Planning for facility replacement;

3. Development of an apparatus and equipment capital improvement plan (CIP);

4. Develop a revenue stream that will support the needs of a modern-day fire service organization;

5. Development of a strategic plan which can serve the District as a roadmap to chart the future of the organization.

The future stability and longevity of the AFDFD is dependent on its modernization and proactive planning for the future. Replacing the 1960 vintage station and providing the organization with a safe and modern platform for service delivery, is key to charting a successful future. The current facility has far outlived its functional ability to effectively and efficiently deliver emergency services to the community. It's lack of space for apparatus and equipment alone, limits the ability of the District to replace it's apparatus and equipment needs without having to modify the specifications, in order to have the apparatus fit in the bays, designed for apparatus in the 1960's. These modifications add cost to the purchase of these resources. Additionally, obsolete HVAC equipment, lack of meeting space, office space, the lack of separation of space, limited decontamination equipment, and general building site restrictions complicates the District's ability to keep up with current fire service needs.

A challenge in the recruitment and retention of firefighters, which is growing not only in Adams, but also statewide, regionally, and nationwide will require the District to begin preparing to change staffing models in the future, to deliver the emergency services the community desires. This transition will take a number of years and must be started in the near future. In order to retain an on-call structure, recruitment efforts must be an ongoing and vibrant focus of the organization.

Adams also has a fully equipped Forest Warden Department. Although this seems to be a regional practice it is a model rarely utilized within the New England Fire Service. Having two

Departments complicates staffing, as interested individuals may choose one function over the other. Subject to appropriate training, certification and participation, members should be encouraged to participate in both organizations. In fact, over the next ten years these two organizations should consider consolidation and better alignment of resources.

The District lacks any type of long-range or strategic plan that charts its projected path to the future. A strategic plan should be developed jointly in collaboration with stakeholders in the District, in order to establish goals and objectives that will assist the Department's roadmap over the next three, five, and ten years. This plan should be revisited and updated every two years.

The District has a number of positive attributes, most notably its dedication and commitment by AFDFD members. An Insurance Services Rating (ISO) of 3/3X is commendable for the organization and shows the organization has the ability to build upon its successes. The District must engage in innovative strategies to address these priorities.

Despite these challenges, MRI clearly acknowledges and recognizes that when staffing positions are filled, the personnel of the District together as a team, is moving the organization forward.

To that end, MRI recommends the following objectives as a roadmap for initiating change and moving forward with delivery of exceptional emergency services to the community.

RECOMMENDATIONS

IX-1 AFDFD should enter into discussions with the municipal administrations, governing bodies, and fire department leadership of its adjacent communities, for the purposes of identifying possible future opportunities for shared services and explore the feasibility of a more regional approach to fire protection and EMS delivery systems.

IX-2 The project team recognizes and is aware that some of the challenges identified in this organizational assessment are being addressed (or resolved). This organizational assessment serves as a document that can be used in the future to provide a record of history; therefore, those areas are identified.

IX-3 The District should utilize this report as a tool to initiate discussion and guide the organization forward.

In conclusion, the missions performed by fire departments are some of the most basic and fundamental functions of government; that is to ensure the safety and protection of its residents

and visitors. The MRI team is confident that the members of the AFDFD work diligently to meet that need and supply the District with the best possible fire services.

The real issue facing the District, and the Town of Adams, as it is for every community, is to determine an acceptable level of risk and then define an appropriate level of service for the community. There is no "right" amount of fire protection. It is a constantly changing level based upon the expressed needs of the community. Determining the appropriate level of service also involves deciding upon the municipalities' fiscal ability, and willingness, to pay for the desired level of service. These are decisions that the voters of the District and the Prudential Committee, will ultimately need to make.

MRI would like to take this opportunity to express its appreciation for the cooperation received through all levels of the District for its role in the completion of this study.

X. CONSOLIDATED LISTING OF RECOMMENDATIONS

This report contains 63 recommendations which are listed by chapter below:

II. COMMUNITY RISK ASSESSMENT

II-1 The AFDFD should further develop and implement an internal risk management plan following the recommendations of NFPA 1500, Standard for a Fire Department Occupational Safety and Health Program, and NFPA 1250, Recommended Practice in Fire and Emergency Services Organization Risk Management. This management plan will assist in identifying the long-term needs of the Fire District related to reducing risk in the community.

II-2 The District should focus its future strategic planning efforts towards reducing risk. The District should develop staffing, facility, and apparatus needs based on that assessment.

II-3 To further define and identify definitive risks within the community the District will need to conduct a comprehensive risk assessment and incorporate the findings into a strategic plan for the future.

II-4 The District should continue to invest in technology-based records management and preplanning systems that provide first responders with site specific response information. As sufficient staffing/human resources do not exist to conduct a comprehensive preplanning effort, a part time position should be funded to provide peak staffing and populate, organize and periodically update operational pre plans.

II-5 The AFDFD should develop a long-term goal of implementing a compelling public education program that includes educating and discussing the benefits of installing residential fire sprinklers in new one- and two-family dwellings. This program should begin as a compensated part time or per-diem position.

II-6 The District should work with the Adams Planning Board to require that sufficient fire protection resources including residential sprinklers, cisterns and or dry hydrants be installed and maintained when development occurs in areas outside that are not covered by the municipal water supply system.

II-7 The AFDFD should work with Developers/Builders/Owners to consider the installation of automatic fire suppression systems, or fire water supply cisterns in new developments or in areas of the Town that are not covered by the municipal water supply system.

II-8 The District should adopt a False alarm by-law that has expectations and fines for continued issues with alarms with the fines coming back to the District.

III. STAKEHOLDER COMMUNICATIONS AND DIALOUGE

III-1 The Prudential Committee and Chief Engineer should develop ways to open lines of communications including meeting regularly with the Chief Engineer and Assistant Engineers to discuss current events and engage in strategic planning for the future.

III-2 The Prudential Committee should provide structure, organization and facilitation to these meetings to ensure consistent communication and success of the process.

III-3 The Chief Engineer should provide the Prudential Committee and Fire Department personnel with a bi-weekly report of a summary of fire department activities that have occurred duirng the previous two weeks. Typical contents for this report includes a listing of emergencies responses, vehicle and apparatus status, training completed, inspections completed and other fire department related matters. This bi-weekly report is typically not longer than one page in length. The increased exchange of information between the Prudential Committee, command staff, and the general membership of the Department will lead to a better understanding of how each group contributes to Fire Department Operations.

IV. PRESENT AND FUTURE NEEDS OF THE ADAMS FIRE DISTRICT

IV-1 The AFDFD organizational rank structure utilizes Assistant Engineers as part of the command staff. The officer rank below Assistant Engineer is the position of Fire Lieutenant. We recommend that the District creates the position of Fire Captain. The addition of this rank will provide greater opportunities for individual growth within the organization, contributes to retention and maintains an effective span of control. This supervisory change will allow the Assistant Engineers to focus on organizational leadership and support of the Chief Engineer.

IV-2 Once the position of Fire Captain has been created one Captain should be assigned to lead the Department's recruitment and retention efforts. A second Captain should be assigned to support and document the training function.

IV-3 MRI recommends that the current department SOPS be reviewed, and others added. A sample list of SOP's and a sample SOP document has been included in Appendix A.

IV-4 The AFDFD should develop an officer training program or sponsor individuals to attend the Massachusetts Fire Academy Fire Officer Courses. This training should be offered to those members who are interested in becoming a Fire Officer in the future.

IV-5 The AFDFD should establish qualifications and job descriptions for the Fire Officer positions. This planning should also include succession planning for the Fire Chief's position.

IV-6 The Prudential Committee and the Chief Engineer should propose the creation of daytime hourly positions for per diem Firefighters, or increase funding for current firefighters to provide standby coverage during weekdays and weekends in order to ensure adequate response capability. A minimum of two staff should be used to cover the shifts. The hours should be based on a combination of need and availability. The level of the staff (officer, firefighter) should be determined by the Chief and the Engineers.

IV-7 The District should apply for a Federal SAFER grant for funding positions for per diem or paid on-call members, and for paid on-call recruitment and retention activities. This grant should be utilized to develop a comprehensive marketing program to attract new members and provide incentives for the retention of those personnel currently in the Fire Department. The grant also may be used for equipment and personnel costs related to the hiring of new members.

IV-8 The AFDFD should convene a focus group, to determine what concepts and recruitment and retention strategies are feasible and most attractive to potential candidates. The group should also bring forth recommendations on incentives and strategies to recommend to the Prudential Committee.

IV-9 The AFDFD should make it a priority to develop an active on-call recruitment team led by the Alert Hose Company. At a minimum, this program should consist of:

- **Developing a recruitment brochure and mailing it to all residents;**
- **Holding periodic open houses at the fire station;**
- **Performing public out-reach through the local media;**
- **Contacting community and service groups;**
- **Developing an eye-catching banner on the District's, Town of Adams and Alert Hose Company's websites and conducting radio and media advertisements;**
- **Placing signs recruiting call/volunteer personnel at the main entrances to town;**
- **Placing signs for call/recruiting volunteers in local businesses, particularly high-volume locations;**

- **Implementing or enhancing a fire explorer program.**

IV-10 The AFDFD should obtain membership and seek assistance from the Massachusetts Call and Volunteer Firefighters Association (MCVFA) and Fire Chiefs Association of Massachusetts (FCAM) relative to enhancing recruitment and retention efforts in Adams.

IV-11 The Chief Engineer should obtain membership and seek assistance from the International Association of Fire Chiefs (IAFC) and the Volunteer Combination Officers Section (VCOS) within the IAFC to gain further information and education on best practices in leading a call firefighter organization such as the AFDFD, as well as enhancing recruitment and retention efforts in Adams. Additionally, the Chief Engineer should attend the annual VCOS symposium sponsored by the IAFC organization, in order to be able to network and gain unique ideas and perspectives from other chief officers related to combination fire departments. This is one of the largest symposiums which specifically addresses call and combination fire organizational needs.

IV-12 The AFDFD should seek membership with the National Volunteer Fire Council (NVFC) www.nvfc.org to obtain recruiting and retention suggestions and reports to support the recruitment and retention efforts of their membership.

IV-13 In 2021, the District should begin to build and obtain support to transition from a stipend paid to a full-time 40-hour salary Chiefs position. Our analysis indicates that a full-time Chiefs position is necessary in order to guide the department into a healthy and productive future.

IV-14 In 2022 the District should support the development of the full-time position of Fire Chief.

IV-15 MRI recommends that the District employs per diem firefighter position(s) to provide 30 hours of peak demand coverage during weekday business hours. This will supplement on-call response and provide two personnel (the Fire Chief and a firefighter) to respond to emergencies during the 30 busiest hours as demonstrated by call volume analysis.

IV-16 The District should develop a marketing plan to introduce the needs of the organization to the voters of the District. This strategy should include attending meetings with local groups, organizations, stakeholders, community leaders, state and federal representatives, visibility at local community events, tours of the fire station and apparatus.

IV-17 The AFDFD should seek out marketing and public relations volunteers to assist with the development of any presentation/business plan of organizational need and capital

purchases capital projects. The Chief Engineer or his designated representative should expand the use of social media and involve other members of the Department in providing updated news, activities, and fire prevention tips and information to enhance the community's knowledge about fire safety, incident response and the role of the AFDFD.

IV-18 The District should propose the adoption of Chapter 48 Section 42 at the next Annual District meeting. Subsequent to adopting this section of Chapter 48, the Prudential Committee should transition the District from an elected Chief Engineer to an appointed Fire Chief.

IV-19 The District should seek legal counsel on the need for implementation of written inter organizational agreement between the District and Forest Warden Department that details specific expectations and services both organizations provide to each other, as well as the indemnification of liability as part of having a cooperative agreement.

IV-20 The AFDFD and Forest Warden Department should develop joint SOPs which detail operations where both agencies respond. These collaboratively developed documents should detail incident command protocols, identify who is the incident commander at various incidents; develop run cards to identify what resources should respond when assistance is requested.

IV-21 The District should investigate if there are any potential collaborative initiatives that can be undertaken such as consolidation or expanded automatic support between these two agencies.

V. FIRE STATION, APPARATUS, EQUIPMENT RECOMMENDATIONS

V-1 The District should begin the process of conducting a facility needs assessment for the replacement of the current District Building, including consideration of potential sites in the light industrial area, or replacement of the current facility on the foot print it currently is placed on. Consideration for future needs beyond 10 years should be included in any future planning for a new facility. An example of this would be including dormitory rooms and office space to provide storm/disaster coverage and to consider the future needs of the District.

V-2 To improve safety, accessibility, and mobility around the current fire station apparatus bays, storage should be reorganized and obsolete hose, gear, firefighting appliances, SCBA, or other items no longer in use should be disposed of, to enhance functionality and safety.

VI. APPARATUS AND EQUIPMENT

VI-1 The District should authorize the replacement of Engine 1 in 2021.

VI-2 The District should develop a comprehensive apparatus replacement plan that projects needs for a 15-year period. The plan should include detailed specifications, anticipated cost, projected replacement date and any other information that will provide a cyclical road map of the replacement schedule.

VI-3 The AFDFD should ensure that all fire apparatus pumps are serviced, inspected, and tested annually, in accordance with NFPA and ISO standards. All tests conducted, results including deficiencies noted, and any corrective action taken should be documented.

VI-4 The AFDFD should ensure all department aerial and ground ladders are serviced, inspected and tested annually, in accordance with NFPA standards. All tests conducted, results including deficiencies noted, and any corrective action taken should be documented.

VI-5 The AFDFD should ensure that all department hose is inspected and tested, annually, in accordance with NFPA and ISO standards. All tests conducted, results including deficiencies noted, and any corrective action taken should be documented.

VI-6 The AFDFD should develop a complete inventory of all department equipment, review compliance with NFPA criteria (including the proper organization and mounting and securing of equipment in crew cabs and compartments) and assess the Department's own operational and equipment needs. The inventory should be updated annually to ensure that it is current.

VI-7 The AFDFD should adopt a policy of purchasing new NFPA 1901 compliant equipment when new apparatus is purchased. This policy will ensure that equipment is the most technologically up-to-date and that it is safe and functional. It will also make it possible to keep reserve apparatus fully equipped for immediate use.

VI-8 The AFDFD should establish a formal replacement plan for equipment. The regular replacement of large cost items such as hose and SCBA on an incremental basis will avoid major one-time increases in the operating budget. The life expectancy of these items can be estimated based on usage and manufacturer's recommendations.

VI-9 **The AFDFD should take advantage of the fire apparatus and ambulance group purchasing system that is sponsored by the Fire Chiefs Association of Massachusetts (FCAM) and the Metropolitan Area Planning Council (MAPC). Municipalities may select a specific design and manufacturer from a pre-determined bid list and are not required to establish their own bid process. It is estimated that this group purchasing system will save approximately five to ten percent of the cost of a fire truck (see www.mapc.org).**

VI-10 **The procurement of most of AFDFD's future apparatus needs will normally be funded at the annual meeting. However, in any given year, a federal Assistance to Firefighters Grant (AFG or Fire Act) could also be pursued as a way to obtain funding. The District has already demonstrated the ability to navigate this highly competitive process. This is particularly true if the requested apparatus is going to replace more than one unit. If the AFG grant application is successful, then any already capital project funding can be cancelled.**

Note: **The grant writers that developed the application that acquired the replacement ladder should be commended for their efforts. The acquisition of this apparatus is an unprecedented feat in this highly completive grant process.**

VII. FISCAL FORECASTING & CAPITAL PLANNING

VII-1 **The District should review all fees on an annual basis for possible increases in accordance with state law. The current fee schedule is not sufficient to support a modern-day fire service within the District.**

Vll-2 **The District should work with the Town of Adams to collect a fee on all the land, area and structures that are outside of the paying water district area. The services of the Fire Department is shared by all and only funded by some.**

VII-3 **The District and the AFDFD should explore additional potential ways to generate revenue to offset the Fire Department's operating costs. Consideration could be given to billing insurance companies for response to motor vehicle accidents, establishing registration fees for fire alarm systems and implementing fines for repeat false alarms.**

VII-4 **The AFDFD should identify and prioritize its most critical equipment, training and/or operational needs, and apply annually to the Assistance to Firefighters Grant (AFG) program. This should include making applications for apparatus capital replacement projects that will otherwise be funded through the District's capital budget and at the District meeting.**

VII-5 **The District should apply for a federal SAFER grant in 2021 for the purpose of staffing and the recruitment and retention of current personnel.**

VII-6 **The AFDFD should prioritize its fire prevention and public fire education needs and apply annually to the Fire Prevention and Safety Grant (FP&SG) program.**

VII-7 **The District should actively search for other grant opportunities. Grants for fire protection, fire safety, fire prevention, domestic and emergency preparedness, and homeland security may be available from federal, state, corporate, and foundation sources.**

VII-8 **The AFDFD should actively seek out businesses that may be interested in establishing public/private partnerships that could provide, or assist with, funding for various programs, projects, or initiatives.**

VII-9 **The AFDFD should establish a formal replacement plan for equipment. The regular replacement of large cost items such as hose, ladders, PPE, portable radios, AEDs, and even SCBA on an incremental basis will avoid major one-time increases in the annual operating budget, where such purchases should be funded. For instance, the hose and ladders on one vehicle can be replaced in one fiscal year, another the following year, etc. The life expectancy of these items can be estimated based on usage and manufacturer's recommendations. Items such as hose and ladders can remain in service indefinitely, provided they continue to successfully pass their annual tests.**

VIII. FIRE PREVENTION

VIII-1 **The AFDFD should encourage and support training and professional development activities for department members in the fire prevention and fire inspection areas. This can include, among other endeavors, attendance at the Fire Prevention Association of Massachusetts, and Massachusetts Firefighting Academy.**

VIII-2 **Should the District decide to staff personnel on a per-diem or standby status, the AFDFD should establish a formal in-service fire safety inspection program. The on-duty personnel can be assigned with the responsibility for "in-service" inspections to identify and mitigate fire hazards in buildings and to familiarize firefighters with the layout of buildings, identify risks that may be encountered during firefighting operations, and to develop pre-fire plans. On-duty personnel in many departments are assigned responsibility for permit inspections and public fire safety education activities. In order to establish an in-service inspection program, it will be necessary to:**

- **Train personnel on proper procedures (all personnel should be credentialed at least to the Fire Inspector I level recommended above);**
- **Develop standard operating guidelines for in-service inspections;**
- **Establish inspection schedules;**
- **Establish a system for documenting inspections and notifying property owners of fire hazards;**
- **Establish a follow-up inspection system to ensure that hazards have been mitigated; and**
- **Require on-duty personnel to conduct regular in-service inspections of all building construction sites in the District and the adjacent response area protected under an intermunicipal agreement.**

VIII-3 The District should continue to update its website on a regular basis to provide its customers, and other interested parties, as much information as possible on fire safety, fire prevention, and the Department as a whole. The Department should also work actively to make on-line permitting, inspection scheduling, etc. a reality.

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IX-3 **The District should utilize this report as a tool to initiate discussion and guide the organization forward**

XI. THE PROJECT TEAM

Director of Fire Services

Brian P. Duggan retired from the Fire Department in Northampton, Massachusetts, where he instituted substantial changes to modernize and restructure the entire department including equipment, facilities, personnel, and training. In conjunction with his staff, Brian integrated Emergency Medical Services (EMS) into the organization and created a regional Advanced Life Support (ALS) Program that currently serves 18 communities within the Northampton Area. He formerly commanded the Northborough, Massachusetts, Fire Department, and has significant experience with the Massachusetts Department of Fire Services where over three decades, he held several key positions. Following his retirement, Brian has continued his active fire service involvement by serving as both a volunteer chief fire officer and through continuing to develop training and certification programs as a program Coordinator for the Massachusetts Department of Fire Services.

Mr. Duggan developed and directed the Graduate and Undergraduate Fire Science Programs at Anna Maria College in Paxton Massachusetts from 1995 - 2003. Mr. Duggan has a Business Management/Fire Science degree from Providence College and a Master's Degree of Business Administration (MBA) from Nichols College in Dudley, Massachusetts. He is also a graduate of the National Fire Academy Executive Fire Officer Program and the Senior Executive Program for State and Local Leaders at Harvard University. In December 2012, Mr. Duggan received a Master's Degree in Homeland Security through the Naval Post Graduate School based in Monterey, California, where his thesis entitled "*Enhancing Decision-making during the First Operational Period of Surge Events"* was selected as an outstanding thesis. He was one of the first fire service professionals to be designated as a Chief Fire Officer by the Commission on Fire Accreditation International.

Brian led the Massachusetts fire service through his affiliation as Chairman of the Fire Chief Association of Massachusetts Technology Committee and as a Regional Director on the Massachusetts State Fire Mobilization Committee. Mr. Duggan has authored several publications, inclusive of writing Section 7, Chapter 3, Fire Department Information Systems, in the Nineteenth and Twentieth Editions of the National Fire Protection Association's Fire Protection Handbook. Chief Duggan has been affiliated with MRI as a subject matter advisor since 2002 and he has served as Director of Fire Services since 2015. Currently, Mr. Duggan is regarded as an expert specific to fire service response to photovoltaic and battery energy storage system (BESS) emergencies. He has developed several nationwide training programs providing first responders with new insight on these emerging challenges.

Team Leader

Shawn Murray is a Senior Public Safety Consultant with MRI; he is a graduate of the State University of New York – Empire State College with a BS in Business, Management, and Economics with a concentration in Fire Administration. He is also a graduate of the National Fire Academy Executive Fire Officer Program and holds the Chief Fire Officer Designation from the Commission on Professional Credentialing. Chief Murray retired as the Fire Chief in Hudson, New Hampshire, where he served since 2001. His retirement spanned a career of almost 37 years collectively in the Fire Service serving in the USAF, Federal, State, and municipal organizations. Shawn began his career in the Goffstown, N.H. Fire Department, a combination department where he served as Training Officer with distinction. Shawn then served as Assistant Fire Chief of the Hudson N.H. Fire Department and within two years was appointed Chief of the Department. Chief Murray also served the Commonwealth as Director of the Mass Fire Academy. Chief Murray is a Certified Fire Officer in accordance with NFPA 1021; a Certified Fire Service Instructor in accordance with NFPA 1501; and a Certified Safety Officer in accordance with NFPA 1521. Chief Murray is a member of the International Association of Fire Chiefs; served as a Director with the New England Association of Fire Chiefs, and Past President of the New Hampshire Fire Chiefs Association. Chief Murray is a creative and innovative problem solver with the ability to develop collaborative solutions to complex organizational, business, and technical challenges including organizational change and transition. He has demonstrated skills sets in budgeting and financial forecasting; policy and program development; and organizational and personnel management within dynamic and challenging fire service working environments including full-time, part-time, paid on call, and volunteer personnel models.

Team Member

Project Lead Consultant

David Houghton is a devoted fire and emergency management professional who has recently retired from the Wayland Massachusetts Fire Department after a distinctive 38-year career from being a call firefighter and rising through the ranks to Fire Chief. Along with dedicating his service to the Town of Wayland, he continues to work for the Massachusetts Department of Fire Services as both an instructor and in the Special Operations Division doing special projects. In 1999 he was given the challenge by the State Fire Marshal to develop and implement what today is known as Special Operations. This development included designing, building and implementing specialized equipment and staffing to respond to Emergency and planned incidents throughout the Commonwealth. This program was a shared vision between David and the Fire Marshal and today has been shared in whole or in part in other areas of the country. David has a B.S. degree in Fire Science, an A.S. Degree in Fire Science and Technology, and has completed a Local Government and Management program with Suffolk University and the Massachusetts Municipal Association. David has a diverse background Firefighting, EMS (ALS and BLS), Dispatch, Fire Prevention,

Emergency Management and operations. He is a nationally certified Firefighter, Fire instructor, Fire Inspector, Fire Officer. He is a certified Emergency Medical Technician both at the National Level and in the Commonwealth of Massachusetts. David has most recently continued his fire service career by being appointed as a call firefighter with the Town of Moultonborough Fire Rescue, and is a certified New Hampshire Emergency Medical Technician. He continues to be active with the Commonwealth of Massachusetts Fire and Ambulance Mobilization team in the continuous updating and redevelopment of the program. Prior to his retirement as Fire Chief, David was an active member in the Massachusetts Fire District 14 where he was a driving force behind the creation of the District Operational budget, an operations manual and the formalizing of the various specialized teams within the district. David was also selected as the Chief overseeing the Fire District communications team and equipment as well as serving on several other progressive programs within the district. He is a member of the Fire Chiefs Association of Massachusetts, and the International Association of Fire Chiefs.

APPENDIX A –

EXAMPLE STANDARD OPERATING GUIDELINE
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450.10 Fire Investigation Guidelines
450.15 Forcible Entry
450.18 Lock Boxes
450.20 Infectious Disease Exposure/Decontamination
450.25 Violent Incident Response

460 – Special Considerations
460.10 Lock-Out / Tag-Out
460.50 Tactical Response Scenario

Emergency Operations – Fire

500 - Fire Ground Operations
500.10 Personnel Accountability System
500.15 Standard Response Procedures
500.20 RIT Procedures
500.30 Evacuation Procedure
500.32 OSHA Two in – two out rule
500.35 Fire Attack - General
500.40 Rules of Engagement / Risk Management
500.45 Initial Fire Ground Operations

570 – Specific Firefighting Situations

580 – High Rise Operations

Emergency Operations – Medical

600 - Medical Operations – General

- 600.01 Response Modes
- 600.04 Medication Restocking
- 600.05 Drug Security Policy
- 600.06 Staffing of Ambulances
- 600.07 Transport/Moving of Dead Bodies
- 600.08 Parent Rights
- 600.10 Use of Patient Restraints
- 600.15 Medical Protective Gear
- 600.16 Sanitary Practices
- 600.17 Designated Infection Control Officer
- 600.18 Bloodborne Pathogen Exposure Control Plan
- 600.80 Communications
- 600.90 Certification and Recertification of EMTs
- 600.91 Orientation Ambulance Service Employees
- 600.92 Compliance with Statewide Treatment Protocols

610 - Major Medical Incidents

- 610.10 MCI Operation

620 – Record Keeping and Reporting Responses

- 620.05 Responsibility to Dispatch, Treat and Transport
- 620.07 Duties of Transportation, Delivery to Nearest Appropriate Facility
- 620.10 Mandatory Reporting of Suspected Child Abuse
- 620.15 Mandatory Reporting of Suspected Elder Abuse & Self Neglect
- 620.20 Obtaining Signatures for EMS Transports
- 620.25 Patient Refusal and Examine/Treat and Release

630 - Specific Emergencies

640 – Maintenance and Equipment

- 640.20 Stocking Supplies
- 640.40 Mechanical Failures
- 640.45 Maintenance of Mechanical and Biomedical Equipment
- 640.80 Inspection Authorities

650 - Emergency Medical Operations – ALS (Advance Life Support)

Emergency Operations – Special

700 - Rescue Operations – General

710 - Water and Ice Rescue Operations

710.10 Water Rescue Operations

720 - Transportation Emergencies

730 - Hazardous Materials Incidents

730.10 Response to Bomb Threats and Suspicious Packages
730.15 Monitoring for Hydrogen Cyanide

740 – Search for Missing Person

740.10

790 – Funeral Protocols and Procedures

790.10 Funeral Protocols and Procedures

Emergency Operations – Major Incident

800 - Major Emergency Operations

Fire Dispatch Operations

900 - Introduction

910 - Routine/Daily Operations

910.10 Using Emergency Reporting Software
910.20 Instructions for using FRS

920 - Emergency Operations - General

920.10
920.15 Emergency Notification of Certain Officials

940 - Emergency Operations – Fire Suppression

940.10 Fire Alarm Systems / Panels

APPENDIX B –

EXAMPLE STANDARD OPERATING GUIDELINE

Adams Fire Department
STANDARD OPERATING PROCEDURES

Chapter	Organization and Administration
Section:	**200 - Conduct and Responsibilities**
Title:	**Photography And Digital Imaging Policy**
Guide Number:	**200.20**
Date Issued:	**15 September 2020**
Date Effective:	**15 September 2020**
Date Revised:	
Approved by:	*XXXXXXXXXXXXXX,* **Chief of Department**

1 PURPOSE

1.1 The purpose of this policy is to manage photographs and electronic images taken by fire department personnel in accordance with state law, in such a way that the privacy rights of department personnel, patients, fire victims, and the public are preserved; that evidentiary concerns related to such images are protected; and the professional image of the department is maintained.

This policy is for internal use only and does not enlarge an employee's civil liability in any way. The policy should not be construed as creating a higher duty of care, in an evidentiary sense, with respect to third-party civil claims against employees. A violation of this policy, if proven, can only form the basis of a complaint by this department for non-judicial administrative action in accordance with the laws governing employee discipline. It is expected that under emergency conditions, personnel may deviate from these requirements when in their experience and judgment such deviation is warranted.

2 POLICY

2.1 It is the policy of the Fire Department to respect the privacy interests of department personnel, patients, fire victims, and the public, and to comply with the state's Public Record Law**.**

2.1.1 See related social media policy document (e.g., Internet Postings/Social Networking).

3 RESPONSIBILITY

3.1 This policy applies to all members of Littleton Fire Rescue without regard to whether their social networking activity is conducted in or outside the workplace, while on or off-duty, or anonymously or through the use of pseudonyms.

4 PROCEDURE

4.1 ON-DUTY PHOTOGRAPHY

4.1.1 Fire department personnel are prohibited from using a non-department-owned camera, video recorder, audio recorder, or the camera/video/audio function or a non-department owned cellular phone, PDA, or any other digital imaging device while on-duty outside of the station.

4.1.1.1 The fire chief may grant an exception to this rule on an individual basis.

4.1.1.2 Any permission granted by the fire chief shall be in writing and shall indicate any conditions or limitations upon the employee.

4.1.2 A basic condition of any employee using a non-department owned camera, video recorder, audio recorder, or the camera/video/audio function of a non-department owned cellular phone, PDA, or any other digital imaging device while on-duty is that the image must be moved from the device to an approved Fire Department location, and the image deleted from the source.

4.1.3 Except as provided in Section above, all images taken by department personnel while on-duty shall be taken using department owned equipment.

4.1.4 Only personnel who have been trained on compliance with this policy and who are approved by the Fire Chief shall be permitted to take images pursuant to this policy.

4.1.5 On-duty personnel shall only take images that are of business-related matters and events for purposes of incident documentation, evidence, training, investigation, and/or public relations.

4.1.6 All images taken shall be preserved on a Department computer within fire or EMS software and

shall not be deleted without the written permission of the fire chief or his/her designee, except as permitted by the record retention policy.

4.1.7 All images taken by on-duty personnel are the sole property of the department, and are under the control of the Fire Chief or his/her designee.

4.1.7.1 This specifically includes any images taken inadvertently by an on-duty member with a non-department-owned camera, cell phone camera, or any other digital imaging device.

4.1.7.2 Any member who inadvertently takes such an image shall report the fact immediately through the chain of command.

4.1.7.3 Members shall not be disciplined for inadvertent violations that are duly and immediately reported.

4.1.8 Personnel are expressly prohibited from taking any images of another person in any location where a person has a reasonable expectation of privacy, including a bathroom, bedroom, locker room, changing area, or any other location where a reasonable person would believe that he or she could disrobe in privacy, without being concerned that his or her undressing was being photographed, filmed, or videotaped by another; or a place where one would reasonably expect to be safe from hostile intrusion or surveillance.

4.2 RESPONDING TO, OPERATING AT, AND RETURNING FROM INCIDENT SCENES

4.2.1 Fire department personnel are prohibited from using a non-department-owned cameras, video recorder, audio recorder, or the camera/video/audio function of a non-department owned cellular phone, PDA, or any other digital imaging device while responding to, operating at, or returning from, any incident.

4.2.1.1 Any member who inadvertently takes such an image at an incident scene shall report the fact immediately through the chain of command to the incident commander at the earliest possible opportunity.

4.2.1.2 Members shall not be disciplined for inadvertent violations that are duly and immediately reported.

4.2.2 On-scene photography/video taken by on-duty personnel shall be for incident documentation, evidentiary, training, investigation, and/or public relations purposes only, and taken by or with the approval of the incident commander in charge of the scene, using approved department equipment, or as approved by the fire chief.

4.2.3 The taking of imagery shall not interfere with nor delay operational activities, except to the extent that imagery of a fire's cause and origin may require overhaul to be momentarily delayed.

4.2.4 All photographs and video containing individually identifiable patient information shall be presumed to be covered by HIPAA and state privacy laws and shall be protected in the same manner as patient care reports and medical documentation.

4.3 HANDLING AND PRESERVATION OF IMAGES

4.3.1 No department owned images may be used, printed, copied, scanned, e-mailed, texted, forwarded, posted, uploaded, shared, reproduced or distributed in any manner, except as provided herein.

4.3.1.1 This prohibition specifically includes the posting of any images on personal Web sites such as, but not limited to: Face Book, My Space, or YouTube; posting to public safety Websites; or e-mailing to friends, relatives, colleagues, or other third parties.

4.3.2 All fire department digital images as described in this policy shall be downloaded from the digital imaging device as soon as possible after they are taken, and will be cataloged and stored in a secure database with controlled access.

4.3.2.1 After being downloaded and verifying that the downloading is successful, the images on the digital imaging device's memory card shall be erased.

4.3.3 Digital imagery that has evidentiary value, including vehicular accidents involving department vehicles, fire scenes showing evidence of cause and origin, incident scenes showing the locations of victims, fire code violations, etc., require that a Chain of Custody form be initiated by the photographer and forwarded with the imagery.

4.3.4 Digital images in the secured database shall not be accessed by any party, or altered via any software product or utility such as Photoshop, unless express permission is granted in writing by the Fire Chief or his/her designee.

4.3.4.1 If permission to alter a photo is granted, the original photo shall not be altered in any way, and any copies that are altered shall be appropriately identified and documented as to being an altered copy.

4.3.4.2 The details of the alteration including what was done (cropped, lightened, darkened, Etc), the name and rank of the member performing the alteration, and the time and date of the alteration, shall be noted and preserved.

4.3.5 The use of fire department images shall be subject to approval of the Fire Chief or his/her designee.

4.3.5.1 Prior to the release of any image, the image shall be evaluated by the Fire Chief or his/her designee to ensure that the release will not result in a breach of patient confidentiality or breach of privacy, and that the release will, in all other respects, be lawful.

4.3.6 The use of unauthorized helmet cams and dash cams is strictly prohibited, and shall be considered a serious disciplinary breach for the employee involved and any officer who permits such use.

4.3.7 Use of department cameras to take images for personal purposes is strictly prohibited.

4.3.8 Violation of this policy or failure to permit inspection of any device covered in this policy may result in disciplinary action.

5 DEFINITIONS

5.1 **Images** – photographs, digital photographs, digital images, video recordings, or electronic files containing a graphic image or series of images, as well as any digital reproductions or copies of such photographs, digital photographs, digital images, video recordings, or files.

5.2 **Digital imaging device** – any device capable of producing a digital image, including but not limited to, a digital camera, digital camcorder, cell phones, helmet- or dash-mounted camera, etc.