

City of Norwich

Analysis of Fire/EMS Services

Service Providers



City of Norwich Fire Department

- *Fire Headquarters*
- *Greenville Engine 2*

Town Consolidation District Fire Departments

East Great Plain Volunteer Fire Department
Laurel Hill Volunteer Fire Department
Occum Volunteer Fire Department
Taftville Volunteer Fire Department
Yantic Volunteer Fire Department

Conducted by:



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Introduction

McGrath Consulting Group, Inc. was commissioned by the City of Norwich to conduct an Analysis of Fire Department Services of the six fire departments (one career and five volunteer) that provide fire and emergency medical responder services to the City. The concern of the governing officials is improving the relationship and teamwork of these organizations from what is perceived to a troubled relationship between career and volunteer.

After an analysis of the departments and operations, the ultimate goal of the City is to provide fire and EMS services through a unified integrated team that protects the citizens of the City of Norwich. The community will continue to experience challenges, which will continue to impact the delivery of fire and EMS services.

McGrath Consulting Group, Inc. consultants based every recommendation on the ***Core Question*** of:

WHAT IS BEST FOR THE INDIVIDUAL NEEDING THE SERVICE

The term “individual” above could be substituted with resident, visitor, or any person needing services from one of the six fire departments in the City of Norwich.

Study’s Structure

Due to the complexity of the report, it has been broken into two sections. The Executive Summary will include a summary discussion of each objective delineated by the City. The objective will refer the reader to a specific Appendix where an in-depth discussion is provided. This will allow greater understanding of the consultants’ recommendations.

Recommendation Priority Hierarchy

All recommendations will be distributed throughout the report when appropriate and will end with a “Priority Rank” using the table below:

Table 1: Report Priority Hierarchy

Report Priority Hierarchy		
Priority	Definition	Example
1	Urgent/Immediate	Threat to member's life, legal and/or regulatory compliance violations; physiological needs; essential preventative action needed.
2	Pressing < Priority 1	Significant impact on organization; action needed as soon as possible.
3	Important < Priority 2	Organization will benefit by addressing soon; items that should be accomplished.

Report Priority Hierarchy		
Priority	Definition	Example
4	Future Consideration	Items need to be addressed; develop future plan of action; low consequences of delay-action.
5	Information Only	Organization should be aware; take under consideration.

Priority Essential Issues:

Although there are a lot of recommendations throughout this report, there are two issues that are considered to be top priorities: Dispatch and Integration of Service Providers (not consolidation). Thus, these two issues will be addressed here to ensure the reader understands their importance.

The consultants are steadfast in their belief that the first issue listed below must be resolved before any long-term solutions to the historical problems can be resolved.

Public Safety Answering Point (aka: Dispatch)

Interoperability: It became apparent to the consultants that the fire and dispatch personnel were very frustrated with the lack of technology available to them especially when it came to the City’s Public Safety Answering Point (aka: dispatch). This problem stems not from an individual but from both the dangerously incompatibility of the current radio systems utilized by the service providers and antiquated dispatch protocols. Interoperability is defined as:

The ability of emergency responders to work seamlessly with other systems or products without any special effort. Wireless communications interoperability specifically refers to the ability of emergency response officials to share information via voice and data signals on demand, in real time, when needed, and as authorized.

Each organization told countless stories of the inability to use dispatch and speak to other emergency agencies as well as dropped calls. Further, the inability to codify information electronically, and, in some cases, the reliance on pencil and paper to record incidents is a significant liability for the City. To better understand the issue, the following scenario has been provided as to what can occur during an emergency situation.

PSAP Scenario – Structure Fire

When Norwich PSAP receives a call for a verified structure fire there is a series of complex tasks that must take place to deliver the services needed to control the fire:

1. *Dispatcher judgement (no set procedure):*
 - a. *Notify the appropriate fire department, OR*

- b. Enter information into Computer Aided Dispatch (CAD) – Information on 911 dispatch screen has to be re-entered into the CAD systems – systems are not compatible.
(Most dispatchers use option ‘a’ in order to save time notifying the fire department)*
- 2. To notify FD:*
 - a. If Volunteer department, utilizes radio buttons – frequency of 33.60 mhz.*
 - b. If City department, utilizes radio buttons – frequency 154.04 mhz.*
 - c. To notify the police, utilizes radio buttons – frequency 800 mhz.*
 - d. Because there are two radio towers from which signals are sent, the dispatcher must push two buttons simultaneously for each agency.*
 - e. None of these groups can hear each other (called interoperability) = a dangerous safety issue for all emergency personnel.*
- 3. Enter incident into CAD:*
 - a. CAD will not capture accurate times due to delay in entering (radio traffic to FD)*
 - b. No 911 information including (ANI & ALI) automatically transfers to CAD.
 - i. ANI = Automatic Number Identification*
 - ii. ALI = Automatic Location Identification**
- 4. Dispatcher multi-tasking:*
 - a. Dispatcher – multi-agency calls, has to work with 3 different frequencies*
 - b. Need to utilize run cards that are in PDF format to assist emergency personnel at the scene*
- 5. Request for aerial apparatus (ladder truck):*
 - a. From memory or search through 700 run cards (PDF format) on a different computer to determine closest ladder.*
 - b. Significant chance that this will not occur because of complexity of accomplishing the task.*
 - c. In many cases, the department requesting the aerial apparatus will not realize it has not been sent until the department arrive at the scene and is still awaiting the unit.*
- 6. Additional apparatus requested:*
 - a. Must locate the correct run card (separate computer) and relate that card to a street name inasmuch as that is how run cards are written by most departments*
 - b. At all times, the dispatcher must monitor three different radio frequencies separating which units are working the fire from other incidents occurring.*
 - c. In case of future litigation, exact times validated by CAD are essential and when not accurate create significant challenges.*
- 7. Due to the complexity of this antiquated radio system dispatchers can easily make mistakes; this should not reflect a weakness of the dispatcher, but rather a critical need to upgrade and integrate technology.*

This is a common occurrence and can become even more complex when it involves the request for an ambulance, as the City’s PSAP does not dispatch the ambulance or emergency medical responders (fire department). The dispatcher is supposed to stay on the line and listen to the ambulance dispatcher to

determine if fire personnel should be sent. Listening on the line occurs simultaneously with all the above activities.

Many of the departments, in order to compensate for the PSAP's inability to give accurate times, actually attempt to record the time they speak on the microphone to dispatch with paper and pencil as they are responding to the emergency scene. This allows fire personnel to fill their reports with what they believe are more 'accurate' times. While enroute, the consultants would prefer the responders (non-driver) are reviewing the pre-plan for the occupancy they might be crawling into rather than trying to record dispatch times.

Beyond dysfunctional, it places emergency responders in an extremely unsafe situation, and this must be addressed. Further, it places the City in an interesting position when trying to justify arrival and mitigation efforts. Federal monies historically have been available to resolve interoperability issues. A consistent dispatch procedure can be accomplished in-house.

Integration of Service Providers

*If the core belief of all six fire departments is **"WHAT IS BEST FOR THE INDIVIDUAL NEEDING THE SERVICE"**, then every service provider will separate what is best for the person needing help from what is best for their department or themselves. The consultants heard multiple stories of the incompatibility between the departments, including calling for secondary help that was further away rather than the closest unit.*

Many of the stakeholders told of times their department was disrespected or not utilized when they could/should have been called.

All of the career and volunteer members that comprise the six fire departments are committed to serving those in need or they would not be active members of the departments. However, history of wrongs or perceived wrongs can easily fog the focus of **"WHAT IS BEST FOR THE INDIVIDUAL NEEDING THE SERVICE"**. These are good people who become part of the culture of six different service providers; these cultures have a strong history, which is validated whenever new situations arise.

Why doesn't the City of Norwich have six Police Departments? That answer is wrapped in a unified team service methodology in providing law enforcement. What is fundamentally needed is that these six agencies form the foundation for an integrated team. Volunteer *will not* be replaced by career members; rather each group will become unified in their commitment to ensure individuals needing help receives it from whoever can get to them first.

The integration of the six service providers needs to occur as a step process overseen by a single individual, independent from any of the six organizations. This individual will report directly to the City Manager, who will develop a master service delivery plan that capitalizes on the strengths of each service provider.

In addition, as with all City departments, the City Manager and this position will oversee needed resources in order to achieve that goal.

Political Acceptance

This study represents the fifth study or review by consultants or the Norwich Charter Review Commission since 1960. Some of what you will read in this report has already been discussed by previous Commissions and consultants. What differentiates this study from previous studies is that McGrath has focused on what is in the best interest of the person needing service, not the fire departments themselves or the tax rates between the CCD and the TCD. The McGrath Consulting Group firmly believes that focusing on **“WHAT IS BEST FOR THE INDIVIDUAL NEEDING THE SERVICE”** will bring the most efficient and cost-effective delivery of services to all of Norwich.

It will be incumbent on political leaders to leave Democratic and Republican ideologies behind, and instead, have the fortitude to make difficult decisions regarding developing a single leadership (Commissioner); the integration of departments; investments in standardized equipment, apparatus, and communications; and training to fundamentally change the culture of the fire protection services from individualism to collectivism. Any study without the support of the governing body will be just that, a study. McGrath Consulting believes Norwich leadership is committed to making wholesale changes to improve the culture and quality of fire protection services to all who live, work, or visit Norwich.

Executive Summaries

Governance

The structure of the City's governance is well designed and understood by stakeholders with the exception of the response by the majority of the Town's Fire Departments when asked: "What authority does the City Manager have on your department?" The answers was "none!" This is extremely problematic inasmuch as the litigation buck will stop with the City and the rationale of "they are only volunteers" or "we have always done it that way" will not suffice.

*"Having one boss makes me responsible and accountable; having multiple bosses makes me a referee".
(Anonymous)*

The City of Norwich receives fire/EMS services from six fire departments all located within the corporate limits of the City. The primary provider of EMS patient transport is American Ambulance, which also determines what resources will be sent on an EMS incident within the City. The departments are not unified in their responses to EMS calls and no Standard Operating Procedures exist. American Ambulance needs to prioritize (national codes) levels of EMS needed.

There is a considerable amount of tension between career and volunteer fire departments, and it appears that response to emergency incidents is not based on "**WHAT IS BEST FOR THE INDIVIDUAL NEEDING THE SERVICE**" but rather what is best for the individual or the individual department.

The consultants fully support the continuation of volunteer and career service providers. With that said, there is an immediate need for standardization on many levels within the fire departments. This standardization and future resource allocation should be overseen by a single Fire/EMS Commissioner, who is independent of all six fire departments and reports directly to the City Manager.

The Consultants recommend the position of Fire Commissioner be added within the City. The governance of the Fire Departments (all six) should fall under the Fire Commissioner, who reports directly to the City Manager. This individual should not be a member of any of the six fire departments providing City services. Almost all departments seem to believe they have total autonomy over their organization and that the purpose of the City is to provide fiscal resources. This perceived autonomy will pose a difficult challenge to the implementation of the Fire Commissioner's oversight.

The Fire Commissioner should work with all departments to determine an emergency response that is based on which resources can arrive the quickest, while providing safety for all responders and a unified command structure. There will need to be significant change in the culture/attitudes of a minority of service responders; however, the vast majority of all the department members are dedicated and professional in their desire to provide the highest level of emergency services. Emergency response should have nothing to do with volunteer or career status and everything to do with "**WHAT IS BEST FOR THE INDIVIDUAL NEEDING THE SERVICE**".

See Appendix A for greater understanding and recommendations.

Departments Overviews

The City of Norwich is served by one career and five volunteer fire departments that protect a population of approximately 40,000 residents and covers 29 square miles. Prior to the 1950s, there was a City and Town of Norwich, and, in 1952, these communities merged to form the present-day City of Norwich. The City kept both its career and five volunteer departments. This resulted in the City Consolidation District (CCD) and the Town Consolidation Districts (TCD) complete with different mill rates for fire protection.

All of the Departments are steeped in tradition and have enjoyed relative autonomy regarding their operations. This autonomy has resulted in an overabundance of apparatus and equipment for the City and duplication of efforts.

The Norwich Fire Department is a career department that operates from two stations and has 59 total personnel. The firefighters are represented by the International Association of Fire Fighters Local 892. The firefighters work a 10/14 hour shift, but in the vast majority of cases these shifts are worked back to back resulting in a 24 hour shift followed by 72 hours off duty. The Department covers approximately 3.2 square miles (downtown) and protects approximately 26,000 residents. The area the Norwich Fire Department protects is referred to the City Consolidation District.

The five volunteer fire departments cover the remaining portion of the City. The departments have good membership rolls and are not paid for their services. Active firefighters receive a \$1,000 property/vehicle tax abatement if they participate in 20% of their department's calls and training. This amount is set to increase to \$1,500 in 2021 and \$2,000 in 2022. The area the five volunteer departments protects is referred to as the Town Consolidation District. Volunteer can participate in a pension plan (see appendix B)

The CCD/TCD have different mill rates largely as a result of the pay and benefits of full-time firefighters. Tension exists between the career and volunteer fire departments, and there is little cooperation between career and volunteer personnel.

A number of recommendations have been made to improve relations between the career and volunteer staff as well as address duplications in efforts.

See Appendix B for greater understanding and recommendations.

Public Safety Answering Point: aka: Dispatch

Appendix C: is a must read section of this report including the dispatch scenario in the Introduction.

The safety of firefighters and citizens depends on reliable, functional communication tools that work in the harshest and most hostile of environments. The radio is the lifeline that connects firefighters to command and outside assistance when in the most desperate of situations. It is imperative that firefighters have the ability to immediately communicate information accurately. A “mayday” call cannot be lost because of radio interoperability. (*U.S. Fire Administration: Communication Guide for the Fire Service*)

Interoperability: the ability of public safety responders to share information via voice and data communications systems on demand, in real time, when needed.

This section is not about an individual who oversees the PSAP; rather, it is about essential technological updates that, without them, create an unsafe environment for emergency responders. If emergency responders’ safety was not enough, without a complete technological upgrade in both equipment and procedures in the Norwich PSAP, it is unlikely that any of the recommendations within this report will bring about integration of services. The incompatibility of PSAP technology will continue to force each department to ‘make do’ with antiquated communication systems.

The dispatch is often understaffed with only one person on weekend days and weekday nights. Augmenting with on-duty police or fire personnel ignores the need for that expertise during large scale situations nor is it a cost-effective solution. Norwich should mandate that two professionally trained dispatchers are on duty at all times. Much to the credit of the department head of dispatch, technology for the police has occurred, while the consultants were told the Fire Chiefs cannot agree on their needs. Again, this emphasizes the need for a fire Commissioner to oversee uniformity in fire/EMS services.

Three agencies on three different radio frequency bands, unable to speak to each other even on the same emergency scene, is a disaster waiting to happen. The consultants strongly recommend updating the: Communication Equipment; CAD system; Training; Data Retrieval; On-duty Staffing; and meeting the NFPA 1221 standards.

Refer to Appendix C for greater understanding and recommendations.

Response Time

There was much disagreement on data submitted pertaining to response times. Perhaps what was most troubling was when several members stated: *“Response times don’t matter.”* There is a reluctance to call the career department, even if one knows they can arrive faster. The majority of members indicated ‘their’ residents were not willing to pay a higher tax rate to have the services of a career department. It is

important for the consultants to state we **do not** support one tax rate for the entire City. If and when the protection throughout the City is equivalent to all portions of the City, this issue could be re-assessed.

The City lacks the ability to validate much of their response time data due to the dispatch software and inability to interact with each other. CAD might get entered immediately or when the first opportunity arises. 911 data does not automatically populate within the current CAD system, which requires re-entry. Even the ability to validate when the first mitigation piece of apparatus arrives at the emergency scene is a vital yet often undocumented piece of information.

The argument that an individual arriving prior to the mitigating apparatus serves what purpose? The effort to show that a volunteer response time equals that of a career department's response time; conventional wisdom would suggest on-duty personnel can respond with mitigating apparatus faster than departments that require individuals to respond from home or work to staff apparatus. Lost in all of this discussion is: **"WHAT IS BEST FOR THE INDIVIDUAL NEEDING THE SERVICE"**.

That answer requires improvements in the PSAP to validate five actual components of response time data and the willingness to attempt to meet as many of the NFPA 1221 standards as possible.

Refer to Appendix D for greater understanding and recommendations.

National Standards

There is much confusion when a non-fire/EMS person is told: "We must comply because it is a national standard." Most industry standards such as NFPA, ISO, accreditation, etc. are not mandatory. This should not imply that the standards be ignored. Rather, they act as a double edge sword – you are not required to meet them, but, upon a death of a firefighter or serious injury, you will be held accountable for not meeting them.

Insurance Services Offices, Inc. (ISO): At one time, ISO was the primary tool used as the metric for the evaluation of fire departments. Unfortunately, this is not the intent of ISO; rather, it is an independent private corporation that evaluates the fire suppression capability of a municipality. It also provides a Public Protection Classification (PPC), which is designed to help establish fire insurance premiums for residential and commercial properties based upon:

Table 2: ISO Percent Achievable

ISO %	Resource
10%	Dispatch
50%	Fire Department
40%	Water Supply
5.5%	Community Risk Reduction
105.5%	Points Possible

Refer to Appendix E for greater understanding and recommendations.

Emergency Activities

Justifying Fire/EMS Departments' request for apparatus purchases, facility placement, staffing, and a host of other critical issues need to be validated using accurate data. Often the difference between governing boards and Fire/EMS leaderships' interpretations for resources require distinguishing between **wants and needs**. This involves data and data analytics. From accurate data, information and knowledge can be obtained. Leadership can quantify the above needs through good data.

It appears as though all six of the fire departments had access to Emergency Reporting® and some of the Departments have used the program while others have not.

Emergency Reporting® is the largest cloud-based Fire records management solution (RMS) in the world. Integrated with EMS for easy, one-report filing of NFIRS and National EMS Information System (NEMIS) data, ER provides industry-leading solutions that allow Fire and EMS departments to run their entire operations efficiently and effectively, enhancing firefighter safety.

When reviewing data from the fire departments, it became clear that not all departments were reporting their incidents in the same format. This can be resolved by using the Emergency Reporting®.

Of the departments that reported their incidents, Norwich had the greatest increase in calls over a ten-year period, 4.4%. It should be noted that the State of Connecticut requires all fire departments to report incidents using the National Fire Incident Reporting System (NFIRS).

In reviewing the data, Norwich, East Great Plain, and Yantic had false alarm rates higher than the national average while Laurel Hill had a significant higher rate of fires than the national average. Inconsistent reporting of data was an issue as it related to mutual aid responses and overlapping incidents (*see Appendix F for definition of overlapping calls*). A number of recommendations have been made to address the reporting of incidents so that quality data can be obtained and used in monitoring Department operations and separating needs from wants.

Refer to Appendix F for greater understanding and recommendations.

Human Resources

A major issue within the human resources section of this report is the determination of Who is the Employer? This becomes a critical question when determining whether the volunteer fire departments are or are not City departments. It is the conclusion of the Consultants – that these volunteer departments are City departments and must be treated as such. Tradition has illustrated a design that when convenient

(by the City or volunteer company) they act as a city department; however, when it is inconvenient to follow City policy – attempt to act autonomously. There is nothing in City policy or ordinance to suggest that the City contracts with five independent fire agencies. Rather, all use the City’s EIN number for tax purposes, develop and have approved a City budget, utilize the City’s finance department for purchases and payment of bills, and finally, the City is issued one ISO number that encompasses the City and volunteer response area. Thus, for all intents and purposes – these are City departments.

With that said, and the reason this clarification is essential, is that as a City department, these departments fall under the City umbrella as it pertains to all Federal and State employment laws. The trigger for almost all the employment laws is the number of employees. The Federal Immigration Reform and Control Act of 1986 has no minimum number of employees. At maximum, 50 employees are required for compliance with the Federal Family and Medical Leave Act (FMLA) and the Affordable Health Care Act. (Note: All public employers are required to follow FMLA). If the volunteer fire companies were independent organizations, they would not have sufficient numbers to be held in compliance with these Federal and/or State laws. However, as City Departments all the following employment laws apply:

- 50 Employees
 - Federal Family and Medical Leave Act**
 - CT FMLA Act
 - Affordable Health Care Act
- 20 Employees
 - Age Discrimination in Employment Act (ADEA)**
 - Older Worker’s Benefit Protection Act (OWBPA)
 - Consolidated Omnibus Reconciliation Act (COBRA)
- 15 Employees
 - Title VII of the Civil Rights Act of 1964
 - CT has a few extra protected categories
 - Civil Rights Act of 1991
 - Pregnancy Discrimination Act
 - Americans with Disabilities Act (ADA)
 - Genetic Information Nondiscrimination Act of 2008
- 3 Employees (CT law only)
 - Equal Pay and Pay Equity Act
- 1 Employee
 - Fair Labor Standards Act (FLSA)
- No Minimum Employees
 - Immigration Reform and Control Act of 1986

*** Required of all government employers regardless of number of personnel.*

This will become a critical component when assessing recruitment and promotion practices. Recommendations for changes to these practices have been provided.

The Consultants have not made any recommendations to change the volunteer status of members within these fire companies, as the City is able to have different types of personnel – fulltime, part-time, interns, volunteers, etc. Further, no recommendations are made at this time to change the compensation of volunteers from the tax abatement program and volunteer pension program.

The City's fire department complies with the Fair Labor Standards Act (FLSA); however, the Consultant recommends codification of the City's practice of a 28-day work schedule, and payment of overtime on hours worked versus hours paid. The practices adhere to the law but are not in policy within the City.

There is considerable duplication of efforts as each of the six departments have their own application and recruitment process, individual promotional processes, different employee policies, rules, and regulations. Especially in volunteer departments, there is typically more duties than time allows, and as a result, the responsibilities associated with personnel go to the wayside. As all the departments are City departments – not independent organizations – it would make sense to work together to develop standardized processes – applications, recruitment, evaluations, employee handbooks, promotions, and administrative responsibilities. Thus, the Appendix outlines several opportunities for all six departments to work together to develop standardized human resource procedures.

The departments should work also with Human Resources to ensure all its personnel practices comply with the myriad of federal and state employment laws.

Refer to Appendix G for greater understanding and recommendations. Appendix G also provides suggestions for both the union and City to consider in upcoming contract negotiations.

Staffing

The Norwich Fire Department protects an area of 3.2 square miles with 26,000 residents. The Department employs 52 operations personnel operating on four platoons; administration and the Fire Marshal's office include seven personnel for a total of 59 employees from two stations. The present work schedule provides that firefighters work 10/14 shift in most cases equaling 24 hours shift, followed by 72 hours off. The Department provides fire and emergency medical first responder response. Ambulance transport is provided by American Ambulance.

The Department responded to an average of 2,469 calls between 2017-2019 of which 70% were emergency medical service calls.

The recommendations regarding staffing for the Norwich Fire Department include a reconfiguration of staffing to provide a four-person response from the Greenville station and the implementation of a medical response vehicle staffed by two firefighters from Station 1. Other recommendations include

transitioning from their current work schedule of 10-14/72 to a 24/48 which would permit a reduction, through attrition, of four positions in the department.

This reader is encouraged to review this information in its entirety to fully understand the recommendations in this section.

Refer to Appendix H for greater understanding and recommendations.

Apparatus

The City of Norwich, 28 square miles in area, possesses 49 pieces of fire apparatus. This represents an overabundance of fire apparatus and a significant cost to taxpayers to operate and maintain a fleet of vehicles this large. In 2017, the City bonded for the purchase of five new pieces of fire apparatus to replace six existing apparatus at a cost of 3.2 million dollars.

The consultants have reviewed the apparatus of all six departments and have made recommendations to reduce the total number of fire apparatus with minimal to no impact on service delivery. Recommendations include retiring apparatus when they reach their useful age and removing apparatus based on their current age and condition.

The fleet of apparatus is maintained by the Fleet Maintenance Department and they do an admirable job of maintaining all the fire apparatus as well as conducting annual certification testing of pumping apparatus. The consultants recommend that serious consideration should be given to training at least one individual as an Emergency Vehicle Technician. This certification is designed for personnel who work on fire apparatus and would be a worthwhile investment for the Fleet Maintenance Division.

The consultants recommend an apparatus replacement schedule based on national standards to guide future replacement; however, actual replacement will depend greatly on the maintenance and use of apparatus.

Refer to Appendix I for greater understanding and recommendations.

Facilities

The City has seven fire stations to operate and maintain: five volunteer fire houses and two belonging to the career department. Most of the stations are older, with Yantic appearing to not only be the oldest in the City but also in the State, while Norwich's fire station one is the newest. Some of the fire stations are designated as historic buildings. Some of the stations, i.e. Laurel Hill, are not owned by the City.

The two Norwich stations cover 3.2 square miles and a population of 26,000 while the five volunteer stations cover approximately 25 square miles with a population of 14,000.

Most of the stations have been adequately maintained given their ages. Most have appropriate exhaust removal systems to remove vehicle exhaust, which has been linked to cancer among firefighters. However, Yantic is the exception as it has no exhaust removal system at the present time.

With fire stations as old as the City's are, compliance with the Americans with Disability Act is always challenging. The majority of the volunteer stations and the Greenville station do not meet the requirements of the ADA. Most of these stations have public meeting rooms/areas that are used by the public.

The East Great Plain station does have an asbestos issue with the ceiling in the upstairs meeting room that should be dealt with in the coming years. Given that many of the stations were built before or in the 1950s, space on their apparatus bays to accommodate newer fire apparatus is challenging because today's apparatus is larger in size than fire apparatus manufactured prior to the 1950s.

The consultants have made a number of recommendations and the reader is encouraged to read this section in its entirety to better understand the needs regarding fire station facilities.

Refer to Appendix J for greater understanding and recommendations.

Training

Training is a very important function of the fire department. How individuals train will be directly reflected in the manner in which they perform on the fireground under sometimes very difficult emotional and physical conditions. It is often said, "Train as if your life depends on it."

The fire departments have a major challenge in addressing their training needs. To achieve integration of the departments, there must be one training curriculum used throughout the six departments. The Norwich Fire Department has a designated training officer that is funded through the General Fund because this position benefits not only the Norwich Firefighters, but also the firefighters of all five volunteer fire departments. This position must coordinate the training efforts of all fire departments.

The consultants have made a number of recommendations to improve training for all departments. These recommendations include but are not limited to: basic educational requirements for officers and firefighters; common operating procedures for all departments; providing leadership and management training for succession planning; and standardizing equipment so that training on this equipment is unified throughout all departments.

Finally, to improve the quality of fire services, training with and between the volunteer and the career fire departments must occur on a regular basis. This will prove challenging as volunteers generally train during the evening while career firefighters train during the day. Therefore, at minimum, one day per month should be dedicated to career – volunteer training in the evenings or on weekends.

No single activity will bring together the volunteer and career fire departments and improve the service to the person needing assistance than training.

Refer to Appendix K for greater understanding and recommendations.

Fire Prevention

Fire prevention and public education services are provided throughout the City by the Fire Marshal's office. The Fire Marshal's office conducts both occupancy inspections in new and existing buildings and acceptance testing on life safety alarm systems such as fire alarm and automatic fire sprinkler systems. Because these services are provided across the City, the Fire Marshal's office is funded through the City's General Fund Budget.

In addition to fire inspections, the Fire Marshal's office provides public fire education services to the City's schools, daycare centers, nursing homes, etc. Many of these programs were conducted yearly; however, are now provided by request only as a result of the COVID-19 situation.

Staffing levels have been somewhat tumultuous since the retirement of one of the Fire Marshal's fire inspectors has affected the productivity of the office. Recommendations for this office include a review of staffing levels to accomplish the inspection workload and the initiation of company fire inspections by fire suppression crews.

Pre-incident planning is another area that the consultants reviewed. Pre-fire incident planning involves fire suppression crews visiting specific buildings and collecting important building information and organizing this information so that it can easily be recalled at the scene of an emergency. The Norwich Department does not have a formal pre-fire incident planning program. Informal buildings reviews may be conducted by suppression crews.

Recommendations in this area include formalizing the program based on national standards and appointing one individual who is responsible for coordination of the program. Pre-fire incident planning is recommended to be performed by the five volunteer departments under the supervision of the program coordinator.

Refer to Appendix L for greater understanding and recommendations.

Fiscal

The City of Norwich has a different approach to funding fire protection in the City. The City funds six different fire departments through three budgets: the General Fund, the City Consolidation District Fund (CCD), and the Town Consolidation District Fund (TCD). Fire protection services that are provided across the entire City are funded through the General Fund. These costs include Norwich fire administration, training, and the Fire Marshal's office.

The cost of the Norwich Firefighters is accounted for through the City Consolidation District Fund while the costs of Workers Compensation, tax abatement, and the Volunteer Firefighter Relief Plan with the five volunteer fire departments are accounted for through the Town Consolidation District Fund.

It should be noted that there is a significant mill rate difference between the City Consolidation District and the Town Consolidation District; however, the consultants do not recommend any changes to either the funding formula or the mill rate at this time. Rather, when future improvements that benefit the entire City are implemented, the costs for these could be reallocated at that time.

Recommendations regarding fiscal include the development of a master plan for fire protection; creation of an inventory system that accounts for all fire department equipment; standardization of equipment; and review of the conflict-of-interest statement for contractors who provide goods and services to the City.

Refer to Appendix M for greater understanding and recommendations.

Appendix A: Governance

The City of Norwich operates under a Council/Manager form of government. The Mayor is a member of the legislative branch of government. The position of mayor holds the same legislative authority as the other six council members. In addition to the legislative role, the Mayor represents the City in a ceremonial role at community and business events. The Mayor is also an “ex officio” non-voting member of all commissions and committees created by the City Council. The Mayor is tasked with economic development and works with the city manager and staff to promote and facilitate economic development in the City of Norwich. The Mayor is elected at large and, in conjunction with the City Council, oversees the City Manager. The Mayor serves a term of four (4) years and is limited to serving two consecutive terms.

The City Council is comprised of six (6) Council members that constitute the legislative and governing body of the City. Council members are elected every two (2) years and have direct oversight over the City Manager in conjunction with the Mayor. All six Council members are elected at large rather than by aldermanic or Council districts.

The City Manager is the chief executive officer of the City and is appointed by the City Council based upon professional qualifications, education, and experience. The City Manager’s term is indefinite; however, the Manager may be removed by a majority vote of the Council with proper notification. The City Manager reports directly to the City Council and Mayor and all Department Directors report to the City Manager. The City Manager is a non-partisan position.

The City Manager appoints Department Directors and these Directors serve at the pleasure of the City Manager.

There is a three member Public Safety Committee; members are appointed by the Mayor and approved by the Council. The City Fire Chief as well as the Volunteer Fire Chiefs meet with this Committee; however, the Committee is advisory.

Fire Department Governance

The Norwich Fire Department is headed by a Fire Chief who is appointed by the City Manager. The Chief is responsible for the overall operations of the Department. He is assisted by the four Battalion Chiefs, who work 24-hour shifts, a Director of Training and Safety, and a Fire Marshal. The Fire Chief reports directly to the City Manager.

There are five volunteer Fire Chiefs, who are the respective heads of their Departments. According to the City’s organizational chart, the five volunteer Fire Chiefs are to report directly to the City Manager. The City Manager meets with the five chiefs occasionally; however, it is not as frequent as one would expect.

Thus, from a public safety perspective, the Police Chief as well as the six Fire Chiefs report to the City Manager.

The consultants inquired as to who is in charge of an incident when both the Norwich and one or more of the volunteer fire departments work together at a house fire in an area outside of the CCD. Would the Fire Chief of the volunteer department be in charge or would the Norwich Fire Chief be in charge?

The consultants understand that the City Department has permitted the volunteer chiefs to be in command over the years; however, who is legally responsible in the event of liability? Below is an excerpt from the Norwich Charter Ordinance, Section 5 regarding the Fire Chief:

The Fire Chief shall be in direct command of the fire department. He shall exercise all the duties, powers and functions of fire marshal as provided by the general statutes. Subject to the provisions of chapter XIV of this charter he shall appoint and remove all other officers and employees of the department. He shall assign all members of the department to their respective posts, shifts, details and duties. He shall make rules and regulations in conformity with the ordinances of the city concerning the operation of the department and the conduct of all officers and employees thereof. He shall be responsible for the efficiency, discipline, and good conduct of the department and for the care and custody of all property used by the department. Disobedience to the lawful orders of the chief or to the rules and regulations aforesaid shall be ground for dismissal or for other appropriate disciplinary action taken in accordance with the provisions of chapter XIV of this charter. The chief shall have further power to make regulations with the force of law, implementing and giving effect to the laws and ordinances relating to fire prevention and fire safety. He shall be responsible for the inspection of all buildings and constructions under his jurisdiction, the issuing of restraining orders when necessary in the interests of public safety and the closing of any building or construction if he considers it to be a hazard to public safety. Appeal from such action may be had in accordance with law. He shall have authority to administer oaths and take evidence, affidavits and acknowledgments and issue subpoenas in all proceedings relating to the fire department.

(Am'd. of 3-16-65)

Editor's note— Redesignated § 5 by amending enactment.

Section 6 of the Charter ordinance pertains to Volunteer companies; response to alarms:

Nothing in this charter shall be construed to affect the organization, status or property of any volunteer fire company now established or which may hereafter be established in the city. Whenever paid and volunteer companies are acting together, they shall be under the command of the Fire Chief.

(Am'd. of 3-16-65)

While the consultants are not qualified to render legal interpretations, it appears quite clear that the City of Norwich Fire Chief is in charge and would be legally responsible for any incident occurring in the City. The consultants believe that this should be clearly communicated to all fire department personnel in the City as well as the Police Chief.

Under the incident command system, it is permissible for a volunteer Fire Chief to remain in command of paid and volunteer firefighters at the scene of an emergency, provided the volunteer and paid officers are qualified to assume command. However, should an incident progressively worsen and the Norwich Fire Chief wishes to assume command, it appears that the Charter Ordinance would support this action.

Recommendation – Fire Chief Responsibility

- *The City must address the question in a legal format (i.e. interpretation) so that all emergency personnel understand who has ultimate legal responsibility at fires and other emergency scenes involving volunteer and paid personnel. This should be clearly communicated to all fire and law enforcement personnel. **Priority 1***

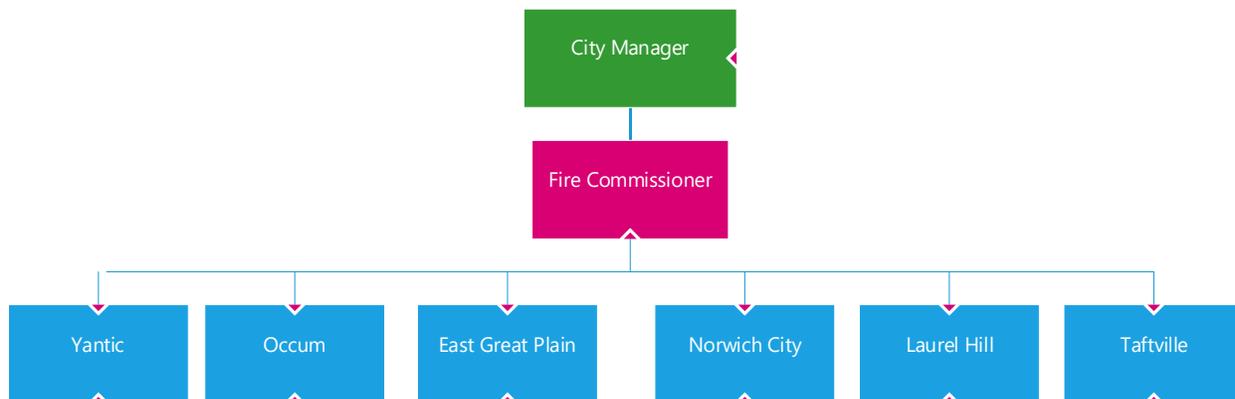
Note: The issue of Volunteer Departments as a City Department will be further addressed in the Human Resources Section of this report.

Organizational Structure

The current organizational structure of the volunteer and career personnel is inefficient and leads to silos in the critical area of public safety. There needs to be more integration of the operations and resources of the volunteer and career departments serving the City of Norwich. Conversely, the City Manager should not have six different individuals reporting to him regarding fire protection.

The City should create a single position titled Fire Commissioner who reports directly to the City Manager and is responsible to the Manager, Mayor, Council, Public Safety Committee, and citizens of Norwich. The Fire Commissioner position should not be assigned to any one of the Fire Chiefs of the six fire departments. Rather, the figure below illustrates the recommended reporting hierarchy – all to the Fire Commissioner:

Figure 1: Fire Commissioner Authority



Role/Responsibilities of the Fire Commissioner

Amalgamation of Six Fire departments

Continuing to run the fire service in the model of Ben Franklin's worthy shadow is preventing the City of Norwich from moving forward. Norwich must begin the process of oversight of the six fire departments from a global perspective of maximizing service in the most cost-effective manner. Abandon the labeling of volunteer and career and focus on fusion of these service providers.

Fusion: The process or result of joining two or more things together to form a single entity

All direction and resources needed by the fire/EMS providers are concentrated through the Fire Commissioner, who reports to the City Manager. This is similar to all other departments within the City. Thus, the Fire Commissioner acts as a division director over six departments. He/she serves as the liaison between departments and city administration, among all departments, and from the City to the public. As the role and responsibilities of the Fire Commissioner are delineated, it should be acknowledged that the Fire Commissioner will work with each agency in the areas of administration, budgeting, compliance, and integration of services.

Reporting to Governing Bodies and Public

The Fire Commissioner is the communication conduit between the six Fire Departments, the City Administration, the City Council, and the Public Safety Committee. The Fire Commissioner is responsible for improving relationships between citizens, the community, and the Board as well as among Departments. The Fire Commissioner ensures his/her own actions are for the good of the Department, not his/her own interests.

Administrative Duties

The Fire Commissioner attends all Board meetings and/or other meetings as required. The Fire Commissioner assists the City Manager in the preparation of Board meeting agendas. The Fire Commissioner composes correspondences, reports, memos, letters, and other related communication materials for City Manger's meetings.

Reception and Customer Service

The Fire Commissioner provides customer service in an effective and efficient manner. This includes receiving and managing all requests, complaints, and information from the public and transmitting them to City staff and/or Board to process, as necessary. This also includes answering phones; providing information to the public upon request; assisting the public with questions; researching information or records; and directing the public to the appropriate persons.

Monitoring Fire/EMS Budget

The monitoring of the budget involves the Fire Commissioner, Comptroller, and City Manager. The Fire Commissioner records the day-to-day fiscal activities and creates a monthly report to the City Manager indicating expenses and revenue items. The City is responsible for an annual audit of all its fire/EMS departments' fiscal activities.

Accounting and Finance

The Fire Commissioner, in conjunction with the Manager and Comptroller, provides oversight in processing bills for payment and maintaining financial records. The Fire Commissioner monitors the departments' budget on a routine basis. The Fire Commissioner should supervise both the administration of the departments' budget preparation with assistance of other administrative personnel and the development and maintenance of an effective system of reports. Monthly spreadsheets should be developed, reviewed, and then submitted to the City Council by the City Manager.

These include all contract financial documents. The Fire Commissioner and City Manager should work closely in this accountability process and should maintain an ongoing open line of communication regarding the budget. If the City continues to outsource ambulance services to an outside agency, the Fire Commissioner should continue to work with it in the development of reports and accountability processes. A third party ambulance service adds to the accountability process.

Capital Improvement Planning

The City Council should develop and adopt a strategic plan, which would outline the future vision for the Fire/EMS departments. The City Manager, in conjunction with the Fire Commissioner, should develop a master plan that clearly defines future capital expenditures for fire apparatus, equipment, and facilities. This information is essential in determining future budget implications. Once developed, the master plan and capital expenditures should be reviewed and updated on an annual basis by the Manager/Council and the Fire Commissioner. The Council should continue to utilize the expertise of the departments' leadership teams in the process of capital planning. The Fire Commissioner monitors the Capital Improvement Plan and develops the specifications for apparatus when replacements are needed. It is the recommendation of the Fire Commissioner as to the type of apparatus and equipment needed.

Leadership and Supervision

The Fire Commissioner is the administrator of the fire/EMS services. The Fire Commissioner performs the administrative functions of leadership, management, and supervision but not operational issues. These functions involve planning, organizing, directing, coordinating, and controlling the operations of departments and the personnel under his/her jurisdiction. The Fire Commissioner is responsible for enforcing local ordinances, State statutes, and Federal regulations as they apply to fire/EMS services. In addition, the Fire Commissioner develops, institutes, and uniformly applies department rules,

regulations, policies, and procedures that direct the operations and personnel within departments. The Fire Commissioner exercises all lawful powers of the office and issues lawful orders as necessary to assure the effective performance of departments.

Leadership Soft Skills

Less visible than the technical skills, but equally (many argue more) important, are leadership soft skills, or “people skills”. The Fire Commissioner assists in the leading, coaching, and mentoring of department personnel. This involves but is not limited to: leading members by personal example; managing member personnel issues; establishing a positive and engaging work environment; and instructing, supporting, and holding members accountable to the same industry standards and requirements. The development of an established and consistent process that fills departments’ promotional vacancies is an essential component to leading, coaching, and mentoring subordinate members. Additionally, the development of future leaders and managers is an essential function of the Fire Commissioner’s position.

Whereas technical skills have been compared to a science, leadership soft skills are compared to art. Leadership soft skills are often overlooked because they are difficult to quantify. However, these skills make volunteers feel appreciated and motivate them to serve. These results are best achieved when the leader is present in different situations and can adapt his/her leadership style to the circumstance. Therefore, a full-time Fire Commissioner has the advantage of being at the right place at the right time and utilizes these important skills:

- Building and leading effective teams
- Building relationships at all levels
- Communication
- Creating a culture of trust and respect
- Emotional intelligence
- Learning agility
- Motivating and engaging others
- Political savvy
- Resiliency
- Self-awareness

Source: Kalman, F. (2012). Top 10 Leadership Soft Skills. Chief Learning Officer

Appendix B - Departments Overview

The City of Norwich, Connecticut, is home to roughly 40,000 residents (Census.gov), and is the largest city in New London County. Numerous large employers, state facilities and other industrial companies are located in Norwich, swelling the daytime population by a large figure. Fire protection for the city is uniquely handled by a combination of a full-time, paid fire department in the more densely populated City Consolidation District (CCD), along with five volunteer fire departments surrounding the CCD known as the Town Consolidation District (TCD) – all located within the City of Norwich. In 1952, a new city charter was passed, resulting in the City and Town of Norwich combining and establishing a Council/Manager form of government. This new charter did not include a merging of the city (paid) fire department and the five surrounding volunteer departments. The taxing districts are also still separate; the CCD area of City of Norwich pays a different fire tax amount than the residents of the TCD of the City of Norwich. Ambulance service for Norwich is contracted to American Ambulance, and each fire department typically responds along with American Ambulance to EMS calls for service within their own coverage districts.

Norwich Fire Department

The Norwich Fire Department (NFD) was established in the late 1700's, and hired career staff shortly after the turn of the 20th century. NFD covers the CCD, operating out of two stations and employing a total of 59 (52 operations and 7 administrative). The Norwich CCD is a 3.2 square mile portion of city with a resident population of approximately 26,000. Headquarters station, located at 10 N. Thames Street, is staffed with 10 career members in addition to fire administration and the fire marshal's office.

Staffing at Headquarters includes a Battalion Chief, two three-person engine crews, and a three-person truck crew. Station 2 is located in the Greenville section of the city at 446 N. Main Street, and is staffed with one engine company of three personnel. Further response data will be discussed in subsequent sections of this reports, however, the majority of emergency calls NFD responds to are ambulance assists with American Ambulance. The Mission Statement of of NFD states:

The members of the Norwich Fire Department are dedicated to serve the people of the City of Norwich. We will provide the highest level of professional response to fire, medical, and environmental emergencies, and disaster, either natural or man-made. We strive to create a safer community through fire prevention, code enforcement and education for the public. Our goal is to provide twenty-four hour emergency service for the protection of life and property within a four minute response time frame with all necessary forces assembled, focused, and mission ready.

Operational personnel work a 10/14 schedule – most often in sequence thereby, working one 24 hour platoon followed by 72 hours (three days) off. The firefighter's union (I.A.F.F. Local 892) labor agreement with the City currently stipulates that a minimum of 13 firefighters shall be on duty each day. Article 24, Section 2 of labor agreement stipulates that anytime shift staffing drops below 13, it shall be filled with overtime pay in Accordance with Article 10. Since NFD employs 52 operations (shift) personnel working on a four platoon shift rotation, 13 are assigned to each platoon. This results in overtime or coverage pay

being paid *any* time vacation, sick or any other benefit time is taken. Article 11, Section 2 stipulates that the chief can reserve the right to limit vacations to *five* per platoon at any one time. Further, working a 10-14/72 by definition means one shift taken off – whether vacation, sick or any other benefit time – results in the employee being away from operations, training and contact with administration for seven full days.

Recommendation – Change NFD Shifts

- *Due to the additional costs incurred any time a firefighter is off, and the extended time away from operations, training, or administration with one shift taken off, we recommend operations personnel switching to a more traditional 24/48 schedule. **Priority 2***

Town Consolidation District

Five volunteer fire departments, all within the City of Norwich, provide emergency response to the TCD areas surrounding the downtown CCD area:

- East Great Plain Volunteer Fire Company
- Laurel Hill Volunteer Fire Company
- Occum Volunteer Fire Department
- Taftville Fire CO #2
- Yantic Fire Engine CO #1

All five departments provide coverage to their own response districts, which are depicted on the detailed fire district map in the “Facility” section of this document.

In lieu of any compensation, volunteers on each department are eligible for a \$1,000 property tax abatement, this amount will increase to \$1,500 in 2021 and \$2,000 in 2022, if they participate in 20% of their department calls and training.

Sec. 8-72. - Definitions.

When used in sections [8-71](#) through 8-89, the following terms have the meanings set forth below unless a different meaning is plainly required by the text:

*(a) **Active member.** A member of any department who performs fire duties for the benefit of the district responding to at least five percent of his/her department's emergency calls or 35 emergency calls during the plan year; and attends at least five percent of his/her department's training sessions and drills or four hours of training or drills during the plan year.*

*(Source: Ord.No.. 1725, 11-16-15) * The years and hours in this ordinance do not align with information provided to the consultants by one of the volunteer departments – see above)*

According to all five volunteer chiefs, their rosters are strong and almost every current member is considered as active. This is an impressive feat, as many volunteer and part-time fire/EMS departments all across the county routinely struggle to recruit and retain members, as an all-time low number of volunteers was noted in 2017 (*National Volunteer Fire Council, nvfc.org*).

East Great Plain

The East Great Plain Volunteer Fire Company (EGPVFC) was established in 1943 and currently reports 47 active members on their roster. The fire station is located at 488 New London Turnpike, and covers approximately four square miles of the City of Norwich to the southwest of the CCD. All department members respond from home/work when there is a call and there is no staff assigned to cover the station on a regular basis. The Mission Statement of the EGPVFC is:

To provide emergency services to our fellow citizens in a prompt, personal and professional manner. We accomplish this by treating all persons we encounter as if they are part of our family. We strive to remain on the cutting edge of our chosen vocation in a caring and efficient way.

Laurel Hill

The Laurel Hill Volunteer Fire Company (LHVFC) was established in 1947 and currently reports 36 members on their roster, most of which are active and make 50% or more of calls and training sessions. The fire station is located at 509 Laurel Hill Road and covers approximately three square miles of the City of Norwich directly to the south of the CCD on the east side of the Thames River. All department members respond from home when there is a call and there is no staff assigned to cover the station on a regular basis. The Mission Statement of the LHVFC is:

To deliver quality preventative and emergency service to the community through and efficient and effective delivery of services, public education and ongoing training.

Occum

The Occum Volunteer Fire Department (OVFD) was established in 1943 and currently reports 35 active members on the roster. The fire station is located at 44 Taftville-Occum Road, and covers approximately four square miles in the farthest north district of the City of Norwich. All department members respond from home when there is a call and there is no staff assigned to cover the station on a regular basis. The Objective of the OVFD, as documented in department by-laws states:

The objective of the Occum Fire Department is to protect lives, property, etc. and to assist in any emergency when called upon. Further, it is the duty of this department to help try and prevent fires and also render aid when requested.

Taftville

The Taftville Fire Company #2 (TFC) was established in 1915 and currently reports 30 active members on their roster. The chief reported a recent loss of five members to other employment in the state of Vermont was a hit to their roster. The fire station is located at 134 Providence Street in the Taftville community of the City of Norwich, and covers approximately five square miles to the north of the CCD. All department

members respond from home when there is a call and there is no staff assigned to cover the station on a regular basis. The Mission Statement of TFC #2 states:

The mission of the Taftville Fire Company #2, Inc. is to improve the quality of life within the Taftville Fire District, by providing a high quality emergency fire and rescue service, and excellent fire prevention program, including public education, and a firefighting and rescue force capable of handling all types of emergencies. The Department will accomplish this mission while maintaining a high standard of training and education, maintain fire department facilities and apparatus, and interact professionally with other town and city departments.

Yantic

The Yantic Fire Engine Company #1 (YFEC #1) was established in 1847 and currently reports 58 current members on their roster, of which all are considered active. The fire station is located at 151 Yantic Road, and covers approximately 10 square miles of Norwich to the northwest of the CCD. All department members respond from home when there is a call and there is no staff assigned to cover the station on a regular basis. The Mission Statement of YFEC #1 is:

To respond to all calls for emergency services including fire suppression, medical assistance, hazardous materials, confined space rescue and motor vehicle extrication. To educate our members in safe, up-to-date fire and rescue techniques. To educate the public in fire prevention and home safety practices.

Fire Department Relationships

Volunteer chiefs report a good relationship with the NFD and other volunteer fire departments. However, the consultants, when reviewing information and data provided by each department and engaging in conversations with stakeholders throughout Norwich, learned tensions exist between career and volunteer operations.

Fire Department Members Interviews

The consulting team set-up individual days for each department members to speak with a consultant to seek their input into the study. These interviews were designed for rank and file members and not chief officers who had previously spoken to our team. Twenty-eight time slots per day were broken into two categories:

Morning: 9:00 AM through 1:00 PM

- Evenings: 4:00 PM through 10:00 PM

Forty three (43) members participated in the interviews which consisted of 23 career and 20 volunteers. All interviews were confidential and the rest of the consulting team has no knowledge of who spoke with the consultant. All departments had a member(s) participate and not surprisingly there were very

diverse answers to the topics discussed. In the following the consultants will highlight one or two of the most often heard input to each topic:

1. Why is the City conducting this study?

The major purpose was to address the tax differential between the City Fire Department services and the Town Fire Departments services.

2. What is the most important topic/issue the consultants need to address?

The amalgamated of services and unification of the career and volunteer departments working towards a common goal.

3. Describe the relationship between the career and volunteer departments.

The response was very dissimilar with most initially expressing “they” want to work together but it’s the other group that was unwilling. Many shared historical wrongs they had experienced and these wrongs overshadowed opportunities for change.

4. If you had the power to change one thing in Norwich fire/EMS program.

Construct a central joint training facility which would lead to a better working relationship. The consultants wholly agree with this suggestion.

5. What authority does the City Manager have on your department? (limited to volunteer departments only)

Almost unanimous the answer was “none”. When asked about fiscal distribution many believed his only role might be to approve their request for capital items.

6. Anything you would like to share with?

The fire service in Norwich is in disarray and those that govern know it: but choose to ignore it. Dispatch needs to improve before a serious event to a responder occurs. An enormous need to bring the six departments together.

A summary, but not an all-inclusive list of issues repeatedly heard from other stakeholders:

- *Volunteer FD’s calling for mutual aid assistance from other volunteer agencies before calling NFD for help, even when NFD is closer and perhaps can get on the scene sooner;*
- *NFD not utilize volunteer personnel on fire scenes, and routinely having them stage or complete other non-fireground tasks;*
- *Multiple run cards across all departments either placing NFD and other adjacent departments on 2nd, 3rd, 4th, or Special alarm assignments when, in fact, NFD may be the closest or best option for immediate mutual aid;*

- *Lack of training together among volunteer departments and NFD;*
- *Political party differences among the City Council creating perceived disfunction between the career and volunteer departments;*
- *Lack essential (one person) oversight of all emergency fire/EMS operations across the city.*

According to all six Fire Chiefs, active firefighter eligible to respond to a fire must be trained to the Connecticut Firefighter 1 standard at minimum. Therefore, if the service providers really believe their mission is to provide service to ensure: **“WHAT IS BEST FOR THE INDIVIDUAL NEEDING THE SERVICE”** the issue of career or volunteer status *has no bearing* on resource response and/or fireground assignments.

Recommendation – Fire Scene Response/Assignments

- *Response to emergencies should be based on proximity of the responders and adequate resources to mitigate the emergency; regardless if the individuals providing that service are career or volunteers. **Priority 1***

Response & Run Cards

Another noteworthy discrepancy across all fire departments within Norwich is that each department sets their own format for response guidelines and run cards. These differ by street, and dispatch is charged with following hundreds of different running orders based on the many streets throughout the City. There does not appear to be any set standard of setting run cards based on closest resources available. In fact, many run cards across different Norwich departments identify that multiple engine companies from a single volunteer department be called before others.

Example

The sample card below is not intended to single out any agency or meant negatively; rather one must assume that a career department with personnel on-duty should be able to arrive sooner than some of the departments identified on the card.

The figure below is an example of a volunteer fire run card that would apply to a structure fire. This run card shows that multiple resources are to be called from one adjacent agency, before even one resource is called for from another neighboring agency. In fact, Norwich Fire Department is requested only upon a “Special Call” and not part of the first four alarms on many run cards similar to this as illustrated in the figure below”

Figure 2: Sample Run Card



Sample Run Card Submit by Email Print Form

STREET: BLUEBERRY HILL ROAD FROM HSE #: 1 TO HSE #: 35

NOTES: _____ Chief's Signature: _____ Revised on: 01/27/2014

1ST ALARM	YANTIC E-32	YANTIC E-33	YANTIC E-31	YANTIC R-3	YANTIC SQ-36		
2ND ALARM	BOZRAH ET-126	BOZRAH L-126	EGP E-52	EGP ET-51	EGP R-5		
3RD ALARM	TAFTVILLE ET-21	TAFTVILLE ET-22	LAUREL HILL E-62	LAUREL HILL E-61	EGP L-5		
4TH ALARM	OCCUM E-42	FRANKLIN E-125	BALTIC ET-124	BALTIC ET-224	COLCH ET-128		
SPECIAL CALL	NORWICH E-3	NORWICH TL-1	NORWICH SQ.A	NORWICH BATT.1			

Hydrant Area NON-Hydrant Area FAST - 1: MOHEGAN TRIBE FAST-2: COLCHESTER

This example supports our recommendation that all run cards need to be standardized and focus on **“WHAT IS BEST FOR THE INDIVIDUAL NEEDING THE SERVICE”**, taking into account what resources can arrive quickest. This example also supports the consultant’s recommendation for a single individual (Commissioner – discussed later in this report) to oversee all issues pertaining to fire/EMS (six departments) within the City and emphasizes standardization. Lastly, the consultants recommend that Norwich Fire Department respond to all structure fires within the City with an engine and is dispatched simultaneously with the department’s jurisdiction in which the emergency is occurring.

Recommendation – Standardization

- *The entire City would benefit from standardization of Standard Operating Procedure, Data Management Systems, Training Curriculum, Run Cards, Report Formats, Human Resources, Apparatus & Equipment, and a host of other opportunities. **Priority 2***
- *The entire City would benefit from a single individual with the authority to oversee all aspects of fire/EMS services. The Commissioner would work closely with the six Fire Chiefs in integrating fire/EMS services throughout the City. **Priority 2***
- *The Norwich Fire Department should respond automatically with a single engine in conjunction with the district’s fire department in which the emergency is occurring. **Priority 2***

This response of a full-time staffed engine company, in conjunction with a given volunteer department full response, will better meet the goals of NFPA 1710/1720 and provide faster, more complete fire response to an emergency. Most importantly, it would ensure **“WHAT IS BEST FOR THE INDIVIDUAL NEEDING THE SERVICE”** and provide additional safety to the emergency responders.

EMS Incidents

Again there lacks standardization in how the fire departments handle EMS events, which account for a large percentage of incidents.

The following is the policy of the Norwich PSAP regarding ambulance calls:

- When the PSAP receives a 911 call for EMS they immediately transfer it to American Ambulance.
- Norwich dispatcher stays on the phone call as American Ambulance dispatches resources – could be just an ambulance or ambulance and fire department
- If the Norwich dispatch believes the fire department is also needed, they will dispatch the appropriate fire department, independent of American Ambulance.
- Understand the Norwich dispatch is also dispatching multiple agencies all on different radio frequencies, while handling all agencies radio traffic, incoming calls both non-emergency and 911, looking up the “run cards” on a separate computer and sorting through 700 cards to match the proper street name with the department’s district.... *(refer to PSAP section of this report for more detail).*

It appears that the NFD has determined to respond to all EMS incidents in the City regardless of the nature if dispatched or not. The volunteer departments handle EMS incidents slightly different from each other but their concerns are:

- Incident is often cancelled after the fire department has begun its response
- The department arrives at the scene only to be waived off by the ambulance crew
- Or the EMS call never gets reported to the fire departments so no response occurs

In many cases, a fire department response simply isn’t warranted due to the basic nature of the EMS call, causing: added safety risks to the responders and civilians on the street (2nd leading cause of firefighter death is vehicle accidents going to or coming from alarms), unnecessary expense associated with apparatus response, personnel unavailable for other emergency situations.

Recommendation – EMS

- *American Ambulance should prioritize calls in standard EMS coding which would limit fire department response to only incidents serious enough to require fire department intervention. All departments should standardize their response to EMS based on this priority identification. **Priority 2.***

Chief's Meetings

Another topic of discussion among all chiefs that was inconsistent was how often the Chiefs meet together. First there is a definition of who meets, being just the volunteer Chiefs, some of the volunteer Chiefs, or all six Fire Chiefs. Second, the consultants were told these meeting occur weekly, every two to three weeks, monthly, quarterly, "it's been a long time since we've all met together."

Regardless of which statement is correct there is a need for all six Fire Chiefs to meet at a minimum quarterly. Once the Commissioner is appointed by the City to oversee fire/EMS operations, they should create and distribute an agenda which includes time for open discussion of issues, concerns, or new innovations. The importance of these meeting cannot be overstated if a unified team approach to fire/EMS is desired.

Recommendation – Chief's Meeting

- *All Chiefs and the Fire/EMS Commissioner should meet quarterly for an opportunity to discuss mutual concerns and/or opportunities for improvements. The Commissioner should develop and send prior to the meeting an agenda which would include open floor discussion. **Priority 2***

Summary

All six fire departments consist of a number of very dedicated and profession service providers and each department enjoys an extremely rich and proud history, deservingly so. However, each department perceives itself as independent with the autonomy to provide services as they deem appropriate. All six departments as well as the individual needing services would benefit from an integration of how services are provided, while maintaining the proud heritage of their department. Integration not building and maintaining silos does not translate into: **"WHAT IS BEST FOR THE INDIVIDUAL NEEDING THE SERVICE"**.

Appendix C: Public Safety Answering Point (PSAP) aka: Dispatch

The Norwich Public Safety Answering Point (PSAP), also referred to as dispatch, is located in the Police Department at 70 Thames St., Norwich, CT 06360. The PSAP handles the 911 calls for Norwich Police Department. In 1998, the Norwich Police PSAP took over answering fire and emergency medical calls from the Norwich Fire Department. All fire related 911 calls for Norwich are dispatched by Norwich PSAP to the respective fire departments based on call location:

- *East Great Plain Volunteer Fire Company*
- *Laurel Hill Volunteer Fire Company*
- *Occum Volunteer Fire Department*
- *Taftville Fire Company*
- *Yantic Fire Engine Company #1*
- *Norwich Fire Department*

The term company and department are used interchangeable inasmuch as several of the departments use both terminology when referring to themselves.

Norwich PSAP forwards all 911 requests for emergency medical services to American Ambulance Service located at 1 American Way, Norwich, CT 06360. According to site interviews with fire chiefs, police staff, dispatchers, and American Ambulance, the Norwich dispatchers are advised to listen in on the 911 call that is transferred to American Ambulance for key words that would indicate a first responder from the fire department is needed. The active listening process can easily be abandoned if more 911 calls are received by the PSAP, the other dispatcher is busy processing a call, or if the dispatcher is working alone. A desk officer is used to provide support for the dispatcher in answering 911 calls and running the radio console. Currently, the desk officer does not receive the State of Connecticut dispatcher training.

Staffing

There are nine full-time dispatchers, one desk officer, and two part-time dispatchers. The Police Captain, among his other administrative duties, oversees dispatch services. A police lieutenant supervises dispatch during his/her shift. The desk officer, who is assigned to dispatch, is a patrol officer. The part-time dispatchers are mostly used to fill in for the full-time staff, who are off duty for various reasons. The part-time dispatchers are often not available when needed, and it is difficult to retain them.

The minimum and maximum staffing depends on the time and day of the week. Below is a table indicating staffing levels. Norwich dispatch shift times are: Day 07:00- 15:00, Afternoon 15:00 to 23:00, Nights 23:00 -07:00:

Table 3: PSAP Staffing

Shift	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Day	1	2	2	2	2	2	1
Afternoon	2	2	2	2	2	2	2
Nights	2	1	1	1	1	1	2

On some occasions (maximum one day a week) when additional personnel are available, there might be one additional dispatcher over the minimum indicated in the table above. This is very dependent on sick, vacation, and/or other circumstances that impacts staffing levels.

The desk officer is used to help with answering 911 calls and other phone calls when needed. Due to limited training related to dispatching, the desk officer does his/her best to help during times of high call volume or low staffing.

Below is the chart for American Ambulance dispatching services. The shift times are Day 08:00 – 16:00, Afternoon 16:00- 00:00, Nights 00:00 – 08:00. The night supervisor is trained in dispatching and can assist if needed.

Table 4: American Ambulance Dispatchers

Shift	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Day	2	2	2	2	2	2	2
afternoon	2	2	2	2	2	2	2
nights	1	1	1	1	1	1	1

Communication equipment

Police Chief Daley has made improvements in the police radio communication since becoming police chief. He has moved the police department to the Statewide 700/ 800 radio system last year and has overseen the installation of mobile data computers in police cruisers. Fire department apparatus have IPADs but they are not connected to dispatch. The IPADs have a GIS program with icons that link to the fire department run cards.

The volunteer fire departments are paged out and operate on VHF low-band 33.66 kHz. The Norwich Fire Department is alerted through VHF high-band 154.205 MHz; resulting in the inability of volunteer departments speaking directly to the career department. In addition, it is difficult for volunteer departments to find pagers still being manufactured to operate on the 33.66 kHz frequency. The volunteer departments are trying to use I am Responding® to better alert members. These struggles have resulted in each fire district trying to incorporate technological solutions such as I am Responding® that uses a scanner linked to a computer to broadcast dispatching alerts to solve the alerting issues. These individual solutions can create more problems than they solve. These solutions need to be standardized across the entire city.

The nature of the fire departments to operate separately leads to different solutions when solving some of their communication problems. For example, the Yantic fire company uses the fire ground channel for on scene radio traffic due to other fire departments calls being paged out and operating on the same 33.66 kHz frequency for their simultaneous call. Each call has to use two tones to ensure multiple radio repeaters are activated, as terrain can hamper critical radio traffic. The Norwich Fire Department uses VHF high-band frequency of 154.205 MHz. The Norwich Police operate on the Statewide 800 MHz

frequency. American Ambulance service operates on a 400 MHz frequency and has installed mobile radios in their ambulances, so they have the ability to communicate with their dispatch, volunteer fire departments, and the Norwich Fire Department.

The same radio frequency is used for dispatching, responding, and fire ground. Some departments are switching over to a fire ground frequency to communicate better on emergency scenes. There are several radio frequencies used by fire departments, police, and ambulance services making it necessary to have different radios installed in vehicles to communicate. Different radio systems hamper any complex event that requires the cooperative service of police, fire and ems. These communication challenges are undesirable, as they create safety issues for emergency responders. The fire chiefs were aware of the police department moving to the state radio system and understand there is a need to improve the communication system; however, the lack of understanding, the cost/benefits of moving to the 700/800 radio system along with the fear it will not be supported by the City are all concerns.

CAD software

The current 911 computer system that receives 911 calls is phase II compliant and uses a map to locate the call location. Unfortunately, the 911 computer does not integrate with the current Computer Aided dispatch software (CAD). This requires the dispatcher to retype important location information which can lead to location errors by simply misspelling a street name or transposing address numbers.

The current Computer Aided dispatch (CAD) system was purchased more than 10 years ago. The software company was bought out by Central Square. The current CAD system is being supported by Central Square; however, Central Square is not improving the current software to use the latest technology. The lack of integration with both the 911 computer and the ability to send CAD data to the reporting software used by the fire departments causes frustration.

Another drawback of the current CAD software is the time consuming process of entering run cards to dispatch the individual fire department. Each department has created run cards for individual streets which are currently kept on another computer and are referenced by dispatch for fire related calls. There are over 700 different run cards for the dispatcher to use. The way these run cards are kept and the large number prevent them from being used effectively, which creates frustration for both the dispatcher and fire chiefs. Attempting to use these run cards to dispatch equipment for any of the alarms will significantly reduce the ability of the dispatcher to process the call quickly. The run cards also have an abundance of information to use during a response. The volunteer fire departments use a different version and format than the career department. The level of alarms is not standardized, and some cards use initial alarm where others use 1st alarm. In the note section of the run cards, some fire departments that do not have a ladder company want a ladder to respond on their first alarm assignment, but it may only be for a certain address on the street. The amount of detail for such a large number of run cards makes using them very difficult.

The CAD software that Norwich PD uses does not interface with the software used by American Ambulance, so each agency must enter address information and nature of the call for service separately. This lack of integration can cause delays in dispatching. To reduce these occurrences, Norwich PSAP will dispatch the call and then go back and enter the CAD data. Following this procedure leads to inaccurate times due to the sequence of events occurring. The best practice for dispatching calls is to enter the location information and call for service into a CAD record so the record exists when a dispatcher is recording call times. This will more accurately reflect the sequence of events.

Training

Dispatchers receive the State of Connecticut training of 40 hours to become a dispatcher. Dispatchers are also sent to courses for continuing education. There is no set amount of continuing education that is required by the department. Since the 911 calls for emergency medical service are forwarded to American Ambulance, the Norwich dispatchers are not trained in emergency medical dispatching.

American Ambulance dispatchers are trained using the International Academy of Emergency Dispatchers criteria, which has an Emergency Medical dispatcher certification. The International Academy of Emergency Dispatcher certification lasts for two years. The American Ambulance dispatcher must maintain this certification which requires continuing education and passing a renewal test prior to their expiration date.

Data

The State of Connecticut has a Department of Emergency Service and Public Protection that has a Division of Statewide Emergency Telecommunicators. The Division of Statewide Emergency Telecommunications (DSET), with its partner AT&T, completed deployment of the West Safety Services VIPER NG911 call handling solution to PSAPs in November 2017.

This upgrade made all Public Safety Answering Points in the State of Connecticut Next-Generation 911 compliant. With the installation of this equipment, DSET is now able to generate the quarterly statistics for all PSAPs without requiring the submission of data by each individual PSAP. The West Safety Services VIPER NG911 also has the capability of listing the transmission sources of 911 calls. Below are the reports for Norwich Public Safety Answering point for 2017, 2018, 2019, and the first three quarters of 2020.

Table 5: Norwich PSAP 911 Call Totals

Norwich PSAP 911 Calls Totals				
	2017	2018	2019	2020
Jan	1,936	1,979	1,676	1,622
Feb	1,616	1,539	1,531	1,507
Mar	1,698	1,916	1,646	1,616
Apr	1,713	1,700	1,610	1,461
May	1,935	1,895	1,840	1,762

Norwich PSAP 911 Calls Totals				
	2017	2018	2019	2020
Jun	1,946	1,964	1,862	2,040
Jul	2,216	1,934	1,871	2,072
Aug	1,905	1,934	2,092	2,173
Sep	1,831	1,845	1,763	1,885
Oct	1,879	1,643	1,912	
Nov	2,086	1,725	1,642	
Dec	1,887	1,545	1,658	
Totals	22,648	21,619	21,103	

All dispatchers at American Ambulance are Emergency Medical Dispatch (EMD) trained. All requests for Emergency Medical Response are forwarded to American Ambulance, which provides EMS services to Norwich through a contract; the table below illustrates total ambulance calls.

Table 6: American Ambulance Total Calls

American Ambulance Calls	
Year	Total Ambulance Calls
2017	8,791
2018	8,670
2019	8,840

Below are the numbers that the fire departments reported as emergency responses. These numbers (displayed as time of day) are used in determining PSAP assigned to shifts.

Table 7: Fire Department Calls

Department	2017	2018	2019
Norwich	2,552	2,360	2,494
East Great Plain	961	993	877
Laurel Hill	56	81	54
Occum	196	218	190
Taftville		762	793
Yantic	599	628	681
Total	4,364	5,042	5,089

The table below illustrates the transmission source for the 911 calls received by the Norwich PSAP:

Table 8: 2019 - 911 Calls Received by Source

2019	Wireline	VoIP	Wireless	Text
Jan	224	161	1281	10
Feb	228	160	1139	4
Mar	221	194	1228	3
Apr	212	156	1232	10

2019	Wireline	VoIP	Wireless	Text
May	246	183	1406	5
Jun	199	209	1447	7
Jul	188	219	1453	11
Aug	215	157	1701	19
Sep	192	154	1389	28
Oct	211	210	1489	7
Nov	178	188	1273	3
Dec	173	183	1301	1
Total	2,487	2,174	16,339	108

VOIP = Voice over Internet Protocol

Percentage of Calls Answered in Seconds

The table and chart below illustrate the percentage of times the PSAP was able to meet the NFPA 1221 standard of answering within 10 seconds.

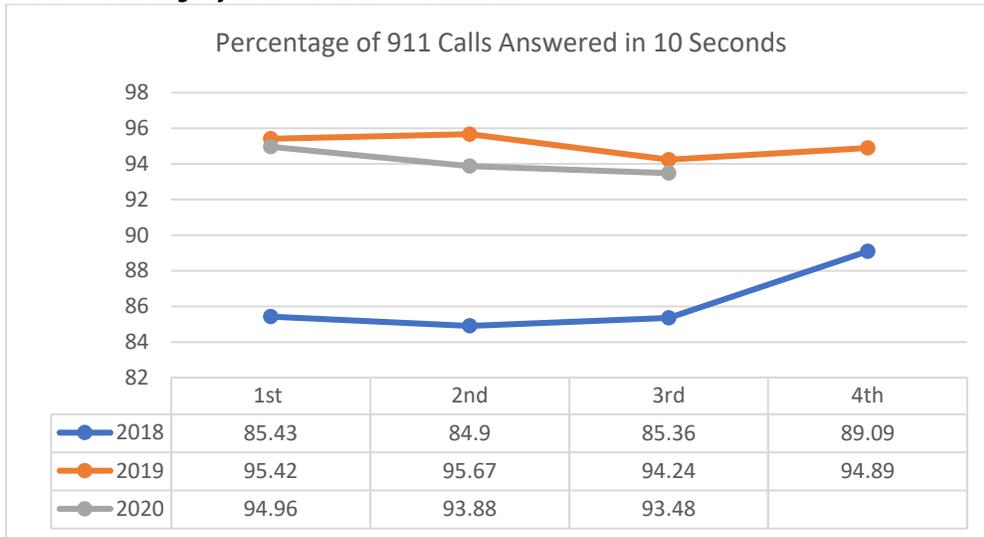
- Generally 911 calls are allowed to ring twice because:
 - If the 911 call is answered on the first ring, the location of the incident does not display on the dispatcher’s map.
 - This requires the dispatch to refresh the map to see the location
 - By waiting for the second ring, the location is displayed on the PSAP map.

- There is a cache built into the 911 computer, which, if not periodically cleared, will delay the ringing by 2 to 3 seconds. As the cache fills, the ring will delay up to 5 seconds.

Table 9: PSAP Percentage of Answering Within 10 Seconds

PSAP Calls Answered in 10 Seconds				
Year/Quarter	1st	2nd	3rd	4th
2018	85.43%	84.9%	85.36%	89.09%
2019	95.42%	95.67%	94.24%	94.89%
2020	94.96%	93.88%	93.48%	

Chart 1: Percentage of Calls Answered In 10 Seconds



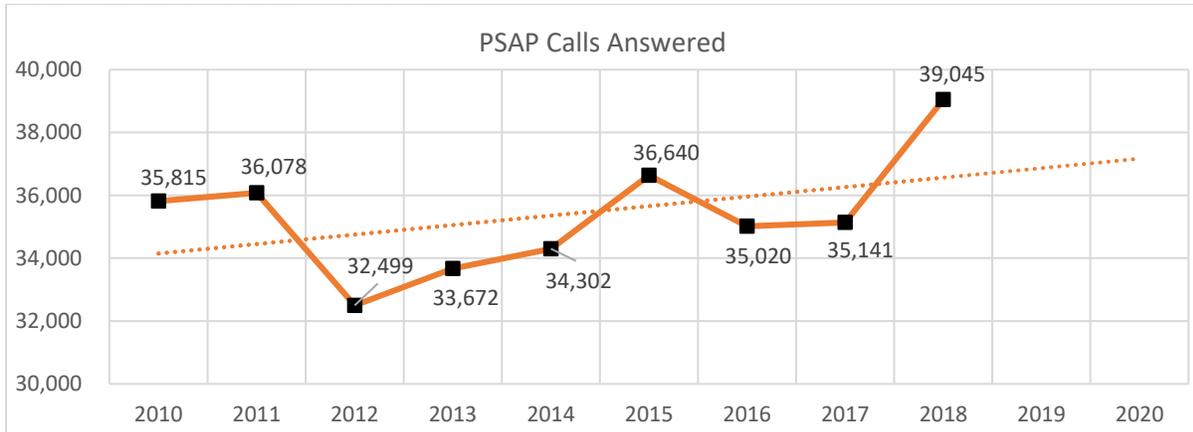
Non-Emergency Calls In Dispatch

The dispatchers answer non-emergency calls after hours since most callers dial zero, which goes directly to dispatch. Currently the Police department cannot produce the number of non-emergency calls to help determine correct staffing levels based on the number of calls the PSAP receives during the different times of the day. With that said, the consultants were able to determine the number of calls handled by the PSAP. The table and chart below illustrates the total calls received in the Norwich PSAP:

Table 10: Total Calls Answered in PSAP

Year	Call Total
2010	35,815
2011	36,078
2012	32,499
2013	33,672
2014	34,302
2015	36,640
2016	35,020
2017	35,141
2018	39,045

Chart 2: Total Calls Answered in Norwich PSAP



American Ambulance provided their total ambulance calls as illustrated in the table below:

Table 11: American Ambulance Total Calls

American Ambulance Calls	
Year	Total Ambulance Calls
2017	8,791
2018	8,670
2019	8,840

American Ambulance provides the EMS response and transport of patients needing emergency medical care. A percentage of the above calls for American ambulance will also include a fire department response. American Ambulance does not track the EMS calls by fire district.

Table 12: Percentage of 911 Calls for Fire Departments

Percentage of Fire/EMS First Responder Calls To 911			
	2019	2018	2017
Calls FD responded	5,089	5,042	5,054
Total 911 calls received	22,648	21,619	21,103
Percentage	22%	23%	24%

* Not all EMS calls are represented

Public Safety Answering Point Standards

The Norwich PSAP should strive to meet the following standards as Outlined in NFPA 1221: 2019 edition The Standard for Installation, Maintenance, and use of Emergency Services Communications.

7.4 Operating Procedures:

- 7.4.1 90% of events received on emergency lines shall be answered within 15 seconds; 95% of alarms shall be answered with 20 seconds

- 7.4.2 Call processing time shall include the time from the call answer to initial notification of the responding emergency response unit
- 7.4.3 Emergency alarm processing for the highest prioritization level emergency events shall be completed within 60 seconds 90% of the time
- 7.4.5 For Medical calls where a patient is determined to be unconscious/unresponsive and not breathing, bystander CPR shall be confirmed or telephone CPR shall be initiated by a telecommunicator qualified in emergency medical dispatching and continued until emergency responders arrive at the patient.

Recommendation – Dispatch Supervisor

- *Create a position for dispatch supervisor who would be responsible for creating a quality assurance program, manage CAD information for key holders, manage Run Card/Response plans for the agencies, and oversee the training of new dispatchers. **Priority 2.***

Recommendation – New CAD system

- *Evaluate a CAD program that has interoperability with neighboring PSAPs, GIS capabilities, and ease of changing response plans. The CAD system should interact with mobile data computers or IPADS to receive dispatch information and interactive with the fire/EMS NFIRS. **Priority 2.***

Recommendation – Radio System

- *Evaluate a radio system that will allow for interoperability with all the agencies responding to emergency within the boundary of Norwich. Consider strongly moving Fire Departments onto the State radio system used by the Norwich Police Department. **Priority 2.***

Recommendation – Alerting of Volunteer Members / Stations

- *Evaluate a system that will be deployed city wide and has the capability to alert the members of each department for single and multiple alarm incidents. **Priority 2.***

Recommendation - Dispatch console/ equipment

- *Evaluate replacing the dispatch console to allow for dispatcher to stand and dispatch calls, allow dispatchers to have the correct amount of monitors for call entry, vehicle status monitoring, and mapping the location of current calls, and other needs. **Priority 2.***

Appendix D: Response Time

Note: The data in this section primarily addresses the PSAP in as much as the consultants could not determine or validate any response times provided as response time entries are not captured in the current CAD system.

Providing emergency services is all about response times. How long it takes the Fire Department to get on location to begin mitigating the fire or providing emergency medical services is the primal issue. What is an acceptable response time is subjective, depending on whether you are the one in need or not. When a citizen makes a call to 911 for an ambulance or fire, every second seems like minutes, and their anxiety will disproportionately increase as the severity of the incident worsens.

All fire professionals understand the importance of response time and many have lived the results of not being there just a few seconds sooner. Yet many Fire Departments do not routinely use data as a management tool to address opportunities to improve response times. During interviews, fire department chief officers voiced their frustration with the inaccurate response times. Improving the recording of incident times is critical to department operations and to creating a legal record of events that occur. These incident times are often time used by the department to make adjustments in providing an effective, efficient, and predictable deployment model for the risks and emergencies commonly faced. What has been evident during the consultant evaluation of response time is how the current dispatching process is creating difficulties with the accuracy of the times. It has also become apparent that more education into how response statistics can be obtained from the current fire reporting software is needed. Asking departments for a specific report only resulted in receiving 50% of the required information. The consultant believes this to be an education/ training issue.

Response Time Components

Response time components begin with the time a person detects an emergency and calls 911 to the time the fire and or EMS service arrives at the scene. One must have an understanding of the five components of response time to fully analyze that information. The components are:

1. **Detection Time:** The time it takes to detect the emergency incident and dial 911. This time frame is only affected by citizens being attentive to their surroundings.
2. **Notification Time:** The time from when the call is received by dispatch to the time the department is notified. This time period is in control of the Norwich PSAP.
3. **Turnout Time:** The time it takes personnel to prepare and leave quarters after notification. These times can be very different in the City of Norwich as five of the six fire departments are covered by volunteer personnel who must be alerted to the call and then respond to the station to get the apparatus needed to handle the incident. These times are affected by where individuals live in relationship to the fire station that houses the apparatus. In the Norwich Fire Department where there are career personnel, the time is shorter due to personnel being in the fire station.

4. **Travel Time:** The time the first fire apparatus leaves the station to the time it reports on the scene.
5. **Mitigation Time:** The time the first apparatus arrives at the scene to the time when actual extinguishing/treatment efforts begin.

Performance Measures

The aim at measuring performance in a PSAP is to ensure that the citizens of the community receive prompt effective and appropriate responses for their emergency. To ensure this level of service occurs, it is necessary to measure key time intervals during the incident. Each PSAP should use NFPA 1221 as a base to establish key performance measurement to ensure citizens received a prompt, effective, and appropriate response to their emergency.

Evaluating a PSAP in its ability to process calls rely on accurate data for answering times for 911 emergency calls, the non-emergency call load, the procedures used during the notification process along with the computer/equipment to aid the dispatcher.

Currently the new 911 computer system that the State of Connecticut added to each PSAP in 2017 allows the Division of Statewide Emergency Telecommunications (DSET) to create reports on their website to show the PSAP performance of answering 911 calls on a quarterly basis. (See chart in previous section "Percentage of 911 Calls Answered in 10 Seconds")

The Norwich Police department also needs to document the 911 calls to determine the day of the week and hour for peak call times. Understanding peak call loads can help determine if there is any relationship between the 911 answering time and call load. If a relationship exists, it could indicate another dispatcher may be needed to answer and dispatch calls.

When gathering data the PSAP, it was noted that the newer 911 computer did not integrate with the PSAP current CAD system. This issue increased the processing time and lends to possible errors because location information must be entered again. Based on the nature of the call and from reports that show inaccurate times, it is believed that the dispatcher is dispatching the call from the information presented on the 911 computer and trying to go back and document the call. This procedure will cause inaccurate times and may be done later due to the call volume in the PSAP at the time of the emergency.

Another procedure that increases the call processing time is the methods in which the dispatcher needs to assess which apparatus and department needs to be notified. Instead of relying on a CAD system to give the dispatcher the information, he/she must remember the areas and apparatus needed for each call for service. If the dispatcher is uncertain, he/she must go through PDF files located on another computer to find the information. Some departments have tried to improve the look up by creating alphabetical folders to place the street run cards in front for quicker look up. But once in the folder, the dispatcher still needs to find the card in a folder that could have between one and forty run cards, thus slowing the

process. In speaking with the lead dispatcher, it would be an extremely long process to record all 700 plus run cards into the CAD system, especially now that the system is short-lived as the Police Chief knows. The system needs to be upgraded.

Recommendation – Staffing

- *Monitor the work loads of dispatchers and develop methods to ensure the adequate number of telecommunicators are available to process calls during peak times to meet best practices for alarm time processing. **Priority 2***

Recommendation – Response plans

- *Work with department chief officers to simplify the response plans, which should consider the location of needed resources and availability. **Priority 2.***

Recommendation – Education for Data Analysis

- *Receive more training related to Emergency Reporting® to develop standard reports that reflect the alarm processing, turnout, and travel time to the incidents. **Priority 2.***

Appendix E: National Standards

There are numerous national standards and codes the fire departments must be aware of. When a serious incident occurs (such as a serious injury or death of a firefighter), departments are typically judged by these standards. Therefore, it is prudent to discuss national standards that impact the fire department and EMS services. Consideration as to the implications of these standards to the Department can only be determined by those that govern, inasmuch as most of the standards are not mandatory. This report contains pertinent information from the National Fire Protection Association (NFPA), National Institute of Standards and Technology (NIST), Insurance Service Office (ISO), Occupational Safety and Health Administration (OSHA), and Center of Public Safety Excellence (CPSE).

National Fire Protection Association (NFPA)

Non-mandatory

Established in 1896 by a group of insurance firm representatives, NFPA's mission is to reduce the worldwide burden of fire and other hazards on the quality of life by providing and advocating consensus codes and standards, research, training, and education. As the world's leading advocate for fire prevention and an authoritative source on public safety, NFPA develops, publishes, and disseminates more than 300 consensus codes and standards intended to minimize the possibility and effects of fire and other risks. These codes and standards are developed by technical committees staffed by over 6,000 volunteers and are adopted and enforced throughout the world.

The NFPA has many standards that affect fire departments. These standards should be assessed and considered by fire departments to protect fire and EMS personnel from unnecessary workplace hazards. The NFPA standards establish the standard of care that may be used to evaluate fire department performance in civil lawsuits against fire and rescue departments (NFPA, 1995). In most cases, compliance with NFPA standards is voluntary. However, in some cases, federal or state OSHA agencies have incorporated wording from NFPA standards into regulations. In these cases, compliance with the standards is mandatory.

Regardless of whether compliance with an NFPA standard is voluntary or mandatory, fire and rescue departments must consider the impact of "voluntary" standards on private litigation. In some states, a department may be liable for the negligent performance of its duties. Even in states that protect rescue workers under an immunity statute, most state laws do not protect fire or rescue departments for grossly negligent or willful and wanton acts. Essentially, negligence involves the violation of a standard of care that results in injury or loss to some other individual or organization.

NFPA 1710 or NFPA 1720

NFPA adopted two (2) standards addressing fire department organization and development:

NFPA 1710 (Organization and Development of Fire Suppression, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments)

NFPA 1720 (Organization and Development of Fire Suppression, Emergency Medical Operations, and Special Operations to the Public by Volunteer/Paid-On-Call Fire Departments).

Inasmuch as the City is protected by both a career and five volunteer fire departments both NFPA 1710 & 1720 will be discussed in this section of the report.

NFPA 1710 – 2020 edition (Career Department)

NFPA is the more stringent standard pertaining to operations of a career department. The first edition of NFPA was issued in 2001 and has since gone through a number of edition revisions resulting in the current edition being addressed within this report.

NFPA 1710 Standard is important because it applies the documented and proven science of fire behavior and emergency medicine to the basic resource requirements for effective fire and emergency service deployment. This application allows a community to determine if the resources allocated for the different types of fires, emergencies, medical calls, and other incidents are sufficient to effectively control the incident and protect lives and property.

NFPA 1710 Standard sets forth in concise terms the recommended resource requirements for fires, emergencies, and other incidents. The benchmark requirements in 1710 are based on a fire involving a 2,000 square foot detached single-family occupancy. Fire departments should deploy additional resources according to the occupancies and hazards in their jurisdiction. The total number of on-duty personnel is established by means of a task analysis that evaluates expected firefighting deployment, using the following factors:

- *Life hazards in the jurisdiction*
- *Safety and efficiency of firefighters*
- *Potential property loss*
- *Nature, configuration, hazards, and internal protection of properties in the response area*
- *The department's standard tactics and evolutions, apparatus deployed and expected results*

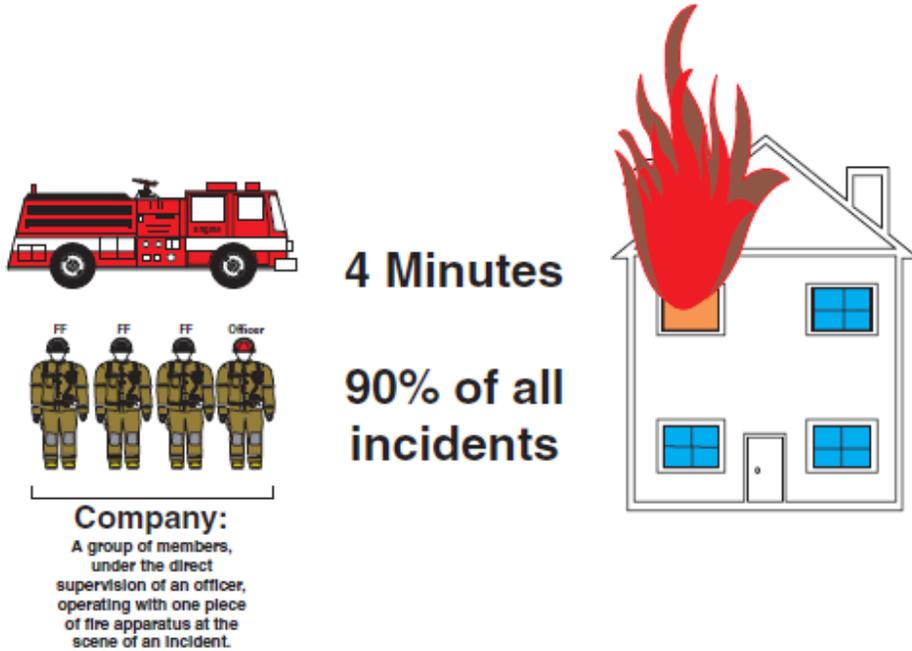
NFPA performance objectives state in section 4.1.2.1:

- *Turnout Time: 60 seconds for EMS responses; 80 seconds for fire responses*
- *First Engine Arrive on Scene Time: 240 sec (4 minutes) for 90% of responses with a minimum staffing of 4 personnel*
- *Second Company Arrive on Scene Time: 360 seconds (6 minutes) for 90% of responses with a minimum staffing of 4 personnel*

Turn out time is the time allowed for the firefighters to get to the apparatus and start responding to the incident.

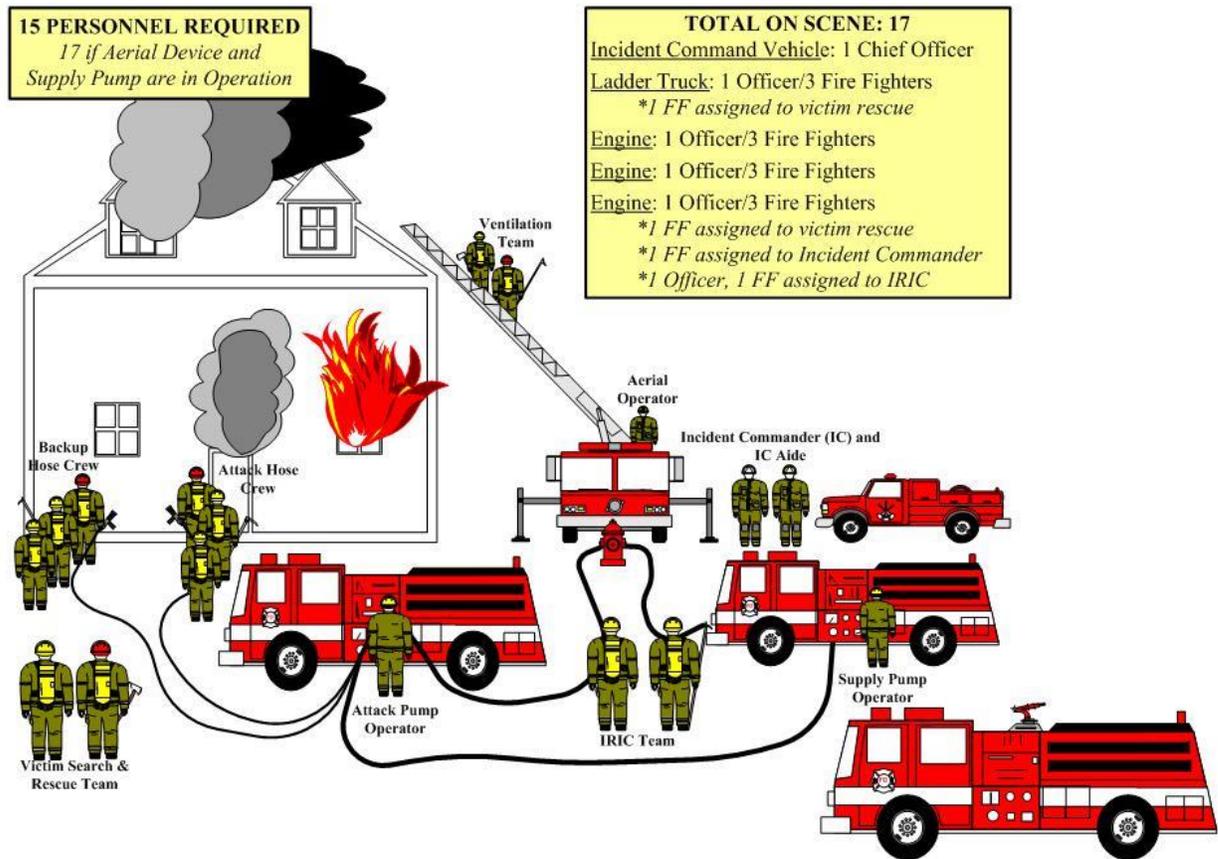
The figure below illustrates the amount of personnel needed to arrive on the scene of a reported structure fire within the first four (4) minutes (240 seconds). This should be completed 90% of the time for all these incident types. The standard does not dictate how many personnel must be on any given apparatus to meet the standard. In theory, two apparatus with two personnel on each would satisfy the number of personnel. It is also important to note that the OSHA standard of 2 in 2 out is applicable on these types of incidents. More information about the “2 In 2 Out” standard can be found under the OSHA section of this report.

Figure 3: Illustration source: IAFF NFPA 1710 Implementation Guide



The figure below illustrates the amount of personnel needed on a reported structure fire within the eight-minute (480 seconds) response time and assigns the personnel to the critical tasks needed to mitigate the event safely. This should be completed 90% of the time for all these incident types.

Figure 4: Illustration Source: IAFF NFPA 1710 Implementation Guideline



EMS Incidents

The NFPA 1710 (2020 edition) standard requires the fire department to establish its role, responsibilities, functions, and objectives for delivery of EMS. EMS treatment levels include:

- First Responders/Emergency Medical Responders
- Basic Life Support (BLS)
- Advance Life Support (ALS)

Section 4.3.2: at minimum they should be available with an Automatic External Defibrillator (AED).

Section 4.3.3: where EMS beyond the Emergency Medical Responders level are provided by another agency or private organization, the Authority Having Jurisdiction (AHJ) based on recommendations from the fire department, shall include the minimum staffing, deployment, and response criteria.

Fire departments turnout time (out the door) is 60 seconds with a travel time of 4 minutes (240 seconds) or less; this objective should be met 90% of the time.

It is important to recognize the American Heart Association has recognized the survivor percentage of someone who is not breathing and has no pulse diminishes quickly after four (4) minutes. As we recognize the value of the four (4)-minute arrival time for a fire crew to a structure fire we can also apply the four (4)-minute response time goal for our first responding EMS crew:

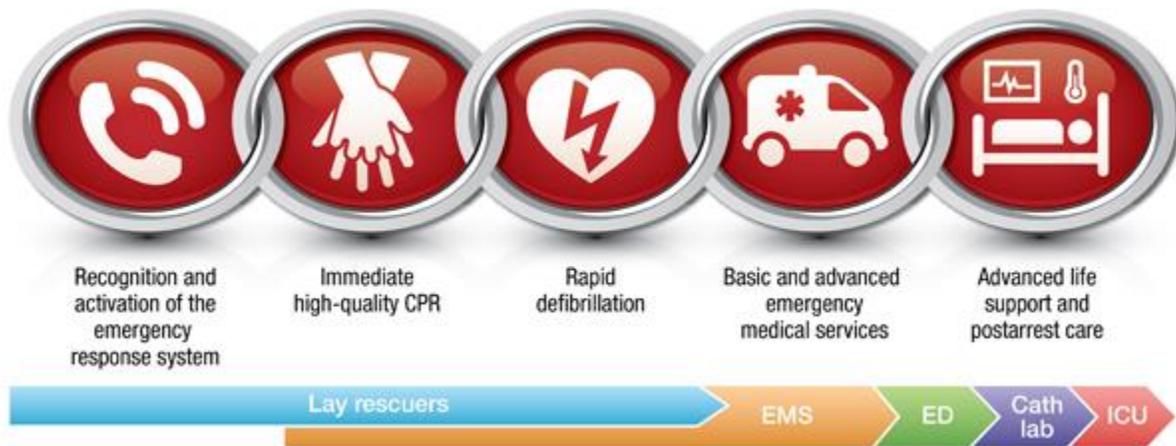
- *If EMS intervention or citizen Cardiopulmonary Resuscitation (CPR) is performed within the first 4 (4) minutes, patient survival rate is 45%; however, that number drops to 10.6% of patient discharge from hospital.*
- *Every minute without patient intervention for a non-breathing, non-heartbeat patient, the chances of survival decrease by 10%. Brain damage occurs within 4 to 6 minutes without patient intervention.*
- *If patient treatment (citizen CPR or EMS) is not provided within 10 minutes, the survival rate is close to zero.*
- *Citizens performing CPR prior arrival of EMS is the most critical component to patient survival.*
- *Few resuscitation attempts are successful after 10 minutes without patient intervention.*
- *Currently, about 9 in 10 people who have cardiac arrest outside the hospital die without patient intervention.*

Source: American Heart Association – multiple sites

EMS Chain of Survival

The figure below illustrates the most recent intervention for a victim having a heart attack and includes the use of an AED for rapid defibrillation applied by a civilian.

Figure 5: EMS Chain of Survival



Recommendation – NFPA 1710

- Neither the City nor fire department should adopt NFPA 1710. Adoption would include the adoption of all OSHA and NFPA standards by reference. However, a plan should be developed to meet as many standards as possible in the future. **Priority 5**

NFPA 1720 (Volunteer Departments)

The five volunteer fire departments that provide service to the City of Norwich fall under the NFPA 1720 (2020 edition) standard. NFPA 1720 is less stringent than NFPA 1710 but no less important.

Suppression Staffing and Response NFPA 1720 Standard

Under NFPA 1720, the number of responding firefighters and the amount of time in which they are required to respond varies with the number of people (population) per square mile to eight-mile radius as illustrated in the Table below:

Table 13: NFPA 1720: 4.3.2 Staffing and Response Time (edition 2020)

Demand Zone (a)	Demographics	Minimum Staff to Respond (b)	Response Time (Minutes) (c)	Meet Objective (%)
Urban	>1,000/mi ²	15	9	90
Suburban	500-1,000/mi ²	10	10	80
Rural	<500/mi ²	6	14	80
Remote	≥ 8 miles	4	Related to Travel Distance	90
Special Risk	AHJ*	AHJ*	AHJ*	90

* Determined by Authority Having Jurisdiction (AHJ)

a) A jurisdiction can have more than one demand zone

b) Minimum staffing includes members responding from the AHJ's department and automatic aid

c) Response time begins upon completion of the dispatch notification and ends at the time interval shown in the table.

For example, if the fixed population is 500 to 1,000 people within one square mile, the Department must respond with a minimum of ten (10) firefighters within ten minutes 80% of the time. This is considerably less stringent than the NFPA 1710 requirement for the same criteria of 14 firefighters (one additional if the aerial is utilized) within a five-minute response from the time of notification by dispatch 90% of the time.

NFPA 1720 Special Interest

The NFPA 1720 standard is comprehensive and those who govern and lead the fire department should be familiar with the components of this document; it is less stringent than NFPA 1710. What should be of special interest to the Department is Chapter 4 of NFPA 1720:

Chapter 4 Organization, Operation, and Deployment

4.1 Fire Suppression Organization

4.2 Community Risk Management

4.3 Staffing and Deployment

4.4 Reporting Requirements

4.5 Fire Suppression Operations

4.6 Initial Fire-Fighting Operations

4.7 Sustained Fire-Fighting Operations

4.8 Intercommunity Organization

4.9 Emergency Medical Services (EMS)

4.10 Special Operations

4.3 Staffing and Deployment

4.3.1. The fire department shall identify minimum staffing requirements to ensure that a sufficient number of members are available to operate safely and effectively.

4.3.2* Table 7 (previous) shall be used by the AHJ to determine staffing and response time objectives for structural firefighting, based on a low-hazard occupancy such as a 2,000 ft² two-story, single family home without basement and exposures and the percentage accomplishment of those objectives for reporting purposes as required in 4.4.2. (reference to previous table).

At one time, the only staffing and response time requirements pertaining to volunteer and paid-on-call departments were as follows: upon assembling the necessary resources at the emergency scene, the fire department shall have the capability to safely commence an initial attack within two minutes 90 percent of the time.

Today, departments qualifying under NFPA 1720 must comply with staffing and response times as illustrated in the table above.

4.4 Annual Evaluation

4.4.2.1. The fire department shall evaluate its level of service, deployment delivery, and response time objectives on an annual basis.

4.4.2.2. The evaluation shall be based on data relating to level of service deployment, and the achievement of each response time objective in each demand zone within the jurisdiction of the fire department.

Quadrennial Report

4.4.3 Quadrennial Report. The fire department shall provide the Authority Having Jurisdiction (AHJ) with a written report, quadrennially, which shall be based on the annual evaluation required by 4.4.2.

4.4.3.2 This report shall explain the predictable consequences of identified deficiencies and address the steps within a fire department's strategic plan necessary to achieve compliance.

4.5 Fire Suppression Operations

NFPA 1720 is less stringent than NFPA 1710 (career departments), which specifies how many individuals must be on the emergency scene to begin an interior fire attack. However, the following standards do apply to volunteer and paid-on-call departments:

4.5.1 Incident commander. One individual shall be assigned as the incident commander.

4.5.1.2 The incident commander shall be responsible for the overall coordination and direction of all activities for the duration of the incident.

4.6.1 Initial firefighting operations shall be organized to ensure that at least four members are assembled before interior fire suppression operations are initiated in a hazardous area.

4.6.3 Outside the hazardous area, a minimum of two members shall be present for assistance or rescue of the team operating in the hazardous area.

4.6.4 Initial attack operations shall be organized to ensure that if, upon arrival at the emergency scene, initial attack personnel find an imminent life-threatening situation, where immediate action could prevent the loss of life or serious injury, such action is permitted with less than four personnel when conducted in accordance with NFPA 1500.

4.7.1 The fire department shall have the capability for sustained operations, including fire suppression; engagement in search and rescue, forcible entry, ventilation, and preservation of property; accountability for personnel; deployment of dedicated rapid intervention crew (RIC); and provision of support activities for those situations that are beyond the capability of the initial attack.

It is important to re-emphasize that NFPA standards are just that, "standards," and not mandatory by law for a fire department to meet. However, once an incident occurs, the department will be judged on its performance as compared with the NFPA standards. It is not recommended that any department intentionally disregard these NFPA standards; rather, a department should work to meet them.

4.9 Emergency Medical Services

4.9.2 The fire department shall clearly document its role, responsibilities, functions, and objectives for the delivery of EMS.

4.9.5.1 The basic treatment levels within an EMS system, shall be categorized:

- First Responder/Emergency Medical Responder
- Basic Life Support (BLS)
- Advance Life Support (ALS)

4.9.6.1 The fire department shall institute a quality management program.

Recommendation – NFPA 1720

- None of the volunteer fire departments or City should adopt NFPA 1720. Adoption would include the adoption of all OSHA and NFPA standards by reference. However, a plan should be developed to meet as many standards as possible in the future. **Priority 5**

Occupational Safety and Health Administration (OSHA)

Mandatory

OSHA states that “once fire fighters begin the interior attack on an interior structural fire, the atmosphere is assumed to be “immediately dangerous to life or health” (IDLH) and section (g) (4) of OSHA’s Respiratory Protection Standard, 29, CFR 1910.134 [**two-in/two-out**] applies.” OSHA defines interior structural firefighting “as the physical activity of fire suppression, rescue, or both inside of buildings or enclosed structures which are involved in a fire situation beyond the incipient stage.” This rule is commonly referred to as the “**two-in/two-out**” rule, which is OSHA’s mandatory requirement for interior firefighting.

OSHA requires that all firefighters engaged in interior structural firefighting must wear Self Contained Breathing Apparatus (SCBA). SCBAs must be NIOSH-certified, positive pressure, with a minimum duration of 30 minutes. [29 CFR 1910.156(f) (1) (ii)] and [29 CFR 1910.134(g) (4) (iii)]

OSHA requires that all workers engaged in interior structural firefighting operations beyond the incipient stage use SCBA and work in teams of two or more. [29 CFR 1910.134(g) (4) (I)] Fire fighters operating in the interior of the structure must always operate in a buddy system and maintain voice or visual contact with one another. This assists in assuring accountability within the team. [29 CFR 1910.134(g) (4) (I)]

OSHA requires at least one team of two or more properly equipped and trained fire fighters are present outside the structure before any team(s) of fire fighters enters the structural fire. This requirement is intended to assure that the team outside the structure has the training, clothing, and equipment to protect them and, if necessary, safely, and effectively rescue fire fighters inside the structure. For high-rise operations, the team(s) would be staged below the IDLH atmosphere. [29 CFR 1910.134(g) (3) (iii)]

OSHA requires that one of the two outside person's functions is to account for and, if necessary, initiate a fire fighter rescue. Aside from this individual dedicated to tracking interior personnel, the other designated person(s) is permitted to take on other roles, such as incident commander in charge of the emergency incident, safety officer, or equipment operator. However, the other designated outside

person(s) cannot be assigned tasks that are critical to the safety and health of any other employee working at the incident.

Any task that the outside fire fighter(s) performs while in standby rescue status must not interfere with the responsibility to account for those individuals in the hazard area. Any task, evolution, duty, or function being performed by the standby individual(s) must be such that the work can be abandoned, without placing any employee at additional risk, if rescue or other assistance is needed [29 CFR 1910.134(g) (4) (Note 1)]. Any entry into an interior structural fire beyond the incipient stage, regardless of the reason, must be made in teams of two or more individuals [29 CFR 1910.134(g) (4) (I)].

Insurance Service Offices, Inc (ISO)

Non-mandatory

Insurance Service Office (ISO) rates municipalities based on four criteria (discussed in this section) and, although Norwich is protected by six fire departments, those six fire departments combined impact 50% of the final ISO class rating assigned to the City.

ISO is a leading source of information about property casualty insurance risk that provides risk information to many industries, including government. The ISO Public Protection Classification (PPC) program is designed to help establish fire insurance premiums for residential and commercial properties based in part on community's fire protection services. ISO™ rates communities every 10 years if their population is over 25,000 or 15 years if they are under 25,000. In addition, they send out questionnaires every 30 months.

By itself, ISO ratings do not provide a comprehensive assessment of staffing, deployment, and service delivery. Keep in mind that ISO is not an industry standard, it is only an index developed through a standardized data pool that is used by insurers to set rates.

The Insurance Services Office, Inc. publishes and utilizes the Fire Suppression Rating Schedule (FSRS) to “review available public fire suppression facilities, and to develop a Public Protection Classification for insurance purposes”. Once a fire department's capability is determined and classified, the information is communicated to and might be used by insurers to set rates for homeowners and commercial properties in local communities.

Although the primary purpose of this tool is to rate fire protection from which insurance rates can be established, ISO ratings have been one of the few benchmarks to compare community fire protection. Realizing the true intent of the ISO classification, it should not be the sole determining factor in establishing public fire protection. Rather, the schedule should be considered an instrument for comparison and an additional factor from which to make a decision.

Public Protection Classification Number

The Public Protection Classification Numbering system utilized by ISO is as follows:

Table 14: Source ISO - Public Protection Classification Numbering

PPC Score	Points
1	90.00 or more
2	80.00 to 89.99
3	70.00 to 79.99
4	60.00 to 69.99
5	50.00 to 59.99
6	40.00 to 49.99
7	30.00 to 39.99
8	20.00 to 29.99
9	10.00 to 19.99
10	0 to 9.99

In obtaining an ISO Classification, the grading is broken down into three (3) major categories, with Community Risk Reduction recently added as a fourth category resulting in the total percentage of 105.5%.

Table 15: Source ISO: Point Values

ISO Point Value	% Value	Point Value
Receiving & Handling of Fire Alarms	10%	10
Fire Department	50%	50
Water Supply	40%	40
Community Risk Reduction	5.5%	5.5
Total Possible Points	105.5%	105.5

City of Norwich ISO Classification

Although the City is protected by six fire departments, ISO gives a single Public Protection Classification (PPC) number to the City not to the fire departments; this score is partly derived from each fire department. The City of Norwich PPC score of 04/4 as illustrated in the table below:

Table 16: Norwich ISO PPC Classification

FSRS Item	Credit Earned	Credit Available
Emergency Reporting		
Credit for Emergency Reporting	1.95	3.00
Credit for Telecommunicators	2.00	4.00
Credit for Dispatch Circuits	1.61	3.00

FSRS Item	Credit Earned	Credit Available
Credit for Receiving & Handling Fire Alarms	5.56	10.00
Fire Department		
Credit for Engine Companies	5.93	6.00
Credit for Reserve Pumpers	0.22	0.50
Credit for Pumper Capacity	3.00	3.00
Credit for Ladder Service	2.99	4.00
Credit for Reserve Ladder & Service Trucks	0.48	0.50
Credit for Deployment Analysis	7.58	10.00
Credit for Company Personnel	4.84	15.00
Credit for Training	1.96	9.00
Credit for Operational Considerations	2.00	2.00
Credit for Fire Department	29.00	50.00
Water Supply		
Credit for Supply System	25.92	30.00
Credit for Hydrants	2.36	3.00
Credit for Inspection & Flow Testing	3.95	7.00
Credit for Water Supply	32.23	40.00
Divergence	-4.51	
Community Risk Reduction	3.19	5.50
Total Credit	65.47	105.50

As of June 1, 2017

Split Classification

Split Classifications: **PPC Score Class 04/**. The first number is the class that applies to properties within 5 road miles of the responding fire station and 1,000 feet of a creditable water supply, such as a fire hydrant, suction point, or dry hydrant.

The second number is the class that applies to properties within 5 road miles of a fire station but beyond 1,000 feet of a creditable water supply, as illustrated below: **PPC Score Class /4X**. ISO generally assigns Class 10 to properties beyond 5 road miles.

National ISO Classifications – 2020

The Chart illustrates the ISO PPC scores for the U. S. in October 2020:

Chart 3: ISO National PPC Scores – October 2020

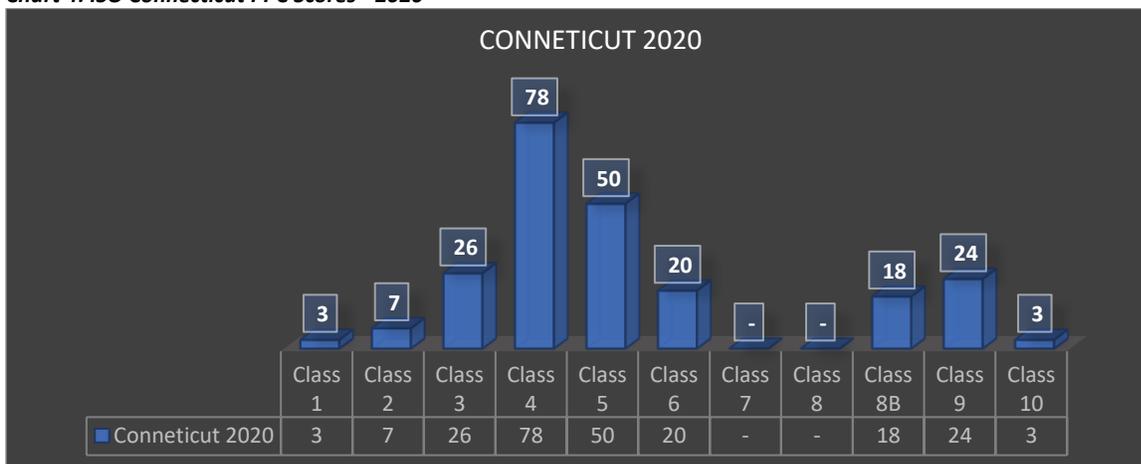


In 2020, there were a total of 39,378 departments evaluated by ISO, of which 7,038 received an ISO PPC classification of 04 that matched the City of Norwich score.

Connecticut ISO Classifications – 2020

The chart illustrates the ISO PPC scores for municipalities/districts in Connecticut in 2020:

Chart 4: ISO Connecticut PPC Scores - 2020



Of the 229 departments evaluated by ISO in the State of Connecticut, 78 departments received a PPC rating of 04, matching the City of Norwich.

It is important to note what the ISO rating means to the City of Norwich. The ISO purpose is to determine a fire insurance classification, which may be used in the calculation of property insurance premiums. Historically, ISO rating has not been conducted for property loss prevention or life safety purposes until recently when ISO allowed 5.5 points for factors achieved in Community Risk Reduction. Most insurance companies use the ISO rating as a benchmark and then use market data to establish competitive rates for residential properties.

Recommendation - ISO

- *An ISO classification of Class 04/4X is an excellent rating. However, the consultants do not believe any additional resources or fiscal commitment should be made to reduce the classification to a Class 03. Rather, the City/departments should attempt to maintain the Class 04/4X rating in the future. **Priority 5***

Center for Public Safety Excellence (CPSE)

Non-mandatory

A better fire department evaluation tool exists; the International Association of Fire Chiefs (IAFC) has developed a program that measures the quality and performance of a particular fire service agency and will award national accreditation to those departments that pass the stringent criteria. The Center for Public Safety Excellence (CPSE), the umbrella organization, utilizes a process known as the Commission on Fire Accreditation International (CFAI). It specifies more than 250 performance indicators, including 70+ core competencies against which a fire agency can measure itself.

The CFAI is a structured process for documenting the levels of fire safety, fire prevention, fire safety education, fire suppression services currently provided, and for determining the future level of service the department should provide. The accreditation process asks the community to determine and document whether its fire protection services are appropriate, adequate, and effective.

The advantage to the CFAI accreditation program lies in the process itself. The department must examine every aspect of its existence and determine the most cost-effective means of providing service. This program requires a time commitment and effort on the part of the fire administration. If at some future point the Department wishes to seek accreditation, it is recommended that a single individual be assigned full-time for the completion of this project.

Although the Consultants do not recommend the Department begins the accreditation process, it is suggested that the administration look at the performance indicators or benchmarks set up for the evaluation process to use as a guide while developing policies and procedures for the Department.

Recommendation – Accreditation

- The City/department should not seek international accreditation (CFAI) at this juncture; rather, the CFAI performance indicators and core competencies should be utilized as a model for quality and a benchmark for examining and evaluating current practices. **Priority 5**

Appendix F: Emergency Activities

Note: Prior to the consultants first site visit a comprehensive list of data was distributed to each of the six Fire Chiefs; see Appendix N for data requested. All information provided in this section is an analysis of the data provided by the departments.

This section highlights the emergency response data for the six Norwich fire departments for the period of 2016 – 2019. The prime function of a fire department is to respond to and mitigate emergencies that arise within its jurisdiction. Although this activity only takes up a small percentage of the department's overall time, its state of readiness must always be at maximum levels in order to optimally provide an efficient and safe level of service. Relevant, detailed, and concise data pertaining to the fire department is essential in providing archival documentation of the department's preparedness for and response to emergency situations. As in any report of this nature, the recommendations are based on data provided by the client, interviews, and on-site observations.

The national standards that most closely align with departments (although the standards are not mandatory) are different for career and volunteer fire/EMS departments and the report will note these differences to avoid confusion. Not all six fire departments recorded or presented the data in the same format; therefore, the consultants will attempt to compare findings in an effort to represent all departments in the best format that allows the reader of the report to understand differences and similarities.

Justifying Fire/EMS Departments' request for apparatus purchases, facility placement, staffing, and a host of other critical issues need to be validated using accurate data. Often the difference between governing boards and Fire/EMS leadership interpretations for resources requires identifying the differences between **wants and needs**. This involves data and data analytics. From accurate data, information and knowledge can be obtained. Leadership can quantify the above needs through good data.

The International Association of Fire Chiefs (IAFC) defines good data as data that meets three (3) components:

- **Good Data is Relevant** – you are collecting information on the things that matter, like response times and number of calls for service.
- **Good Data is Accurate** – your processes for data collection must be consistent and trustworthy.
- **Good Data is Reliable** – a measurement from one company is equivalent to the same measurement from another company. You do not have to “adjust your data to accommodate known distortions”.

Source: International Association of Fire Chiefs (IAFC): Weathering the Economic Storm, December 2008

Why Retrieve Emergency Response Data

One of the main challenges Fire/EMS leadership face is to identify the need for resources that will provide the highest level of service and safety, as well as to justify the fiscal resources needed. Good data is essential in accomplishing this mission. Department leadership must utilize data in their daily management including, but not limited to:

- Fiscal management
- Staffing
- Resource deployment
- Budgeting
- Purchasing
- Strategic planning
- Program development/implementation
- Program oversight/assessment
- Assuring competency
- Assuring cost-effective/efficient services
- Communication with governing board(s)

Data Management System

It appears all six departments had access to Emergency Reporting® in which the career and some of the volunteer departments used this system exclusively, while others use a different means including hand recording data. Reporting and records management software has the ability to make communities safer, increase collaboration through data sharing, and ultimately make the work of data collection and reporting easier for firefighters and/or first responders. A comprehensive platform of Fire and EMS software solutions provides the tools needed to accurately record essential emergency response data including information needed to report to the National Fire Incident Reporting System (NFIRS), National Fire Protection Association (NFPA), and National EMS Information System) NEMSIS reporting as well as the modules needed for daily operations.

Ten Year Emergency Response Data:

The departments were requested to provide total calls (no breakdown as to nature) from 2010 - 2019, allowing the consultants to illustrate the average increase or decrease in emergency responses over that time period. The table below illustrates the data provided by the departments:

Table 17: Ten-Year Change In Calls

Year	Norwich	East Great Plain	Laurel	Occum	Taftville	Yantic
10 Yrs. % Change	4.40%	-0.38%	No Data	-0.03%	Loss Data in 2018	0.83%

The data indicates that the City fire department has averaged a 4.40% increase in calls over the past 10 years while the volunteer departments that were able to report have remained relatively stable. The Taftville Volunteer Fire Department Co. #2 used Firehouse® software data management system, and the department was unable to retrieve the data when loss of support by the data management system provider occurred; this problem was not unique to Taftville.

Incidents by Nature

With the exception of the Yantic Fire Engine Company #1, which did not record data into the National Fire Incident Report System (NFIRS) until 2020, all of the other five departments participate in the National Fire Incident Reporting System (NFIRS) Fire/EMS program in reporting all incidents through the Connecticut State Fire Marshal, under authority of the United States Fire Administration (USFA). The requirement to report to the State Fire Marshal using NFIRS is listed below:

National Fire Incident Report System – State Requirement

Connecticut Sec. 29-303 (2012)

The fire chief or local fire marshal with jurisdiction over a town, city, borough or fire district where a fire, explosion or other fire emergency occurs shall furnish the State Fire Marshal a report of all the facts relating to its cause, its origin, the kind, the estimated value and ownership of the property damaged or destroyed, and such other information as called for by the State Fire Marshal on forms furnished by the State Fire Marshal, or in an electronic format prescribed by the State Fire Marshal. The fire chief or fire marshal may also submit reports regarding other significant fire department response to such fire or explosion, and such reports may be filed monthly but commencing January 1, 2008, such reports shall be filed not less than quarterly.

NFIRS categorizes incident types into nine (9) categories with each category having a series number with multiple sub-categories under each main series number. The USFA collects and analyzes NFIRS data from participating states to provide a legal record of fact, assist Fire Department administrations in evaluating their Fire and EMS effectiveness, and to collect data for use at the state and national levels. The table below illustrates the nine categories of NFIRS:

Table 18: 3-Year Average NFIRS Incidents

3-Year Average NFIRS Series	Norwich	East Great Plain	Laurel	Occum	Taftville	Yantic
100 - Fire	114.0	43	8.0	12.3	29.5	30.3
200 - Overpressure/Explosion	3.7	1.5	0.0	0.0	0.5	0.0
300 - Rescue/EMS	1727.7	681.5	32.3	141.0	522.0	411.7
400 - Haz. Condition	111.0	29.5	2.3	6.3	45.0	4.3
500 - Service Call	149.3	33.5	16.3	12.0	49.5	
600 - Good Intent	115.3	46	0.3	14.3	58.5	
700 - False Alarm	242.3	140	4.0	14.3	67.0	86.0
800 - Severe Weather	0.7	1	0.3	0.3	4.5	
900 - Special Incident	4.7	1	0.0	0.7	1.0	
Total	2,469	977	64	201	778	636

Taftville data average 2018 & 2019
 Yantic did not report to NFIRS

3-Year NFIRS Percentages Compared to National

The above table allows the reader to compare the three year average total calls between all six departments. The table below compares the percentage of NFIRS categories for the six departments compared to the National average.

Table 19: NFIRS Averages Compared to National

3-Year Average NFIRS Series	National	Norwich	East Great Plain	Laurel	Occum	Taftville	Yantic
100 - Fire	4.70%	4.62%	3.78%	12.57%	6.13%	3.79%	4.77%
200 - Overpressure/Explosion	0.20%	0.15%	0.11%	0.00%	0.00%	0.06%	0.00%
300 - Rescue/EMS	64.10%	69.98%	70.75%	50.79%	70.03%	67.14%	64.76%
400 - Haz. Condition	3.70%	4.50%	3.00%	3.66%	3.15%	5.79%	0.68%
500 - Service Call	7.10%	6.05%	3.39%	25.65%	5.96%	6.37%	
600 - Good Intent	10.50%	4.67%	4.95%	0.52%	7.12%	7.52%	
700 - False Alarm	8.70%	9.82%	13.85%	6.28%	7.12%	8.62%	13.53%
800 - Severe Weather	0.10%	0.03%	0.07%	0.52%	0.17%	0.58%	
900 - Special Incident	0.70%	0.19%	0.11%	0.00%	0.33%	0.13%	

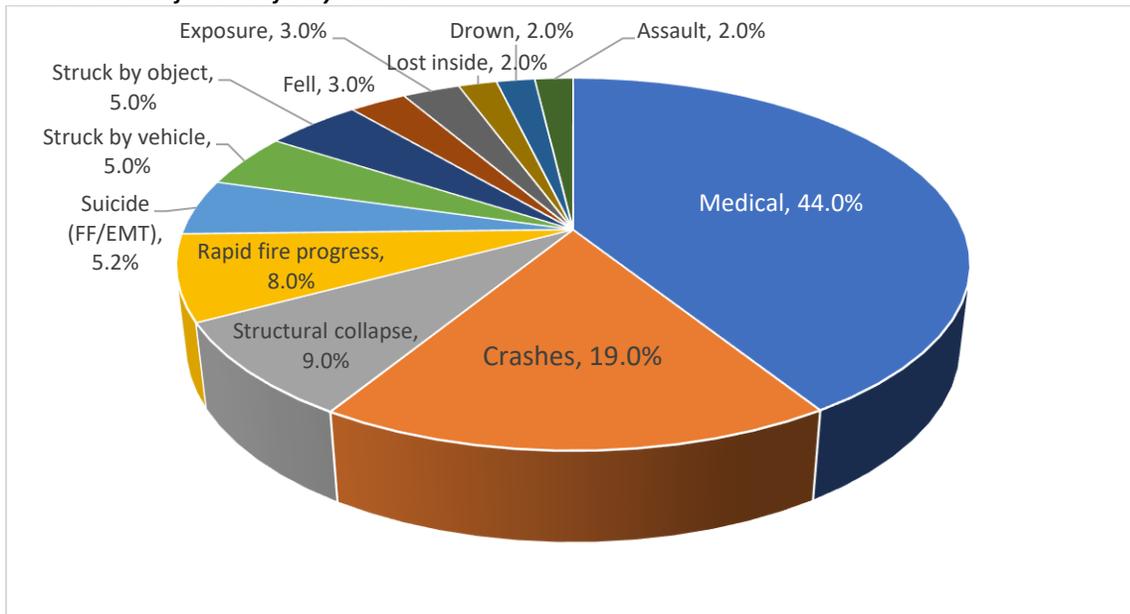
Values significantly either higher or lower of the National percentage are highlighted in red

The definition for each of the nine categories and their sub-sections are illustrated in Appendix "O" of the report.

The area that needs to be addressed quickly is those departments that have a higher than the national percentage in false alarms; this includes Norwich, East Great Plain, and Yantic. One might argue that Norwich is only 1.1% higher; however, Norwich has a Fire Prevention Bureau, which in most departments has the greatest ability to diminish false alarms by conducting follow-up meetings with the property owner to discover the cause of the alarms and prevent future alarms. However, Norwich's Fire Marshal's office provides fire prevention services to the entire City of Norwich. The Fire Marshal's office needs to address the high rate of false alarms in Norwich, East Great Plain, and Yantic.

Why is the above important? False alarms are a drain on a department’s resources, prevent personnel from responding to actual emergencies, and increase the chances for vehicle accidents. Not only does the resolution of false alarms reduce unnecessary emergency responses, it also is a significant safety factor for the community as well as the service providers. Vehicle accidents (responding to or returning from) are the second leading cause of firefighter/EMT line-of-duty deaths as illustrated in the chart below:

Chart 5: Causes of FF Line of Duty Deaths



Source: NFPA Firefighter Fatalities & Journal Prehospital Emergency Care

Also worth noting in the chart above is NFPA’s first listing of “Suicide” (5.2%), which unfortunately is a growing problem within the fire and EMS profession.

Identifying Emergency Service Trends

When determining a department’s efficiency and/or addressing future resource needs, it is prudent to examine the historical occurrences of emergencies. The following factors are of significant importance to the Clarendon Hills Fire Department when examining call data:

- Calls by month
- Calls by day of the week
- Calls by time of day
- Simultaneous incidents
- Distribution by shift
- Mutual aid/Automatic aid

Incidents by Month

Fire department leadership should be particularly interested in data that indicates when the Department is at its busiest for month, day of the week, and time of day. When a significant pattern is discovered, it indicates the probability that emergency incidents will occur at a certain time and allows the Department to anticipate staffing levels and make contingency plans for adequate personnel or other resources needed for emergency response; this applies to career and volunteer departments equally.

The table below illustrates the three busiest months for each department and the least busy month. The purpose is to assess the data to see if any patterns develop: e.g. October is within the three busiest months for four of the five departments providing data:

Table 20: Busiest Months

Department	Busiest 3 Months	Least Busy Month
Norwich	Jan, Oct, Dec	Feb
East Great Plain	Aug, Oct, Nov	Apr/Dec
Laurel Hill	No Data	
Occum	Dec, Jan, Oct	Aug
Taftville	Jan, Dec, Oct/Nov	Apr
Yantic	May, Mar, Jun	Dec

Entries with / indicate that two months tied in that category

The table below illustrates the 3-year average for incidents by month:

Table 21: Incidents by Month 3-Year Average

Department	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Norwich	228.7	182.7	208.7	196.3	198.3	209.0	208.3	209.0	199.3	217.0	200.0	211.3
East Great Plain	75.3	73.3	85.3	71.0	77.7	73.0	75.7	94.0	75.0	93.3	79.0	71.0
Occum	21.0	17.5	17.0	15.5	19.0	12.5	15.5	14.0	15.0	19.5	16.0	24.5
Taftville	76.5	61.0	63.5	54.5	61.0	62.0	61.5	66.5	65.5	68.0	67.5	70.0
Yantic	48.3	43.7	64.3	47.3	65.3	60.7	50.7	48.0	49.0	60.0	56.7	42.0

Incidents by Day of the Week

Incidents reviewed by day of the week is another metric utilized by leadership to manage the resources of the organization. Coupled with time of day and perhaps incidents by month, this information could be of value if a pattern emerges suggesting staffing or resource deployment might change.

The table below illustrates the two busiest days of the week and the least busy day for each department:

Table 22: Busiest Day of the Week

Department	Busiest 2 Days	Least Busy Day
Norwich	Wed, Mon	Sun
East Great Plain	Fri, Mon	Sun
Laurel Hill	No Data	
Occum	Thu, Sat	Mon
Taftville	Wed, Sat	Sun
Yantic	No Data	

The chart below illustrates the 3-year average for incidents by day of the week for each of the reporting departments:

Table 23: Incidents by Day of Week 3-Year Average

Department	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Norwich	315.0	371.0	355.0	380.0	362.0	367.0	318.7
East Great Plain	116.0	150.0	133.7	124.3	144.0	151.7	124.0
Occum	28.7	25.3	26.7	28.3	33.7	29.0	29.7
Taftville	97.5	111.5	114.5	118.5	111.0	109.5	115.0

* Taftville average is for 2018 & 2019 only

Incidents by Time of Day

In most Departments, incidents charted by time of day follow a pattern similar to a “bell curve.” The least busy time of day is from midnight to early morning, peaking in the mid to late afternoon, and decreasing in the later evening hours. Although the least busy time of day is from midnight to early morning, it is also when the highest number of civilian fire deaths occur due to the occupants sleeping. Those most at risk are the very young and old, who often are less able to escape and protect themselves.

The table below illustrates the three busiest and the least busy times of day for each department that submitted incident data:

Table 24: Busiest Times 3-Year Average

Department	Busiest Times	Least Busy Time
Norwich	1 PM, 12 PM/5 PM	3 AM
East Great Plain	5 PM, 2 PM, 4 PM	3 AM
Occum	6 PM, 9 AM/11 AM/4 PM	4 AM
Taftville	11 AM, 6 PM, 1 PM	2 AM

The chart below illustrates incidents by average time of day for the three-year study period (2017 – 2019):

Table 25: Incidents by Time of Day 3-Year Average

Department	Mid	1A	2A	3A	4A	5A	6A	7A	8A	9A	10A	11A
Norwich	12.5	10.3	6.3	4.3	6.7	7.3	5.0	12.0	12.7	15.3	20.0	20.7
East Great Plain	22.7	21.7	19.3	9.3	14.0	20.0	24.3	27.0	42.0	50.0	50.7	58.7
Occum	6.3	4.3	4.3	5.7	2.7	4.0	6.0	5.7	9.3	10.7	13.0	10.7
Taftville	23	18	10	14.5	15.5	13	17.5	25.5	37	44.5	43.5	51.5

Department	12P	1P	2P	3P	4P	5P	6P	7P	8P	9P	10P	11P
Norwich	22.7	24.3	21.7	17.0	21.3	22.7	17.0	21.3	14.3	15.7	14.3	10.7
East Great Plain	58.3	57.7	61.7	55.3	60.3	62.3	52.7	52.0	40.0	34.7	27.0	22.0
Occum	13.0	11.0	9.3	10.7	10.3	13.0	14.0	11.0	8.3	8.0	7.7	3.3
Taftville	44	45	37	43.5	43.5	43	47.5	44	36	34	25.5	21

Summary For Peak Staffing

For all but Yantic, the fall and winter months yield the highest number of incidents. For the volunteer departments, this might present less of a problem than for Yantic whose incidents increase during the spring and summer months when potentially more volunteers might be on vacation and unavailable. Day of the week did not illustrate any significant pattern for consideration of peak staffing with the exception that Sunday was the least busy day of the week for three of the four reporting departments. Time of day followed the bell curve found in most departments. An example of bell curve time of day illustrated below:

Chart 6: U.S. Fire Administration Annual Data



Although the three incident illustrations (month, day of week, time of day) might not have a significant current impact on the operations of the departments, they very well could in the future when patterns of incidents occur indicating staffing needs.

Overlapping Incidents

Note: The departments that utilize "Emergency Reporting®" were not consistent in how this field is queried. This is of no fault of the leadership of these departments; rather, whoever set the parameters for "overlapping" incidents did not include the proper coding. Therefore, only one department provided "overlapping" data that was feasible and of value.

The collection and review of data regarding overlapping calls is advantageous to Fire Department leadership in determining resource deployment, staffing, budgeting, and planning.

The term ‘overlapping incident’ is a term utilized by Emergency Reporting® that refers to times when the Department is handling an emergency situation and another unrelated emergency incident occurs, requiring immediate Department response.

Fire Departments do not have the ability to ‘stack calls’ as do police agencies, who routinely prioritize calls and dispatch accordingly. With few exceptions, when 911 requests the Fire Department, it is for an emergency – at least in the opinion of the caller.

If every piece of Fire or EMS apparatus were available at its assigned location every time a call for service was received, the Department’s reliability would be 100%. If, however, a call is received for a particular station/unit, but that station/unit is already committed to another incident, the next closest unit must respond from a different station or source. In this case, the substitute company may exceed the maximum prescribed response time. As the number of emergency calls per day increases, the probability that the primary unit needed for response is already committed and a backup or mutual aid unit will need to be dispatched also increases.

The significance of the amount and frequency of simultaneous incidents can result in increased response times or greater usage of mutual aid. There is no consensus in the industry as to an exact number when simultaneous incidents require additional resources.

Overlapping Data

Although five of the six departments provided “overlapping” data, the percentage listed was unrealistic with many in the 75% range. This would mean that for every four calls the department answered three of those four calls received a separate incident (related call) at the same time.

It did appear that the Occum Fire Department provided the following accurate “overlapping” data as illustrated in the table below:

Table 26: Overlapping Incident Percentage 3-Year Average

Department	Incident #	% of Overlapping Incidents
Occum	3 Year Avg.	5.5%

Mutual Aid

Mutual aid is defined as “an agreement among emergency responders to lend assistance across jurisdictional boundaries when needed.” The sole purpose is to give or receive assistance when all available resources—equipment or personnel—are depleted and then on a limited basis.

Today’s volunteer fire service, perhaps more so than career department, relies heavily on a strong system of mutual-aid agreements based on:

- Proximity – shortest travel time of mutual aid company
- Availability – department personnel members availability is very fluid, when do they have staffing challenges
- Training – are the mutual aid personnel properly trained to safely perform fire and/or EMS activities
- Special Needs & Considerations – unique situations, geographic, target hazards, grade level rail crossings etc.

In some studies, the Consultants have found that governing officials believe requesting assistance from other service providers on a routine basis will preclude them from having to add additional personnel, pay overtime, or provide more apparatus. This thinking is greatly flawed as the foundation of mutual and automatic aid is the reciprocity of services.

The Norwich Fire Department entered into a mutual aid agreement with the New London County Fire Chiefs’ Association on August 16, 2019. This agreement is based on Public Act number 136 of the 1963 Connecticut General Assembly. At this time, the consultants do not know if this is the first time that Norwich had entered into this agreement or if the agreement was revised and Norwich was previously involved in this mutual aid agreement.

The table below illustrates the 3-year average for mutual aid given and received.

Table 27: Mutual Aid / Automatic Aid

3 Year Average				
	Mutual		Automatic	
Department	Given	Received	Given	Received
Norwich	19.3	18.7	19.0	3.0
Laurel Hill	20.0	2.0	7.7	5.3
Occum	13.3	3.3	13.0	7.7
	Given		Received	
East Great Plain	56.3		3.7	
Taftville	61.5		12.5	

**Two departments combined mutual and automatic or do not record them separately*

Norwich Fire Department Mutual Aid / Automatic Aid											
Year	Taftville	Yantic	Occum	East Great Plain	Laurel Hill	Groton	Old Mystic	Ledyard / Gales Ferry	Lisbon	Lebanon	Uncasville / Montville
2017 Aid Given	2 / 4	3 / 11	1 / 0	0 / 4	1 / 1	0 / 0	0 / 0	2 / 0	0 / 0	1 / 0	0 / 0
2017 Aid Received	3 / 0	1 / 0	0 / 0	5 / 0	3 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
2018 Aid Given	6 / 6	4 / 11	0 / 0	6 / 6	0 / 2	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	1 / 0
2018 Aid Received	4 / 0	1 / 0	1 / 0	3 / 0	2 / 0	0 / 0	0 / 0	0 / 0	1 / 0	0 / 0	0 / 0

Year	Taftville	Yantic	Occum	East Great Plain	Laurel Hill	Groton	Old Mystic	Ledyard / Gales Ferry	Lisbon	Lebanon	Uncasville / Montville
2019 Aid Given	3 / 1	2 / 7	0 / 0	11 / 3	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	3 / 0
2019 Aid Received	5 / 0	4 / 0	0 / 1	4 / 1	4 / 1	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0

Norwich Fire Department Mutual Aid / Automatic Aid											
Year	Preston City / Poquetanuck	Niantic	New London	North Stonington	Sprague	Willintic	Subbase	Griswold / Jewett City	Mohegan Tribal	Total Aid	Total # of Incidents
2017 Aid Given	1 / 0	0 / 0	1 / 0	0 / 0	1 / 0	0 / 0	0 / 0	0 / 0	0 / 0	13 / 20	33
2017 Aid Received	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	4 / 0	16 / 0	7
2018 Aid Given	0 / 0	0 / 0	1 / 0	0 / 0	1 / 0	1 / 0	0 / 0	0 / 0	0 / 0	20 / 25	45
2018 Aid Received	1 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	4 / 0	17 / 0	11
2019 Aid Given	3 / 0	1 / 0	0 / 0	1 / 0	0 / 0	0 / 0	0 / 0	1 / 0	0 / 1	25 / 12	37
2019 Aid Received	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	5 / 0	22 / 3	7

* Mutual Aid / Automatic Aid

The data in the table above contradicts other data submitted by some of the individual departments. The consultants believe the above data is more accurate than other sources.

Over the three year period, the Norwich Fire Department provided mutual aid to other communities 113 times while receiving mutual aid 60 times. Approximately 48%, or 29 of 60, of Norwich's mutual aid calls were in areas outside of the City of Norwich. Norwich received mutual aid only one time from departments outside of Norwich.

Recommendations – Incident Reporting

- All fire departments in Norwich must use the same records management program, report all incidents, and have uniform reporting. **Priority 2**
- All Department personnel (paid and volunteer) must receive initial and recurrent training in the entering of data into Emergency Reporting® as well as information retrieval. **Priority 2**
- Information technology support for the Departments must be through the City of Norwich. **Priority 1**
- The Departments in Norwich need to understand and correctly code each mutual aid response so that all mutual aid data is consistent. **Priority 1**
- The parameters for overlapping incidents needs to be established correctly so that all departments consistently record this data. **Priority 1**

- *A data quality assurance program must be established to review random reports to ensure all incidents and records entered into Emergency Reporting® meet established quality and accuracy standards. **Priority 1***
- *Emergency Reporting® needs to receive data directly from the Computer Aided Dispatch (CAD) program to capture accurate data and reduce the potential for data entry errors. **Priority 2.***

Recommendation – High Rates of False Alarms

- *The Fire Marshal's office needs to address the high rates of false alarms in the City, specifically in Norwich, East Great Plain, and Yantic Fire Departments. **Priority 2***

Recommendation – Mutual Response

- *There appears to be an imbalance with mutual aid responses between Norwich and the Departments outside of Norwich. It is recommended that mutual aid responses be reviewed with the affected departments to determine the appropriateness of their mutual aid requests. **Priority 3***

Appendix G – Human Resources

Personnel management is a major component of any organization. Its policies impact every member of the organization and can be an area of major litigation. Since the Federal Civil Rights Act of 1991 in which the burden of proof for discrimination changed from the employee to the employer, and the introduction of a jury trial, as well as punitive and compensatory damages, the human resource landscape has changed.

This section will evaluate the human resource practices of all six departments. In some sections, the practices will be consolidated, thus, some departments may or may not be performing the actual human resource practice. However, what is important to understand is the practices that should be maintained and/or implemented going forward.

Who is the Employer?

A major question, especially from a human resources perspective, is who is the employer? There are several Federal (and CT labor laws) that affect an employer depending on either the number of employees and/or if the agency is a government entity. The following Federal and state labor laws will affect the City of Norwich:

- 50 Employees
 - Federal Family and Medical Leave Act**
 - CT FMLA Act
 - Affordable Health Care Act
- 20 Employees
 - Age Discrimination in Employment Act (ADEA)**
 - Older Worker's Benefit Protection Act (OWBPA)
 - Consolidated Omnibus Reconciliation Act (COBRA)
- 15 Employees
 - Title VII of the Civil Rights Act of 1964
 - CT has a few extra protected categories
 - Civil Rights Act of 1991
 - Pregnancy Discrimination Act
 - Americans with Disabilities Act (ADA)
 - Genetic Information Nondiscrimination Act of 2008
- 3 Employees (CT law only)
 - Equal Pay and Pay Equity Act
- 1 Employee
 - Fair Labor Standards Act (FLSA)
- No Minimum Employees
 - Immigration Reform and Control Act of 1986

*** Required of all government employers regardless of number of personnel.*

So, why is the employer important? Obviously, all the career members of the Norwich Fire Department are considered employees of the City, and thus, are subject to all the Federal and State employment laws. But so are all the Volunteer departments!

If each of the five volunteer fire departments were independent organizations, then none would have the number of 'employee's to be concerned with a majority of the Federal employment laws. However, upon examination of these volunteer departments – they are City departments. All utilize the City's EIN number as their legal identity. (A couple of the volunteer departments have their own EIN number, which is used for the property they own, or monies received from the Association). Each has a budget that is approved by the City; each utilize the City's finance department to make purchases and pay bills; and therefore, are City departments.

What has occurred over the years, is that when it is convenient for the City or Volunteer department to be a City department – it functions as one; however, when it is inconvenient – either the City or Volunteer department states their independence. It is almost if the departments act as half pregnant! Either you are pregnant, or you are not! Thus, the City and Volunteer Departments need to start acting as departments of the City – not five independent organizations.

As a result – since the volunteer departments are City departments, then all the federal and CT State labor employee protections apply to the City and the five volunteer City departments. Thus, as the personnel practices are examined, they will need to ensure that if challenged, can stand the scrutiny of non-discrimination or violations of any of the aforementioned federal and state labor laws.

Volunteers/Paid-on-Call: The FLSA provides a specific exemption for individuals who volunteer services to public agencies. The FLSA, however, exempts public employers from paying minimum wage and overtime to individuals who qualify as “volunteer/paid-on-calls” – individuals motivated to contribute service for civic, charitable, or humanitarian reasons. An individual who performs services for a public agency qualifies as a volunteer/paid-on-call, if:

- The individual receives no compensation, or is paid *expenses, reasonable benefits, or a nominal fee* to perform the services for which the individual volunteered; and
- Such services are *not the same type of services* for which the individual is employed to perform for *the same public agency*.

If an individual meets the above criteria for volunteer/paid-on-call status, he or she will not be considered an employee covered by FLSA minimum wage and overtime provisions. *A public employer can pay a nominal fee to volunteer/paid-on-calls; the fee must not be a substitute for wages and must not be tied to productivity.* Thus, a paid-on-call member in a municipal environment, performing public safety responsibilities, and who does NOT receive compensation that is tied to productivity, such as an hourly wage, would also be exempt from the minimum wage requirements.

Thus, although all the volunteer fire companies are City departments, the City can have different types of employees – full-time, part-time, interns, paid-on-call, or volunteer. The volunteer fire departments provide a nominal fee of a tax abatement – either on his/her home or vehicle – dependent upon the number of volunteer hour participation. This tax abatement, although may have the appearance it is tied to productivity as a specified number of hours are required, the amount of the tax abatement does not change on the number of hours earned. Thus, only a minimal threshold is needed to qualify. As a result of this tax incentive, the departments employ volunteers, and the City is not subject to payment of minimum wage for any volunteer member.

If and when the volunteer departments move to a pay per-hour basis, this form of payment would destroy the bona fide volunteer/paid-on-call status and creates an employment relationship. This type of payment is akin to hourly wages based on productivity. (DOL, Wage and Hour Division Opinion Letter July 7, 1999) The change from volunteer to a pay per call or hourly rate is not recommended at this time. This may be considered if and when the City and Fire Commissioner deem this change in payment is necessary for the recruitment and retention of members.

Compensation – Full Time

The City must comply with the Fair Labor Standards Act. The basic regulation under the FLSA is the payment of overtime. According to the FLSA, individuals who work more than 40 hours per week are entitled to compensation at time and one-half. Under the FLSA, a municipality can designate a work cycle for fire and police departments utilizing the FLSA 7K exemption component for relief of overtime. FLSA allows the municipality the ability to designate a work cycle from 7 to 28 days. Each day has an associated number of hours that the employee is allowed to work before the payment of overtime. Hours actually worked over the allowable amount under the law must be paid at one and one-half the normal rate.

Table 28: FLSA Table for Fire Departments

Cycle	Hours Allowed	Hours Worked	FLSA Overtime
28	212	224	12
27	204	216	12
26	197	208	11
25	189	200	11
24	182	192	10
23	174	184	10
22	167	176	9
21	159	168	9
20	151	160	9
19	144	152	8
18	136	144	8
17	129	136	7

Cycle	Hours Allowed	Hours Worked	FLSA Overtime
16	121	128	7
15	114	120	6
14	106	112	6
13	98	104	6
12	91	96	5
11	83	88	5
10	76	80	4
9	68	72	4
8	61	64	3
7	53	56	3

Although there is no written policy, it appears that the City follows a 28-day work cycle. The Consultant was told that overtime was paid for hours worked above 212. The City should ensure that it is not 'equalizing' pay checks. Thus, if paid bi-weekly, the first check in the 28-day period would not contain any overtime, but the pay for the number of hours worked in the first 14 days. The second check, upon completion of the 28-day cycle, would then adjust for any time paid, but not worked (vacation, sick, or holiday), and then any overtime for hours worked above 212 in the 28-day period.

The City does pay overtime based upon hours worked versus hours paid as delineated in the FLSA. Thus, as stated above, an employee earns time off pay – vacation, sick leave, and holiday, and are paid for such time off, but these hours do not qualify for the calculation of overtime. The Consultant highly recommends continuance of this policy as it still provides pay to the employee but reduces the amount of overtime paid by the employer.

The contract Section 5 of Article 10 – Overtime, has a statement that employees are first eligible for overtime after completion of one year of service. The contract cannot bypass Federal law, and therefore, if employees work and earn overtime within the first year of employment – such payment cannot be withheld. The City indicates that it does not assign overtime to anyone within their first year and as such, are complying with the law. However, in the event a new employee works overtime, he/she must be paid for it regardless if within the first year of employment.

Recommendations for Who is the Employer / Compensation

- *All five volunteer fire departments are City departments and therefore, must comply with all federal and state employment laws. Further discussion will be in the recruitment and promotion sections of this report. **Priority 1***
- *All five volunteer fire departments have members that qualify as 'volunteers' under the definition provided by the FLSA and are not subject to minimum wage regulations. **Priority 5***

- *There is no recommendation, at this time, to change the compensation of volunteer City employees; thus, continuation of the tax abatement plan and volunteer pension program, until such time as the City feels a change is required for the recruitment and retention of volunteers. **Priority 5***
- *The City Fire Department should codify its FLSA 28-day cycle either in its rules and regulations or within the City handbook. Further, it should spell out its practices of payment for hours worked, not hours paid when calculating overtime. **Priority 4***

Department Demographics

Prior to continuing the discussion on recruitment, the Consultant performed an analysis of the years of service and age of members within each Department.

Age & Tenure Demographics

The age and years of service is very revealing for the Departments. As the baby boomer generation continues to age, many departments are finding a significant skills gap between those who could retire, and the age and experience of those in line to replace them. Efforts and emphasis need to be placed on developing succession plans so less tenured individuals within the organization understand the skills, education, and knowledge necessary to step into these positions when they become vacant. Promoting individuals just based upon seniority does not benefit the individual or the organization.

As the age and tenure analysis will be similar for all departments, the following will be the charts with the age and tenure analysis for each department, followed by a summary of the findings and recommendations for all six organizations.

City of Norwich

The City is comprised of full-time personnel. The following is the age and years of service of the department personnel, at the time of the study.

Chart 7: City of Norwich Age Analysis

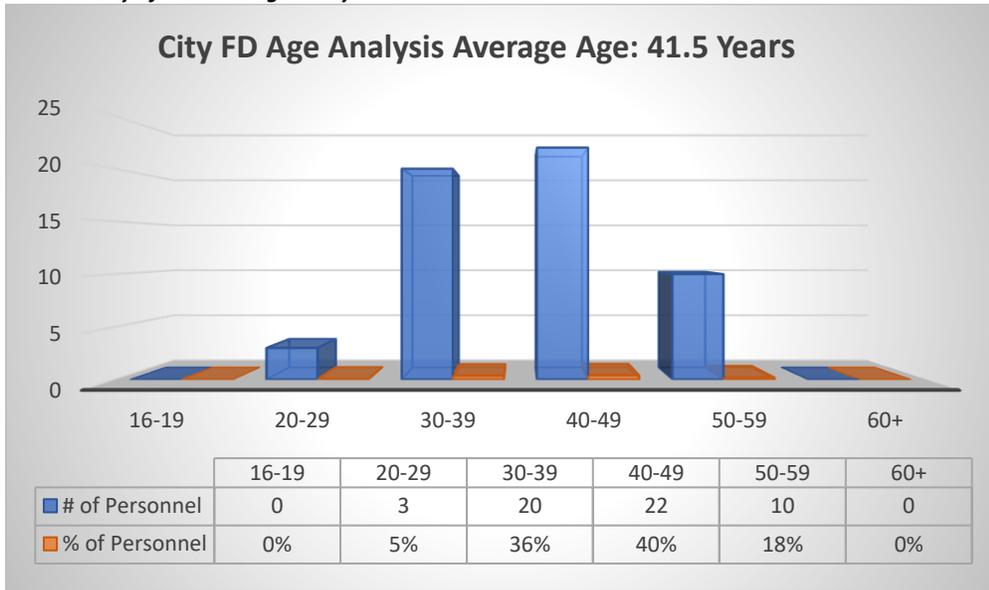
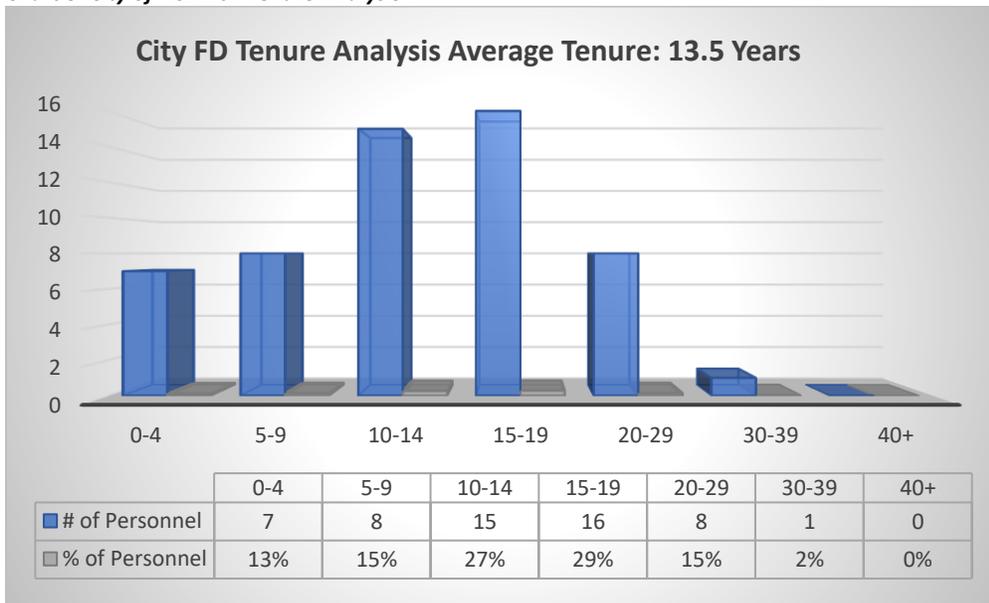


Chart 8: City of Norwich Tenure Analysis



The City has a relatively older department with 95% of the employees over the age of 30. With that said, 27% of the employees have less than 10 years of experience. Further, 17% of employees have tenure longer than 20 years, and could be able to retire. Employees within this category include the 4 Battalion Chiefs and the Fire Chief. The City is at risk of a lot of years of experience leaving the organization.

East Great Plain Fire Department

Chart 9: East Great Plain Age Analysis

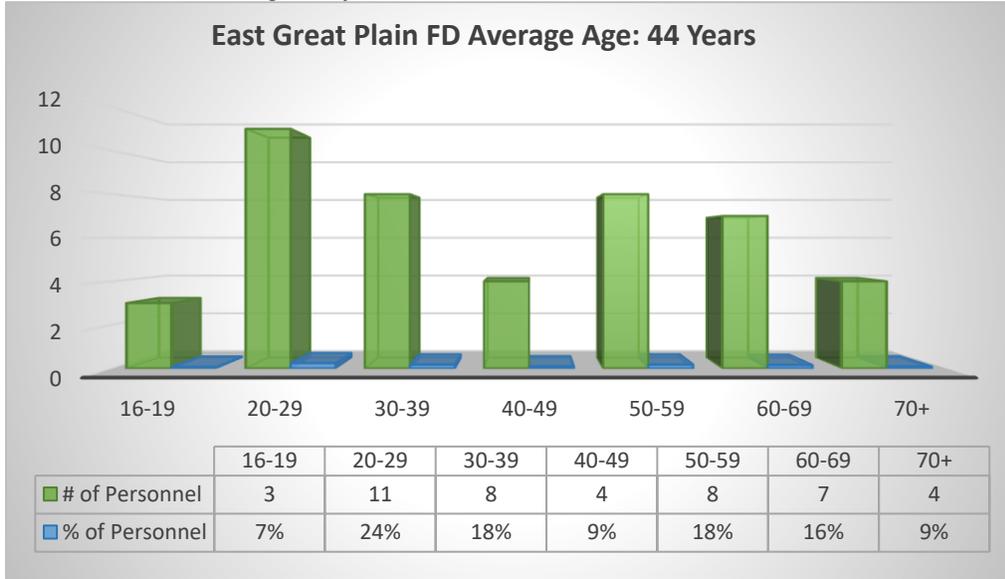
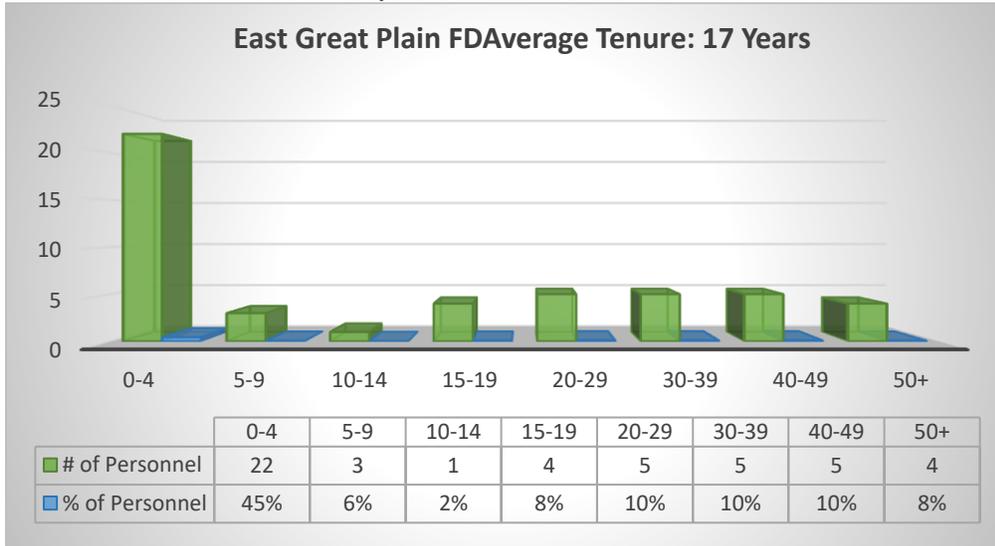


Chart 10: East Great Plain Tenure Analysis



Unlike the City, EGP has 49% of its members under the age of 30. In addition, 51% of the members have less than 10 years of experience. In volunteer organizations, members under the age of 30 with less than 10 years have a higher propensity to leave the organization as work and family pressures typically increase. Similar to the City, EGP has a number of officer positions – the Fire Chief, Assistant Chief, Captain, and Training officer with 30 plus years of tenure on the department – again, the risk of officer positions with long tenure leaving the organization due to retirements.

Laurel Hill Fire Department

Chart 11: Laurel Hill Age Analysis

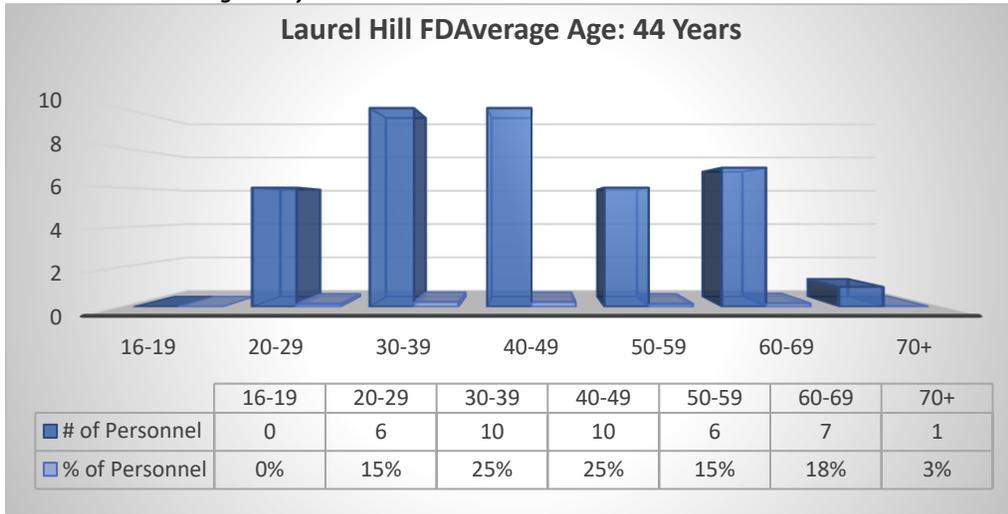
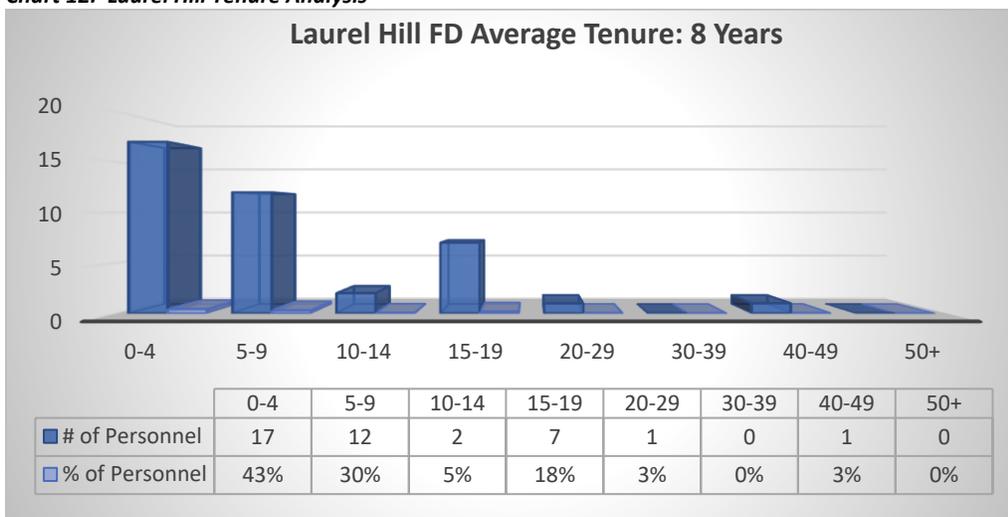


Chart 12: Laurel Hill Tenure Analysis



Forty percent (40%) of members of the Laurel Hill Fire Department are less than 30 years old and 73% have less than 10 years of experience. This should be very concerning as the department has an extremely young workforce. As will be discussed, it is important with younger employees to keep these individuals interested in the fire service – especially as the work – home life balance becomes difficult.

Officers within this department are in their 40's with less than 20 years, so the ability to retire is not as much of a concern as in other departments.

Occum Fire Department

Chart 13: Occum Age Analysis

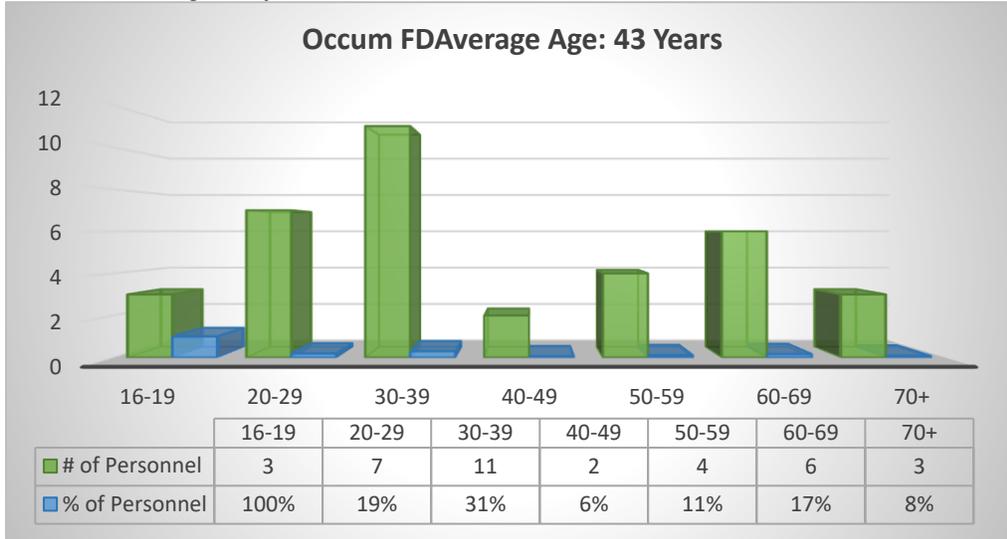
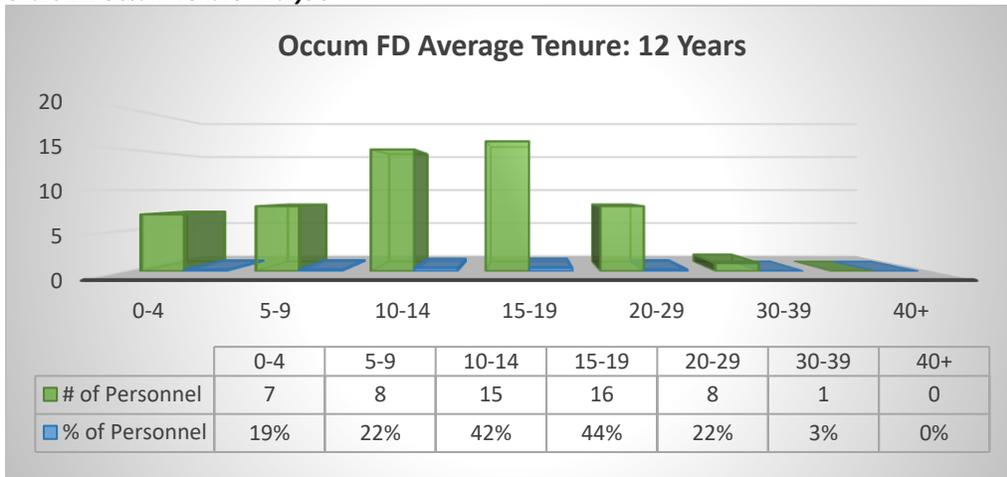


Chart 14: Occum Tenure Analysis



Within the Occum Fire Department, 28% of members are less than 30 years old; however, 42% of the members have less than 10 years of experience. Unlike some of the other departments, only the Fire Chief has more than 38 years of service within the organization; whereas other officers are between 6 – 14 years of service and are between 34 – 57 years of age. The concern will be the retention of younger employees and keeping younger members engaged and active within the department.

Taftville Fire Department

Chart 15: Taftville Age Analysis

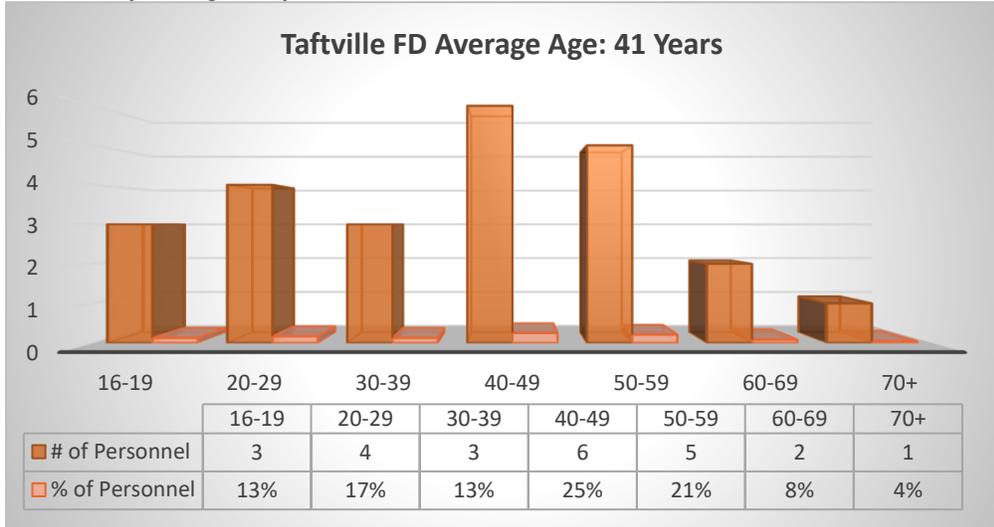
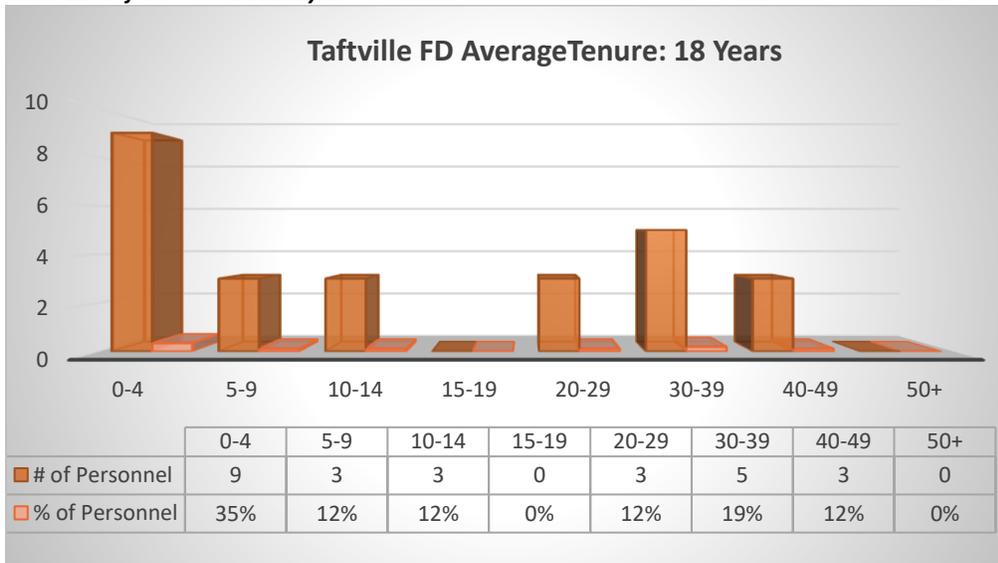


Chart 16: Taftville Tenure Analysis



The Taftville Fire Department is similar to other departments whereas 29% of the members are less than 30 years old and 46% of members having less than 10 years of experience. Officer positions such as the Fire Chief and Assistant Fire Chief are age 50 and above, with 30+ years of experience. So, not only retention of members is a concern, but succession planning for the future leadership of the department.

Yantic Fire Department

Chart 17: Yantic Age Analysis

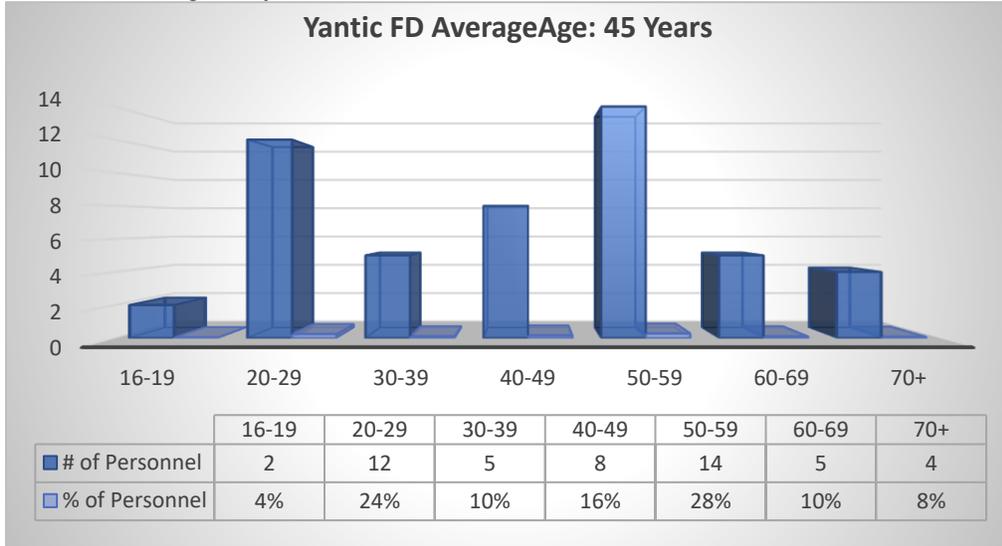
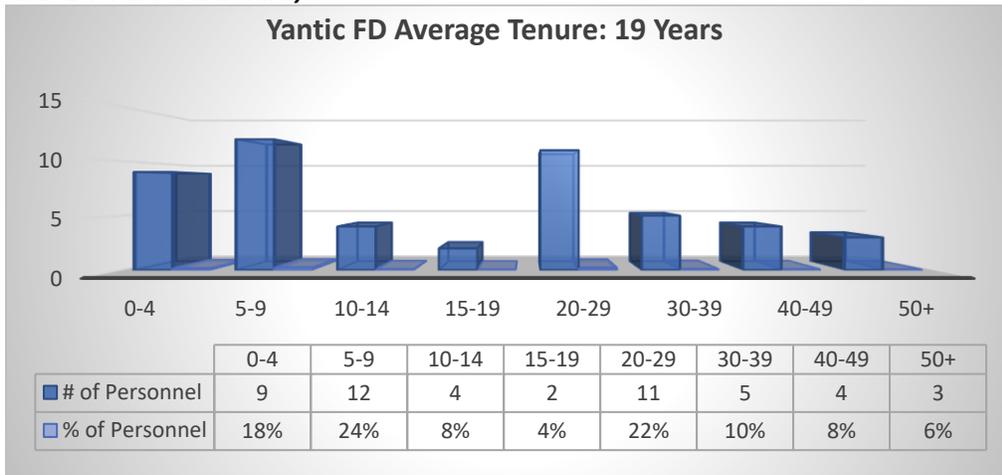


Chart 18: Yantic Tenure Analysis



The Yantic Fire Department has a good age distribution of employees, with 28% under the age of 30; yet 42% of the members have less than 10 years of experience. Similar to other departments, officer positions of Deputy Chief, Assistant Chief and Fire Chief are in their 50's with 28+ years of experience. Succession planning needs to be on the forefront of activities within the department.

Analysis

It is interesting to note, that the average age of all six departments is 43 years of age. Except for the two departments that offer cadet programs, most of the new members are in 20+ age group and apart from

Laurel Hill, the average tenure of members is 15 years. Thus, all departments have had the ability to recruit and retain its members. Laurel Hill has the lowest tenure for the department – an average of 8 years.

In order to retain this employee group beyond the ten year mark, the chief officers need to make sure this group feels they are active in the department; this includes continued training and education, as well as coaching and mentoring to move into leadership roles.

Volunteer departments are seeing a shift in the age of many of its volunteers with more members in their 40's. The adage that this is a 'young men and fire' is now becoming 'old fools and fire' ("Average age of volunteer departments increasing", 2014). Volunteer departments are finding that younger individuals do not have that same sense of community that convinces someone to join.

Therefore, with the aging workforce of the volunteer department, recruiting to a generation without the same sense of community – all departments – career or volunteer – will find a challenge in recruiting younger people into the fire service. The requirements of certification and training are increasing which causes pressures on work-life balance. In addition, the leadership of the department needs to become more than a popularity contest as to who receives the most votes. Skills, education, and specific responsibilities need to be developed and a plan put in place to ensure officers not only have the required operational skills, but also the leadership skills to train, mentor and to be able to develop the strategic direction of the department. These topics will be further discussed in recommended changes to the recruitment, promotion, and evaluation of personnel in all City fire departments.

Recruitment

The hiring of personnel is one of the most important functions of any Chief, as the quality of the members will directly reflect on the Department and the City. The hiring of personnel is also a great liability for the City since the organization can be sued for discrimination, negligent hiring, and retention. The mentality and skill set for an individual to be successful must be verified through several testing processes prior to being hired. The community must also be assured that the individual applying for the position truly wants to dedicate his or her time to the Department. The applicant should be made familiar with the Department and the functions of the position. Too many times, individuals take the job to be a firefighter only to become discontented because of a lack of understanding of the training and time commitments the position requires. The time and cost invested by a department in hiring and training an employee should not be wasted on poor hires.

All six departments recruit for members through a variety of media. Although not utilized by every department, the following media is utilized for recruitment purposes: Department website/Facebook; Statewide hotline, Job Fairs, National Volunteer Counsel; City events; brochures/flyers; Police national night out, and word of mouth. Each department either utilizes the City's human resource department, or has a recruitment committee – thus, all are duplicating efforts to attract employees.

All the membership requirements, except for the City are very similar. Therefore, it would be advantageous for all departments to work with Human Resources to develop similar recruitment strategies. Rather than competing for members, working together to develop a strong labor force would be beneficial for the City's fire service.

Recruitment Process

The City's Fire Department recruitment process is a very formal and structured process. There is a formal application on the City's website. Human Resources works with the Fire Chief to conduct a written exam, oral interview, and physical fitness (CPAT) to achieve a ranked score. Background checks are completed on the top candidates. The Fire Chief will interview those with high scores and make a hiring decision. There are no restrictions where the Fire Chief can hire from.

Human Resources works with the City's Fire Department in administration of all pre-employment testing/interviews, as well as assists in the notification of selected and non-selected applicants. The test scores are good for one year and can be extended an additional year if necessary.

The only concern the City has on its recruitment process is the ability to attract a diverse workforce – especially African Americans, Asians, and Hispanics. Human Resources and the Fire Department, however, are continuing to work on recruitment avenues to ensure a diverse workforce. The recommendation for the Fire Department is to develop a recruitment committee with the full-time and volunteer fire departments – as diversity is a concern throughout all fire departments. The use of the recruitment committee may develop other avenues of recruitment to enhance the diversity of the departments.

There are six different employment applications utilized by the City for the fire departments. Two of the volunteer departments utilize a City application; however, once it is received, a secondary application is provided to the candidate for completion. The following is a listing of all the information that needs to be eliminated from the volunteer applications. (Note, some of the items listed are on all applications; whereas others are on only a few applications – thus, this is a comprehensive list of items that need to be removed.)

- Any allergies or chronic illnesses?
- Any nervous or mental illness?
- Any physical handicaps?
 - All these questions violate HIPPA and are also discriminatory
- Application fee – only 1 department charges a \$5 application fee, needs to be eliminated.
- Are you now, or have you been addicted to drugs or intoxicating liquors?
- Arrest Record – should have a disclaimer that the arrest may not be a reason for non-hiring
- Blood type – not needed on an application
- Currently under a doctor's care? – Violates HIPPA
- Date of birth - discriminatory

- Driver's license number – can determine age of applicant - discriminatory
- Emergency contact – not needed on application and can be construed as discriminator or determination of sex/sexual orientation.
- Only a few of the applications contain a request for release of information or statement that false or omitted information may be a reason for discharge.
- Place of Birth - discriminatory
- Social Security Number – although not illegal, with the number of individuals that can see an application, and with the concern over identity theft, this should be eliminated from an application.

All the questions/information requested above is considered illegal and discriminatory. None of the requested information is viable or needed to ascertain if an applicant is eligible for membership. Thus, all the above need to be eliminated from the application.

The following information applies predominately to the volunteer fire departments.

Once the application is received, it is reviewed either by a group of department officers or a personnel committee. None of these individuals have training on what is or is not appropriate information to ascertain or avoid. Three of the five fire departments take the applicant to a vote of the membership. All three indicated that the application was not viewed by the membership. Due to the number of discriminatory questions on the applications, widespread viewing of the application would open the department to a number of legal challenges. Further, when challenged as to what the membership was voting on, it had more to do with if anyone knew the applicant, rather than an assessment of their skills and abilities to perform the job. The practice of voting needs to cease immediately as it opens the City up to a number of discriminatory and legal challenges.

All departments conducted some form of background check. Most utilized an on-line service that provided pertinent information on the criminal history of an applicant. A few utilized the Norwich Police Department or the State Police Department. All background information was placed in the employee's personnel file – some in a confidential section; others within the personnel file itself.

All departments conducted a physical prior to membership finalization. Almost all used a physician in the area that has been working with the department's for years. All departments indicated that not only was a physical completed, but also baseline hearing and pulmonary functions. The departments only receive a pass/fail – so confidential health information is not being shared with the departments. Again, this document is being placed in the personnel file, or a separate medical file.

Recommendations - Future Recruitment Activities

- *Develop a City-wide recruitment committee that works together to develop recruitment materials (similar website/Facebook messages; brochures; events; etc.). Rather than competing for*

members, working together to avoid duplication and common messaging will enhance a strong City-wide firefighter workforce. **Priority 4**

- *The City should work with all fire departments to create a standardized, legal application packet. The application itself, should be consistent for all six departments. A section of career vs volunteer can be developed to capture individuals who are looking for either type of employment. The application should be available on the City's website and can also be on the individual department websites. **Priority 3***
- *In addition to the application, supplemental forms can be added such as the Cadet program; duties and responsibilities of a Volunteer member; a method to submit firefighter licenses/certifications (if already achieved), etc. Thus, individual department requirements can be delineated in addition to the standard application. **Priority 3***
- *A second sheet included with the application and removed before any committee views it can contain information required for a background check. This typically includes personal information such as date of birth, social security number, etc. This form must be separated from the application form and used either by a trained personnel committee or the City's human resource department to conduct background checks. It might be beneficial that all applications go the City's human resource department as a clearing house and forwarded to the proper fire department. **Priority 3***
- *Since most departments utilize a common background check organization, all departments should utilize the same company for City-wide standardized process; and background checks should be filed in the City's official personnel file. **Priority 4***
- *The physical appears to be conducted by the same physician; thus, human resources should work with the doctor to ensure all NPFA baseline information is obtained, and applicants have the physical/mental capabilities to perform the functions of a firefighter or EMT. **Priority 4***
- *The process of voting on members needs to be immediately eliminated. There is no need for this process, it can be legally challenged, and can be perceived as discriminatory. **Priority 1***
- *All department personnel committees should receive training from the City's human resource department in what are acceptable/ unacceptable interview/recruitment processes. When necessary, the City's human resource department should assist in the volunteer interview process to ensure its legal compliance and standardization among all City departments. **Priority 3***

Job Descriptions

The volunteer departments, currently, do not have job descriptions for all positions within the organization, although some have a brief description of the position within the department's bylaws. Job descriptions are an essential part of the recruitment process and should be accurate and thorough.

Job descriptions should contain the description of the position, the basic job responsibilities, skills, and qualifications for the position, and all the physical requirements of the position as required for the Americans with Disabilities Act. Positions of a supervisory nature should contain more than firefighter

skills. They should also contain supervisory skills and/or education appropriate for that rank. Further, the skills and abilities section should include the 'soft' skills – ability to work as a team, ability to get along with co-workers, etc. All these elements are necessary for a competent member.

Finally, it would be advisable for each of the job descriptions to be reviewed as to qualifications – especially special and/or supervisory training – and utilized during the evaluation process. The job description – along with an evaluation form – can be a great tool for establishing the professional development of fire department personnel.

A copy of the job description should be given to all applicants. In some organizations, a copy is signed by the new hire assuring that he/she can perform the essential job functions. The date the job descriptions were created and/or revised should be placed on the form so that individuals know they are working with the latest version.

Recommendations - Job Descriptions

- *The volunteer fire departments should work on developing standardized job descriptions for all positions within the department. This includes not only entry level, but also the skills, education, and experience necessary for officer positions (career and volunteer). **Priority 3***
- *Copies of the job description should be made available to all individuals who want to be members of either the career or volunteer departments. Having a sign-off which states the applicant's ability to perform the physical and mental functions of the position should be required. **Priority 3***

New Member Orientation

The new member orientation process is the most important function an organization can perform. It is the socialization and job responsibilities that entice an individual to volunteer for the position, not money; thus, make sure the new member feels welcome and understands the organizational structure and practices. This is critically important to the tenure of the individuals.

None of the volunteer departments have a formalized orientation program; however, the City and a couple of the volunteer departments have a simple checklist that they review with new members. City fire employees also meet with the human resources department to collect additional paperwork and review benefits / policies of the City. To assist the fire department in the orientation process, development of a simple check list would be advised to have consistency in instructing new members. **Appendix P** is a sample of a checklist. The checklist would need to be adapted to the needs of each department and only serves as a sample.

Each Department should develop a new member information sheet and gather information such as date of birth, emergency contact information, address, phone numbers, etc. **Appendix Q** is a sample New Hire information sheet that can be used by the departments, if not the entire City to gather appropriate information as well as track personnel actions. This is also a good time to have the employee complete an

ID request form to be used for an accountability tag, as well as any type of authorization forms – ID request form to be used for an accountability tag, as well as any type of authorization forms – equipment returns, sign-off of receipt of bylaws and any fire manuals, turnout gear, uniforms, etc. If the orientation is done in groups, it also allows the new member to socialize with other new members and strong bonds can be formed.

Once the formal orientation program is completed, the new member should be assigned to an individual who will serve as a mentor. The Consultants do not feel that the organizations need to adopt a formal mentor program at this time, but to assign the new member a “buddy” to show him/her the ropes, answer questions, and assist the new member in gaining an understanding of the “informal” organization. The more a new member understands the organization and feels a part of it, the more likely that they will have the “commitment to serve” and become a valuable part of the Department.

In addition to a formal new employee orientation, it is not uncommon to have a swearing-in ceremony. A few departments have a ceremony to which family members are invited as well as City elected officials. The Mayor can have the new members recite an oath of office, and sometimes a person chosen by the recruit can pin the individual’s bugle on his or her uniform. A joint swearing-in ceremony – City and Volunteer – would be a great way to acknowledge all new members of the City.

The following is an example of an oath of office:

I, _____, do solemnly swear, or affirm, that I will properly perform the duties of the office of xx department to the best of my knowledge, skill, and ability.

An alternative to an oath of office is that a couple of the volunteer departments have a changing of the gear ceremony, where their probationary helmets, etc. are replaced by appropriate gear.

Recommendations – New Member Orientation

- *The new member should have the opportunity to complete all necessary paperwork for membership at an orientation meeting:*
 - *Equipment return authorization and/or other required forms, completion of federal/state withholding forms, etc.*
 - *There should be a sign off for receipt of the bylaws/handbook/SOG’s, etc., and department manual, acknowledging receipt and requirement to read and understand.*
 - *A member information sheet that collects name, address, phone number(s), and family information should be completed either by the City and/or department. Maintain in personnel file. **Priority 3***

- *The Departments may wish to consider developing a member orientation checklist so the member has a document they can physically take with them. Appendix P contains a sample orientation checklist the Department can modify to its specific practices. **Priority 3***

- *Appendix Q contains a sample of a new member information sheet. Again, it will need to be modified to fit the needs of the Department. **Priority 5***
- *Each department should consider establishing a formal swearing-in ceremony for all new (and promoted) members. **Priority 5***

Performance Management

Performance appraisals are among the most valuable and important tools available to a supervisor. However, performance appraisals are seldom done in volunteer. Evaluations, or performance appraisals, are essential to improving volunteer performance and the volunteer organization. When handled effectively, these reviews can help close the gap between what members do and what administration needs them to do.

Volunteer members may view evaluations as a negative event, and they can be if not conducted properly. An effective evaluation program should focus on improving the volunteer and his or her contribution to the organization. Further, performance discussions can also assist in retention of a member. Volunteers who feel engaged and respected can contribute to the organization and are more often likely to stay.

Presently, none of the volunteer departments conduct evaluations on members. Each department may wish to entertain the concept of an evaluation system that not only provides feedback on a member's operational performance, but one that also looks at the establishment of member goals and professional development. This does not have to be a complicated document. But one in which three to five key questions are discussed with the employee. Because it is not tied to compensation, a simple rating scale of 'needs improvement, on target, or exceeds targets' can be established.

As previously discussed, it is important to know each member's motivations for joining the Department. If the organization understands the member's motivations for being a member, and it helps ensure that those motivations are met, the volunteer will be less likely to leave the Department. Members should be asked about their motivations before joining to ensure that they have the right motivation. Officers should occasionally check up on members to make sure that the desires and motivations for being a member are being fulfilled. Thus, a member performance evaluation process could be a time when officer and member sit and discuss the individual's needs in order to keep them motivated. If conducted correctly, well-designed performance instruments can energize officers and members and help each see their responsibilities, strengths, and weaknesses.

An evaluation process should also be developed for new members and completed at least once during his or her probationary period, and upon completion of the probationary period.

The career department does conduct an annual performance evaluation on a form that is customized for the entire City's use. Often, departments dislike a generic form as it does not represent the specific's

required in different departments. One way to alleviate that argument is to have a section on the evaluation in which the employee and supervisor determine specific job responsibilities – unique to the department – that can be added to the evaluation and subsequently rated.

The Consultant reviewed the City's form and found it adequate. Several the rating categories are vague and could use more substantive explanation of the criteria and/or examples. For example, how does one quantify performance objectives such as 'Personality, (Friendliness & Courtesy could be considered the same thing), Creativity, (Attendance & Dependability could be considered the same objective), and Drive. It is also good to change up an evaluation form after several years of use – often supervisors become complacent when they are using the same performance instrument. It might be time for some changes to the City's evaluation form.

The Consultant does not recommend that a full/part-time employee performance evaluation form be the same as a volunteer evaluation form. The goals and objectives of each is to have conversations about the employee's contributions to the organization – but evaluating the contributions and professional development of an employee is different than discussions with a volunteer and his or her motivations to serve the community. Thus, separate forms are recommended.

Recommendation – Performance Management

- *The City should establish a committee of officers and members to develop a simple performance evaluation instrument for all volunteer members. The instrument should outline the basic performance expectations of every member and establish professional and/or organizational goals for the upcoming year. **Priority 4***
- *Performance evaluations should be provided on an annual basis and in a formal meeting. A focus should be on the desires and needs of the member in order to ensure the organization is meeting them; thus, the member understands that not only is he or she beneficial to the organization but that the Department is concerned about his or her individual needs. **Priority 5***
- *Establish a performance evaluation process for new members during and upon completion of his/her probation period. **Priority 4***
- *The City should consider updating its performance evaluation instrument to allow individual departments to evaluate specific skill sets needed, as well as update/define specific performance objectives – this should include the career fire department. **Priority 4***
- *There has been push-back from the union in having performance evaluations; however, the Consultant's recommend a simple evaluation process so that the officer and employee can discuss how the employee has contributed to the success of the department/City and professional development opportunities. Compensation for either the volunteer or the career is not tied to performance, but that does not negate the importance of performance conversations between an employee and his or her supervisor. **Priority 4***

- *All officers/supervisors should be trained in performance management and how to conduct performance evaluations. **Priority 4***

Future Promotional Process

Each of the volunteer departments have minimal, if any, criteria to become an officer. Some have years of service requirements; whereas others have different levels of officer status and tenure requirements to become an officer. Except for a couple departments, most officers are selected and voted upon by the membership through an established process. Some of the by-laws spell out the duties and responsibilities of the officer position; however, most are very vague and concentrate on operational job responsibilities or who one substitutes for whom in the absence of another officer. As with most of the human resource responsibilities outlined so far – six different departments are duplicating efforts in order to achieve the same result – a chain of command.

A committee should be formed that begins to evaluate the promotional process for all officer level positions within the volunteer department. Thus, a captain in one department has similar duties and responsibilities – both in operations, but also administration and leadership – as a captain in another volunteer department. This can also be beneficial in the event a department loses a critical officer position due to resignation or injury, another officer from a different department could step in on a temporary basis.

The Department should post the available position, the skills, and qualifications necessary, the promotional process, and the application process. The posting should be visible in the station or posted in the locations that the Department typically utilizes for communication purposes.

The career department has an assessment center process for the selection of officers. Although this type of rigorous assessment process is not needed in a volunteer organization, a simple assessment process that may include an interview with the personnel committee, perform a simple tactical scenario or leadership exercise (dependent upon the rank), and an interview with the Fire Chief would provide some credibility to the promotional process. Thus, determination of an officer by membership vote should cease, again, the perception of discrimination and the ability to validate the promotion is suspect.

To retain individuals, especially younger employees, they need to see how their position has value to the organization and how they can contribute. A job description, simple performance evaluation, and promotional opportunities (other than a popularity contest) will aide in retention of members.

It may not be necessary now, but as more tenured officers leave the department, each organization may need to consider additional incentives to take on officer/leadership responsibilities. This may be a larger tax abatement for officers; contributions to the pension program; or a minimal monetary stipend. Such extra remuneration is not recommended at this time, but in consultation with the Fire Commissioner when recruitment and retention of officers becomes problematic.

The career fire department's promotional process is an assessment center testing process; however, the process is not codified in policy. A summary of the promotional process, job descriptions that detail the skills, education, and experience necessary to apply for a higher rank, and the general format of the testing process should be in either the City's employee handbook or the department's rules and regulations. In some organizations, when a position is posted, the type of testing process is provided (i.e., oral interview, presentation, emergency scenario) to allow the employee to study.

Recommendations – Promotions

- *Develop promotional processes that are specific to the position; such policies should be summarized in the department's employee handbook or rules and regulations. They should evaluate operations as well as supervisory and administrative skills for all volunteer officer positions; and for all career officer positions. **Priority 4***
- *Develop performance evaluation processes that have an emphasis on member career goals – not only for member benefit, but also for succession planning within the organization. **Priority 4***
- *Develop a policy regarding the promotional process that includes the retention of promotional materials for both the career and volunteer departments. **Priority 4***
- *In the future, consideration might be given to provide extra incentives for volunteer officer positions – extra tax rebate, higher contribution to pension program, or an annual stipend. **Priority 4***
- *Most of the volunteer officer positions are for one-year terms, even for the position of Fire Chief. The departments should consider either multiple – staggered terms or maintain the position until such time as the performance is no longer acceptable or the employee resigns. **Priority 4***
- *The Fire Chief, in conjunction with the Fire Commissioner and when applicable, should have the final determination in determining individuals for promotion. Promotions should not be based on a vote of the membership. **Priority 2***
- *The position of Fire Chief should not be a voted upon position by the membership. As with the other officer position, a job description delineating the skills, education, experience, and responsibilities of the position should be established. The Fire Commission and Human Resources should conduct an assessment process to bring forth a recommendation to the City Manager. The position should be held until such time as the person resigns or until the Fire Commission, Human Resources and the City Manager deem performance is unacceptable. **Priority 3***

Employee Handbook & SOG's

Most organizations find that the pros outweigh the cons to having an employee policies & procedures manual when properly written and administered – even in volunteer organizations. Traditionally, an

employee policies & procedures manual is a document that contains the policies of the organization. A SOG manual contains procedures for the operations of apparatus, equipment, and daily operations.

Most of the volunteer departments do not have an employee handbook; rather, policies are minimal and are in each of the department's by-laws, or a rule and regulations manual. The City of Norwich has an employee handbook, which includes the fire department with the caveat that the union contract would supersede City policy. However, all the fire department employees are City employees.

The City's human resource department should work with all five volunteer departments in the creation of a volunteer handbook. This should include the recruitment, promotional, and performance evaluation processes of these agencies. In addition, any policies that are unique to the volunteer fire department – responding to calls, expectations of number of calls per year, as well as all the required policies such as harassment, social media, bloodborne pathogens, GINA (Genetic Information Nondisclosure Act), etc. All officers should be trained on these policies and ensure members adhere to them while representing the City.

Members should be required to sign off acknowledging receipt and responsibility to understand. The acknowledgement should be placed in the employee's personnel file.

Policy/SOG Distribution

As policies and SOG's are developed and approved, it is critical for effective implementation that policies are distributed and communicated to all members. Officers should be held responsible for ensuring that training and/or communication of the new policy occurs with all members, and that each member signs off acknowledging receipt of the policy.

It is always a question as to how manuals should be distributed. Some feel that the manual should be a binder and as new policies are developed, deleted, or revised, members are responsible for making the changes in their respective books. Others feel that new manuals should be distributed after each major revision. Both have pros and cons – expense versus the reality that members do not update the binder.

The consultants suggest that after the City Volunteer Employee Handbook and SOG Manual are revised/developed, all active members receive a hard copy of the manual. If possible, rather than a hard copy, the manuals should be placed on the station/City's intranet for membership access.

Recommendations – Policy Manual/SOG

- *Revise each City's employee handbook to include the fire department volunteer employees. Policies that may be unique to the fire department should be delineated in the volunteer member handbook. **Priority 3***

- *The SOG manual should be reviewed/developed and all operational procedures documented and placed within the manual. Copies should be given to all current members. Copy to be maintained on City's intranet for ease of administration. **Priority 4***
- *All members should sign for receipt of the handbook and SOG. The signed receipt should be maintained in the member's/employee's personnel file. **Priority 4***
- *New members should receive training on the contents of the employee manual and SOG. Annually, training should occur to City and volunteer members on critical policies. **Priority 4***
- *All supervisors and officers should be trained on standard policies such as harassment, social media, discrimination, and other policies that are critical to the success of the City. **Priority 2***

Personnel Records

Personnel records have three major functions in an organization. They provide a memory or recall to administration and members, they offer documentation of events for use in resolving questions or human resource problems, and they provide data for research, planning, problem solving, and decision-making. The City should review its current policy or develop one if needed on personnel records. The following should be verified and/or used in developing its policy for not only full/part-time employees, but that it is also adhered to in the volunteer departments.

While federal, state, and local laws require that certain employee information be maintained, certain basic records should be retained to avoid errors of memory and to provide information for making management and human resource decisions. The volunteer fire departments should follow current City policy on what types of personnel/desk files are allowed to be maintained in the department versus the Human Resources Department. Since many of the volunteer activities occur in the evening, allowing a full personnel file at each site may need to continue; however, it should be made clear that the 'official' personnel file needs to be housed in the Human Resources Department.

What Should Be in Personnel Files

The contents of human resource files vary by organization, but most human resource professionals accept some common practices. The following provides a checklist of items that may be included in personnel files, and where to keep them.

Main Employee File

- Offer/promotion/transfer letter(s)
- Application form
- Acknowledgement of bylaws/SOG/employee manual
- Acknowledgement of new policies
- Orientation checklists
- Termination checklist

- Performance appraisals
- Official performance documentation (memos, letters, discipline, recognition, etc.)
- Payroll documentation (change of address, transfer)
- Training requests (with approval and/or denial documentation)
- Copies of certifications, licenses, transcripts, etc.
- Reference checks – in a confidential section.

Separate Payroll File

- W-4 form
- Retirement system calculations/benefits
- Automatic payroll deposit authorizations
- Miscellaneous deductions
- Payroll documentation (change of address, transfer documentation, leave of absences, etc.).

Separate Medical File

- Initial physical documentation
- Worker's compensation information (doctor reports, letters, etc.)
- Ongoing drug and/or alcohol screening information.

Subject Files Kept Separate

(Usually in one folder for all affected employees; information kept in chronological order or by quarter)

- Child support
- DSS requests (Medicaid, etc.)
- Exit interview forms
- Garnishments
- Immigration Control Form I-9
- Investigation notes or reports
- Litigation documents
- Reference checks – non-selected applicants
- Requests for employment/payroll verification
- Wage assignments
- Worker's compensation claims.

The personnel files should have limited access and be kept in a secure filing cabinet in City Hall. Although each department may keep copies of documents in an unofficial desk file, all official information must be sent to the City for placement in the file. Access to the general file should be restricted to the Fire Chief/designee, and the member's immediate supervisor. Only the Fire Chief, Fire Commissioner and human resources should have access to the medical file. The person performing payroll functions for the department should have access to the payroll files.

The fire departments must keep in mind, that any information in the unofficial desk file is subject to open records law. Thus, a concerted effort must be made to minimize the information in the department desk file. As previously stated, more information may need to be housed in the volunteer department as access to such information is needed during non-traditional work hours. However, the Fire Commissioner, Fire Chief and Human Resources can determine what files should be housed where.

Employee Access to Records

Employers must grant employees access to their personnel file. The benefit to allowing members access is to rid them of fears about what might be in their file. Also, if the Leadership knows that members have access to the file, they are more cautious about the type, format, and verification of information; consequently, the information tends to be more objective.

The Department should establish and publish a written policy regarding access to employee files, typically found in the employee handbook. A policy includes the following information:

- Members need to request access to their file in writing.
- The organization needs to allow access within a reasonable period of time, usually two to five days.
- An official of the department (Fire Chief/Supervisor or designated employee) should be with the member viewing the file. The member should not have sole access while viewing the file.
- Copies of documents, if requested, are given to the member.
- The file should not be allowed to leave the office.
- Officers within the organization should have limited access to personnel files of members they supervise only. In the event of a pending transfer or promotion, the new supervisor, while supervised, should be allowed access to only the performance evaluations.
- No access except by authorized personnel (usually Fire Chief, human resources, and payroll personnel) to information contained in medical, payroll, or subject files as previously delineated.

Once the policy is established, it should be incorporated into the City's employee handbook and should be communicated at new member orientation.

Records Retention

There are always concerns over the length of time records are required to be maintained. The following outlines a few of the major labor laws and their record retention requirements for the City and its departments to follow:

Fair Labor Standards Act: Retention three (3) years

a) For employees' subject to minimum wage and overtime provisions:

- Name, address, date of birth
- Time of day and day of week on which employee's work week begins
- Regular hourly rate of pay
- Hours worked each workday and total hours worked each work week
- Total overtime compensation
- Total additions to, or deductions from, wages paid each pay period, along with a record of dates, amounts, and nature of additions and deductions
- Total wages paid each pay period
- Date of payment and the pay period covered by the payment
- Retroactive payment of wages

b) For executive, administrative, and professional employees:

- Basis on which wages paid, in sufficient detail to permit calculation for each pay period of the employee's total remuneration for employment, including fringe benefits and prerequisites

Immigration Reform and Control Act: Three (3) years after date of hiring or one (1) year after date of termination, whichever is later.

- I-9 Employment Verification form and any attachments

Age Discrimination in Employment Act:

a) Three (3) years

- Payroll or other records which contain name, address, date of birth, occupation, rate of pay, and compensation earned each week.

b) One (1) year from the date of the personnel action; except 90 days for application forms and pre-employment records of applicants for temporary jobs

- Personnel records relating to the following: job application/resume or any other form of employment inquiry; promotion, demotion, transfer, selection for training, layoff, recall or discharge of any employee; job orders submitted by the employer to an employment agency or labor organization for recruitment of personnel; test papers completed by applicant; results of physical examination when considered in connection with a personnel action; advertisements or notices to public or employee relating to job openings, promotions, training programs or opportunities for overtime work.

c) While plan or system is in effect, and at least one year (1) after termination

- Employment benefit plans, seniority systems, merit systems

Vocational Rehabilitation Act: One (1) year

- For handicapped applicants and employees, records regarding complaints and actions taken and employment records

Occupational Safety and Health Act (OSHA): Five (5) years

- OSHA 300 and 301 logs

These are just a sample of the federal laws that govern record retention. There may be other state or bylaws that apply to the organization's record retention policy. Clearly, the City needs to identify and establish a record retention policy and ensure that records are removed and destroyed at the appropriate time.

Recommendations – Personnel Records

- *Establish a policy for the housing of official personnel files. **Priority 3***
- *The City should develop/review a record retention policy for all personnel records. **Priority 3***

Union Contract Suggestions

It is not uncommon to find old and/or language that is no longer needed or understood in contracts as negotiations commonly focus on wages and current contract language. Rarely in negotiations does either side take a step back and evaluate the entire contract. The following are some suggestions for the City and/or the union to consider in future negotiations. It is understood that any suggestions provided are for discussion purposes and to change must be negotiated. According to the City, contract negotiations are underway in 2020-2021 and some areas identified are being discussed.

Article 1 – Recognition: All members, including officers – with the exception of the Fire Chief – are covered under a single collective bargaining unit. This can sometimes prove difficult when officer need to take appropriate actions against subordinate personnel – who are in the same bargaining unit. Thus, to ensure that officers are capable of assuming the duties assigned to the rank, the City may wish to separate officers into a separate bargaining unit.

Article 2 – Union Membership: This section may need to be reviewed by legal counsel in relation to the 2018 changes in required union membership based upon the Supreme Court ruling.

Article 8 – Holidays: Many public safety departments are making holidays a bit easier for employees; thus, instead of trying to figure out time for working or time off on a holiday, the employee is provided a check twice a year for holiday pay. Thus, holidays from January – June are paid in July; and the remaining holidays paid in December. Employees are required to sign up for a certain number of holidays per year – all at straight pay. The incentive comes in the 'bonus' check. Forty-hour employees follow the same rules as other City employees.

Article 9 – Workweek: The Consultant's do not condone the 24-72 hour work shift and have provided alternatives within the report for consideration.

Article 10 – Overtime: Either in the contract or City Employee Handbook, how overtime is calculated – hours worked versus hours paid, should be delineated. Also, as previously discussed, overtime is paid on the last paycheck of the work cycle – and checks are not equalized throughout the year.

Article 11 – Vacations: With the 24-72 hour work schedule, it appears that the vacation schedule is quite generous than typical fire departments. An analysis of departments, with this work schedule, should be conducted to see how vacation can become more in line with similar organizations.

Article 12 – Sick Leave: The Consultants are recommending in lieu of a cash payout of sick leave, earned sick leave above the maximum be placed into a Health Savings Retirement Account (HSRA). Contributions to the sick leave account are made on a tax-free basis for the City, and the monies earn interest for the employee. The employee can use the reserved funds for various medical expenditures at time of retirement – also on a tax-free basis. Further, eliminating the balances off the City books assists in the accruals that are required to be maintained in accounting procedures.

Article 15 – Uniform Allowance: Ensure that the lump sum uniform allowance complies with FLSA and calculation of overtime.

Article 16 – Insurance; Section 8 – Waiver of Coverage: In light of changes to the FLSA and payments for not taking health insurance, the City should confirm it adheres to such payments and the calculation of overtime. The Consultants recommend elimination of such payments.

Article 20 – Residence Requirements: Many departments across the United States are eliminating residency requirements as it restricts the candidate pool. Residency is not as critical in career departments as it may be for volunteer organizations. There is a misperception that has been proven that residency does not force an employee to be more loyal or spend more money within the community.

Article 22 – Wages: Rather than having a standard position in the wage scale, supplemented by stipends, the department may wish to revisit these two sections and either create career tracks for employees to grow – i.e., Firefighter I, II, Firefighter III – Paramedic Track; Firefighter III – Special Operations Track; Firefighter III – Leadership Track – then the number of steps and pay correspond to the entire skills and responsibilities of the position rather than maintaining all these extra pay categories. Or create a simpler wage scale – Firefighter pay scale; Firefighter EMT pay scale; and Firefighter-paramedic scale; etc. Each of these job titles has its own corresponding pay range.

Article 24 – Manpower: With fluctuating revenues as well as call volume having a defined minimum manning is restrictive to both the union and the City.

Article 33 – Substance Abuse Policy: This should not be a negotiated policy but placed in the City's employee handbook.

Appendix H – Norwich Fire Department

The current personnel deployment of the Norwich Fire Department is 13 firefighters per platoon (requiring 52 total operations firefighters), each working a rotation of 10/14 hours on duty (usually back to back resulting in 24 hours), followed by 72 hours off duty (24/72). Both of these staffing components are included in the collective bargaining agreement between the City of Norwich and the Norwich Firefighters Local 892, and it is understood that changes to these details would require negotiation between the two.

The current organization of fire operations personnel includes a Battalion Chief and three crews of three firefighters at NFD Headquarters each platoon (Squad A, Engine 3, Truck 1), and one crew of three firefighters at Greenville Station each platoon (Engine 2). In the Overviews section, it was recommended that NFD firefighters switch to a more traditional 24/48 platoon schedule, for a variety of reasons. In this Staffing section, the consultants recommend that Engine 3's crew be re-deployed in order to provide a better service to those calling for assistance, as well as increasing efficiency and safety across NFD's response to emergencies.

Fire Department staffing is typically driven by call volume and financial resources available, however, other factors are important to analyze such as incident type trends and other resources that may be available. Over the past three calendar years, NFD has responded to:

Table 29: 3-Year Calls Norwich FD

Norwich Calls			
2017	2018	2019	Average
2,552	2,360	2,494	2,469

During this study period the highest percentage of type of call are for emergency medical services as illustrated in the table below:

Table 30: Norwich % of EMS Calls to Total Calls

Percentage of Calls that are EMS		
2017	2018	2019
68.9%	69.7%	71.4%

When NFD responds to an EMS call with American Ambulance, a fire engine or truck company responds. The consultants recommend NFD respond to EMS assists with a smaller EMS response vehicle instead of a fire vehicle in order to be more efficient and save wear-and-tear on the large, expensive apparatus. The consultants believe removing Engine 3 from service, and moving two personnel to an EMS response vehicle will provide a better medical response throughout the City Consolidation District. The sale of Truck 2 and reserve Engine 4 could potentially cover all or most of the cost of a new EMS response vehicle.

Furthermore, an additional automatic response from the closest TCD fire department for reported structure fires would keep the initial response the same.

The consultants recommend that the third crew member from the existing Engine 3 company be moved to Greeneville Engine 2, creating a four-person crew. While researching previous NFD staffing models, it was found that Greeneville Engine 2 was staffed with four firefighters until switched to three a few years ago due to budget considerations. Due to the fact that Greeneville Engine 2 protects the portion of the CCD most densely populated and is the farthest away from other TCD fire departments, the consultants recommend a four-person crew would potentially provide a more complete and safer initial fire response for that area of Norwich.

Recommendation – Re-deploy Engine 3 crew

- *Re-deploying the Engine 3 crew to create a two-person EMS response crew and increasing Greeneville Engine 2 crew to four provides a more efficient EMS response across the city, in addition to increasing the initial fire response in the Greeneville area of Norwich. Additionally, it is recommended that the closest TCD fire department respond with an Engine company to any reported structure fire in the CCD. **Priority 1***

An additional consideration realized by adjusting the work schedule to a 24/48, and keeping platoon size at 13 minimum per day, would be the allowance for the overall employee count to be decreased. Currently operational (platoon) staff is 52. This equates to exactly 13 firefighters, regardless of rank, assigned to one of the four platoons ($13 \times 4 = 52$). This also means that each time a firefighter is off on benefit time, overtime or coverage pay is needed to fill that spot. An operational force of 48 while deploying three platoons of 16, would allow for three firefighters to be off on vacation, sick, or other benefit time without the need for overtime or coverage pay. It is also understood that per the current collective bargaining agreement, up to five firefighters could be off on any given day; it appears that this is a rare occurrence and overtime with this proposed schedule would be minimal. The consultants believe that reducing staffing by four should be done by *attrition*; the next four NFD firefighters to retire or resign would not be filled. Abruptly eliminating positions and laying off staff should only ever be reserved for the dire financial situations and when no funding exists to cover the employees.

If the City and Local 892 cannot agree to switch to a 24/48 work schedule, we recommend that the third firefighter from Engine 3 not be placed at Greeneville Engine 2 and a daily platoon size of 12 be maintained. This would still allow for a decrease of four operations positions (by attrition), which would cover the Commissioner's position. Ultimately, both sides (City and Local 892) will need to determine which core values are most important in forming their agreement: the schedule/platoon rotation, shift staffing levels, and the crew size of Greeneville Engine 2 being at the forefront of the discussion. The consultants are confident the City and Local 892 can come to an agreement that best serves all involved – including those calling upon NFD for service.

Recommendation – Reduction of full-time staffing by attrition

- *Transitioning operational personnel to 24/48 and re-deploying Engine 3's crew to fit other needs of the city would allow for a decrease of four positions through attrition. This cost-savings would allow for the creation of a Norwich Fire Commissioner with little or no impact on the overall budget. **Priority 1***

Appendix I: Apparatus / Replacement Schedule

The Norwich, East Great Plain, Laurel Hill, Occum, Taftville and Yantic Fire Departments cumulatively possess 43 vehicles (including administrative vehicles), along with six boats and four trailers for a total of 49 pieces of response equipment. This fleet covers a total of 28 square miles of the City of Norwich, of which 3.2 square miles includes the CCD and the remaining 24.8 square miles is covered by the five volunteer fire companies. Ambulance service across Norwich is contracted to American Ambulance, so the fire department's fleet includes no EMS transport vehicles. The consultants recommend the total apparatus count of the six fire departments is excessive and can be decreased without a negative impact on service delivery.

Red & Yellow Outlines

The following tables will list all of the apparatus currently assigned to the departments. If the apparatus is highlighted in yellow, it is recommended not be replaced when it reaches its replacement date. Those units highlighted in red are recommended to be removed from inventory now and not be replaced.

Norwich

Table 31: Norwich FD Apparatus

ID #	Manufacturer	Assigned	Year	Mileage	Hours	Pump	Tank	Status
S-A	Ferrara	Engine - District 1	2001	99,817*	10,770*	2,000	500	1st line
E-2	Ferrara	Engine – Greenville	2007	84,422	8,958	1,500	750	1st line
E-3	Ferrara	Engine - District 3	2013	29,104	3,647	1,500	500	1st line
E-4	E-One	Engine – reserve	1995	92,672	6,151	1,500	750	Reserve
T-1	Pierce	Tower Ladder	2010	25,878	3,789	N/A	N/A	1st line
T-2	Simon LTI	Tower Ladder	1995	37,515	3,402	1,500	300	Reserve
R-1	Freightliner	Rescue 1	2006	7,879	1,068	N/A	N/A	Reserve
F-1	HumVee	Forestry 1	2003	6,080	N/A	500	300	Reserve
C-1	Chevrolet Tahoe	Car 1 – Chief	2012	98,913	N/A	N/A	N/A	1st line
C-10	Ford Explorer	Car 10	2015	64,346	N/A	N/A	N/A	In use
B-1	Chevrolet Tahoe	Battalion 1	2019	5,886	N/A	N/A	N/A	1st line
B-2	Chevy Silverado	Batt – Reserve	2007	49,499	N/A	N/A	N/A	Reserve
S-1**	Chevrolet 2500	Utility	1998	51,511	N/A	N/A	N/A	Reserve
FM-1	Ford Explorer	Fire Marshal 1	2014	58,427	N/A	N/A	N/A	In use
FM-2	Ford F-150	Fire Marshal 2	2020	246	N/A	N/A	N/A	In use
FM-3	Ford Escape	Fire Marshal 3	2009	105,607	N/A	N/A	N/A	In use
M-1	Metalcraft	Marine 1 (at marina)	2018	N/A	40	1,500	N/A	In use
M-3	Zodiac	Marine 3 inflatable	1989	N/A	N/A	N/A	N/A	In use

* Chief indicates Squad-A odometer and hours meter were broken for much of past year; numbers could be off by around 5,000 miles and 500 hours.

** Service 1 soon to be replaced by B-2

Recommendations for NFD Apparatus

- Remove Truck 2 from service: Truck 2 is 25+ years old and is a redundant piece of apparatus in Norwich. If/when Truck 1 is out of service, this crew could switch to another reserve vehicle or re-deploy to increase staffing in other apparatus. Additionally, a truck from East Great Plain or Taftville could be asked to provide an automatic response during these time frames. **Priority 2**
- Do not Replace HumVee F-1: This vehicle (grant-funded) has 6,000 miles after 17 years. Other city/VFD resources available to assist with wildland fires when retired. **Priority 5**
- Replace Squad A with Engine 3: Squad A is currently the main fire apparatus for District 1 and is almost 20 years old. Mileage will be well over 100,000 by the time this report is published, not including the odometer issue of the past year. Personnel discussed in Staffing. **Priority 3**
- When replaced, transfer current Squad A (2001 Ferrara) to Engine 4 (reserve): Current reserve Engine 4 is 25+ years old with mileage approaching 100,000. **Priority 3**

Figure 6: NFD Apparatus



Not pictured:

- Administrative and Fire Marshal Staff Vehicles
- Service-1
- Task Force 4 Foam Trailer

East Great Plain

Table 32: East Great Plain VFD Apparatus

ID #	Manufacturer	Assigned	Year	Mileage	Hours	Pump	Tank	Status
ET-51	Spartan	Engine-Tanker 51	2020	3,817	228	2,000	2,500	1st Line
E-52	PemFab/Ranger	Engine 52	1993	40,460	1181	1,500	1,000	1st Line
L-5	Smeal	Ladder 5	2001	35,966	5142	1,500	500	1st Line
R-5	SVI/Spartan	Rescue 5	2009	10,860	1,875	N/A	N/A	1st Line
S-5*	Chevrolet	Squad 5	1999	39,446	N/A	N/A	N/A	1st Line
Se-5*	Chevrolet	Service 5	1997	152,223	N/A	N/A	N/A	In Use
B-5	Boston Whaler	Boat 5	Unk	N/A	N/A	N/A	N/A	In Use

* Chief reports Squad 5 will soon replace Service 5. Taftville's Squad vehicle will be transferred to EGP.

Recommendation for EGPVFC Apparatus

- Removal of Engine 52 from fleet within three years. Engine 52 will be 30 years old in 2023. EGP's fleet will still be strong, and moving forward, there is ample support from all Norwich departments in times of need. **Priority 4**

Figure 7: EGPVFC Apparatus



Engine Tanker - 51



Engine 52



Ladder 5



Rescue 5

Not pictured:

- Car-5 Chief's 2012 Ford Expedition
- Boat-5 16' Boston Whaler
- Service-5 (soon to be replaced with Squad 5)
- Squad 5 (soon to be replaced with Taftville Squad)

Laurel Hill

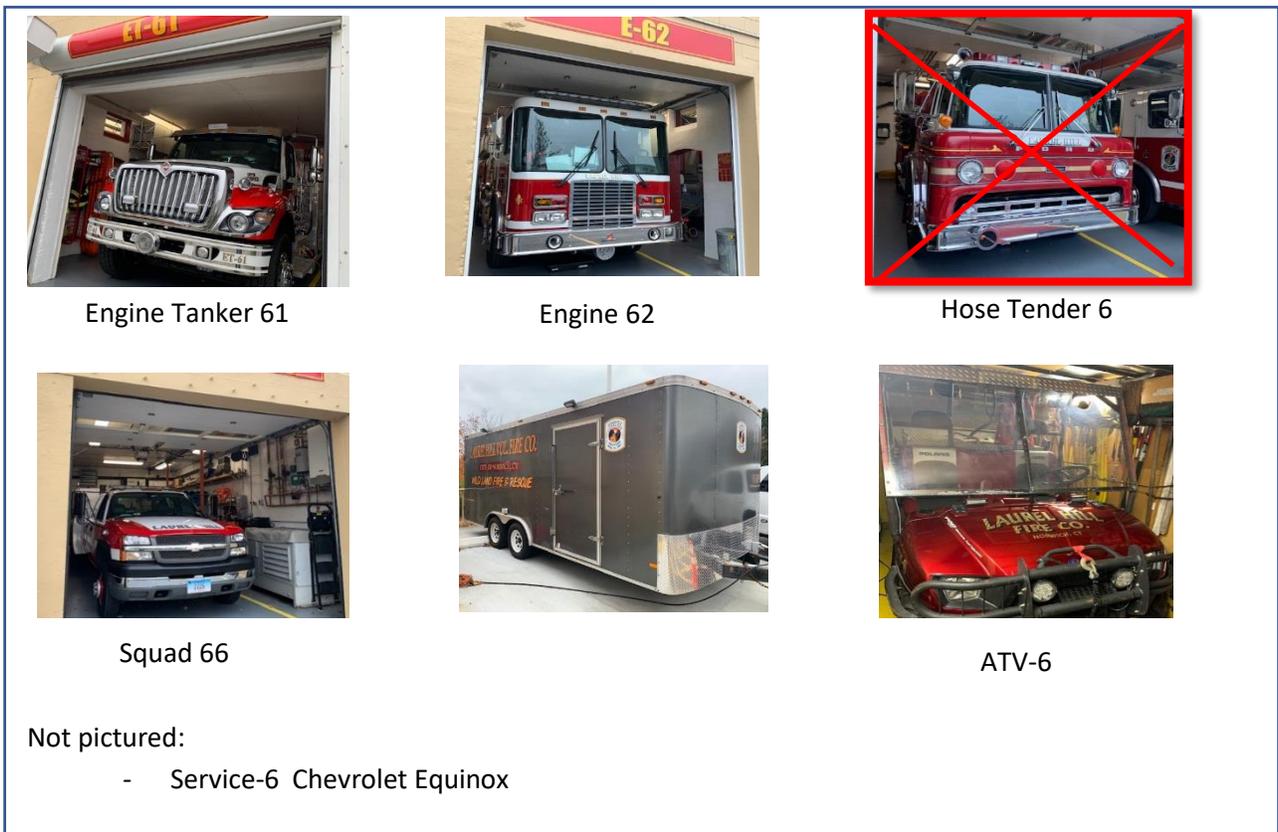
Table 33: Laurel Hill VFC Apparatus

ID #	Manufacturer	Assigned	Year	Mileage	Hours	Pump	Tank	Status
ET-61	Deep South/Int'l	Engine-Tanker 61	2019	2,189	163	1,500	2,000	1st Line
E-62	Ferrara HME	Engine 62	2004	29,414	2,202	29,414	500	1st Line
HT-6	Ford Middlesex	Hose Tender 6	1983	26,137	292	1,250	N/A	In Use
S-66	Chevy 2500	Squad 66	2004	12,923	N/A	N/A	N/A	1st Line
ATV-6	Polaris Ranger	ATV 6	2006	N/A	N/A	N/A	N/A	In Use
FT	Haulmark	Forestry Trailer	2008	N/A	N/A	N/A	N/A	In Use
Se-6	Chevy Equinox	Service 6	Unk	82,000	N/A	N/A	N/A	In Use

Recommendation for LHVFC Apparatus

- Remove Hose Tender 6 from fleet. This 1983 vehicle is mostly used as a mutual aid vehicle and rarely responds within Norwich. Before putting any more money into maintenance or servicing of this vehicle, we recommend removing it from the fleet of vehicles. **Priority 4**

Figure 8: LHVFC Apparatus



Occum

Table 34: Occum VFD Apparatus

ID #	Manufacturer	Assigned	Year	Mileage	Hours	Pump	Tank	Status
E-41	Pierce	Engine 41	1991	34,093	2,590	1,500	750	1st Line
E-42	Ferrara	Engine 42	1997	61,083	2,628	1,500	1,000	1st Line
S-4	Chevy Silverado	Squad 4	2005	16,776	N/A	N/A	N/A	1st Line
M-4	Defender	Marine 5	2011	N/A	30	N/A	N/A	In Use

Recommendation for OVFD Apparatus

- Replacement of Engine 41. Occum VFD runs lean with equipment and makes do with what it has. Its newest engine is 23 years old, and Engine 41 is almost 30 years old and should be one of the next of the Norwich fleet to be replaced. **Priority 3**

Figure 9: OVFD Apparatus



Engine 41



Engine 42



Squad 4



Marine 4

Taftville

Table 35: Taftville VFD Apparatus

ID #	Manufacturer	Assigned	Year	Mileage	Hours	Pump	Tank	Status
E-21	Pierce	Engine 21	2019	2,539	209	2,000	970	1st Line
ET-22	Pierce	Engine-Tanker 22	1996	40,000	3,495	1,500	1,000	1st Line
T-25	Ferrara	Tower 25	2006	15,470	2,344	N/A	N/A	1st Line
R-2	International/EVI	Rescue 2 (new)	2020	New	New	N/A	N/A	1st Line
S-2*	Chevrolet 3500	Squad 2	2000	39,446	5,333	N/A	N/A	1st Line
Dive-23	International/Marion	Dive Rescue 23	1990	30,775	4,686	N/A	N/A	In Use
B-2	Defender	Boat 2	2014	N/A	N/A	N/A	N/A	In Use

*Squad 2 to be transferred to East Great Plain VFD in the near future

Recommendation for TFC #2 Apparatus

- Retire/sell Engine-Tanker 22 by 2026 and do not replace. TFC #2 recently took delivery of two new vehicles, and the fleet will still be strong without ET-22 as it nears 30 years. Moving forward, there is ample support from all Norwich departments in times of need. **Priority 4**

Figure 10: TFC #2 Apparatus



Engine 21



Engine-Tanker 22



Rescue 2



Truck 25



Dive 23



Boat 2

Not Pictured

- S-2: Squad 2

Yantic

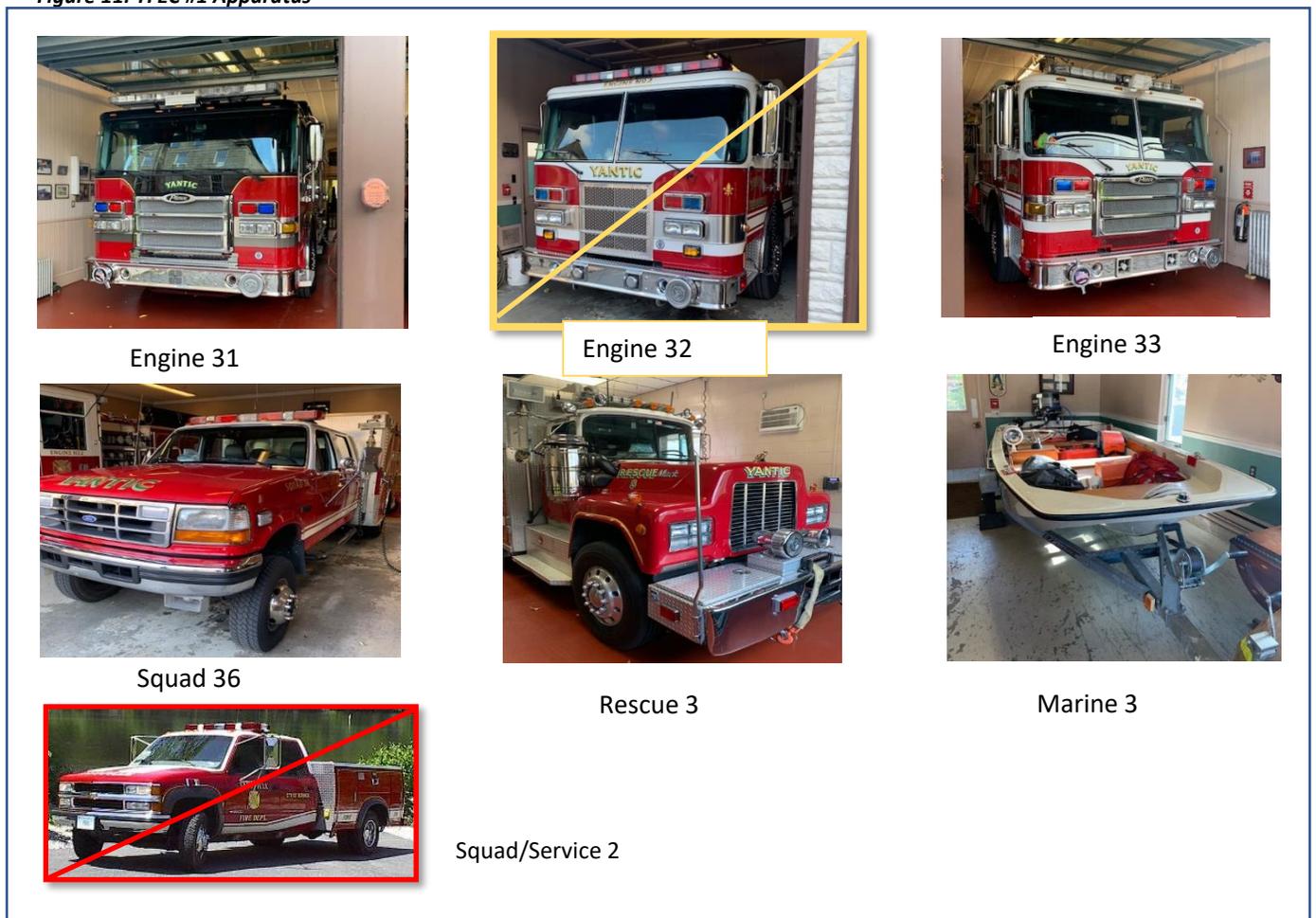
Table 36: Yantic VFD Apparatus

ID #	Manufacturer	Assigned	Year	Mileage	Hours	Pump	Tank	Status
E-31	Pierce	Engine 31	2019	2,947	228	2,000	750	1st Line
E-32	Pierce	Engine 32	2000	51,826	1,216	2,000	500	In Use
E-33	Pierce	Engine 33	2007	41,358	3,139	2,000	500	In Use
R-3	Mack	Rescue 3	1989	35,555	2,002	N/A	N/A	In Use
S-36*	Ford F450	Squad 36	1997	38,567	N/A	N/A	N/A	1st Line
M-3	Boston Whaler	Marine 5	1989	N/A	N/A	N/A	N/A	In Use
	Wells Cargo	Squad 36 Trailer	1997	N/A	N/A	N/A	N/A	In Use

Recommendation for YFEC #1 Apparatus

- Retire/sell Engine 32 by 2025 and do not replace. YFEC #1 has three engines, all under 20 years old with relatively low mileage and hours. YFEC #1's fleet will still be strong without Engine 32, and moving forward, there is ample support from all Norwich departments in times of need. **Priority 4**

Figure 11: YFEC #1 Apparatus



Summary of All Apparatus

It will be difficult for the six Fire Chiefs to agree that they can eliminate pieces of apparatus now or when they need to be replaced. It is important to remember that historically each fire department operated as its own autonomous protection district and as such each would need to duplicate apparatus found in their neighboring departments. The mind set was they first protected their district. "If help were needed, it would be asked for", verses operating as one unified department with shared, rather than duplicated, apparatus.

A normal size for a Township in the United States is 36 sq. mi. It would be difficult to find a Township in the United States that needed **49 pieces** of apparatus. The City of Norwich is 28 square miles, which is 33.3% smaller than the normal Township. Over time and with the implementation of the Fire Commissioner, the 28 square mile combined protection district will be viewed as a single response area with each area being support by their neighbors.

Engines Totals

Table 37: NFD & VFD Engines

ID #	Assigned	Year	Mileage	Hours	Status
ET-51	East Great Plain – Engine Tanker 51	2020	3,817	228	In use
E-52	East Great Plain – Engine 52	1993	40,460	1,180	In use
ET-61	Laurel Hill – Engine Tanker 61	2019	2,189	162	In use
E-62	Laurel Hill – Engine 62	2004	29,414	2,202	In use
S-A	Norwich – District 1	2001	99,817	10,770	1st line
E-2	Norwich – Greenville (District 2)	2007	84,422	8,958	1st line
E-3	Norwich – District 3	2013	29,104	3,647	1st line
E-4	Norwich – reserve	1995	92,672	6,151	Reserve
E-41	Occum – Engine 41	1991	34,093	2,590	In use
E-42	Occum – Engine Tanker 42	1997	61,083	2,628	In use
E-21	Taftville – Engine 21	2019	2,539	208	In use
ET-22	Taftville – Engine Tanker 22	1995	40,000	3,496	In use
E-31	Yantic – Engine 31	2019	2,947	228	In use
E-32	Yantic – Engine 32	2000	51,826	1,216	In use
E-33	Yantic – Engine 33	2007	41,358	3,140	In use

Total Trucks/Ladders

Table 38: NFD & VFD Ladders/Trucks

ID #	Assigned	Year	Mileage	Hours	Status
L-5	East Great Plain – Ladder 5	2001	35,966	5,142	In use
T-1	Norwich – Truck 1	2010	26,454	6,151	1st line
T-2	Norwich – Truck 2	1995	37,632	5,105	Reserve

ID #	Assigned	Year	Mileage	Hours	Status
T-25	Taftville – Tower 25	2006	15,470	2,345	In use

Total Squads

Table 39: NFD & VFD Squads

ID #	Assigned	Year	Mileage	Hours	Status
S-5	East Great Plain – Squad 5	1999	39,446	N/A	*
S-66	Laurel Hill – Squad 66	2004	12,923	N/A	In use
S-4	Occum – Squad 4	2005	16,776	N/A	In use
S-2	Taftville – Squad 2	2000	36,829	5,333	**
S-36	Yantic – Squad 36	1997	36,567	N/A	In use

* Squad 5 to be retired

** Squad 2 to EGP soon

Total Rescue & Utility

Table 40: NFD & VFD Rescues & Utility Vehicles

ID #	Assigned	Year	Mileage	Hours	Status
R-5	East Great Plain – Rescue 5	2009	10,861	1,874	In use
S-5	East Great Plain – Service 5	1997	152,223	N/A	*
HT-6	Laurel Hill – Hose Tender 6	1983	26,137	292	In use
ATV-6	Laurel Hill – All-Terrain Vehicle	2006	N/A	N/A	In use
R-1	Norwich – Rescue 1	2006	7,582	898	In use
F-1	Norwich – Forestry 1	2003	2,943	N/A	In use
R-2	Taftville – Rescue 2	2020	New	New	In use
D-23	Taftville – Dive 23	1990	30,775	4,686	In use
R-3	Yantic – Rescue 3	1989	35,555	2,002	In use

Total Boats

Table 41: NFD & VFD Boats

ID #	Assigned	Year	Mileage	Hours	Status
B-5	East Great Plain – Boat 5	UNK	N/A	N/A	In use
M-1	Norwich – Marine 1	2018	N/A	N/A	In use
M-3	Norwich – Marine 3	1989	N/A	N/A	In use
M-4	Occum – Marine 4	2011	N/A	N/A	In use
B-2	Taftville – Boat 2	2014	N/A	N/A	In use
Ski-2	Taftville – Jet Ski 2	2001	N/A	N/A	In use
M-3	Yantic – Marine 3	1989	N/A	N/A	In use

Total Administrative Vehicles

Table 42: NFD & VFD Administrative Vehicles

ID #	Assigned	Year	Mileage	Hours	Status
C-5	East Great Plain – Car 5	2012	UNK	N/A	In use
S-5	East Great Plain – Service 5	1997	152,223	N/A	*
S-6	Laurel Hill – Service 6	2010	78,070	N/A	In use
C-1	Norwich – Car 1	2012	84,121	N/A	In use
C-10	Norwich – Car 10	2015	43,679	N/A	In use
B-1	Norwich – Battalion 1	2018	5,886	N/A	In use
S-1	Norwich – Service 1	2002	200,741	N/A	In use
FM-1	Norwich – Fire Marshal 1	2014	45,436	N/A	In use
FM-2	Norwich – Fire Marshal 2	2006	125,375	N/A	In use
FM-3	Norwich – Fire Marshal 3	2009	98,938	N/A	In use

Apparatus Maintenance

Superintendent of Fleet Maintenance and his staff maintain and service all vehicles and equipment for the Norwich Fire Department and all five volunteer fire departments. Superintendent Raymond reports that his staff of five mechanics and one lead mechanic service not only all fire department vehicles and equipment, but also a total of 350 vehicles and equipment across all city departments. Of his team of mechanics, none are ASE or EVT (Emergency Vehicle Technician) certified and are trained “in-house” when hired. There were six mechanics on staff until around six years ago, when one vacancy was not filled by the city. Each fire department vehicle is generally scheduled for preventative maintenance twice per year, and additional needs are addressed based on need.

Superintendent Raymond reports a good working relationship across the City and all volunteer departments in terms of maintenance needs and communication. Supt. Raymond was in no way complaining, but he did admit that scheduling and follow-up is typically slower among the volunteer departments – he understands that work schedules and availability differ among volunteers. He also sees the lack of oversight over all departments as concerning, especially in terms of all the different makes/models of apparatus across the city. His department generally covers the costs of all service and maintenance; when asked about the gas, oil, and grease budget charges that most VFD chiefs mentioned, Supt. Raymond commented that it is for gas and minor preventative maintenance. The VFDs are not charged extra for annual service or other maintenance work.

The Superintendent coordinates pump and ladder testing of the vehicles, generally in July or August of each year. Each department is responsible for its own annual hose testing. In speaking with the volunteer chiefs, this duty is usually contracted out to a third-party company (2020 was completed by Fail Safe); NFD completes their own hose testing by FD staff. One specific note regarding annual pump testing, there is approximately 50% fail rate each year, most commonly due to pump primer problems. Fleet Maintenance

sends each department one reminder a month before testing in order for the primers to be checked and exercised before testing time, but this may not always happen as evidenced by the high failure rate across all pumps.

Another specific item of concern was the understanding of NFPA standards related to time frames vehicles should be in service. Utilizing a date range across all fire apparatus nationwide is not justifiable, and maintenance, care, mileage, and hours must be taken into account when deciding how and when to replace vehicles.

Recommendations – Maintenance

- *The consultants support ensuring that at least one city mechanic is a certified EVT for working on fire apparatus. This is also mentioned in the “Facilities” section and bears repeating here. Supt. Raymond and his staff do a wonderful job maintaining the large fleet of FD vehicles; however, having a certified EVT is recommended. **Priority 5***
- *Preventative maintenance – fire engine pumps: All fire departments should pay close attention to the maintenance reminders provided by Fleet Maintenance, especially warnings and advice to exercise and check pump primers in advance of the annual testing cycle. **Priority 5***

Apparatus Records

Fleet maintenance provided information on record-keeping of all fire department apparatus and equipment. A comprehensive list of the maintenance costs for each vehicle for its lifetime, current year, and current month was provided and is listed below. For reference, the NFPA standard for Inspection, Maintenance, Testing, and Retirement of Emergency Vehicles is provided:

NFPA 1911 Inspection, Maintenance, Testing, and Retirement of In-Service Emergency Vehicles (2017 edition) requires the following:

4.7 Documentation

4.7.1 Records shall be maintained on the results of all apparatus inspections, maintenance requests, preventive maintenance, repairs, and testing.

4.7.2 Separate files shall be established and maintained for each individual emergency vehicle.

4.7.3 All records shall be kept for the life of the vehicle and delivered with the vehicle upon transfer or change of ownership.

Apparatus Records – Maintenance Costs

(Further detail on file with Norwich Fleet Maintenance)

Table 43: Historical Maintenance Costs for All Apparatus

Dept.	Unit	Unit - Lifetime	Unit - 2020
EGP	57 Rescue	\$20,229.34	\$3,628.53
EGP	E-52	\$84,177.27	\$6,155.34
EGP	EGP Fire Boat	\$1,275.85	\$0.00
EGP	ET-51	\$0.00	\$0.00
EGP	Ladder #5	\$79,557.36	\$3,287.49
EGP	Service 5	\$10,677.14	\$596.98
EGP	Squad 5	\$39,968.50	\$2,358.64
EGP	Staff Car 5	\$13,649.46	\$1,007.26
	Total	\$249,534.92	\$17,034.24
Laurel Hill	E-61	\$254.58	\$254.58
Laurel Hill	E-62	\$33,449.51	\$2,957.72
Laurel Hill	HT6 Hose Tender	\$30,462.27	\$1,036.29
Laurel Hill	S-66	\$29,800.69	\$275.50
Laurel Hill	Service 6	\$0.00	\$0.00
Laurel Hill	UTV Trailer	\$2,708.90	\$0.00
Laurel Hill	UTV6	\$10,784.51	\$312.08
	Total	\$107,460.46	\$4,836.17
Norwich	Battalion 1	\$229.65	\$229.65
Norwich	Battalion 2	\$30,473.77	\$2,159.88
Norwich	Car 10	\$7,605.65	\$841.46
Norwich	Chief	\$24,905.10	\$980.07
Norwich	Decon 1	\$4,327.03	\$852.10
Norwich	Engine #2	\$102,899.20	\$14,462.50
Norwich	Engine #3	\$30,349.92	\$3,085.80
Norwich	Engine #4	\$133,858.29	\$4,351.90
Norwich	FM1	\$6,788.30	\$559.10
Norwich	FM2	\$0.00	\$0.00
Norwich	FM3	\$18,798.91	\$1,134.14
Norwich	Foam Trailer	\$467.12	\$0.00
Norwich	Forestry 1	\$12,774.08	\$137.26
Norwich	Marine 1	\$1,994.43	\$1,792.00
Norwich	Marine 1 Trailer	\$1,008.36	\$261.26

<i>Dept.</i>	<i>Unit</i>	<i>Unit - Lifetime</i>	<i>Unit - 2020</i>
Norwich	Marine 2	\$625.35	\$625.35
Norwich	Marine 2 Trailer	\$0.00	\$0.00
Norwich	MB1 Message Boat	\$75.13	\$0.00
Norwich	Rescue 1	\$13,057.63	\$772.91
Norwich	Service #1	\$24,816.46	\$326.87
Norwich	Service 2	\$4,759.78	\$22.43
Norwich	Squad A	\$189,410.74	\$10,249.27
Norwich	Truck #1	\$63,484.42	\$12,631.70
Norwich	Truck #2	\$174,674.46	\$3,952.95
	Total	\$847,543.39	\$59,428.60
Occum	N-41	\$45,773.97	\$2,743.34
Occum	N-42	\$37,399.99	\$3,139.94
Occum	Occum Boat	\$233.26	\$0.00
Occum	Squad 4	\$46,792.65	\$325.52
		\$130,199.87	\$6,208.80
Taftville	176 Cox Trailer	\$401.91	\$0.00
Taftville	Dive Truck	\$13,101.87	\$307.13
Taftville	E-21	\$829.42	\$829.42
Taftville	E-22	\$52,688.02	\$3,944.84
Taftville	N-27	\$39,127.86	\$0.00
Taftville	Service 24	\$47,981.05	\$326.83
Taftville	Tower 25	\$58,653.22	\$2,841.34
	Total	\$212,783.35	\$8,249.56
Yantic	E-31	\$555.93	\$555.93
Yantic	E-32	\$66,753.16	\$4,166.04
Yantic	E-33	\$66,950.10	\$3,765.96
Yantic	E-33 (old)	\$21,013.23	\$0.00
Yantic	Haz-Mat Trailer	\$1,347.69	\$0.00
Yantic	Rescue #3	\$58,748.07	\$4,138.53
Yantic	Squad # 36	\$38,390.92	\$2,000.70
Yantic	Yantic Boat	\$1,944.03	\$307.08
	Total	\$255,703.13	\$14,934.24

Apparatus Condition

Most apparatus appear to be in good condition and stocked with the tools and equipment listed by NFPA 1901 (2016 edition) and the Insurance Service Office (2013 revised) Fire Suppression Rating Schedule.

Some of the older vehicles are showing some age but overall the fleet (NFD and VFD's) have been maintained well and are in good order.

Odometers vs. Engine Hour Meters

An odometer is the instrument in a vehicle that shows you how far it has driven in miles and tenth of miles. An engine hour meter is an instrument that tracks and records overall elapsed time that the engine is actually running and is normally displayed in hours and tenths of hours; this information is important to ensure proper maintenance of apparatus. This maintenance typically involves changing or checking parts such as belts, filters, oil, and overall operating conditions of engines, motors, blowers, and fans. If maintenance is based solely on odometer readings, maintenance most likely will be limited to oil changes, whereas the engine life of the apparatus may be affected.

Fire trucks, ambulances, and police cars may all have significantly higher engine running times compared to mileage. Fire trucks can be running for hours at the scene without clocking any mileage.

Sufficiency of Apparatus

Sufficiency of apparatus can be considered in two divergent ways: the amount of apparatus and its capability. The consultants have observed fire departments that have an abundance of apparatus, often resulting in apparatus that is rarely, if ever, deployed; or more apparatus than the department is able to staff. In other instances, departments are under-equipped and/or the apparatus lacks the tools required to perform tasks on the emergency scene. We believe that while NFD and all five VFDs certainly maintain their own identity and history, the sheer number of fire and supporting apparatus across the single city of Norwich is excessive. Throughout the apparatus detailed above, there have been recommendations made regarding the elimination of some vehicles or not replacing them when retired. We also believe there are opportunities for each department to utilize each other's resources from time to time.

Apparatus Replacement

Fire apparatus, like all types of mechanical devices, have a finite life. How long that life may be depends on many factors, such as mileage; engine hours; quality of the preventative maintenance program; technology advancements; quality of the driver training program; rule enforcement; quality of the original builder and components; availability of parts; custom or commercial chassis; ability of the governing body to generate funding; and general appearance.

Over the years, the NFPA has attempted to define life expectancy of apparatus with little success. The 2016 edition of NFPA 1901 recommends fire departments evaluate whether to retain fire apparatus in first-line service for more than 15 years as a result of safety considerations.

Annex D, titled Guidelines for First Line and Reserve Fire Apparatus due to changes in NFPA 1901, especially relating to safety, fire departments should seriously consider keeping fire

apparatus more than 15 years in first-line service. It is recommended that apparatus more than 15 years old that have been properly maintained and that are still in serviceable condition be placed in reserve status; be upgraded in accordance with NFPA 1912 Standards for Fire Apparatus Refurbishing; and incorporate as many features as possible of the current fire apparatus standard (section D.3). Apparatus that were not manufactured to the applicable NFPA fire apparatus standard or that are over 25 years old should be replaced.

Another significant factor in equipment replacement, as outlined in the NFPA Standard, is the rapidly changing area of technology, much of which is directly related to firefighter safety. Based on this factor, apparatus technology becomes an issue when considering replacement.

The problem with following *NFPA 1901 standard including Annex D, titled Guidelines for First Line and Reserve Fire Apparatus* is that it is a one-size fit all standard, which means that the apparatus in Norwich is compared to in-service apparatus in New York City or other large municipalities. Therefore, the consultants believe that that removing apparatus over 15 years old from front-line service needs to take into consideration usage and the fleet management’s recommendation. When an apparatus reaches 25 years old, serious consideration to replacement is appropriate.

Norwich and VFD’s Apparatus Replacement Schedule

In September 2019, the City of Norwich, in conjunction with the five surrounding volunteer fire departments, published a comprehensive Fire Apparatus study. This study was in response to a successful referendum authorizing the replacement of five fire apparatus of various types to the four volunteer fire departments. The committee conducting the study was comprised of the six fire chiefs, the Norwich City Manager, and Norwich Comptroller. A matrix chart was developed using a variety of parameters, including a “useful life” estimate, ranking apparatus by groups of 0-5, 5-10, 10-15 and 15+ years for remaining availability. Following this study and a series of committee meetings, the five vehicles purchased were:

Table 44: Recently Purchased Apparatus

Recently Purchased Apparatus	
Tanker 21	East Great Plain
Engine/Tanker 61	Laurel Hill
Engine/Tanker 21	Taftville
Rescue 2	Taftville
Engine 31	Yantic

As previously stated, there are many valid reasons NFPA 1901 standards cannot be rigidly followed by a given fire agency. These can include, but not limited to, mileage/hours in service, maintenance and technology considerations, and financial factors of the governing body. Furthermore, it is recognized that in many volunteer agencies – including the Norwich-based volunteer departments – the newest apparatus is not always first line, second line, and so on, based on differing equipment and uses of their fire vehicles. However, whenever possible, following NFPA 1901 as best as possible *may* allow Norwich FD and the

surrounding VFDs to maximize apparatus safety as best as possible. We *recommend* the following replacement guidelines for apparatus:

Recommended Replacement Schedule

The consultants recommend the following replacement schedule for all apparatus in the City of Norwich as illustrated in the table below:

Table 45: Recommended Apparatus Replacement Schedule

Apparatus	Recommendation Replacement
Engine/Pumper	20 yrs. + 5 yrs. reserve
Aerial	20 yrs. + 5 yrs. reserve
Heavy Rescue	20 yrs. + 5 yrs. reserve
1st. Responder Vehicle	10 yrs. no reserve
Command/Officers Vehicle	10 yrs. no reserve
Brush/Utility	15 yrs. + 3 yrs. reserve
Tow Vehicle	As Needed
<i>Ambulance</i>	<i>5 yrs. + Rechassis + yrs. No Reserve</i>

* The consultants understand that ambulance service is provided by contract.

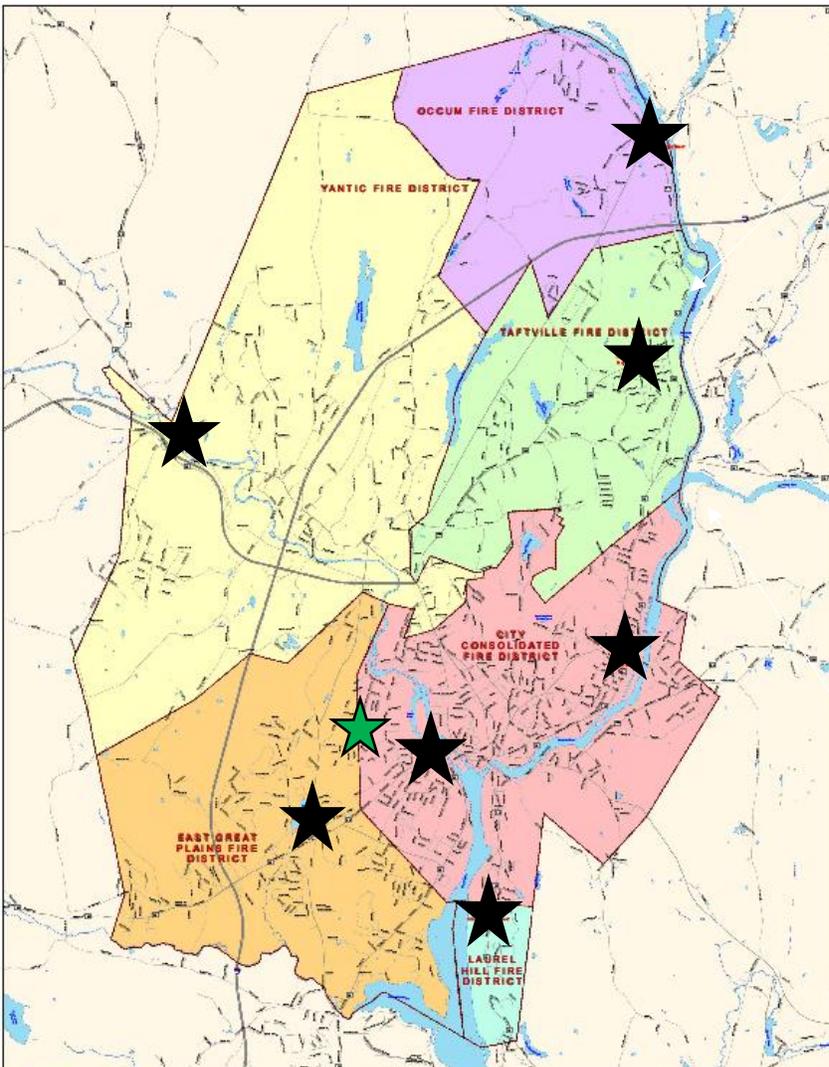
Future Consolidation of Apparatus

As the Fire Commissioner begins to integrate the services, it is very likely that there will be additional reduction in apparatus over time; however, at this time the consultants do not recommend any additional reduction in the rolling stock of apparatus.

Appendix J: Facilities

The Norwich Fire Department and the five surrounding volunteer fire departments protect an area of 28 square miles within the City, of which The Norwich City Consolidation District (NFD) covers 3.2 square miles and protects approximately 26,000 of the total 41,000 residents of Norwich. The five volunteer fire departments cover the outlying Norwich communities totaling approximately 15,000 residents. The coverage district of each department is depicted in the figure below. In addition, the Norwich Fleet Maintenance facility services all vehicles for Norwich FD and all Volunteer departments.

Figure 12: Norwich Area Fire District Map and Station Locations



Locations

City Consolidation District

Norwich Fire Department Headquarters: 10 N. Thames Street, Norwich, CT

Norwich Fire Department Greenville Engine 2: 446 N. Main Street, Norwich, CT

Town Consolidation District

East Great Plain Volunteer Fire Company: 488 New London Turnpike, Norwich, CT

Laurel Hill Volunteer Fire Company: 509 Laurel Hill Road, Norwich, CT

Occum Volunteer Fire Department: 44 Taftville-Occum, Road, Norwich, CT

Taftville Fire Company: 134 Providence Street, Taftville, CT

Yantic Fire Engine Company #1: 151 Yantic Road, Yantic, CT

Norwich Fleet Maintenance

219 Asylum Street, Norwich, CT

Emission Exhaust

Emission exhaust is a serious concern to all fire/EMS personnel; as addressed in NFPA 1500 - Standard on Fire Department Occupational Safety and Health Program – Annex A – A.10.1.5 – 2018 edition, which requires that apparatus emission exhaust must be limited to the lowest feasible concentration, according to NIOSH and OSHA. With the adoption of cancer presumption legislation, the issue of vehicle emission exhaust within fire stations has become complex.

The State of Connecticut has passed legislation regarding cancer: Chapter 568 Workers' Compensation Act: sec. 31-294j Eligibility of municipal firefighters, police officers, constables, and volunteer ambulance service members receive benefits for disease arising out of and in the course of employment.

For the purpose of adjudication of claims for payment of benefits under the provisions of chapter 568 of the general statutes, a uniformed member of a paid municipal or volunteer fire department, a regular member of a paid municipal police department or constable, as defined in section 31-294i of the general statutes or a member of a volunteer ambulance service shall be eligible for such benefits for any disease arising out of and in the course of employment, including, but not limited to, hepatitis, meningococcal meningitis, tuberculosis, Kahler's Disease, non-Hodgkin's lymphoma, and prostate or testicular cancer that results in death or temporary or permanent total or partial disability.

Historically, the fire/EMS industry has recognized three Emission Exhaust removal methods:

- Direct-source Capture System (vehicle-mounted filtration): *Filtration hoses attach directly to the exhaust of the apparatus and breakaway once the vehicle leaves the facility. The benefit of this system is that the engine emission exhaust never enters the station. The attachment hoses are ceiling mounted and run on a straight track which disengages once the vehicle leaves the station. The hoses hanging next to the apparatus are a visual reminder to station personnel of the hazards of diesel engine emissions.*

- *Direct-source Capture System (vehicle-mounted filtration): This system consists of a specialized filter and diverter that are mechanically installed alongside the vehicle's exhaust system. As with the above system, engine emission exhaust never enters the station and is free of human intervention. The cost of filter maintenance and replacement has been a challenge for many users.*
- *Building Space Filtration System: These systems exchange the air in the apparatus bays by pulling particulates and gases through a series of filters. Systems are traditionally mounted on the ceiling. The systems activate by units measuring the amount of dangerous particles or by sensors, which activate when the vehicle(s) move. The biggest drawback of these systems is that dangerous engine emission exhaust is released into the station environment and then the system attempts to remove them.*

Source: FireRescue1 The Choice: 3 Systems to Remove Engine Exhaust

Air Scrubbers

Air scrubbers are ceiling mounted building space filtration system units to capture and remove particulates and gases from engine emissions from small tools that are often started in the station during apparatus checks.

Norwich Fire Department Headquarters

The Norwich Fire Department Headquarters station is located at 10 N. Thames Street, and is staffed by four shifts of career firefighters; each of the four shifts work 24 hours on-duty, followed by 72 hours off-duty. Headquarters also houses the fire chief, fire marshal's office, director of training/safety, shift personnel and administrative staff.

Figure 13: Norwich Fire Station #1 - Headquarters



The station was built in 1995 and consolidated three older stations within the City Consolidation District. The station is two stories, with four full drive-through bays, along with an annex building that is used for storage and also houses Humvee (Forestry-1) and NFD's Mass Decontamination Unit (trailer).

The facility is very modern, well maintained, compliant with American with Disability Act (ADA) including a modern elevator and has separate restroom and sleeping facilities for male and female employees. In case of an electrical failure, the facility has an Onan/Cummins natural gas emergency generator that provides 100% facility's electrical needs. Self-Contained Breathing Apparatus (SCBA) are filled utilizing an OSHA approved SCBA Containment Fill Station device. The building contains modern HVAC systems,

including central air conditioning upstairs. The entry doors utilize a door code, and each employee has their own code to enter. The building also has a fire alarm system that connects to central station “Alarming Ideas” in the event of an alarm transmission.

The following apparatus is housed at Headquarters and will be detailed further in the apparatus section:

Table 46: NFD Headquarters Apparatus

ID Number	Description
S-A	Squad A – District 1 Engine
E-3	Engine 3 – District 3 Engine
T-1	Tower Ladder 1 – entire CCD
T-2	Tower Ladder 2 – reserve
R-1	Rescue 1
F-1	Forestry 1 (in annex building)
B-1	Battalion Chief
C-1	Car 1 - Chief
C-10	Car 10
S-1	Service 1 - Utility
FM-1	Fire Marshal 1
FM-2	Fire Marshal 2
FM-3	Fire Marshal 3
Foam	Foam Trailer
Decon	Decon Trailer (in annex building)
M-1	Marine 1 (at marina in a slip)
M-2	Marine 2 (Zodiac on trailer)

Apparatus Area

Apparatus floor and adjacent areas provide ample space for all equipment, though every bay is typically filled with apparatus and/or equipment unless a piece is out of service. There are four apparatus bays of adequate length to place two pieces of apparatus back-to-back, designed for drive through (apparatus can exit/enter from either side). All apparatus bay doors are of adequate height and width for modern fire apparatus.

Emission Exhaust

Norwich Fire Headquarters currently utilizes the Plymovent system, or flexible hoses that attach to the exhaust vent of each vehicle. This is adequate and meets the NFPA 1500 guideline. The running of smaller gasoline engines (power saws, generators, etc.) should be performed outside of the station, or ceiling mounted scrubbers should be installed in addition to the exhaust system.

Living/Office Area

NFD Headquarters living/office areas are also modern and adequate for operations:

- *Spacious Fire Prevention, NFD Administration and Chief's office areas*
- *Kitchen*
- *Day Room*
- *Bunk Room*
- *Men's & Women's Locker/Washroom/Showers*
- *Storage Areas*
- *Physical Fitness Room*
- *Training/Meeting Room (pictured)*

Figure 14: Norwich Fire Headquarters Training Room



** No recommendations for Norwich FD Headquarters*

Norwich Fire Department Greeneville Station (Engine 2)

The Norwich Fire Department Greeneville Station (also referred to as Engine 2) is located at 446 N. Main Street and is staffed by four shifts of career firefighters; each of the four shifts work 24 hours on-duty, followed by 72 hours off-duty. Generally there is a crew of three firefighters on duty at Greeneville Station (one Lieutenant and two firefighters).

Figure 15: Norwich FD – Greeneville Engine 2



This historic building of Norwich was built in 1896 and has undergone numerous renovations over the years. Many years ago, the building originally housed religious organizations, Norwich Emergency Management, and now Engine 2. Reserve Engine 4 also typically is housed here when not filling in for another vehicle.

The exterior of the building has maintained its historic look and appearance and is very appealing

to the eye. However, the interior, while adequately maintained for everyday use by firefighters, shows its age and in general is not ADA compliant. There are two lengthy staircases for access to the upstairs portion of the building, with no elevator or chair-lift present. In case of electrical failure, the facility has a Kohler 20 natural gas fueled emergency generator that provides 100% facility’s electrical needs. Self-Contained Breathing Apparatus (SCBA) are filled utilizing an OSHA approved SCBA Containment Fill Station device. Upstairs and downstairs is heated appropriately, and there are window unit air conditioners present upstairs. The entry doors utilize a door code, and employees have their own code to enter. The building also has a fire alarm system that connects to central station “Alarming Ideas” in the event of an alarm transmission.

The following apparatus is housed at Greeneville Station and will be detailed further in the apparatus section:

Table 47: NFD Greeneville Engine 2 Apparatus

ID Number	Description
E-2	Engine 2 – District 2 Engine
E-4	Engine 4 – (reserve)

Apparatus Area

The apparatus floor consists of two bays in which one vehicle fits in each bay. Adjacent equipment areas are sufficient for equipment and needed for this station. All apparatus bay doors are of adequate height for current NFD fire engines but would not allow for most aerial apparatus or more modern, larger cab engines. Just off the apparatus bay to the south is a conference/meeting room, and other various function areas are found on the main floor of the building.

Figure 16: Norwich FD Greenville Station Apparatus Bay



Figure 17: Main Floor Conference Room



Emission Exhaust

Norwich FD Greenville Station currently utilizes the Plymovent system, or flexible hoses that attach to the exhaust vent of each vehicle. This is adequate and meets the NFPA 1500 guideline. The running of smaller gasoline engines (power saws, generators, etc.), should be performed outside of the station, or ceiling mounted scrubbers should be installed in addition to the exhaust system.

Living/Office Area

NFD Greenville living/office areas are also adequate for operations, though much less modernized than Headquarters Station:

- *Kitchen*
- *Day Room*
- *Bunk Room; bunks separated by wall lockers*
- *Locker/Washroom/Showers*
- *Storage Areas*
- *Physical Fitness Room*
- *Station officer desk/office area*

Figure 18: Norwich FD– Greenville Station Stairs

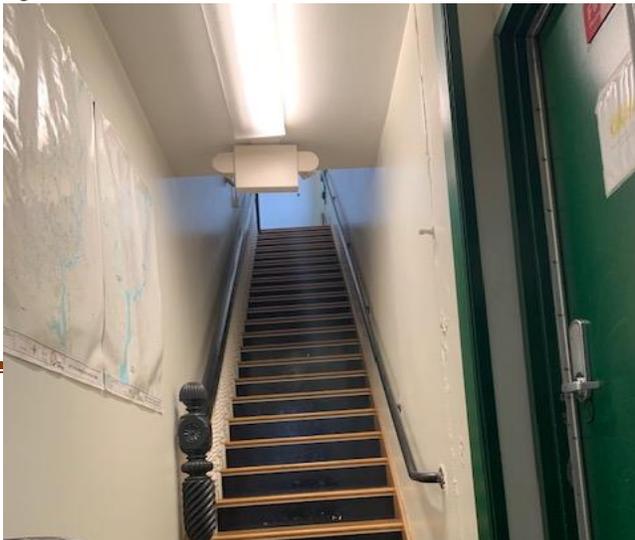


Figure 19: NFD Greenville Dining Area



Recommendation – Greenville Station

- *Expanding the bay doors and apparatus bay area will need to be considered if larger fire apparatus were to ever be stationed here, but that also would severely change the historic look and construction of the building and does not appear to be a priority at this time. A rehab of the living quarters could potentially be considered in the future, but it is not a priority item at this time. **Priority 5***

East Great Plain Volunteer Fire Company

The East Great Plain Volunteer Fire Department facility is located at 488 New London Turnpike and is staffed as calls are alerted, during training sessions, or at times in which special staffing is required such as a forecasted major weather event. Staffing for EGPVFC is completely volunteer and there are no time frames in which shifts of firefighters are “on duty.”

Figure 20: East Great Plain VFD



The station was built in 1944 and has undergone many additions and renovations since. The station is two stories, with five single bays. There is also an annex building on the property that is used for storage and fire department and community events. The building is owned by the East Great Plan VFD, not the City of Norwich.

The facility is old and in some areas its age shows; however, the building is well maintained and kept very clean and tidy. There is no elevator or stair lift to the second floor; they have considered a stair lift but there is not room at the top of the staircase to fit the needed equipment. In case of an electrical failure, the facility has an emergency natural gas fueled generator that provides 100% of facility’s electrical needs. Self-Contained Breathing Apparatus (SCBA) are filled utilizing an OSHA approved SCBA Containment Fill Station device. The building contains split HVAC systems, a hot water furnace heats upstairs, and Modine natural gas heaters downstairs. There are multiple window air conditioning units up and downstairs. The entry doors utilize a door code, and members have their own code to enter. The building also has a fire alarm system that connects to the central station in the event of an alarm transmission.

The EGPVFC upstairs training and community room is commonly used for training, EMT/CPR classes, civic groups, and community events (pre-COVID). This area has a full kitchen and bathroom and at least two official means of egress.

The following apparatus is housed at EGPVFC and will be detailed further in the apparatus section:

Table 48: East Great Plain VFD Apparatus

ID Number	Description
ET-51	Engine/Tanker 51
E-52	Engine 52
L-5	Ladder 5
R-5	Rescue 5
S-5	Squad 5
B-5	Boat 5
Serv-5	Service 5 (replaced by S-5 soon)

Apparatus Area

There are five single apparatus bays with vehicles currently in every bay. The engine bays are tight; however, doors are able to open and personnel can walk around the trucks adequately. The adjacent areas provide ample space for all equipment. All apparatus bay doors are of adequate height and width for modern fire apparatus.

Emission Exhaust

East Great Plain VFD currently utilizes the Plymovent system, or flexible hoses that attach to the exhaust vent of each vehicle. This is adequate and meets the NFPA 1500 guideline. The running of smaller gasoline engines (power saws, generators, etc.), should be performed outside of the station or ceiling mounted scrubbers should be installed in addition to the exhaust system.

Living/Office Area

EGPVFC living/office areas have been modernized and are adequate for operations:

- *Day Room (also used as training room for videos occasionally)*
- *Conference area*
- *Chief's office and additional conference area*
- *Training/Community Room (pictured)*

Figure 21: East Great Plain VFD Training/Community Room



Recommendations – East Great Plain

- *Asbestos abatement: Though potentially costly and time consuming, the asbestos situation in the upstairs ceilings should be removed. It appears to be contained and not a current emergency, but, as the building ages and with other work potentially planned and completed, this could pose a hazard in the future. **Priority 4***
- *Accessibility upstairs: Strong consideration should be given to updating access to the training/community room upstairs. When the current COVID pandemic eases, it is likely the room will again be used for many purposes involving the general public, and access should be available to all. **Priority 3***

Laurel Hill Volunteer Fire Company

The Laurel Hill Volunteer Fire Department facility is located at 509 Laurel Hill Road and is staffed as calls are alerted, during training sessions, or at times in which special staffing is required such as a forecasted major weather event. Staffing for LHVFC is completely volunteer, and there are no time frames in which shifts of firefighters are “on duty.”

Figure 22 : Laurel Hill VFC Apparatus Bay Side



Figure 23: Laurel Hill VFC Street Side



The station has undergone several renovations over the years such as adding a bay for a vehicle that caused the removal of an interior stairwell. The station is one story at street level, and the apparatus bays are downstairs in a style similar to a “walkout basement.” However, there is no interior access to the apparatus bays; one must walk down approximately 15 exterior stairs from the main level to reach the apparatus and enter through secured (key fob) door. The building is owned by the Laurel Hill VFC, not by the City of Norwich. In case of an electrical failure, the facility has a Kohler 30kw natural gas fueled emergency generator that provides 100% of the facility’s electrical needs. Self-Contained Breathing Apparatus (SCBA) are filled utilizing an OSHA approved SCBA Containment Fill Station device. The building utilizes baseboard/hot water heat throughout with a wall-mounted air conditioning unit upstairs. The building also has a fire alarm system that connects to the central station in the event of an alarm transmission.

The following apparatus is housed at LHVFC and will be detailed further in the apparatus section:

Table 49: Laurel Hill VFC Apparatus

ID Number	Description
ET-61	Engine Tanker 61
E-62	Engine 62
HT-6	Hose Tender 6
S-66	Squad 66
ATV-6	Wildland ATV-6
FT	Forestry Trailer
Serv-6	Service 6

Apparatus Area

The apparatus bay consists of four single-vehicle bays. The fourth bay was added years back when Squad 66 was purchased. This addition is what caused the removal of the interior stairwell; this, in turn, eliminated interior access to the apparatus bay from upstairs. All apparatus bays are extremely tight, and one cannot walk from one end of the apparatus area to the other without having multiple overhead doors

open. The adjacent equipment storage areas provide just enough space for equipment and turnout gear. All apparatus bay doors are adequate in terms of width though narrow enough that one must take special care to line up straight when backing in. When backing Squad 66 into bay 4, special care must also be taken to adjust the direction slightly to fit and not hit equipment or a load-bearing pole on the driver's side. A recent construction project for ET-61's bay was completed to extend the bay door by approximately one foot. Both ET-61 and E-62 have very little room in front and behind when parked inside with the doors closed – inches at best. The bay door height is adequate for current apparatus; however, nothing taller would fit in any bay without a major reconstruction project. The apparatus bay is also prone to flooding and high moisture concentration, and a special dehumidifier system is needed so mold does not develop.

Emission Exhaust

Laurel Hill VFC currently utilizes an Air Hawk air filter system in the apparatus bays; two wall-mounted units rapidly clear air contaminants as any vehicle leaving the bay triggers the sensor to turn the unit on. Chief Westervelt reports that air sampling has confirmed the adequacy of this device. There also is simply no room in any of the bays for any other type of emission exhaust system. Chief Westervelt also confirms that no vehicle is to be running while inside the bay; the truck must be pulled out as soon as it is turned on and safe to move. This system appears to be adequate and meets the NFPA 1500 standard. The running of smaller gasoline engines (power saws, generators, etc.), should be performed outside of the station, or ceiling mounted scrubbers should be installed in addition to the exhaust system.

Living/Office Area

Laurel Hill VFC's training/office/living area is essentially one big room with some office and storage space walled off to the far south side. On the other side, is a full kitchen with a hood/duct present. There is also one bathroom and a recently remodeled room in which a shower was added. There is no separate area for staff to sleep if called in to stand by for special circumstances; the chief reports they will set up cots in the training room if need be. Some I.T. components of the training/community room, such as computer upgrades and TV's/monitors for better viewing, are being updated.

Figure 24: Laurel Hill VFC Training/Community Room



Recommendations – Laurel Hill

- *Major station remodel or new station construction: Admittedly this project will be costly and time-consuming. However, this station is not suitable for modern firefighting and support even as current members and administration continue to “make do.” The apparatus bays are extremely tight, prone to flooding, and cause a health and safety hazard. The living, meeting, and training areas of the station, with one restroom facility, are not suitable to any medium-large gathering of the department or the public. **Priority 2***
- *Accessibility to the apparatus bay: Absent a large remodel or construction project, consideration must be given to somehow accessing the apparatus bay from the interior of the building. In an emergency situation, when firefighters are rushing to don turnout gear and get vehicles on the road, using a lengthy cement staircase – especially in the cold/icy weather – poses a serious health/safety concern. **Priority 2***

Occum Volunteer Fire Department

The Occum Volunteer Fire Department facility is located at 44 Taftville-Occum Road and is staffed as calls are alerted, during training sessions, or at times in which special staffing is required such as a forecasted major weather event. Staffing for Occum VFD is completely volunteer, and there are no time frames in which shifts of firefighters are “on duty.”

Figure 25: Occum VFD



The station was built around 1943 and has undergone additions and renovations since. The station is two stories with three single bays. The City of Norwich owns the building. The building is old but well maintained and kept very clean and tidy. There is a large training/community room on the second floor with a full kitchen, office, and member lounge. There is a stair lift present in the staircase leading upstairs and two means of egress from the second floor.

In case of an electrical failure, the facility has a Kohler 40k diesel fueled emergency generator that provides 100% of the facility’s electrical needs. Self-Contained Breathing Apparatus (SCBA) are filled utilizing an OSHA approved SCBA Containment Fill Station device. The building contains split HVAC systems; a hot water furnace heats both upstairs and downstairs, and a wall-mounted Mitsubishi system provides air conditioning. Members have their own key to enter the building. There is also an adequate turnout gear extractor for cleaning oiled gear. The building also has a fire alarm system that connects straight to dispatch and an exterior pull box per Chief Spaulding.

The following apparatus is housed at Occum VFD and will be detailed further in the apparatus section:

Table 50: Occum VFD Apparatus

ID Number	Description
E-41	Engine 41
E-42	Engine/Tanker 42
S-4	Squad 4
M-4	Marine 4 (inflatable Defender boat)

Apparatus Area

There are three single apparatus bays with vehicles currently in every bay. The engine bays are spacious enough to provide ample room around the apparatus. Apparatus doors are able to open and personnel can walk around the trucks adequately. The adjacent areas provide ample space for all equipment. All apparatus bay doors are of adequate height and width for modern fire apparatus; although the bays for Squad 4 and ET-42 most likely would struggle to fit anything much larger.

Emission Exhaust

Occum VFD currently utilizes the Plymovent system, or flexible hoses that attach to the exhaust vent of each vehicle. This is adequate and meets the NFPA 1500 guideline. The running of smaller gasoline engines (power saws, generators, etc.), should be performed outside of the station, or ceiling mounted scrubbers should be installed in addition to the exhaust system.

Living/Office Area

Occum VFD member lounge and office areas are modern and adequate for operations. There is no official living quarters or bunk room:

- *Chief's office and conference area*
- *Training/Community Room (pictured)*

Figure 26: Occum VFD Training/Community Room



Recommendation - Occum

- *There are no immediate recommendations for Occum VFD's current facility. However, it was pointed out by OVFD leadership, and agreed by the consultants, that the Occum protection district of Norwich would perhaps be better served by a different station location – more centrally located in its community. This would be a costly and lengthy venture that is a low priority item at this point. **Priority 4***

Taftville Volunteer Fire Department

The Taftville Volunteer Fire Department facility is located at 134 Providence Street and is staffed as calls are alerted, during training sessions, or at times in which special staffing is required such as a forecasted major weather event. Staffing for TFC #2 is completely volunteer, and there are no time frames in which shifts of firefighters are “on duty.”

Figure 27: Taftville VFD



Station construction was completed in 1969 and has undergone numerous additions and renovations since. The station is one story in the front apparatus bay area with three single bays. To the rear of the building, a second story, housing offices, conference areas, and a member lounge/meeting area have been added. Additionally, two apparatus bays are in the rear as well. The City of Norwich owns the building, the property, and parking areas.

The facility is old, and, in some areas, its age shows. However, the building is well maintained and kept very clean and tidy. There is no elevator or stair lift to the second floor; however, it is rare that anyone other than department members would go upstairs. In case of an electrical failure, the facility has an emergency natural gas fueled generator that provides 100% of facility's electrical needs. Self-Contained Breathing Apparatus (SCBA) are filled utilizing an OSHA approved SCBA Containment Fill Station device. The building contains split HVAC systems with a combination of rooftop units, Mitsubishi high-efficiency units, and window air conditioning units throughout various parts of the facility. The entry doors utilize a key fob and members have their own fob to enter. The building also has a fire alarm system that connects to the central station in the event of an alarm transmission.

The TFC #2 training & community room is commonly used for training and community events (pre-COVID). This area has a full kitchen and access to a bathroom and two official means of egress. Unrelated to the structure, an issue Chief Jencks identified is parking. If a large number of responders arrive for an alarm, there is minimal parking in the lot and on the street. This, in turn, also occasionally causes access and turning issues with their apparatus onto the street.

The following apparatus is housed at TFC #2 and will be detailed further in the apparatus section:

Table 51: Taftville VFD Apparatus

ID Number	Description
E-21	Engine 21
ET-22	Engine/Tanker 22
T-5	Tower 25
R-2	Rescue 2
S-2	Squad 2 (soon transferring to EGP)
D-23	Dive Rescue 23
B-2	Boat 2
Ski-2	Jet Ski 2 (stored off-site)

Apparatus Area

There are three apparatus bays in the front portion of the station with vehicles currently occupying each bay; Dive 23 sits behind Engine/Tanker 22 while Engine 21 and Tower 25 take up most of their respective bays. There is ample room for personnel to move about the apparatus floor and open compartments adequately. Currently the newly acquired Rescue 2 and other equipment occupy the bays to the rear of the building. All apparatus bay doors are of adequate height and width for modern fire apparatus.

Emission Exhaust

Taftville VFD currently utilizes the Plymovent system, or flexible hoses that attach to the exhaust vent of each vehicle. This was secured with an Assistance to Firefighters FEMA grant almost 20 years ago and is adequate and meets the NFPA 1500 guideline. The running of smaller gasoline engines (power saws, generators, etc.), should be performed outside of the station, or ceiling mounted scrubbers should be installed in addition to the exhaust system.

Living/Office Area

Taftville VFD living/office areas have been modernized and are adequate for operations:

- *Conference area and members lounge*
- *Chief's office and additional conference area*
- *Multiple storage areas*
 - *Area behind main bays for planned turnout gear extractor*
- *Training/Community Room (pictured)*

Figure 28: Taftville VFD Training/Community Room



Recommendation -Taftville

- *Parking enhancement: There are not many options for expanding Taftville VFD's parking that would not involve cutting into adjacent community recreation areas. There are two basketball courts to the west of the parking lot and green space with a walking path behind the station. One of the few options to expand parking would be to secure a small portion of one of these areas. This should be considered in the near future to alleviate the issue around the station when a large response or community event occurs. **Priority 3***

Yantic Volunteer Fire Department

The Yantic Volunteer Fire Department facility is located at 151 Yantic Road and is staffed as calls are alerted, during training sessions, or at times in which special staffing is required such as a forecasted major weather event. Staffing for TFC #2 is completely volunteer, and there are no time frames in which shifts of firefighters are "on duty." The building is one of the oldest fire stations in the state, and perhaps the country. It has remained in the same location since 1847; although it was rebuilt in 1907 following a fire. The station has great eye appeal and has been expertly manicured outside with numerous monuments and historical markers that document the rich history of the fire company.

Figure 29: Yantic VFD



Figure 30: Yantic VFD Annex



The station is two stories with three apparatus bays. Adjacent to the main station on the property is a second garage, which houses Engine 32, Squad 36, and other equipment.

While this historic facility is old and, in some areas, shows its age, the building is well maintained and kept very clean and tidy. Public areas such as the apparatus bay, upstairs community hall/meeting areas, and the downstairs finished basement are all modern and well kept. There is no elevator or stair lift to the second floor; however, YFEC #1 warns the public of this on its website. Additionally, the station still offers its community room to civic groups and government organizations but has stopped renting the space to the general public. Self-Contained Breathing Apparatus (SCBA) are filled utilizing an OSHA approved SCBA Containment Fill Station device. The building contains split a HVAC system; a combination of oil/steam boiler heat and window air conditioning units throughout various parts of the facility provide heat and air. Members have their own key to enter the main station and the annex building. The building also has a fire alarm system that connects to the central station in the event of an alarm transmission. Plans are in place to install one (possibly two) turnout gear wash/extractors in the basement utility room (see comments in “Recommendations” section following Yantic facility detail). The buildings and grounds of the property are owned by the Yantic VFD and not by the City of Norwich.

The following apparatus is housed at Yantic VFD and will be detailed further in the apparatus section:

Table 52: Yantic VFD Apparatus

ID Number	Description
E-31	Engine 31
E-32	Engine 32
E-33	Engine 33
R-3	Rescue 3
S-36	Squad 36

ID Number	Description
M-3	Marine 3 (boat)
	Wells Cargo trailer (w/ S-36)

Apparatus Area

There are three apparatus bays in the main portion of the station with vehicles currently occupying each bay. Engine 32 and Squad 36 are located in the annex building. While there is ample room around the apparatus as they sit in their current bays, Engine 31 and Engine 33 are moderately tight for space if a firefighter attempts to open compartment doors or don gear next to the trucks. Currently all apparatus bay doors are of adequate height and width for modern fire apparatus.

Emission Exhaust

Yantic VFD does not currently have any emission exhaust system in place for its vehicles. Chief Blanchard reports that this has been considered in the past, but the determination has been that there is no room for the equipment necessary for such a system. Emission exhaust is a serious concern to all fire/EMS personnel as addressed in NFPA 1500 - Standard on Fire Department Occupational Safety and Health Program – Annex A – A.10.1.5 – 2018 edition, which requires that apparatus emission exhaust must be limited to the lowest feasible concentration, according to NIOSH and OSHA. Further detail has been provided at the beginning of this section; however, it is strongly advised that an emission exhaust system be implemented as soon as possible.

Living/Office Area

Yantic VFD living/office areas have been modernized and are adequate for operations:

- *Conference area and meeting space upstairs*
- *Chief's office and additional conference area*
- *Finished basement/members lounge*
- *Multiple storage areas*
- *Training/Community Room (pictured)*

Figure 31: Yantic VFD Training/Community Room



Recommendations - Yantic

- *Emission Exhaust: Consideration must be given to address the absence of any emission exhaust equipment in the apparatus bay as soon as possible. Possible methods are detailed at the beginning of this section. Furthermore, the running of smaller gasoline engines (power saws, generators, etc.), should be performed outside of the station, or ceiling mounted scrubbers should be installed in addition to the exhaust system. **Priority 1***
- *Turnout gear washer/extractor procedures: If the extractor is to be placed in the finished basement, caution must be exercised when carrying soiled turnout gear down multiple flights of stairs, through a finished basement, and to the extractor. It is recommended that gear be placed in plastic bags when brought downstairs and not removed until reaching the extractor. **Priority 2***

Norwich Fleet Maintenance Facility

The City of Norwich Fleet Maintenance is not part of this fire department study, but the consultants feel it is important to document the facility directly responsible for maintaining *all* City of Norwich vehicles,

Figure 32: Norwich Fleet Maintenance



Figure 33: Norwich Maintenance Interior



including all City Consolidation District fire vehicles and all Town Consolidation District vehicles. All fire engines, trucks, rescues, squads, and administrative vehicles are on a regular rotation for standard preventative maintenance as well as servicing problems on each as they arise. There is occasion for some vehicles to be sent out for specialty items or warranty work; however, Superintendent John Raymond is proud of his staff for the work they accomplish on these vehicles and equipment. Other details of the Fleet Maintenance division, including a historical cost breakdown of every fire vehicle serviced at this facility, will be reported in the Apparatus section of this document. The facility is located at 219 Asylum Street, and while a very busy place, appears to meet the fleet maintenance needs of all departments.

Recommendation – Fleet Maintenance

- *Certified Emergency Vehicle Technician (EVT): Superintendent Raymond stated that none of his mechanics are EVT certified; mechanics are hired as openings arise and trained “in-house.” NFPA 1071 outlines the standards for those responsible for inspection, maintenance, repair, and*

*testing of emergency vehicles. This is not to imply that Superintendent Raymond and his staff are not doing a great job of servicing and maintaining apparatus; however, liability could potentially be realized by not having an EVT on staff. **Priority 4***

Appendix K: Training

No single activity in the fire department is as important as training. How individuals train will be directly reflected in the manner in which they perform on the fireground under sometimes very difficult emotional and physical conditions. It is often said “train as if your life depends on it”.

Another profession that emphasize a great deal of training is the airline industry. Pilots are required to requalify in the aircraft they fly every six months. They continually train on scenarios that are rare and catastrophic in order to achieve the best outcome. This recurrent training develops a very focused mindset on safety and performance while achieving the safety record that the airline industry enjoys.

To achieve this same level of performance in the City of Norwich, much will need to change regarding training. All firefighters and EMS personnel are trained to the same basic requirements based on national standards; however, that does not mean they will all perform the same during responses to incidents. There needs to be a common curriculum (training manual) that identifies what procedures will be performed when. For example, will all departments use a forward lay to a fire? Will they proceed directly to the structure and allow the second engine to establish a water supply? Do all Departments have the same command and control procedures and terminology? Do the all the Departments utilize the same search patterns? What is needed is a common task book of standard operating guidelines, based on national standards, that all personnel are trained on and utilize on each and every incident.

There are a variety of positions in the fire department. Each position carries specific responsibilities and performance requirements. Whether an individual is a motor pump operator, aerial operator, lieutenant, captain or chief office, each position requires a minimum educational level of attainment. No individual should be allowed to perform in one these positions unless he/she has achieved this basic level of education. Fire departments can no longer allow “experience” or “seniority” to satisfy the minimum levels of education for these positions. For some departments, experience has been defined as having the same experience over and over again with the same outcome – sometimes tragically. Again, each one of these positions should have task books associated with them and performance expectations defined and adhered to.

Training within in the same unit, while worthwhile, can be problematic during responses that require additional personnel from outside the unit. For example, personnel from Yantic work well together during incidents; however, when Norwich or Taftville personnel are integrated into the Yantic work group the group no longer has the same level of performance or efficiency. Training between volunteer departments must occur on a frequent basis as well as training between Norwich City and the various volunteer companies. Utilizing a common training curriculum, the same training standards, and having qualified personnel performing in officer positions will dramatically improve interagency performance and minimize operational errors.

One of the obstacles to achieving this interagency training is the different schedules of the volunteer and career personnel. Volunteers typically, but not always, train during evening hours while career personnel tend to train during daytime hours. For career departments, training after 4 pm generally is opposed as it is after the “duty day.” Requiring career firefighters to train after 4 pm will generally be met with a grievance on the grounds of a change in working conditions or some other provision of the labor agreement. A brief review of the current contract reveals that there is no definition of the duty day, which on the surface, would not prohibit career firefighters from training with volunteers during the evening hours. Training under night conditions would be beneficial for all involved because fires are not limited to daylight hours only. Article Nine, Section 2 allows the Fire Chief to flex the hours of the Captain of Training, which could facilitate training volunteer departments during the evening hours.

Leadership/Succession Planning

Training on emergency services related topics is essential; however, equally important is leadership training. Understanding what motivates people, goal setting, problem solving, and managing change are essential for any organization. The table below illustrates some of the topics that fire service leaders must receive initial and recurrent training.

Table 53: Training Supervision Topics

Training - Supervision Topics	
Principle of Supervision	Managing Change
Management vs. Leadership	Diversity
Supervisor: Linking Pin Concept	Problem Solving
Ethics	Managing Differences
Dealing with Conflict	Managing Multiple Projects
Legal	Time Management
- Harassment	Delegation
- Discrimination	Performance Management
- Job (race, religion, sex, or national origin)	- Documentation
- Age	- Evaluations
- Disability (Americans with Disabilities Act)	Employee Attitudes
- Military	- Coaching
- Fair Labor Standard Act (FLSA)	- Motivation
- Family Medical Leave Act (FMLA)	- Empowerment
- Gender-pay differences	- Influencing
- Pregnancy	- Discipline
- Immigration	Confidentiality
- Sexual Orientation	Strategic Thinking
Workplace Safety	Political Savvy
Communication	Negotiating
Interpersonal Relationships	Creativity

Training - Supervision Topics	
Team Building	Innovation

Learning how to lead and manage personnel is an essential skill that organizational leaders must possess. The fire service traditionally does not train its personnel in these areas because they are generally seen as non-essential as demonstrated by claims of harassment, discrimination, separation agreements, etc. All officers, paid or volunteer, must receive initial and recurrent training over and above what topics may be included in certified officer courses attended by personnel.

The fire service has a habit of promoting personnel based on good emergency skills; once promoted to the chief officer ranks or fire chief, the individual finds him/herself not on par with police personnel or other department heads, who have received the necessary supervisory training. Not only does the individual suffer, but the department suffers because of a lack of quality supervisor/leadership training. Having a robust training program that deals with supervisory training and prepares future leaders within the volunteer and career ranks to ascend within the organization is essential.

Equipment and Interoperability

As previously mentioned, there is a need to standardize equipment. All departments must train and use the same equipment. For example, with all departments utilizing the same self-contained breathing apparatus (SCBA), firefighters will have no issues with using this critical equipment whether operating in Laurel Hill or Norwich. As is the case now, there is no interoperability with regard to this equipment, and personnel must rely on their own systems to work together. This represents a duplication of effort, is very inefficient, can be extremely dangerous to firefighters, and, most importantly, is not in the best interest of the person needing assistance.

Standardization in self-contained breathing apparatus; fire apparatus; accountability systems; protective clothing; rescue tools; air compressors; and handheld/mobile radios, etc. enhances interoperability and provides seamless service delivery of emergency services to the individual needing assistance.

Standardization of equipment supports interoperability by having one training curriculum, operating procedures, and equipment familiarization.

Training Officer

The Norwich Department has a Director of Training and Safety (DTS) which is funded through the General Fund based on the perceived benefit to the career and volunteer departments. This position must be the training officer for both the volunteer and career departments. The DTS must publish a yearly/monthly training calendar and coordinate training for all departments. Norwich firefighters must be competent in drafting and using portable tanks as well as connecting to a fire hydrant. Occum firefighters must be just as competent in hydrant operations as Norwich firefighters. This is true operational integration and interoperability.

The training officer will be responsible for carrying out the various recommendations in this section and developing the training task books and training standards.

Training Records/Activities

Training documentation was attempted to be shown in hours per year per employee verses total number of hours recorded for the entire department membership during the course of the year.

Norwich:

Shift is 24 on-duty followed by 72 off-duty. Therefore, without vacations and sick leave, the greatest number of days a member would work is 91.25 days/year. The table below illustrates additional days off averages for Operations Division of the fire department:

Table 54: Norwich Fire Department Days Worked

2019	Days/Year
Shifts	91.25
Vacation	-12.5
Sick	-6.57
Day's Worked	72.18

Therefore, if the average days worked by a member is 72.18 or 1,732.32 hours, the average Operation Division member trained an average of 203.75 hours within those 72.18 days, illustrated in the table below:

Table 55: Training Hours for 2019

Total Training Hours - 2019	
Highest Member	392.50
Average	203.75
< 100 hrs./Year	7 Members

The resulting calculations indicate that the average member of the Norwich Fire Department trains an average of 2 hrs. 48 min. per work shift as illustrated in the table below:

Table 56: Average Hours of Training per Workday

Training Time	Hrs./Workday
Average Training Hrs./Yr.	203.75
Average # of Workdays	72.18
Average Training Hrs./Day	2 hrs. 48 min.

Volunteer Training Hours

Although all five volunteer fire departments train, only two listed the data as requested "hours/member" using the year of 2019:

Taftville

Table 57: Taftville 2019 Training Data

Total Training Hours - 2019	
Highest Member	500.50
Average	110.97
< 10 hrs./Year	4 Members

Yantic

Table 58: Yantic 2019 Training Data

Total Training Hours - 2019	
Highest Member	267.00
Average	40.75
< 10 hrs./Year	11 Members

Training Summary and Recommendations

There exists no standardized training between the volunteer and/or career departments. Training between the career department and the volunteers is almost non-existent and there is no standardization of equipment between the departments. This fragmented approach to training and equipment is very inefficient, dangerous, and definitely not in the best interest of the person needing assistance. Serious changes in the training program of the volunteer and career departments must occur.

Recommendation – Common Training Curriculum

- *All departments must use the same training curriculum and regularly train on standardized procedures to achieve a minimum level of safety and performance. The training curriculum must be based on national standards. **Priority 1.***

Recommendation – Task Book Development

- *All personnel must attain the basic educational requirements as required by the State of Connecticut and national standards prior to performing the duties of said position. **Priority 2.***

Recommendation – Training Between Volunteers and Career Personnel

- *Training between volunteer and career firefighters must occur to permit operations during emergencies to occur with minimal disruption and to provide quality emergency services to the person requesting assistance. This means that career and volunteer personnel need to dedicate, at minimum, one day per month where training is done in the evening and/or weekend. **Priority 2.***

Recommendation – Supervisor/Leadership Training

- *The department (volunteer and career) must develop and engage in a robust supervisory/leadership training program to enhance the performance of personnel and build future leaders to support their organization. **Priority 2.***

Recommendation - Standardization of Equipment and Apparatus

- *The departments (volunteer and career) must standardize all equipment and apparatus to promote interoperability between departments. **Priority 2.***

Recommendation – Training Officer

- *The current training officer for the Norwich Fire Department must be the training officer, in conjunction with the volunteer department training officer for all volunteers departments. This position will be responsible for addressing the recommendations of the training section of this report. **Priority 2.***

Appendix L: Fire Prevention

The Norwich Fire Department's Fire Prevention Bureau consists of the Fire Marshal, who is a Captain, and two Deputy Fire Marshals, who are fire inspectors.

The Fire Chief is designated as the Fire Marshal; however, because of an overseas deployment, he has not had the opportunity to obtain the necessary training required for the Fire Marshal's position. The training will be completed in the fall of 2021. Therefore, a Captain has been designated as the Fire Marshal until the training can be completed by the Fire Chief.

The Fire Marshal's office is funded through the City's General Fund budget. The Fire Marshal's office provides fire prevention and public education services to the entire City; thus its funding comes from the General Fund.

The Norwich Fire Department has adopted the following fire safety and building related codes:

- *National Fire Protection Association's (NFPA) 1, Fire Code, 2015 edition with the State of Connecticut amendments*
- *NFPA 101, Life Safety Code, 2015 edition with the State of Connecticut amendments*
- *International Fire Code, 2015 edition, with the State of Connecticut amendments*
- *International Building Code, 2018 edition, with State of Connecticut amendments*

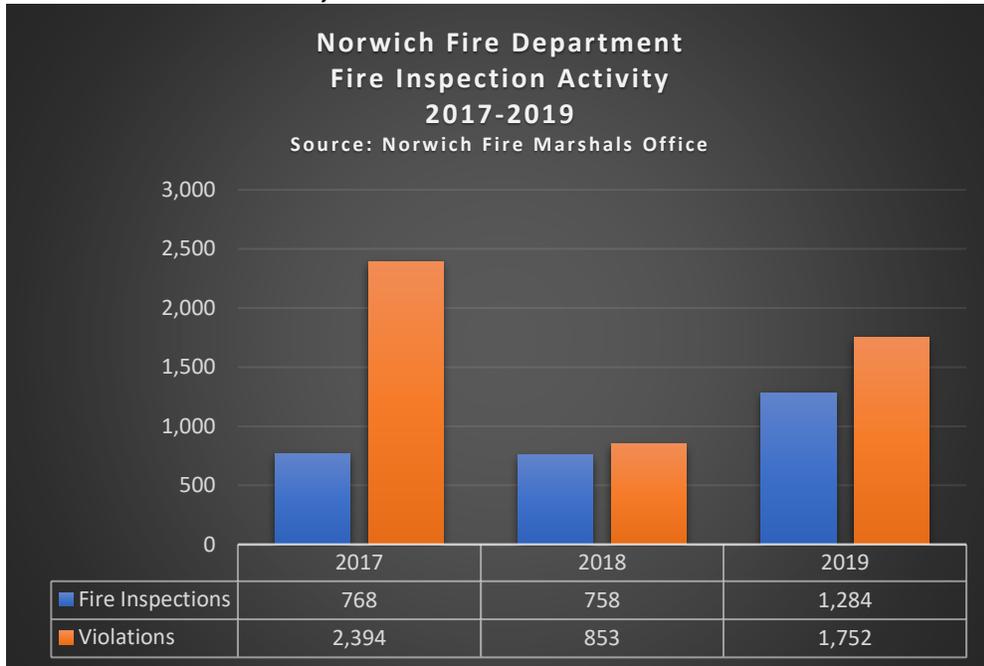
The City does not have any local ordinances regarding fire protection requirements over and above the codes listed above. The City does have an ordinance pertaining to nuisance false alarms.

The Norwich Fire Marshal's office is regulated by a variety of state regulations specifically Connecticut General Statutes chapter 451 and the Connecticut State Fire Safety Code.

Fire suppression crews do not conduct any company-based fire inspections at this time. Having crews participate in conducting basic inspections within the CCD would raise firefighters' awareness of specific hazards they may encounter during an emergency at the building as well as provide overall familiarity with the properties they respond to. It would also help alleviate some of the inspection load on personnel in the Fire Marshal's office, given the variety of inspections they perform as well as their complexity.

The Department has recorded 5,075 occupancies that require an inspection depending on the occupancy type. The following is a summary of the inspection activities undertaken by the Fire Marshal's office from 2017-2019.

Chart 19: Fire Prevention Activity - Norwich 2017 - 2019



The Fire Marshal’s office conducted a total of 2,810 inspections and recorded 4,999 violations of the various codes. It should be noted that the table does not show violations corrected. Violations are followed up on and corrected before the inspection can be closed out. This would result in 4,999 corrections.

Chapter 451, Section 29-305(b) states:

(b) Each local fire marshal shall inspect or cause to be inspected, at least once each calendar year or as often as prescribed by the State Fire Marshal pursuant to subsection (e) of this section, in the interests of public safety, all buildings and facilities of public service and all occupancies regulated by the Fire Safety Code within the local fire marshal's jurisdiction, except residential buildings designed to be occupied by one or two families which shall be inspected, upon complaint or request of an owner or occupant, only for the purpose of determining whether the requirements specified in said codes relative to smoke detection and warning equipment have been satisfied. In the case of a school building, each local fire marshal shall submit a written report to the local or regional board of education documenting each such inspection.

Section 107 of the Connecticut State Fire Safety Code identifies frequency cycles for some of the different occupancy types. The table below provides the inspection frequency on various occupancies that are inspected by the Fire Marshal’s office.

Table 59: Frequency of Inspections

Inspection Frequency			
Annually	Two Year	Three Years	Four Years
Apartments	Museums	General Businesses	Factories
Hotels/Motels	Arcades	Hazardous Occupancies	Agriculture
Dormitories	Dance Halls	Department Stores	Stables
Bed & Breakfast	Libraries	Markets	Aircraft Hangars
Time Shares	Court Rooms	Fueling Stations	
Day Care Facilities	Gymnasiums	Retail Stores	
Assembly Halls	Lecture Halls	Storage Properties	
Theaters	Banks		
Taverns/Bars	Colleges		

For businesses that have liquor licenses, the Fire Marshal inspects these establishments on an annual basis because of the licensing requirement. Hospitals are also inspected yearly as a matter of department policy. It should be noted that inspections of large occupancies such as hospitals and factories may take several days as a result of their sheer size and because of the complexity of machinery and processes that are used.

In addition to occupancy inspections, the Fire Marshal’s office performs acceptance testing on all new installations of fire alarm and protection systems. Examples of such systems include but are not limited to smoke detection systems, fire alarms, automatic fire sprinkler systems, and hood systems. For existing systems, the Fire Marshal’s office requires annual testing certifications to ensure that the systems are maintained and operable. The Fire Marshal’s office conducted approximately 130 acceptance tests from 2017-2019. Again, it may take several visits until the system passes the acceptance test depending on the size and complexity of the system.

Fire Marshal Personnel

Norwich’s Fire Marshal’s office personnel are properly trained in accordance with the Connecticut and the National Fire Protection Association’s professional qualification standards for fire inspection personnel.

The office has been short one individual for most of 2018 and 2019. One of the Fire Marshals retired in December of 2017 and was not replaced until February of 2018; this replacement was not available for inspection duty until July of 2018 due to fire marshal training. In December of 2018, the individual was off on medical leave. This has not allowed the Fire Marshal’s office to conduct its normal volume of inspections, especially for 2018 and 2019. It is anticipated that the office will be back to full strength in 2020.

It is noteworthy to mention that the Fire Marshal's office works together with the Planning Department and other appropriate city staff regarding new development in the City. This unified approach ensures that each City department is involved with development/redevelopment projects and communicates their requirements directly to the developers. This lessens the potential for communication errors, delays in construction, and assures a timely development or redevelopment. Such teamwork reflects positively on the City and demonstrates commitment to economic development. This involvement by the Fire Marshal's office should continue.

COVID-19 has impacted many during 2020. The Norwich Fire Marshal's office is no different. The City should expect the number of inspections completed in 2020 to decline significantly in its attempts to limit the spread of the disease and its accomplishments will be significantly impacted.

Documentation

Good documentation is both technically complex and simple to read and understand. In every aspect of fire/EMS delivery of services, it is important to minimize as much risk as possible. Documentation is no less important in fire prevention activities as any other aspect of documenting fire/EMS activities. Over the years, operations of fire departments have become more complex, technology has changed, new regulations and requirements have been enacted, and litigation incidents that involve the fire department have increased.

For fire prevention bureaus, there are several benefits for complete and accurate records, which include but not limited to:

- Historical record of issues with the property/occupancy
- Helps the inspector recall situations found
- Reduces potential liability in the case of litigation
- Identifies unsafe environments for emergency personnel
- Identifies success metrics in code enforcement

In addition to providing good documentation, the fire inspection reports must contain good data regarding the fire inspection process. Fire inspection reports must contain the following minimum information:

- Date/Time of inspection
- Location of occupancy and contact information for the owner and representatives of the occupancy (including email, web site, etc.)
- Inspection type (annual, re-inspection, complaint, acceptance test, etc.)
- Person conducting inspection
- Specific location of the violation (within the occupancy)
- Specific code reference for all violations of the fire prevention or other codes
- Corrective action required to comply with the code
- Timeframe to attain compliance with the code

- Signature of the owner/representative accompanying the inspector (can be digital)

A review of random fire inspection records by the consultants reveals that the documentation found on the reports complies with the above criteria. The Fire Marshal's office utilizes the Inspect ER module of Emergency Reporting® for record creation and retention.

Public Fire Education

The Department provides public fire education to eleven schools, nursing homes, assisted living facilities, daycare centers, and elderly housing centers. Presentations generally last approximately one to two hours per presentation. The Fire Marshal's office generally provides 8-10 presentations per year and these presentations are only given upon request.

The Fire Marshal's office also provides a juvenile fire setters program for children. In 2017, the Bureau reported there were approximately 3,000 children between the ages of three and twelve who received education in fire safety. For 2018 and 2019, because of staffing shortages in the Fire Marshal's office, presentations/education were only performed upon request by a school or agency.

Fire Inspection Summary and Recommendations

The consultants find the Fire Marshal's office does a very good job of performing the required inspections. Personnel in the bureau are properly trained for their positions and documentation on fire inspection reports is more than adequate. Participation in the City's Design Review Team represents the Norwich Fire Department and City in a very professional light and the Department/City should be congratulated for their efforts.

Recommendation – Company Fire Inspections

- *It is recommended that fire suppression crew become involved in performing company-based fire inspections in occupancies designated by the Fire Marshal's office within the CCD. **Priority 3***
- *Further work in evaluating the staffing in the Fire Marshal's office should be performed to determine if additional fire inspectors are warranted in addition to having suppression crews performing company inspections. **Priority 3***

Pre-Fire Planning

There is no substitute for being prepared. Pre-incident planning is critical to safe and effective firefighting operations, particularly at industrial and manufacturing facilities. The terms pre-incident or pre-fire planning can be used interchangeably, and both terms are used in this report/section. The National Fire Protection Association (NFPA) defines a Pre-Incident Plan as "a document developed by gathering general and detailed data that is used by responding personnel in effectively managing emergencies for the protection of occupants, responding personnel, property, and the environment."

NFPA 1620 Standard for Pre-Incident Planning provides formal guidance for creating a comprehensive Pre-Incident Plan. The list below represents only a portion of the components listed in NFPA 1620:

- Location-address
- Owner and key holder contact information
- Occupancy information
- Access points keyed and forcible entry
- Special hazards
- Type of construction
- Available water supply
- Building protection systems and their location
- Utilities, including the location of shut-offs
- Exposures
- Special resource considerations
- Technical rescue exposures
- Hazardous materials presence
- Particular life hazard issue
- The presence of lightweight trusses in construction

Incident pre-planning is an essential safety issue for the emergency responder; therefore, the information must be readily available to the incident commander e.g. on in-service computers in a command vehicle. In addition, incident pre-plans must become part of the training curriculum where all personnel are introduced to this information and showed how to utilize it. For maximum credit, ISO requires that fire pre-plan site inspections occur once a year.

Pre-fire planning of commercial, institutional, multi-family residential (common areas), and industrial buildings by the fire department is of great value to firefighting personnel safety. Pre-fire planning is a very important component of firefighter training and readiness. Fire pre-planning programs are formal programs, where the firefighting personnel familiarize themselves with the buildings they are expected to protect.

Pre-fire incident plans include site visits to properties within the CCD to gather information as to the hazards and problems that may occur in the event of an emergency such as a fire or explosion. These site visits allow the firefighters to sketch the buildings and gather other pertinent information about a structure that can be referenced directly or transmitted by radio if an emergency event occurs in the structure.

All such information goes back to the fire station for further development and dissemination. Emergency Reporting® software has a modular designed solely for this purpose. At some point in time, all commercial structures should have a pre-fire plan for reference when/if the need arises. The inclusion of pre-incident

planning in the training curriculum is the best method to call attention to the hazards firefighters may face when conducting emergency operations in buildings. The best method to bring to the attention of all fire department members, as to the hazards of the buildings they might enter to fight a fire, is to include pre-planning as part of the training curriculum of the department. This training should include an actual walk-through of high-risk buildings by the entire crew.

The greatest benefit of fire pre-plans is firefighter safety. Conventional wisdom would suggest that when a firefighter is about to enter a building for life safety or fire suppression purposes, knowledge of that building is beneficial to the member; it is also beneficial to the business itself in that it could result in quicker extinguishment and less property damage.

In evaluating Norwich's pre-fire planning program, there is no one individual tasked with overseeing the program. There appears to be a distinction between actual written pre-fire plans and informal building reviews. Some suppression crews may take the effort to get out and conduct the building reviews and pre-plans; however, it not an organized activity.

In the past, the Fire Chief has assigned each shift between two and four buildings per year to pre-fire plan; however, there is not an established schedule for pre-fire plans to be conducted. For the pre-fire plans that have been completed, some officers maintain paper copies in a three-ring binder or in Dropbox (electronically) so that the plans can be accessed through a department iPad in the apparatus on scene.

Plans that have been completed are reviewed by the shift that created them and placed in a public computer file/folder so that other crews can review them as a group.

Regarding the updating of pre-fire planning, there is not a set schedule and a pre-fire plan may or may not be updated. Buildings may be pre-fire planned if there were major renovations performed or if firefighters are curious as to what is happening with the buildings.

The department creates its own forms for use in pre-fire planning. These forms may have been shared with other volunteer departments.

Regarding pre-incident planning in the five volunteer fire companies, it does not appear that they have any formal pre-incident planning program nor formal pre-incident plans.

Pre-Fire Planning Summary and Recommendations

The Department does not have any formal pre-fire planning program. There is no process to define or identify buildings to be pre-fire planned. Such criteria that would trigger a building to be pre-fire planned could include, but not limited to: high life hazard, culturally significant, historical, critical infrastructure, or hazardous materials/processes. The department does not base its pre-fire plans on any national standard such as NFPA 1620, Standard for Pre-Incident Planning.

Recommendation – Pre-Incident Planning

- *The Department shall develop a formal pre-incident planning program that includes the following:*
 - *One individual shall be appointed to oversee the program and establish the number of occupancies/buildings to be pre-planned each year; this shall include updates and revisions to existing building/plans. **Priority 3***
 - *The pre-incident planning program shall be based on NFPA 1620, Standard for Pre-Incident Planning. **Priority 3***
 - *Criteria shall be developed to identify specific target hazard buildings that should be pre-fire planned. **Priority 3***
 - *The pre-Incident planning program should be coordinated with the Fire Marshal's office and the Department of Training and Safety and made available to the volunteer fire departments. **Priority 3***
 - *Pre-fire plans shall be made available to all Department personnel, paid and volunteer, electronically for use by the incident commander on scene. **Priority 3***
 - *All volunteer departments should be assigned occupancies/buildings for pre-incident planning. **Priority 3***

Appendix M: Fiscal

The City of Norwich has an unusual funding process for budgets regarding the City and volunteer fire departments. It uses a combination of the General Fund, City Consolidation District (CCD), and Town Consolidation District (TCD) to account for the allocation of fire protection costs. It should be mentioned that the City budget is excellent in the eyes of the consultants. It provides a nice blend of historical information and is laid out in a manner that promotes easy understanding of revenues and expenditures as well as how the City derives its tax rates. The budget is also linked to outputs by Departments as well as performance expectations.

It is also noteworthy that the City received a Certificate of Excellence in Financial Reporting in fiscal year 2018 from the Government Finance Officers Association of the United States and Canada (GFOA). It is the 26th year in a row that the City has received this award.

In 2019, Standard and Poor's assigned an AA rating on Norwich's capital bond issue (3.6 million) and, in 2018, Fitch Ratings affirmed its AA rating on 1.2 million of bonds. In January, Moody's downgraded the City's bond rating from an Aa2 to an Aa3.

Not unlike many cities, the City of Norwich relies heavily on property tax as the single largest source of revenue to fund City's operations. Revenues from intergovernmental and most other income has stagnated over the ten years.

To the City's credit, it maintains a high tax collection rate with the last several years averaging 97% per year.

Funding Philosophy

The General Fund is used to allocate fire protection costs that benefit the entire community. As such, the cost of salary and benefits of the City's Fire Chief, Safety and Training Officer, Battalion Chiefs, and fire code personnel are included in this budget. These costs are spread across all residents of Norwich.

The salaries of the benefits of the remaining Norwich City Fire Department are allocated to the CCD under the presumption that businesses and residents of the CCD are the primary beneficiaries of these fire protective services.

The TCD is used for allocating costs of the five volunteer fire departments that provide fire protection outside of the City Consolidation District. These costs include operating costs, tax abatement, volunteer firefighters' relief fund contributions, and workers compensation costs.

A brief operational discussion may be appropriate to better understand the relationship between the operations of the Departments and the funding mechanisms designed to support them.

The City Fire Department primarily provides fire protection within the confines of the CCD; however, there are times when the City Department provides services to the TCD (volunteer fire departments). The City Department responds to all calls involving the hospitals and schools, regardless of whether they are located in the CCD or TCD. School response by the City Department is limited to Monday through Friday from the hours of 7 am to 5:30 pm.

It should be noted that the City Fire Department does not respond to medical emergencies or fires that occur outside of these buildings, i.e. medical calls, or vehicle fires in parking lots of schools or hospitals. In addition, the City Fire Department will only leave the CCD for fire response if requested by one of the other five volunteer fire departments. Decisions as to when the City Fire Department can respond to the TCD is regulated by the five volunteer fire departments independently. The following table identifies the frequency that the City Fire Department provide services or mutual aid to one or more of the other five volunteer fire departments (given column). The table can be read inversely as well. It also provides information as to how many times the volunteer departments have provided mutual aid (received column) to the City Fire Department.

Table 60: Mutual Aid

Mutual Aid 2017-2020		
Community	Given	Received
East Great Plain	44	30
Laurel Hill	8	20
Occum	1	6
Taftville	24	23
Yantic	48	12
Totals	125	91
2020 include responses through October		

A more in-depth discussion of mutual aid is provided in another section of this report.

Taking a broad look at funding for fire protection for the entire City, the table below indicates the costs for each Department beginning with the 2017-2018 budget year and ending with the adopted budget amount for 2019-2020. The costs include the general fund, CCD, and the TCD. For the purposes of clarity, the consultants have included a separate line to represent the relief fund, tax credits, and workers’ compensation costs per year for the firefighters of the five volunteer departments. These costs are shown as a separate line as they are not available by Department. Also included in the table is the per capita costs based on a population of 40,000 people.

Table 61: Per Capita Costs

	2017-18	2018-19	2019-20
Community	Actual	Actual	Budget
Norwich	\$9,816,680	\$10,072,208	\$10,132,745
East Great Plain	\$125,347	\$142,911	\$145,552
Laurel Hill	\$72,651	\$62,502	\$73,360
Occum	\$74,319	\$71,352	\$81,393
Taftville	\$155,380	\$152,620	\$165,713
Yantic	\$159,294	\$167,622	\$165,341
Benefits Vol FF	\$584,783	\$537,300	\$481,312
Totals	\$10,988,454	\$11,206,515	\$11,245,416
Per Capita	\$275	\$273	\$274

Source: City of Norwich Adopted Budget 2020-2021

The largest difference in costs are the wages and benefits of the career firefighters in Norwich as compared to the surrounding volunteer fire departments. The following table looks at the total costs for the Norwich Fire Department and the five volunteer departments over the same time period.

Table 62: Total Cost for Service Protection

	2017-18	2018-19	2019-20
	Actual	Actual	Budget
Volunteer Depts	\$1,171,774	\$1,134,307	\$1,112,671
Norwich FD	\$9,816,680	\$10,072,208	\$10,132,745

Source: City of Norwich Adopted Budget 2020-2021

The cost for fire protection for the City of Norwich increased 3.22%, or a little over one percent per year, from the 2017-2018 to the 2019-2020 adopted budget. The City of Norwich spends approximately 7.8% of the General Fund budget on fire protection.

Capital Budget

The City of Norwich defines a capital item as an item that has an estimated cost of \$5,000.00 or more. Items that cost less than \$5,000.00 are included in the operating budgets of the various departments. Some examples of capital expenditures include police cruisers, building replacements, road paving, turnout gear, etc.

The following table identifies the capital requests of the various fire departments and those items that were funded for the 2020-2021 adopted Capital Improvement Program.

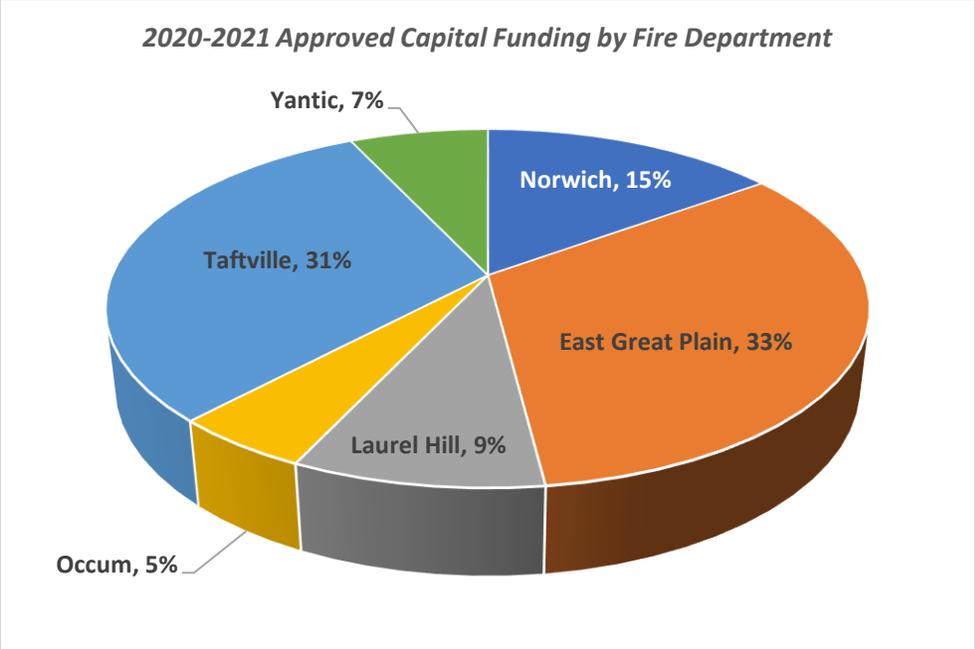
Table 63: Capital Request by Departments

	Project	Total	Total
Department	Description	Requested	Funded
Norwich	Parking Lot Sealing and Repair	\$7,000	\$7,000
Norwich	Turnout Gear	\$36,000	\$36,000
Norwich	Rescue Air Bag Replacement	\$9,000	\$9,000
Norwich	SCBA Cylinders	\$15,600	\$15,600
Norwich	Thermal Imaging Camera	\$7,200	\$7,200
Norwich	Squad A Replacement	\$700,000	\$0
	Norwich Sub-Total	\$774,800	\$74,800
East Great Plain	Turnout Gear	\$48,000	\$48,000
East Great Plain	Engine 52 Replacement	\$700,000	\$0
East Great Plain	Squad 5 Replacement	\$100,000	\$100,000
East Great Plain	HVAC and Electrical	\$60,000	\$0
East Great Plain	Replace Station	\$6,500,000	\$0
East Great Plain	Station Renovations	\$50,000	\$0
East Great Plain	Helmets and Boots	\$13,041	\$13,041
	EGP Sub-Totals	\$7,471,041	\$161,041
Laurel Hill	Solar Panels	\$70,000	\$0
Laurel Hill	Station Addition	\$300,000	\$0
Laurel Hill	Storage Shed	\$50,000	\$0
Laurel Hill	PPE for Active Shooter	\$10,500	\$0
Laurel Hill	Training Room Improvements	\$12,430	\$12,430
Laurel Hill	Hose Tender 6	\$425,000	\$0
Laurel Hill	UTV 6 with Trailer	\$65,000	\$0
Laurel Hill	Turnout Gear	\$72,000	\$29,600
	Laurel Hill Sub-Total	\$1,004,930	\$42,030
Occum	Engine 41 Replacement	\$666,250	\$0
Occum	Hydrant Valves	\$2,000	\$2,000
Occum	Tower Lights Squad 4	\$5,000	\$5,000
Occum	Turnout Gear	\$18,000	\$18,000
	Occum Sub-Total	\$691,250	\$25,000
Taftville	Parking Lot Expansion	\$250,000	\$0
Taftville	Parking Lot Design	\$15,000	\$0
Taftville	Hard Wire Underwater Comm	\$11,000	\$0
Taftville	Turnout Gear	\$43,200	\$43,200
Taftville	Chief/Command Car (used)	\$12,000	\$0
Taftville	Mobile/Portable Radios	\$110,000	\$110,000

Department	Project Description	Total Requested	Total Funded
	Taftville Sub-Total	\$441,200	\$153,200
Yantic	Rescue 3	\$1,350,000	\$0
Yantic	Squad 36 and Trailer	\$148,000	\$0
Yantic	UTV 6 with Trailer	\$31,550	\$0
Yantic	Pagers	\$5,850	\$5,850
Yantic	PPV Fan	\$5,245	\$5,245
Yantic	Turnout Gear	\$21,600	\$21,600
	Yantic Sub-Total	\$1,562,245	\$32,695
	Grand Totals	\$11,945,466	\$488,766

Capital expenditures for 2020-2021 for fire protection services total \$488,766, or approximately 18.5% of the total capital expenditures for the City of Norwich. The chart below summarizes the approved requests by department:

Chart 20: Capital Funding by Department



Regarding the fire department’s capital budget program, the consultant observes the following: there is no comprehensive apparatus replacement program, established standards for the replacement of apparatus, or economic rationale for replacement. Each individual department decides when to replace apparatus without regard to other apparatus in the surrounding departments. The same holds true for turnout gear, radios, fire station improvements, or equipment. More detailed information regarding apparatus will be presented in the apparatus section of this report.

Ambulance Service

Neither the Norwich Fire Department nor the volunteer fire departments provide emergency medical service (EMS) transport services. Ambulance service is provided through a third party, American Ambulance. The City has a contract with American Ambulance to provide one fully staffed and equipped ambulance (24 hours per day) in the City and one additional ambulance that can be called into active duty in the event the first ambulance is already on a call. The current contract with American Ambulance expires on November 3, 2024. The City pays American Ambulance the listed amount in the table below with payments required on February 15th and August 15th of each year.

American Ambulance, as part of its contract, agrees to provide Emergency Medical Dispatching (EMD) that includes pre-arrival medical instructions for the caller.

The fire departments provide Emergency Medical Responders services to assist American Ambulance for certain calls. Typically these calls would include heart attacks, trouble breathing, trauma, etc. The following table identifies the funds paid to American Ambulance (subsidy) to have ambulances available to respond to EMS calls in the City of Norwich. It appears as though there is an approximate 3.7% increase in the subsidy to American Ambulance each year.

Table 64: Ambulance Subsidy

2017-18	2018-19	2019-20
Actual	Actual	Budget
\$73,162	\$75,868	\$78,676

Revenues

The City's fire departments do not have revenue sources that generate any significant revenue.

General Discussion

Based on the experience of the consultants, we believe there are opportunities for cost savings for the City. First, all equipment such as self-contained breathing apparatus, tools, apparatus, and station equipment should be standardized between all Departments. There are several advantages to the City in pursuing this endeavor:

- Training and interoperability costs would be significantly less in the long run;
- More efficient use of existing as well as new equipment;
- Inventory management will be more efficient;
- Equipment can be more effectively bid and more cost savings could be realized based on potential larger quantities of the same or similar items;
- Replacement schedules can create and more efficiently managed leading to more stable operating and capital budgets over multiple years.

Master Planning for Fire Protection

The City of Norwich should use the recommendations in this report as the basis for creating a master plan for fire protection services throughout the City. The planning process should address the integration of resources such as personnel, stations, apparatus, tools, equipment, and technical rescue services to reduce operating and capital costs and promote the efficient use of these resources. Replacement programs can be created to address the replacement of apparatus and costly equipment such as self-contained breathing apparatus, turnout clothing, radios, etc.

The City of Norwich cannot afford an entirely career department for the City; the volunteers play an integral part of the fire protection system; however, better integration is needed to promote efficiencies and take advantage of economies of scale.

Mill Rates TCD/CCD

The consultants are not advocating for any shifting of funds between the TCD/CCD and the General Fund or changes in the mill rate calculations. The highest priority for the City of Norwich is to address the fire protection needs of the City under the current policies and budget philosophies for funding the career and volunteer departments. The focus must be on making changes to the fire protection system to guarantee that the individual needing the service receives what he or she needs regardless if it is from volunteer or career resources.

In future years, as improved integration takes place in phases, the tax differences between the CCD and TCD should be revisited as integration results in improvement of services across the entire City. For example, when wholesale improvements are made to fire department communications allowing all fire department apparatus and personnel to communicate on common frequencies, these costs should be shifted from the TCD and CCD to the General Fund as their resultant benefit to all residents and businesses.

Conflicts of Interest

Section 7-53 of the Norwich code of ordinances, regarding conflicts of interest states:

No member of the Council or any other officer or employee of the city shall have a financial interest, direct or indirect, in any contract with the city or any department or agency thereof, or be financially interested, directly or indirectly, in the sale to the city or any department or agency thereof of any land, material, supplies or services, except on behalf of the city or any department or agency thereof as an officer or employee or as a member of the Council.

With the number of volunteer and career firefighters with full-time and part-time employment, the City should review all contracts/service agreements to assure that the provision of this ordinance is being

complied with. The consultant is not qualified to give a legal opinion on this matter and legal input should be sought inasmuch as it has been raised by several stakeholders.

Fiscal Summary and Recommendations

As previously mentioned, the City of Norwich has an excellent budgeting program and a Comprehensive Annual Financial Report (CAFR). The City has a somewhat unusual process for allocating fire protection costs through the General Fund, City Consolidation District, and Town Consolidation District. Having six fire departments providing fire protection to 28 square miles and 40,000 residents is also unusual.

Recommendation – Develop/Maintain a Complete Inventory

- *The City must develop an inventory management system to account for all tool, equipment, and apparatus to understand what it currently has and where it is located. All tools, equipment and apparatus must have inventory tags attached. All new equipment can be inventoried through the same system. Emergency Reporting® has an inventory module that could be utilized by all departments and the purchasing manager to inventory fire department equipment. **Priority 3***

Recommendation – The City’s Need To Standardize.

- *Once tools, equipment, and apparatus are standardized, the purchasing agent will be able to assist the fire department(s) in the preparation of specifications and bidding of equipment, tools, and apparatus. This will promote cost savings, interoperability, lower training costs and provide more stable operating and capital costs for future budgets. Specifications shall be based on national standards, where available. **Priority 3***

Recommendation – Develop a Master Plan

- *The City should develop a master plan for fire protection services to promote better integration of existing resources. Replacement programs should be developed to allow for stabilized operating and capital costs. As phases of the master plan are completed and benefits are realized to the entire City, these costs should be transferred from the TCD and CCD to the General Fund Budget. **Priority 3***

Recommendation – Conflict of Interest

- *The City should seek a legal opinion concerning conflicts of interest for employees that may provide goods and services to the City of Norwich. **Priority 2***

Appendix N – Data Request

City Consolidation District:

Data Requested – McGrath Consulting Group, Inc. – *Fire/EMS Component*

Directions:

- *The data you submit at this time will be utilized in determining recommendations; therefore, **please ensure the data is correct**. New data after the draft report is presented will not be utilized.*
- *Whenever possible please put the data in an electronic format*
- *Depending on your data management system it could take up to two weeks to gather the information requested – if you need additional time please contact me. I will send you a DropBox link to submit your data once you indicate you are ready. Please also put the data on a flash drive and present it to the consultant upon the first site visit.*
- *Show each year data separately i.e. 2017, 2018 and 2019 – do not group the years together. By the time the report is written you might have all of 2020 data – therefore, send whatever you have for 2020 when you record you data*
- *Some areas might not apply to your department – mark NA in those categories*
- *Before you feel you need to conduct a hand count please call me (815) 728-9111*

- **General Information**

- Overview of the department
 - History
- Overview of the area protected
 - District
 - City/Village/Township
- Population – Residents of Protection Area
- In-flux or Out-flux of Daytime Population
- Department’s Strategic Plan

- **Response District –**

- Map of Coverage Area
- Map of the District
- Map of Area of Concern for Relocation of Station
- Map of Contiguous Surrounding Area Showing Department Stations Locations
- Total Square Miles Protected
- Square Miles of Hydrant Area
- Square Miles of Non-Hydrant Area

- **Personnel Management/Human Resources**
 - Current Roster of Members
 - Personnel (information needed for all employees)
 - List of members (sworn and non-sworn)
 - Hire date
 - Age or date of birth
 - Organizational Chart
 - # of Career
 - # of Paid On Call
 - # of Part-time (Paid On Premise)
 - # of Volunteers
 - # of Other Employees (Include civilian)
 - Rank Structure (Number of Employees in Each Category)
 - # of days at maximum daily staffing
 - # of days at minimum daily staffing
 - Current salary of each employee (name, rank, salary)
 - Spreadsheet – name, rank, current salary,
 - (if possible, a spreadsheet with the benefit breakout -health, pension, taxes, etc. for fiscal year of the study)
 - Labor agreement
 - Department's By-Laws (if corporation)
 - Police & Fire Commission or Civil Service Regulations
 - Employee Policy & Procedure Manual (prefer electronic version)
 - Promotional Process – including forms utilized
 - History of Turnover (All Employees Last 3 Years – Include Reason and/or Exit Interview Data)
 - Recruiting/Retention Programs
 - Hiring Process (all forms)
 - Application
 - Hiring packet
 - Reference questions
 - Interview questions
 - Etc.
 - Grievances/Discipline Issues
 - Performance Evaluation process and forms
 - Last year's overtime by employee – include rank
 - FLSA pay cycle (if not in contract)
 - SOG/SOP Manual – prefer electronic copy – (sure to include HR policy section)
 - Department Employee's Handbook
 - New employee Orientation Process – (packet and/or forms)
- **The Department**
 - Department SOG's
 - Department Rules & Regulations

- Annual Reports – Last 3 Years
- Current ISO Rating
 - Provide complete ISO document
- Last ISO On-Site Evaluation (copy of point distribution sheet)
 - Last On-Site Evaluation
- Accreditations
- Others
- **Emergency Activities –**
 - Total calls last **ten years** (no breakdown just total calls per year)
 - **Last 3 Years (All Sub-Sections)**

NFIRS Series	Nature of Call	Calls 2016	Calls 2017	Calls 2018
100	Fires			
200	Overpressure/Explosion			
300	Rescue/EMS			
400	Hazardous Conditions			
500	Service Calls			
600	Good Intent Calls			
700	False Alarm/False Calls			
800	Severe Weather			
900	Special Incidents			
	<i>Total Calls</i>			

- # Of Emergency Responses
- **NFIRS) Type of Responses: *For each of the 3 years***
- EMS Responses # of:
 - 1st Responder
 - ALS
 - BLS
 - Non-emergency Transports/Transfers, etc.
- Incidents by Time of Day
- Incidents by Day of the Week
- Incidents by Month
- Calls Breakdown by Area (City, District, Town, Etc.)
- Distribution by Shift
- Distribution by Station
- Response Times: (include documentation from dispatch)
 - Notification time
 - Turnout time
 - Drive time
 - Mitigation time
- Mutual Aid – Auto Responses (Given & Received) – With Whom? – Copy(ies) of Written Agreement

- Simultaneous (Overlapping) Call Data
- **Dispatch (PSAP)**
 - Who provides dispatch
 - Location (address) of dispatch center
 - Cost
 - Dispatch data – time from receiving call to FD notification
 - *A data printout showing CAD verification times - from call received until agency is dispatched. CAD shows minutes and seconds.*
 - Who answers 9-1-1
 - Who answers cellular 9-1-1
 - # of Employees
 - # of Shifts
 - Staffing per Shift (minimum & maximum)
 - EMD Program
 - Dispatchers/Call Taker Certifications
- **Fire Station(s) – include mailing address for each station – include City & Zip**
 - Current Facilities
 - # Of Stations – Street Address
 - Square Footage – (Floor Plans for each if available)
 - Age
 - Future Facility Plans/Needs Documents
- **Apparatus & Equipment –**
 - Type of Apparatus (I.E. Engine, Ambulance, Utility, Truck – Include Manufacturer)
 - Apparatus department ID number
 - Pump & Tank sizes
 - Mileage
 - Engine Hour Reading (if appropriate)
 - Vehicle VIN Number
 - Age of Apparatus
 - Manufacturer
 - Replacement Schedule
 - Apparatus maintenance records
 - Internal
 - External
 - Special Teams Apparatus
 - Specialized Equipment: Haz Mat, Water Rescue, Etc.
 - Radio, Type and Frequencies
 - Computers (Number of, Type, Age, Replacement Plan)
 - In Apparatus?
 - Software Programs
- **Training**

- Training Records (Last 3 years) for each member
 - Training schedule
 - Training hours per month per employee
 - Training Curriculum & Lesson Plan
 - Instructors qualifications
- Training Manual
- Certifications Categories (state)
- Special Teams – certifications
- All current employees’ certification level

- **Fire Prevention –**
 - Number of inspectable occupancies
 - History of Inspections & Re-Inspections (Last 3 Years)
 - Identification of Codes Adopted

- **Safety Education**
 - Public Safety Education Programs
 - Public Safety Education Data (Last 3 Years)

- **Fiscal**
 - Past three years of audited year financial statement
 - Current year audited financials
 - Past three years’ budget
 - Operating – include all revenue and expenses
 - Capital - include all revenue and expenses
 - Financial policies and procedures
 - Purchasing policies
 - Equipment or Capital reserve fund ledger
 - Overtime records
 - Ambulance information –
 - Ambulance revenue current year and two previous years
 - Ambulance billing contract
 - Copy of ambulance rates charged and authority for those rates i.e. ordinance
 - Identification of all accounts for the department
 - Account details for each of the above accounts – last three years

- **Revenue**
 - List of grants applied for and/or received for current year and two previous years
 - List 2% fire dues received current year and two previous years
 - List and explanation of any other department revenue received i.e. inspections fees, permit fee, etc.
 - Other information needed:
 - Equalized Assessed Valuation (EAV) if multiple communities for all

- **Resource Hospital**

- Project Medical Director contact information
- Involvement level with resource hospital
- Breakdown of where patients are transported (3-year period)

Any Additional Information Deemed Important

Revised: August 2020

Town Consolidation District Data Request:

Data Requested – McGrath Consulting Group, Inc. – *Fire/EMS Component*

Directions:

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- Square Miles of Hydrant Area
- Square Miles of Non-Hydrant Area

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 - Current Roster of Members
 - Personnel (information needed for all employees)
 - List of members (sworn and non-sworn)
 - Hire date
 - Age or date of birth
 - Organizational Chart
 - # of Career
 - # of Paid On Call
 - # of Part-time (Paid On Premise)
 - # of Volunteers
 - # of Other Employees (Include civilian)
 - Rank Structure (Number of Employees in Each Category)
 - How do members receive money: please include amount
 - Department's By-Laws (if corporation)
 - Employee Policy & Procedure Manual (prefer electronic version)
 - Promotional Process – including forms utilized
 - History of Turnover (All Employees Last 3 Years – Include Reason and/or Exit Interview Data)
 - Recruiting/Retention Programs
 - Hiring Process (all forms)
 - Application
 - Hiring packet
 - Reference questions
 - Interview questions
 - Etc.
 - Grievances/Discipline Issues
 - Performance Evaluation process and forms
 - FLSA pay cycle (if not in contract)
 - SOG/SOP Manual – prefer electronic copy – (sure to include HR policy section)
 - Department Employee's Handbook
 - New employee Orientation Process – (packet and/or forms)

- **The Department**
 - Department SOG's
 - Department Rules & Regulations
 - Annual Reports – Last 3 Years
 - Current ISO Rating
 - Provide complete ISO document
 - Last ISO On-Site Evaluation (copy of point distribution sheet)

- Last On-Site Evaluation
- Accreditations
- Others
- **Emergency Activities –**
 - Total calls last **ten years** (no breakdown just total calls per year)
 - **Last 3 Years (All Sub-Sections)**

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300	Rescue/EMS			
400	Hazardous Conditions			
500	Service Calls			
600	Good Intent Calls			
700	False Alarm/False Calls			
800	Severe Weather			
900	Special Incidents			
	<i>Total Calls</i>			

- # Of Emergency Responses
- **NFIRS) Type of Responses: For each of the 3 years**
- EMS Responses # of:
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- Incidents by Time of Day
- Incidents by Day of the Week
- Incidents by Month
- Calls Breakdown by Area (City, District, Town, Etc.)
- Distribution by Shift
- Distribution by Station
- Response Times: (include documentation from dispatch)
 - Notification time
 - Turnout time
 - Drive time
 - Mitigation time
- Mutual Aid – Auto Responses (Given & Received) – With Whom? – Copy(ies) of Written Agreement
- Simultaneous (Overlapping) Call Data
- **Dispatch (PSAP) if you all use the same dispatch, I only need one input**
 - Who provides dispatch

- Location (address) of dispatch center
- Cost
- Dispatch data – time from receiving call to FD notification
 - *A data printout showing CAD verification times - from call received until agency is dispatched. CAD shows minutes and seconds.*
- Who answers 9-1-1
- Who answers cellular 9-1-1
- # of Employees
- # of Shifts
- Staffing per Shift (minimum & maximum)
- EMD Program
- Dispatchers/Call Taker Certifications

- **Fire Station(s) – include mailing address for each station – include City & Zip**
 - Current Facilities
 - # Of Stations – Street Address
 - Square Footage – (Floor Plans for each if available)
 - Age
 - Future Facility Plans/Needs Documents

- **Apparatus & Equipment –**
 - Type of Apparatus (I.E. Engine, Ambulance, Utility, Truck – Include Manufacturer)
 - Apparatus department ID number
 - Pump & Tank sizes
 - Mileage
 - Engine Hour Reading (if appropriate)
 - Age of Apparatus
 - Manufacturer
 - Replacement Schedule
 - Apparatus maintenance records
 - Internal
 - External
 - Special Teams Apparatus
 - Specialized Equipment: Haz Mat, Water Rescue, Etc.
 - Radio, Type and Frequencies
 - Computers (Number of, Type, Age, Replacement Plan)
 - In Apparatus?
 - Software Programs

- **Training**
 - Training Records (Last 3 years) for each member
 - Training schedule
 - Training hours per month per employee
 - Training Curriculum & Lesson Plan
 - Instructors qualifications

- Training Manual
- Certifications Categories (state)
- Special Teams – certifications
- All current employees’ certification level

- **Fire Prevention –**
 - Number of inspectable occupancies
 - History of Inspections & Re-Inspections (Last 3 Years)
 - Identification of Codes Adopted

- **Safety Education**
 - Public Safety Education Programs
 - Public Safety Education Data (Last 3 Years)

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 - Past three years of audited year financial statement
 - Current year audited financials
 - Past three years’ budget
 - Operating – include all revenue and expenses
 - Capital - include all revenue and expenses
 - Financial policies and procedures
 - Purchasing policies
 - Equipment or Capital reserve fund ledger
 - Overtime records
 - Ambulance information –
 - Ambulance revenue current year and two previous years
 - Ambulance billing contract
 - Copy of ambulance rates charged and authority for those rates i.e. ordinance
 - Identification of all accounts for the department
 - Account details for each of the above accounts – last three years

- **Revenue**
 - List of grants applied for and/or received for current year and two previous years
 - List 2% fire dues received current year and two previous years
 - List and explanation of any other department revenue received i.e. inspections fees, permit fee, etc.
 - Other information needed:
 - Equalized Assessed Valuation (EAV) if multiple communities for all

Any Additional Information Deemed Important

Revised: August 2020

Appendix O– NFIRS Definition of Categories

Series 100 – Fire	
Sub-categories:	
	<ul style="list-style-type: none"> • Structure fire
	<ul style="list-style-type: none"> • Fire in mobile property
	<ul style="list-style-type: none"> • Mobile property (vehicle fire)
	<ul style="list-style-type: none"> • Natural vegetation
	<ul style="list-style-type: none"> • Outside rubbish
	<ul style="list-style-type: none"> • Special outside fire
	<ul style="list-style-type: none"> • Cultivated vegetation, crop fire
	<ul style="list-style-type: none"> • Fire other
Series 200 – Overpressure Rupture, Explosion, Overheat (no fire)	
Sub-categories:	
	<ul style="list-style-type: none"> • Overpressure rupture from steam
	<ul style="list-style-type: none"> • Overpressure rupture form air or gas
	<ul style="list-style-type: none"> • Overpressure from chemical reaction
	<ul style="list-style-type: none"> • Explosion
	<ul style="list-style-type: none"> • Excessive heat, scorch burns with no ignition
	<ul style="list-style-type: none"> • Overpressure rupture, explosion, overheat other
Series 300 – Rescue and Emergency Medical Service Incident	
Sub-categories:	
	<ul style="list-style-type: none"> • Medical assist
	<ul style="list-style-type: none"> • Emergency medical service incident
	<ul style="list-style-type: none"> • Lock-in
	<ul style="list-style-type: none"> • Search for lost person
	<ul style="list-style-type: none"> • Extrication, rescue
	<ul style="list-style-type: none"> • Water and ice-related rescue
	<ul style="list-style-type: none"> • Electrical rescue
	<ul style="list-style-type: none"> • Rescue or EMS standby
	<ul style="list-style-type: none"> • Rescue, emergency medical service (EMS) incident, other
Series 400 – Hazardous Conditions (no fire)	
Sub-categories:	
	<ul style="list-style-type: none"> • Combustible/Flammable spills and leaks
	<ul style="list-style-type: none"> • Chemical release, reaction, or toxic condition
	<ul style="list-style-type: none"> • Radioactive condition
	<ul style="list-style-type: none"> • Electrical wiring/Equipment problem
	<ul style="list-style-type: none"> • Biological hazard
	<ul style="list-style-type: none"> • Accident, potential accident
	<ul style="list-style-type: none"> • Explosive, bomb removal
	<ul style="list-style-type: none"> • Attempted burning, illegal action

	<ul style="list-style-type: none"> • Hazardous condition, other
Series 500 – Service Calls	
Sub-categories:	
	<ul style="list-style-type: none"> • Person in distress
	<ul style="list-style-type: none"> • Water problem
	<ul style="list-style-type: none"> • Smoke, odor problem
	<ul style="list-style-type: none"> • Animal problem or rescue
	<ul style="list-style-type: none"> • Public service assistance
	<ul style="list-style-type: none"> • Unauthorized burning
	<ul style="list-style-type: none"> • Cover assignment, standby at fire station, move-up
	<ul style="list-style-type: none"> • Service calls, other
Series 600 – Good Intent Call	
Sub-categories	
	<ul style="list-style-type: none"> • Dispatched and canceled enroute
	<ul style="list-style-type: none"> • Wrong location, no emergency found
	<ul style="list-style-type: none"> • Controlled burning
	<ul style="list-style-type: none"> • Vicinity alarm
	<ul style="list-style-type: none"> • Steam, other gas mistaken for smoke
	<ul style="list-style-type: none"> • EMS call where party has been transported
	<ul style="list-style-type: none"> • Haz Mat release investigation w/no Haz Mat found
	<ul style="list-style-type: none"> • Good intent call, other
Series 700 – False Alarm and False Calls	
Sub-categories	
	<ul style="list-style-type: none"> • Malicious, mischievous false alarm
	<ul style="list-style-type: none"> • Bomb scare
	<ul style="list-style-type: none"> • System or detector malfunction
	<ul style="list-style-type: none"> • Unintentional system or detector operation (no fire)
	<ul style="list-style-type: none"> • Biohazard scare
	<ul style="list-style-type: none"> • False alarm and false call, other
Series 800 – Severe Weather and Natural Disaster	
Sub-categories	
	<ul style="list-style-type: none"> • Earthquake assessment, no rescue or other service rendered
	<ul style="list-style-type: none"> • Flood assessment (excludes water rescue 300 series)
	<ul style="list-style-type: none"> • Windstorm. includes tornado, hurricane, or cyclone assessment
	<ul style="list-style-type: none"> • Lighting strike (no fire)
	<ul style="list-style-type: none"> • Severe weather or natural disaster standby
	<ul style="list-style-type: none"> • Severe weather or natural disaster, other
Series 900 – Special Incident Type	
Sub-categories	
	<ul style="list-style-type: none"> • Citizen complaint
	<ul style="list-style-type: none"> • Special type of incident, other

Appendix P: New Employee Checklist (Sample)

Name _____ Employee Classification: _____

Start Date: _____

___ Personnel Information Sheet	___ Worker's Compensation
___ Changes	___ Immediate Notification
	___ Payment of Medical Bills
___ History and Philosophy of this Organization	___ Response to Calls – Full Duty Release
	___ Light Duty – Attendance at Training
___ Chain of Command	___ On WC and Restrictions in the Firehouse
___ Uniforms and Dress Code	___ Bylaws and SOGs
___ Bugles	___ Sign-Off Completed
___ Dress Uniform Components	___ Membership Meetings
___ Purchase Of	___ Voting Rights
___ When Required/Not Allowed to Wear	___ Harassment Policy
___ Dress Allowed in the Fire Station	___ Drug-Free Workplace
___ Cleanliness	___ Smoke-Free Workplace
___ Uniform Replacement	___ General Guidelines
___ Sanctioned Uniforms	Health & Safety
Emergency Gear	___ Bloodborne Pathogens
___ Required Components	___ HEP-B Sign-Off
___ Storage of Turnout Gear	___ NFPA Regulations
___ Cleaning of Turnout Gear	___ Training
___ Emergency Equipment- Storage/Clean	___ Mandatory Training – XX Rehearsals
___ Firefighter State Certification	___ Other Training
___ Next Class	___ Monthly Training
___ Books	___ Department Tuition
___ Introduction of Course/Registration	___ Firefighter I Certification
___ Tuition	___ EMT-Basic
___ Location	___ Other
___ Buddy Program	___ Pager and Courtesy Light
___ Assignment of a Buddy	___ Sign-Off Completed
___ Probationary Period	___ Distributed
___ Probation	___ Policy
___	___ Turn-In at Termination

___ Squad Assignments	___ Responding to Calls
___ How Assigned	___ Staffing Schedule
___ Rotation	___ Phone Numbers and Addresses
___ Job Description Review	___ Parking
___ Length of Service Awards	___ Parking Lot
___ Vesting	___ Tour of Stations
___ Department/State Contribution	
___ Leave Prior to 10 years	
___ Leave	Trainer Signature _____
	Date _____
	Member Signature _____
	Date _____

Appendix Q: New Employee Information Sheet (Sample)

New Hire, Status Change, and Payroll Change Notice

Date: _____ Social Security Number: _____

Name: _____

Address: _____

City/State/Zip _____

Home Phone: _____ Cell Phone: _____

Volunteer/Employee: _____ Shift: _____

Check Appropriate Step:

_____ Enter in Payroll _____ Remove from Payroll

_____ Change Rate _____ Change Shift to: _____

_____ Transfer to: (department) _____

_____ Address/Information Change

_____ Change Withholding Rate (Complete new W-4)

_____ Leave of Absence Paid? _____ Yes _____ No

Date Effective _____

Old Rate _____ New Rate _____

Date of Last Payroll Change: _____

Reason for Payroll Change:

_____ Stipend _____ Hourly Rate/Per Call Amount

_____ Promotion _____ Other

Reason for Termination:

_____ Voluntary _____ Discharged

_____ Reduction in Force (RIF) Other _____

Remarks:

Would you re-employ?

_____ Yes _____ No

Why? _____

Submitted By: _____ Date: _____

Approved By: _____ Date: _____

Summary of Recommendations

City of Norwich - Recommendation Priority		
Priority	Topic	Recommendation
1	Employer/Compensation	All five volunteer fire departments are City departments and therefore, must comply with all federal and state employment laws. Further discussion will be in the recruitment and promotion sections of this report
1	Fire Chief Responsibility	The City must address the question in a legal format (i.e. interpretation) so that all emergency personnel understand who has ultimate legal responsibility at fires and other emergency scenes involving volunteer and paid personnel. This should be clearly communicated to all fire and law enforcement personnel
1	Fire Scene Response/Assignments	Response to emergencies should be based on proximity of responders and adequate resources to mitigate the emergency, regardless if the individuals providing that service are career or volunteers
1	Incident Reporting	Information technology support for the Departments must be through the City of Norwich
1	Incident Reporting	The Departments in Norwich need to understand and correctly code each mutual aid response so that all mutual aid data is consistent
1	Incident Reporting	The parameters for overlapping incidents needs to be established correctly so that all departments consistently record this data
1	Incident Reporting	A data quality assurance program must be established to review random reports to ensure all incidents and records entered into Emergency Reporting® meet established quality and accuracy
1	Recruitment Activities	The process of voting on members needs to be immediately eliminated. There is no need for this process, it can be legally challenged, and can be perceived as discriminatory
1	Re-deploy Engine 3 Crew	Re-deploying the Engine 3 crew to create a two-person EMS response crew and increasing Greenville Engine 2 crew to four provides a more efficient EMS response across the city, in addition to increasing the initial fire response in the Greenville area of Norwich. Additionally, it is recommended that the closest TCD fire department respond with an Engine company to any reported structure fire in the CCD.
1	Reduction of Full-time Staff	Transitioning shift personnel to 24/48 and re-deploying Engine 3's crew to fit other needs of the city would allow for a decrease of seven positions. This cost-savings would allow for the creation of a Norwich Fire Commissioner with little or no impact on the overall budget
1	Training	All departments must use the same training curriculum and regularly train on standardized procedures to achieve a minimum level of safety and performance. The training curriculum must be based on national standards
1	Yantic Station	Emission Exhaust: Consideration must be given to address the absence of any emission exhaust equipment in the apparatus bay as soon as possible. Possible methods are detailed at the beginning of this section. Furthermore, the running of smaller gasoline engines (power saws, generators, etc.), should be performed outside of the station, or ceiling mounted scrubbers should be installed in addition to the exhaust system
2	Change NFD Shifts	Due to the additional costs incurred any time a firefighter is off and the extended time away from operations, training, or administration with one shift taken off, we recommend operational personnel switch to a more traditional 24/48 schedule
2	Dispatch Alerting Stations	Evaluate a system that will be deployed city wide and has the capability to alert the members of each department for single and multiple alarm incidents
2	Dispatch CAD System	Evaluate a CAD program that has interoperability with neighboring PSAPs, GIS capabilities, and ease of changing response plans. The CAD system should interact with

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		<i>mobile data computers or IPADS to receive dispatch information and interactive with the fire/EMS NFIRS</i>
2	<i>Dispatch Console/Equipment</i>	<i>Evaluate replacing the dispatch console to allow for dispatcher to stand and dispatch calls, allow dispatcher to have the correct amount of monitors for call entry, vehicle status monitoring, and mapping the show the location of current calls, and other needs</i>
2	<i>Dispatch Data Analysis</i>	<i>Receive more training related to Emergency Reporting® to develop standard reports that reflect the alarm processing, turnout, and travel time to the incidents</i>
2	<i>Dispatch Radio System</i>	<i>Evaluate a radio system that will allow for interoperability with all the agencies responding to emergency within the boundary of Norwich. Consider strongly moving Fire Departments onto the State radio system used by the Norwich Police Department</i>
2	<i>Dispatch Response Plans</i>	<i>Work with department chief officers to simplify the response plans, which should consider the location of needed resources and availability</i>
2	<i>Dispatch Supervisor</i>	<i>Create a position for dispatch supervisor who would be responsible for creating a quality assurance program, manage CAD information for key holders, manage Run Card/Response plans for the agencies, and oversee the training of new dispatchers</i>
2	<i>Dispatch Work Loads</i>	<i>Monitor the work loads of dispatchers and develop methods to ensure the adequate number of telecommunicators are available to process calls during peak times to meet best practices for alarm time processing</i>
2	<i>EMS</i>	<i>American Ambulance should prioritize calls in standard EMS coding. This would limit fire department response to only incidents serious enough to require fire department intervention. All departments should standardize their response to EMS based on this priority identification</i>
2	<i>False Alarms</i>	<i>The Fire Marshal's office needs to address the high rates of false alarms in the City, specifically in Norwich, East Great Plain, and Yantic Fire Departments</i>
2	<i>Fire Chiefs Meeting</i>	<i>All Chiefs and the Fire/EMS Commissioner should meet quarterly for an opportunity to discuss mutual concerns and/or opportunities for improvements. Prior to the meeting, the Commissioner should develop and send all Chiefs an agenda that includes opportunities for open-floor discussions</i>
2	<i>Fiscal</i>	<i>The City should seek a legal opinion concerning conflicts of interest for employees that may provide goods and services to the City of Norwich</i>
2	<i>Incident Reporting</i>	<i>All fire departments in Norwich must use the same records management program, report all incidents, and have uniform reporting</i>
2	<i>Incident Reporting</i>	<i>All Department personnel (paid and volunteer) must receive initial and recurrent training in the entering of data into Emergency Reporting® as well as information retrieval</i>
2	<i>Incident Reporting</i>	<i>Emergency Reporting® needs to receive data directly from the Computer Aided Dispatch (CAD) program to capture accurate data and reduce the potential for data entry errors</i>
2	<i>Laurel Hill Station</i>	<i>Major station remodel or new station construction: Admittedly this project will be costly and time-consuming. However, this station is not suitable for modern firefighting and support even as current members and administration continue to "make do." The apparatus bays are extremely tight, prone to flooding, and cause a health and safety hazard. The living, meeting, and training areas of the station, with one restroom facility, are not suitable to any medium-large gathering of the department or the public</i>
2	<i>Laurel Hill Station</i>	<i>Accessibility to the apparatus bay: Absent a large remodel or construction project, consideration must be given to somehow accessing the apparatus bay from the interior of the building. In an emergency situation, when firefighters are rushing to don turnout gear and get vehicles on the road, using a lengthy cement staircase – especially in the cold/icy weather – poses a serious health/safety concern</i>

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2	Norwich FD Apparatus	<i>Remove Truck 2 from service: Truck 2 is 25+ years old and is a redundant piece of apparatus in Norwich. If/when Truck 1 is out of service, this crew could switch to another reserve vehicle or re-deploy to increase staffing in other apparatus. Additionally, a truck from East Great Plain or Taftville could be asked to provide an automatic response during these time frames</i>
2	Policy Manual/SOG	<i>All supervisors and officers should be trained on standard policies such as harassment, social media, discrimination, and other policies that are critical to the success of the City</i>
2	Promotions	<i>The Fire Chief, in conjunction with the Fire Commissioner and when applicable, should have the final determination in determining individuals for promotion. Promotions should not be based on a vote of the membership</i>
2	Standardization	<i>The City would benefit from the standardization of Standard Operating Procedure; Data Management Systems; Training Curriculum; Run Cards; Report Formats; Human Resources; Apparatus & Equipment; and a host of other opportunities</i>
2	Standardization	<i>The City would benefit from a single individual with the authority to oversee all aspects of fire/EMS services. The Commissioner would work closely with the six Fire Chiefs to integrate fire/EMS services throughout the City</i>
2	Standardization	<i>The Norwich Fire Department should respond automatically with a single engine in conjunction with the district's fire department in which the emergency is occurring</i>
2	Training	<i>All personnel must attain the basic educational requirements as required by the State of Connecticut and national standards prior to performing the duties of said position</i>
2	Training	<i>Training between volunteer and career firefighters must occur to permit operations during emergencies to occur with minimal disruption and to provide quality emergency services to the person requesting assistance. This means that career and volunteer personnel need to dedicate, at minimum, one day per month where training is done in the evening and/or weekend</i>
2	Training	<i>The department (volunteer and career) must develop and engage in a robust supervisory/leadership training program to enhance the performance of personnel and build future leaders to support their organization</i>
2	Training	<i>The departments (volunteer and career) must standardize all equipment and apparatus to promote interoperability between departments</i>
2	Training	<i>The current training officer for the Norwich Fire Department must be the training officer, in conjunction with the volunteer department training officer for all volunteer departments. This position will be responsible for addressing the recommendations of the training section of this report</i>
2	Yantic Station	<i>Turnout gear washer/extractor procedures: If the extractor is to be placed in the finished basement, caution must be exercised when carrying soiled turnout gear down multiple flights of stairs, through a finished basement, and to the extractor. It is recommended that gear be placed in plastic bags when brought downstairs and not removed until reaching the extractor</i>
3	Company Fire Inspections	<i>It is recommended that fire suppression crew become involved in performing company-based fire inspections in occupancies designated by the Fire Marshal's office within the CCD</i>
3	Company Fire Inspections	<i>Further work in evaluating the staffing in the Fire Marshal's office should be performed to determine if additional fire inspectors are warranted in addition to having suppression crews performing company inspections</i>
3	East Great Plain Station	<i>Accessibility upstairs: Strong consideration should be given to updating access to the training/community room upstairs. When the current COVID pandemic eases, it is likely the room will again be used for many purposes involving the general public, and access should be available to all</i>

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3	Fiscal	The City must develop an inventory management system to account for all tool, equipment, and apparatus to understand what it currently has and where it is located. All tools, equipment and apparatus must have inventory tags attached. All new equipment can be inventoried through the same system. Emergency Reporting® has an inventory module that could be utilized by all departments and the purchasing manager to inventory fire department equipment
3	Fiscal	Once tools, equipment, and apparatus are standardized, the purchasing agent will be able to assist the fire department(s) in the preparation of specifications and bidding of equipment, tools, and apparatus. This will promote cost savings, interoperability, lower training costs and provide more stable operating and capital costs for future budgets. Specifications shall be based on national standards, where available
3	Fiscal	The City should develop a master plan for fire protection services to promote better integration of existing resources. Replacement programs should be developed to allow for stabilized operating and capital costs. As phases of the master plan are completed and benefits are realized to the entire City, these costs should be transferred from the TCD and CCD to the General Fund Budget
3	Job Descriptions	The volunteer fire departments should work on developing standardized job descriptions for all positions within the department. This includes not only entry level, but also the skills, education, and experience necessary for officer positions (career and volunteer)
3	Job Descriptions	Copies of the job description should be made available to all individuals who want to be members of either the career or volunteer departments. Having a sign-off which states the applicant's ability to perform the physical and mental functions of the position should be required
3	Mutual Response	There appears to be an imbalance with mutual aid responses between Norwich and the Departments outside of Norwich. It is recommended that mutual aid responses be reviewed with the affected departments to determine the appropriateness of their mutual aid requests
3	New Member Orientation	The new member should have the opportunity to complete all necessary paperwork for membership at an orientation meeting: (3 bullet points)
3	New Member Orientation	The Departments may wish to consider developing a member orientation checklist so the member has a document they can physically take with them. Appendix P contains a sample orientation checklist the Department can modify to its specific practices
3	Norwich FD Apparatus	<u>Replace Squad A with Engine 3:</u> Squad A is currently the main fire apparatus for District 1 and is almost 20 years old. Mileage will be well over 100,000 by the time this report is published, not including the odometer issue of the past year. Personnel discussed in Staffing
3	Norwich FD Apparatus	<u>When replaced, transfer current Squad A (2001 Ferrara) to Engine 4 (reserve):</u> Current reserve Engine 4 is 25+ years old with mileage approaching 100,000
3	Occum Apparatus	<u>Replacement of Engine 41.</u> Occum VFD runs lean with equipment and makes do with what is has. Its newest engine is 23 years old, and Engine 41 is almost 30 years old and should be one of the next of the Norwich fleet to be replaced
3	Personnel Records	Establish a policy for the housing of official personnel files
3	Personnel Records	The City should develop/review a record retention policy for all personnel records
3	Policy Manual/SOG	Revise each City's employee handbook to include the fire department volunteer employees. Policies that may be unique to the fire department should be delineated in the volunteer member handbook
3	Pre-Incident Planning	One individual shall be appointed to oversee the program and establish the number of occupancies/buildings to be pre-planned each year; this shall include updates and revisions to existing building/plans

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3	Pre-Incident Planning	<i>The pre-incident planning program shall be based on NFPA 1620, Standard for Pre-Incident Planning</i>
3	Pre-Incident Planning	<i>Criteria shall be developed to identify specific target hazard buildings that should be pre-fire planned</i>
3	Pre-Incident Planning	<i>The pre-Incident planning program should be coordinated with the Fire Marshal's office and the Department of Training and Safety and made available to the volunteer fire departments</i>
3	Pre-Incident Planning	<i>Pre-fire plans shall be made available to all Department personnel, paid and volunteer, electronically for use by the incident commander on scene</i>
3	Pre-Incident Planning	<i>All volunteer departments should be assigned occupancies/buildings for pre-incident planning</i>
3	Promotions	<i>The position of Fire Chief should not be a voted upon position by the membership. As with the other officer position, a job description delineating the skills, education, experience, and responsibilities of the position should be established. The Fire Commission and Human Resources should conduct an assessment process to bring forth a recommendation to the City Manager. The position should be held until such time as the person resigns or until the Fire Commission, Human Resources and the City Manager deem performance is unacceptable</i>
3	Recruitment Activities	<i>The City should work with all fire departments to create a standardized, legal application packet. The application itself, should be consistent for all six departments. A section of career vs volunteer can be developed to capture individuals who are looking for either type of employment. The application should be available on the City's website and can also be on the individual department websites</i>
3	Recruitment Activities	<i>In addition to the application, supplemental forms can be added such as the Cadet program; duties and responsibilities of a Volunteer member; a method to submit firefighter licenses/certifications (if already achieved), etc. Thus, individual department requirements can be delineated in addition to the standard application</i>
3	Recruitment Activities	<i>A second sheet included with the application and removed before any committee views it can contain information required for a background check. This typically includes personal information such as date of birth, social security number, etc. This form must be separated from the application form and used either by a trained personnel committee or the City's human resource department to conduct background checks. It might be beneficial that all applications go the City's human resource department as a clearing house and forwarded to the proper fire department</i>
3	Recruitment Activities	<i>All department personnel committees should receive training from the City's human resource department in what are acceptable/ unacceptable interview/recruitment processes. When necessary, the City's human resource department should assist in the volunteer interview process to ensure its legal compliance and standardization among all City departments</i>
3	Taftville Station	<i>Parking enhancement: There are not many options for expanding Taftville VFD's parking that would not involve cutting into adjacent community recreation areas. There are two basketball courts to the west of the parking lot and green space with a walking path behind the station. One of the few options to expand parking would be to secure a small portion of one of these areas. This should be considered in the near future to alleviate the issue around the station when a large response or community event occurs</i>
4	East Great Plain Apparatus	<i>Removal of Engine 52 from fleet within three years. Engine 52 will be 30 years old in 2023. EGP's fleet will still be strong, and moving forward, there is ample support from all Norwich departments in times of need</i>

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4	East Great Plain Station	Asbestos abatement: Though potentially costly and time consuming, the asbestos situation in the upstairs ceilings should be removed. It appears to be contained and not a current emergency, but, as the building ages and with other work potentially planned and completed, this could pose a hazard in the future
4	Employer/Compensation	The City Fire Department should codify its FLSA 28-day cycle either in its rules and regulations or within the City handbook. Further, it should spell out its practices of payment for hours worked, not hours paid when calculating overtime
4	Faftville Apparatus	Retire/sell Engine-Tanker 22 by 2026 and do not replace. TFC #2 recently took delivery of two new vehicles, and the fleet will still be strong without ET-22 as it nears 30 years. Moving forward, there is ample support from all Norwich departments in times of need
4	Fleet Maintenance	Certified Emergency Vehicle Technician (EVT): Superintendent Raymond stated that none of his mechanics are EVT certified; mechanics are hired as openings arise and trained "in-house." NFPA 1071 outlines the standards for those responsible for inspection, maintenance, repair, and testing of emergency vehicles. This is <u>not</u> to imply that Superintendent Raymond and his staff are not doing a great job of servicing and maintaining apparatus; however, liability could potentially be realized by not having an EVT on staff
4	Laurel Hill Apparatus	Remove Hose Tender 6 from fleet. This 1983 vehicle is mostly used as a mutual aid vehicle and rarely responds within Norwich. Before putting any more money into maintenance or servicing of this vehicle, we recommend removing it from the fleet of vehicles
4	Occum Station	There are no immediate recommendations for Occum VFD's current facility. However, it was pointed out by OVFD leadership, and agreed by the consultants, that the Occum protection district of Norwich would perhaps be better served by a different station location – more centrally located in its community. This would be a costly and lengthy venture that is a low priority item at this point
4	Performance Management	The City should establish a committee of officers and members to develop a simple performance evaluation instrument for all volunteer members. The instrument should outline the basic performance expectations of every member and establish professional and/or organizational goals for the upcoming year
4	Performance Management	Establish a performance evaluation process for new members during and upon completion of his/her probation period
4	Performance Management	The City should consider updating its performance evaluation instrument to allow individual departments to evaluate specific skill sets needed, as well as update/define specific performance objectives – this should include the career fire department
4	Performance Management	There has been push-back from the union in having performance evaluations; however, the Consultant's recommend a simple evaluation process so that the officer and employee can discuss how the employee has contributed to the success of the department/City and professional development opportunities. Compensation for either the volunteer or the career is not tied to performance, but that does not negate the importance of performance conversations between an employee and his or her supervisor
4	Performance Management	All officers/supervisors should be trained in performance management and how to conduct performance evaluations
4	Policy Manual/SOG	The SOG manual should be reviewed/developed and all operational procedures documented and placed within the manual. Copies should be given to all current members. Copy to be maintained on City's intranet for ease of administration
4	Policy Manual/SOG	All members should sign for receipt of the handbook and SOG. The signed receipt should be maintained in the member's/employee's personnel file

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4	Policy Manual/SOG	New members should receive training on the contents of the employee manual and SOG. Annually, training should occur to City and volunteer members on critical policies
4	Promotions	Develop promotional processes that are specific to the position; such policies should be summarized in the department's employee handbook or rules and regulations. They should evaluate operations as well as supervisory and administrative skills for all volunteer officer positions; and for all career officer positions
4	Promotions	Develop performance evaluation processes that have an emphasis on member career goals – not only for member benefit, but also for succession planning within the organization
4	Promotions	Develop a policy regarding the promotional process that includes the retention of promotional materials for both the career and volunteer departments
4	Promotions	In the future, consideration might be given to provide extra incentives for volunteer officer positions – extra tax rebate, higher contribution to pension program, or an annual stipend
4	Promotions	Most of the volunteer officer positions are for one-year terms, even for the position of Fire Chief. The departments should consider either multiple – staggered terms or maintain the position until such time as the performance is no longer acceptable or the employee resigns
4	Recruitment Activities	Develop a City-wide recruitment committee that works together to develop recruitment materials (similar website/Facebook messages; brochures; events; etc.). Rather than competing for members, working together to avoid duplication and common messaging will enhance a strong City-wide firefighter workforce
4	Recruitment Activities	Since most departments utilize a common background check organization, all departments should utilize the same company for City-wide standard process; and background checks should be filed in the City's official personnel file
4	Recruitment Activities	The physical appears to be conducted by the same physician; thus, human resources should work with the doctor to ensure all NPFA baseline information is obtained, and applicants have the physical/mental capabilities to perform the functions of a firefighter or EMT
4	Yantic Apparatus	Retire/sell Engine 32 by 2025 and do not replace. YFEC #1 has three engines, all under 20 years old with relatively low mileage and hours. YFEC #1's fleet will still be strong without Engine 32, and moving forward, there is ample support from all Norwich departments in times of need
5	Employer/Compensation	All five volunteer fire departments have members that qualify as 'volunteers' under the definition provided by the FLSA and are not subject to minimum wage regulations
5	Employer/Compensation	There is no recommendation, at this time, to change the compensation of volunteer City employees; thus, continuation of the tax abatement plan and volunteer pension program, until such time as the City feels a change is required for the recruitment and retention of volunteers
5	Greenville Station	Expanding the bay doors and apparatus bay area will need to be considered if larger fire apparatus were to ever be stationed here, but that also would severely change the historic look and construction of the building and does not appear to be a priority at this time. A rehab of the living quarters could potentially be considered in the future, but it is not a priority item at this time
5	ISO	An ISO classification of Class 04/4X is an excellent rating. However, the consultants do not believe any additional resources or fiscal commitment should be made to reduce the classification to a Class 03. Rather, the City/departments should attempt to maintain the Class 04/4X rating in the future

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5	Maintenance	The consultants support ensuring that at least one city mechanic is a certified EVT for working on fire apparatus. This is also mentioned in the "Facilities" section and bears repeating here. Supt. Raymond and his staff do a wonderful job maintaining the large fleet of FD vehicles; however, having a certified EVT is recommended
5	Maintenance	Preventative maintenance – fire engine pumps: All fire departments should pay close attention to the maintenance reminders provided by Fleet Maintenance, especially warnings and advice to exercise and check pump primers in advance of the annual testing cycle
5	New Member Orientation	Appendix Q contains a sample of a new member information sheet. Again, it will need to be modified to fit the needs of the Department
5	New Member Orientation	Each department should consider establishing a formal swearing-in ceremony for all new (and promoted) members
5	NFPA 1710 Adoption	Neither the City nor fire department should adopt NFPA 1710. Adoption would include the adoption of all OSHA and NFPA standards by reference. However, a plan should be developed to meet as many standards as possible in the future
5	NFPA 1720 Adoption	None of the volunteer fire departments or City should adopt NFPA 1720. Adoption would include the adoption of all OSHA and NFPA standards by reference. However, a plan should be developed to meet as many standards as possible in the future
5	Norwich FD Apparatus	<u>Do not Replace HumVee F-1</u> : This vehicle (grant-funded) has 6,000 miles after 17 years. Other city/VFD resources available to assist with wildland fires when retired
5	Performance Management	Performance evaluations should be provided on an annual basis and in a formal meeting. A focus should be on the desires and needs of the member in order to ensure the organization is meeting them; thus, the member understands that not only is he or she beneficial to the organization but that the Department is concerned about his or her individual needs
5	Seeking Accreditation	The City/department should not seek international accreditation (CFAI) at this juncture; rather, the CFAI performance indicators and core competencies should be utilized as a model for quality and a benchmark for examining and evaluating current practices