

NORTH CORNWALL TOWNSHIP FIRE STUDY

LEBANON COUNTY, PA

AUGUST 2022

**Governor's Center for
Local Government Services**
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Executive Summary

In March of 2022, the Commonwealth of Pennsylvania, Department of Community & Economic Development (DCED), Governor's Center for Local Government Services began a lengthy project to assess the fire service issues for North Cornwall Township, Lebanon County, as requested by the municipality and its elected officials. This report is an analysis of operations, organizational management, equipment, and facilities of the current organization serving North Cornwall Township with intent to improve service delivery where potential propose efficiencies could be located.

As of the compilation of this document, the fire department, and by extension, the municipality have a symbiotic and vested interest regarding fire and rescue services. To continue to operate three somewhat organizationally, separated, and distinct services does not reflect the reality or efficiency of the situation. All the recommendations listed are designed to develop continuity in operations and understanding of all staff, inclusively, to provide a predictable response to township emergencies. All recommendations are meant to align any township fire and rescue agency with top national best practices and build a cooperative relationship between the volunteer membership of the agencies with a common objective, professional response, and preparation for community service growth.

Purpose of Study

A municipality should periodically review the fire service model it is responsible to deliver under the municipal legislation of the Commonwealth of Pennsylvania. The purpose should be to make sure that fire protection is being delivered in a competent, prompt, professional manner with the needed resources, operational efficiencies, strategic management, and that all community expectations are met. Return on investments or fiscal responsibility must be considered in all aspects of public administration, and as such this report is sensitive to growth, cost, and budgetary constraints.

This assessment is intended to provide the municipality with an overview of fire protection to ensure that it can evaluate these findings to provide services effectively and efficiently to the residents and businesses today, and for future trends. This plan is designed to lay a framework of approximately 5 years, allowing local government and management to plan and coordinate for growth.

In this case, the study was centered on the individual apparatus needs and replacement mechanisms of the township, the need to reinforce the current all-volunteer response numbers for the fire department, and to examine pathways to improve and maintain the current fire department facility of North Cornwall Township.

Methodology Used in the Study

To understand and evaluate these issues, The Department of Community & Economic Development undertook an assessment of the current operations of the municipality and the related fire department. The principal approach utilized in this study included the following:

- Virtual and in person meetings with the Municipal Officials of North Cornwall Township and volunteer membership of the independent non-profit volunteer fire company.
- Site visits to one fire station facility and interactions with available members.
- Interaction via email and phone interviews to conduct follow ups with all parties including many layers of the fire department structure and elected officials.
- Data Collection of external and internal data documenting administrative and operational management policies and practices.

Executive Analysis

The municipality and the fire companies have identified several in depth issues that need to be addressed and were identified in initial virtual and face to face meetings:

1. Establish Fire response and staffing benchmark performance objectives as per NFPA 1720 for the suburban area through several implemented avenues to increase total available staff numbers. Augmentation of daytime staffing hours with supplemented compensation plans and inclusion of available full-time positions.
2. Development and implementation of capital apparatus replacement plan with strategy to maintain minimum necessary unit service needs, as well as increase safety of fleet while reducing maintenance cost. Maintain adequate service life of units and transition to township owned/maintained model.
3. Development and implementation of capital facility plan with strategy to maintain minimum necessary firehouse service needs, as well as increase in safety and functionality of floor space. Maintain adequate length of service planning for facility upgrades to meet the needs of the future.

All recommendations in this plan are designated as a separate, strategic need with a timeline of completion benchmark as follows:

- **Short-Term Strategic Goal (1-3 years)**
- **Medium-Term Strategic Goal (3-5 years)**
- **Long-Term Strategic Goal (5-10 years)**

Current Composition of Fire Department Coverage to Municipality

The underlying basis of this analysis is the current composition of fire protection, which is composed of an all-volunteer fire force provided by a single non-profit fire company serving North Cornwall Township and some surrounding communities as a mutual aid provider.

Agencies involved:

Neversink Fire Company -1912 Center Street, Lebanon Pa. 17042

Municipal Overview and Demographics

North Cornwall Township encompasses 8,489 residents in a 9.5 square mile area, according to the last Federal Census (2020). Running through the Township is approximately 44 miles of roadway, including 8.83 miles of highways owned by Pennsylvania Department of Transportation. PennDOT also owns four bridges within the Township and is responsible for all maintenance of their property. In addition to miles of roadway, we have approximately 36 miles of public sewer lines that service 2,300 households and businesses.

Three creeks find their way winding through the Township. These are the Beck, Snitz, and Quittapahilla Creeks, which are stocked each year for individuals to enjoy an afternoon of fishing. Other enjoyable amenities to the Township include various active and passive recreation areas, the Lebanon Country Club and Golf Course, the Royal Oaks Golf Course, as well as numerous restaurants and shops.

Officially, North Cornwall Township was incorporated in 1929. However, their story does not begin there. Around 1750, Steitztown was established and named after George Steitz, the man responsible for the original layout of the area. Eight years later, Steitztown was renamed Lebanon. The earliest settlers of this area were German immigrants who farmed the fertile soils of the Lebanon Valley. It is believed that these German farmers were drawn to this area because of the resemblance to the Rhine Valley, their homeland thousands of miles away from the new world. Additionally, to the north of the County, Scots-Irish settlers began occupying land at the base of the Blue Mountains. During that time, the French and Indian war was being waged. Though historians note that the German ancestors were not directly affected by these conflicts, our Scots-Irish ancestors were. Due to their proximity to the Blue Mountains, an area Native American enemies used for staging raids, numerous bloody encounters were recorded. Allies, as well as our own Lebanon Valley residents, vigorously responded to such threats with aggressive defense efforts.

It was in 1853 that the newly formed Cornwall Township was split into two electoral districts, North Cornwall and South Cornwall, which were then incorporated as Townships in 1929. From our inception through the conclusion of World War II, North Cornwall was predominantly a rural and agricultural area.

Municipal Authority to Recognize Responding Agencies

Relationships between local governments of any type, and private fire departments are established in various legislative agreements adopted by the Commonwealth of Pennsylvania and imbedded in the charter which grants legal authority to a municipality.

North Cornwall Township is categorized as a Second-Class Township with the following municipal language applied:

“In 2008, the Second- Class Township Code was amended to clarify that the board of supervisors is responsible to ensure that fire protection is provided within the township Section 1553 of the Township Code requires the board to consult with volunteer emergency service responders in order to determine and provide appropriate levels of financial and administrative assistance.”

Section 1553. Emergency Services. --(a) The township shall be responsible for ensuring that fire and emergency medical services are provided within the township by the means and to the extent determined by the township, including the appropriate financial and administrative assistance for these services.

(b) The township shall consult with fire and emergency medical services providers to discuss the emergency services needs of the township.

(c) The township shall require any emergency services organizations receiving township funds to provide to the township an annual itemized listing of all expenditures of these funds before the township may consider budgeting additional funding to the organization.

(1553 added Mar. 17, 2008, P.L.47, No.7)

Section 1803. Fire Companies, Facilities and Training.--(a) The board of supervisors may appropriate moneys for the use of the township or to fire companies located in the township for the operation and maintenance of fire companies, for the purchase and maintenance of fire apparatus, for the construction, repair and maintenance of fire company houses, for training of fire company personnel and, as set forth in this section, for fire training schools or centers in order to secure fire protection for the inhabitants of the township. The fire companies shall submit to the board of supervisors an annual report of the use of the appropriated moneys for each completed year of the township before any further payments may be made to the fire companies for the current year.

(b) The board of supervisors may by ordinance make rules and regulations for the government of fire companies which are located within the township and their officers.

(c) The board of supervisors may contract with or make grants to near or adjacent municipal corporations or volunteer fire companies therein for fire protection in the township.

(d) No volunteer fire company not in existence in the township before the effective date of this act may organize or operate unless the establishment or organization is approved by resolution of the board of supervisors.

(e) The board of supervisors may annually appropriate funds to fire companies located within the township for the training of its personnel and to lawfully organized or incorporated county or regional firemen's associations or an entity created pursuant to the act of July 12, 1972 (P.L.762, No.180), referred to as the Intergovernmental Cooperation Law, to establish, equip, maintain and operate fire training schools or centers for the purpose of giving instruction and practical training in the prevention, control and fighting of fire and related fire department emergencies to the members of fire departments and volunteer fire companies in any city, borough, town or township within this Commonwealth.

(1803 amended Dec. 18, 1996, P.L.1154, No.175)

Compiler's Note: The act of July 12, 1972 (P.L.762, No.180), referred to as the Intergovernmental Cooperation Law, referred to in subsec. (e), was repealed by the act of December 19, 1996, P.L.1158, No.177. The subject matter is now contained in 53 Pa.C.S. Ch. 23 Subch. A (relating to intergovernmental cooperation).

These amendments clearly place the responsibility to deliver fire protection on the municipality as the lowest level of local government to the extent they determine. With this responsibility it is appropriate to study fire protection delivery and feasibility of growth or mergers. Volunteer departments are not truly free to run, only the labor provided is free with no payroll. All other aspects render some cost which is supported by public, granted, or municipal funds.

To attain the delivery of optimum model fire services, it is essential that local government recognized and accept the responsibility to fulfill that obligation to provide appropriate guidance to:

- Oversee the formation process of all fire service organizations
- Ensure the organizations reflect the public interest in all aspects
- Protect the service from undesirable effects of external stakeholders
- Assist in determining core policies and service provisions
- Legally define the duties and all responsibilities of service via local legislation, if needed
- Consistency in service model across all departments within the township

North Cornwall Township Demographics

	Race And Origin
White	77.5
Black/African American	5.9
American Indian	0.0
Asian	3.1
Hispanic Latino	13.2
	Income and Poverty
Median Household Income	\$68,246
Percent persons poverty	12.2%
Per Capita Income	\$32,985
	Home Ownership Rates
Owned properties	69.5%
Rented properties	11.2%
Vacant/empty properties	6.1%
Median Home Value	\$240,600
	Age of Building Stock
1939 or earlier	367 structures
1940 to 1949	80 structures
1950 to 1959	353 structures
1960 to 1969	307 structures
1970 to 1979	497 structures
1980 to 1989	387 structures
1990 to 1994	387 structures
1995 to 1998	143 structures
1999 to 2000	82 structures

Current Fire Department Resources/Deployment Overview

Current emergency response services provided include:

- Fire suppression services
- Vehicle rescue and simple extrication
- Hazardous material operations level response
- General first aid/CPR
- Natural gas and unusual odor responses/air monitoring
- Electrical and utility related emergencies
- Brush and wildland fire control
- Fire safety education and prevention public details

Current Township Facility and Apparatus Distribution

Neversink Fire Company is located at 1912 Center Street, Lebanon PA 17042

Facility History and Current State:

On December 19, 1904, the Neversink Fire Company of Pleasant Hill was incorporated. Originally housed at 1912 Center Street in a stone and brick firehouse, the company operated out of the original station until 1979.

Neversink Fire Company firehouse currently sits to the east of the original site, holding the address of 1912 Center Street. In Pleasant Hill history, the current firehouse sits on the bones of an old shoe factory. Once the shoe factory ceased operations, the factory was to be converted for the new Neversink Fire Company fire house. Unfortunately, during the renovations of the shoe factory, the construction company damaged a loadbearing wall and the building was condemned. Interestingly, and keeping with local history, the foundation for the current Neversink Fire Company firehouse is the original shoe factory foundation.

The metal Butler Building, built in 1979, is 100 X 100 square feet.

One interesting note regarding the construction of the current firehouse is the thought process for growth. The south facing wall (Walnut Street) was designed as a finished wall. The north facing wall (Center Street) was initially designed to allow for expansion of the fire station and built to have the option to extend to Center Street with future expansion.

When first constructed, the floor was a rough blacktop with stone ramps leading out onto the apron. The concrete flooring was poured in November 1990.



Engine 14: 2021 Pierce Saber pumper
Mileage: 4,562
Pump: 1500 GPM
Tank Size: 1000 gallons
APWA scoring: Excellent Condition



Rescue Engine 14: 2013 Pierce Impel
Mileage: 11,083
Pump: 1500 GPM
Tank Size: 750 gallons
APWA scoring: Excellent Condition



Tanker 14: 2002 Mack
Mileage: 15,300
Pump: 1500 GPM
Tank Size: 3000 gallons
(Property owned by private fire company)
APWA scoring:



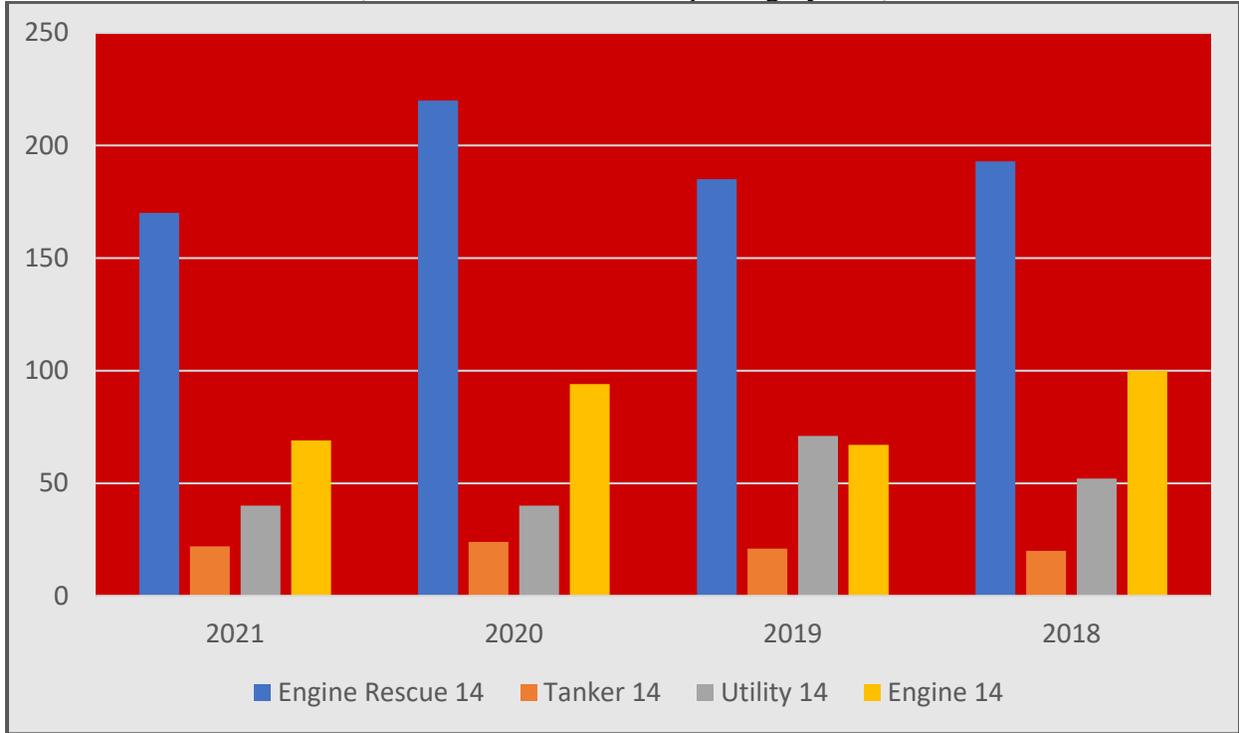
Utility 14: 2004 F350
Mileage: 30,888
Pump: not applicable
Tank Size: not applicable
(Property owned by private fire company)
APWA scoring: Good condition



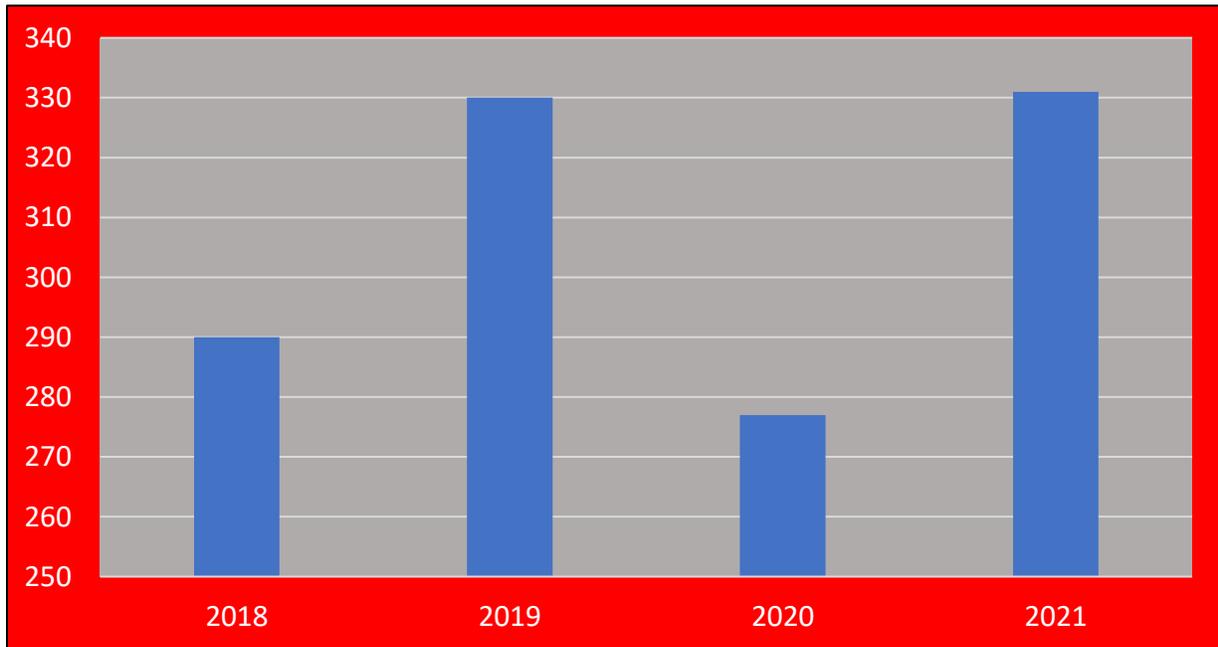
Incident Command Vehicle/duty officer
Vehicle: 2019 Chevy Tahoe
Mileage: 16,900 miles
(Property owned by private fire company)
APWA scoring: Excellent condition

North Cornwall Township Statistics

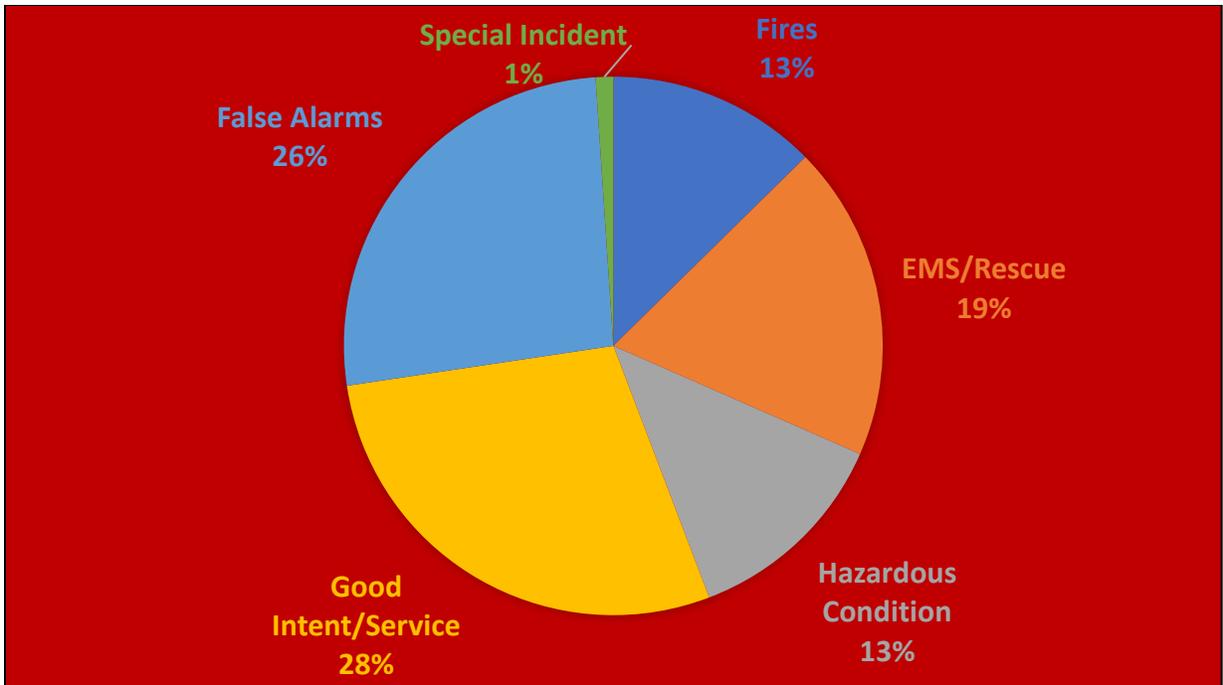
North Cornwall Township Incident Response Statistics (National Fire Incident Reporting System)



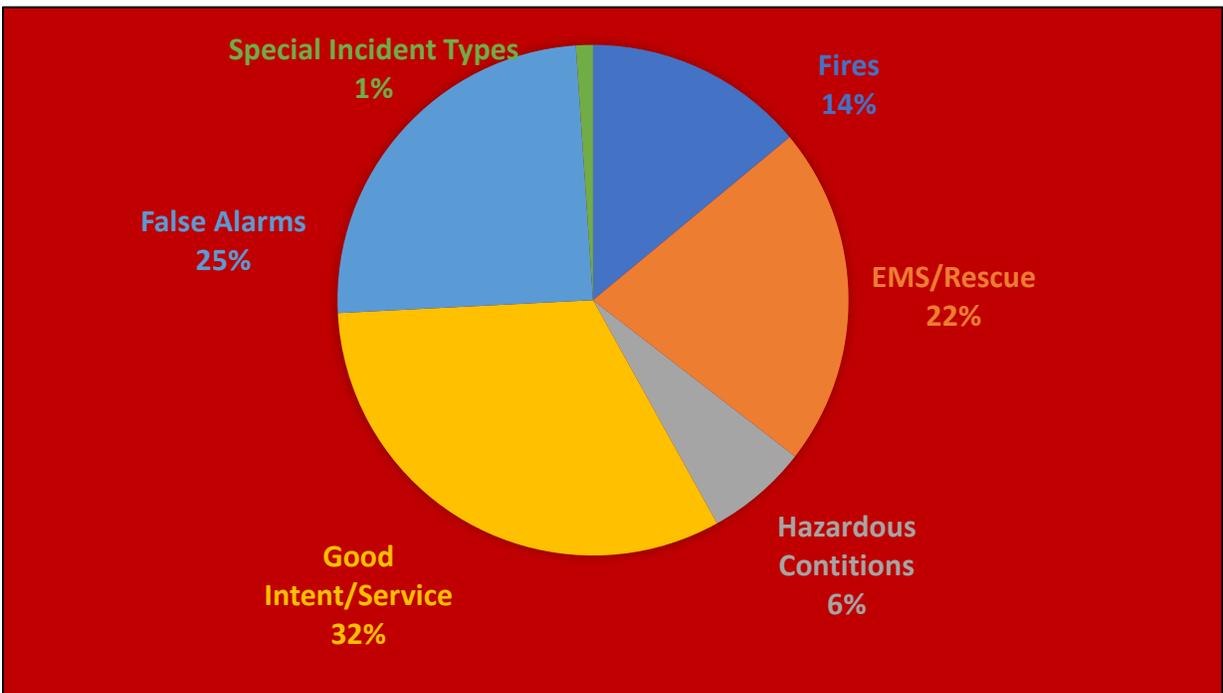
Apparatus Response Frequency Annually 2018-2021



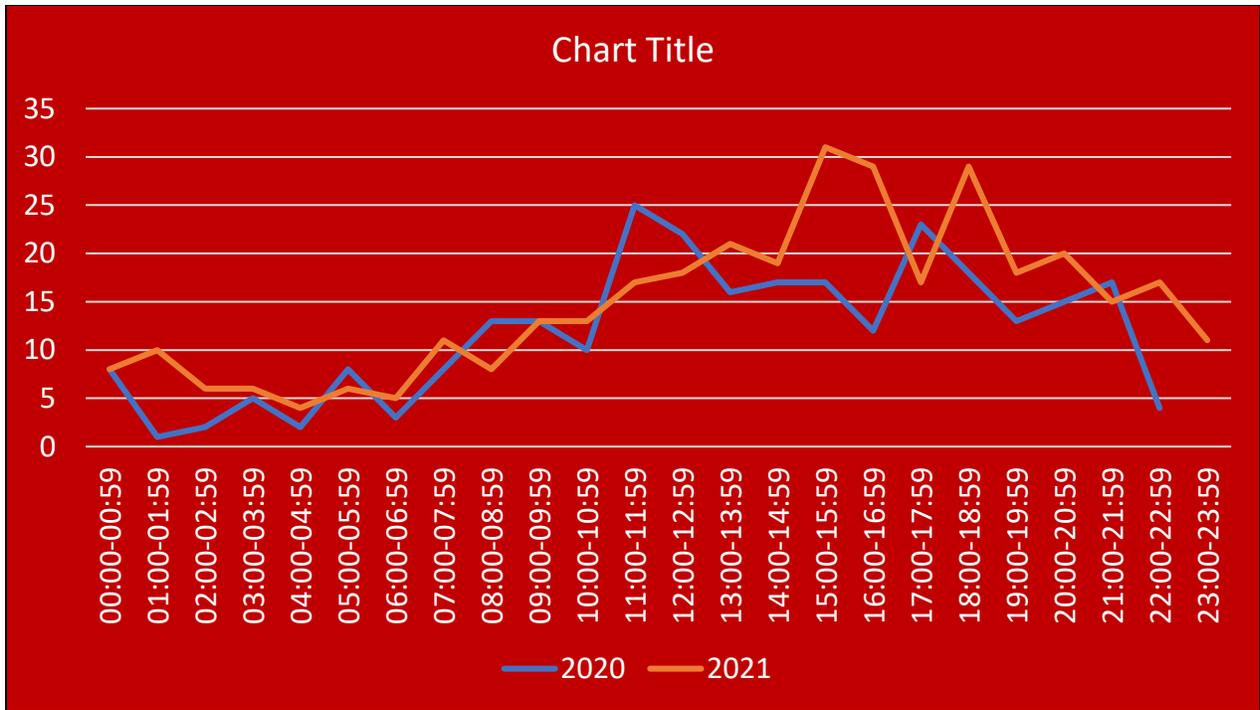
Total Incident Responses by Year (taken from data record system/NFIRS)



Incident Type by Percentage 2020



Incident Type by Percentage 2021



Incident Demand Peak Time Analysis by Time-of-Day 2020/2021

Data Analysis

Statistics provided for this region are similar and comparable to other communities of the same population and distribution. Both EMS (most likely vehicle rescue and limited medical emergencies) along with automatic fire alarms make up over half of the responses noted over the two-year period examined.

Peak time displays that most incidents are occurring at the highest rate between 10:00 A.M. and 18:00 P.M., which often coincides with vehicle travel and other day time activities.

Call distribution on a month-to-month basis was not examined and often does not reveal drastic changes in call distributions.

Analysis of Current Insurance Service Office (ISO) Rating

The latest provided ISO review dated was in 2018. North Cornwall Township received a public protection classification of 6/6Y, rating amongst 6,500 other departments nationwide. The ISO rating system is a method of examining a geographical area water supply system, emergency dispatch and communication systems, and finally the fire department structure. Benefits of an improved ISO rating generally affect fire loss values, improved costs for premiums for insurance protection, homeownership, and business alike. ISO is a third party, private agency which assesses all communities across the nation on a 5-year rotation. Attached below are the maximum point values and received points noted within the last evaluation.

Keep in mind that ISO is only a measuring tool for community protection and often does not represent the true capability of the actual department to respond and care for community needs. This is simply a tool to monitor, and measure needs within the service. However, this is one nationalized method to measure responses across the national spectrum and often utilized in administrative reports such as this document. ISO ratings are given between 1 (highest standard) and 10 (lowest to resource standards). ISO evaluates all municipalities within the United States on a 5-year rotation according to standardized criteria including consensus of the National Fire Protection Association standards as well as The American Water Works Association for fire flow analysis. Analysis includes emergency communication systems, fire department resourcing, fire department training, water supply capacity of the community, and generation of needed fire flows.

The formulas homeowner's and commercial insurance companies use to determine their insurance rates are complex and constantly changing. However, all other things being equal, a lower PPC score for your area may translate to a lower homeowners insurance premium, as it means your home is at a lower risk for serious fire damage. Home insurance companies offer lower rates if you have a good ISO rating because a well-prepared fire department should be able to put out a house fire more quickly.

According to ISO's Fire Suppression Rating Schedule (FSRS), five main criteria comprise a fire rating score for a community:

- 50% comes from the quality of your local fire department, including staffing levels, training, and proximity of the firehouse.
- 40% comes from availability of water supply, including the prevalence of fire hydrants and how much water is available to put out fires.
- 10% comes from the quality of the area's emergency communications systems (911).
- An extra 5.5% comes from community outreach, including fire prevention and safety courses.
- Any area that is more than five driving miles from the nearest fire station is automatically rated a 10.

	Credit Awarded	Total Credit Available
Telephone Service	2.4	3
Telecommunicators	1.6	4
Dispatch Circuits	3.0	3
Total Communications	7.0	10
Engine Companies	3.70	6
Reserve Pumpers	0.00	.50
Pump Capacity	3.00	3
Ladder/Service Company	0.72	4
Reserved Ladder	0.00	0.50
Deployment Analysis	3.55	10
Company Personnel	2.56	15
Training	2.00	9
Operational Considerations	2.00	2
Total Fire Department	16.90	50
Water System	26.72	30
Hydrants Available	3.00	3
Hydrant Testing	3.20	7
Total Water Supply	32.92	40
Community Risk Reduction	0.00	5.50
Total Score	47.12	105.50

The most notable and profound in fire department service-related loss of ISO points were in ladder/aerial service, number of responding company personnel, training systems and structured community risk reduction programs. Development and improvement of these target areas could move the community in the next assessment to a 5/5x and will be individually discussed in separate sections of this report. This report addresses staff numbers, and acquisition of trained personnel as well as improvement of overall fire apparatus fleet. Likely, the department should examine total community risk reduction processes as an often-overlooked method to make the municipality safer and has received more ISO attention since consideration of this point value.

Each of these criteria will be a specific area of recommendations in this report to aid in overall service quality and reduction of ISO grading within the next assessment cycle.

Highlighted fields should align with planned frameworks of improvement and direction of all involved agencies.

**Recommendation
Statement #1**

Establish Fire response and formal staffing benchmark performance objectives as per NFPA 1720 for the suburban area through several implemented avenues to increase total available staff numbers. Augmentation of daytime staffing hours with supplemented compensation plans and inclusion of available full-time positions.

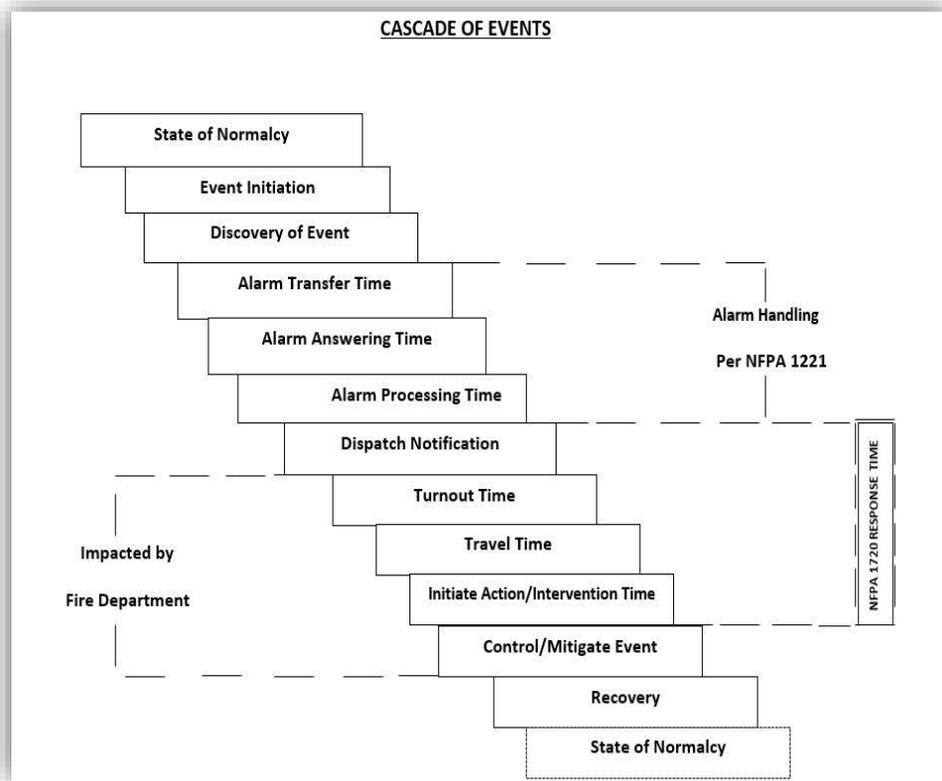
Given the population within the municipality and the potential limitations of the tax base to support fire service it is critical and obvious that elected officials must look for all opportunities for efficiency and elimination of unnecessary expense in such service. As noted earlier, North Cornwall Township is represented by one facility and independent organization in its deployment model. With the community addressing on average 300 incident responses annually, the true question is, “What resources and costs really need to be supported to address this call volume and how much growth will stress the response model with a 10-year projection?”

Fire response and staffing benchmark performance objectives as per NFPA 1720 for the suburban area and standard of cover documents.

Perhaps the most visible and notable of emergency services to the public, response performance statistics is the primary measure by which the public gauges overall effectiveness. Response time can be measured in several parameters, but industry standards suggest that performance be measured on a high percentile rather than simply reporting the average, based on national standard performance metrics.

Response time, however, is not simply a matter of operational response. The response time continuum begins when someone calls 9-1-1 and ends when the appropriate resources are on the scene of the incident. The response time continuum, the time between when the caller dials 9-1-1 and when assistance arrives, is comprised of several components. The pictorial below entitled Cascade of Events displays the total response time paradigm:

- Alarm handing time – The amount of time between when a dispatcher answers the 9-1-1 call and resources are dispatched.
- Turnout Time – The amount of time between when units are notified of the incident and when they are in route.
- Travel Time – The amount of time the responding unit spends on the road to the incident defined under NFPA 1720.
- Response Time – A combination of turnout time and travel time and generally accepted as the most measurable element defined under NFPA 1720.
- Total incident time- Declared time from dispatch handling to unit availability to next response.



Fire departments, nationally, are held to benchmark performance as defined by a standard of cover (NFPA 1710 and 1720), and ISO analysis as mentioned prior. The goal of a fire department as measured by NFPA standards are time responses to arrive on scene of a building fire and control pre-flashover conditions, reducing loss of life and property. Once ignition occurs, a fire grows quickly and exponentially to reach “flashover” or a fully developed and very destructive area of fire. Civilians trapped within homes at flashover have an incredibly low survivability. In addition, fire suppression at this point will be slow and labor intensive.

Fires that are kept small are always easier to suppress, and consequently have a much lower dollar loss to the homeowner or insurance provider. Small fires also require a smaller number of resources. The measurement of resource needs for flashover fires are higher due to a greater number of tasks that need commitment on the fireground to control that fire. Early fire department intervention should be the keynote objective of any response system. One of the most serious considerations are how long it will take to respond, how long will it take for resources to arrive, and how many resources can be guaranteed to arrive to the emergency scene?

Research conducted by the National Fire Protection Association and the Commission on Fire Accreditation International determined that if a fire occurs in a typical 2,000 square foot single family, two-story home, a minimum of 8 individual but related tasks must occur to safely control that fire and address threatened occupants (low hazard occupancy). The ability of adequate fire suppression forces, arriving at benchmark times, greatly influence the positive outcome of a

structural fire, undeniably and predictably. Data generated by the former named agencies, provide empirical data that aggressive interior attack and search operations can substantially reduce the human threat and property losses associated with the risk of fires in the community. Eight (8) necessary fireground tasks for suppression and safe operations:

1. Establishment of an Incident Commander outside the hazard zone for resource coordination, communication, and overall planning of emergency mitigation.
2. Establishment of a water supply of at least 400 gallons per minute for a 30-minute period. This water supply is usually maintained by the operator of the pumping unit.
3. Establishment of effective water-based attack lines which can supply at least 300 gallons per minute from two separate hand lines. Each attack and back up line should be operated by a minimum of two firefighters.
4. One additional support person for each attack line deployed to provide for hydrant connections, handline movement, utility controls, and forcible entry
5. Establishment of one search and rescue team of two firefighters for rescue
6. A minimum of one ventilation team of two firefighters
7. If an aerial is placed in service, this adds one additional operator to the fireground to place the unit and service.
8. Establishment of one rapid intervention team or “on deck” team with a minimum of two members trained to provide that service.

A ‘Standard of Cover’ is defined as written policies and procedures that determines the distribution, concentration, and reliability of fixed and mobile fire resources for fire, emergency medical response, hazardous materials, or other technical service responses according to the Commission for Fire Accreditation International (CFAI) and should be completed as a core analysis of the level of protection defined for the authority having jurisdiction. Without this baseline description of resource goals, how can improvement be demarcated or measured in a later sense. This document tool establishes:

- Baseline services of the fire organization provided as a standard to the public including response time statements
- Benchmarks the organization sets for strategic goals and objectives.
- Sets levels and types of resource responses for separate parts of the community.
- Seeks to measure an organizations success in comparison to budget or operational years.

This crafted document states the number of responding companies available, as well as global positions and distances of facilities from the nature of response. It shall further define the staffing level set by the organization and staffing patterns which must always be available or expected within the municipality or region. This document, as a proper planning tool, takes a significant investment of time by staff and thus should be considered a **medium-term strategic goal from this plan (3 years)**. To develop a true standard of cover will involve an extensive investment in time and coordination with internal and external stakeholders.

Fire Protection Handbook, required resources for effective fire forces (1997 edition)

Hazard classification	Minimum resources	Staffing required immediate
Low-Hazard Occupancies One-, two- or three-family dwellings and scattered small business and industrial occupancies. Operations response capability — at least 2 pumpers,	2 pumpers, 1 ladder truck (or combination apparatus with equivalent capabilities), 1 chief officer and other specialized apparatus as may be needed or available	12 firefighters and 1 chief fire officer
Medium-Hazard Occupancies— Apartments, offices, mercantile and industrial occupancies not normally requiring extensive rescue by fire fighting forces	3 engines, 1 ladder truck (or combination apparatus with equivalent capabilities) 1 chief officer and other specialized apparatus as may be needed or available	28 firefighters and 1 chief fire officer
High-Hazard Occupancies— Schools, hospitals, nursing homes, explosive plants, refineries, high-rise buildings and other high life hazard or large fire potential occupancies	4 engines, 2 ladder trucks (or combination apparatus with equivalent capabilities), 2 chief officers and other specialized apparatus as may be needed to cope with the combustibles involved; not	43 firefighters and 2 chief fire officers

The National Fire Protection Association (NFPA) Standard 1720: *Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, And Special Operations to the Public by Volunteer Fire Departments*, is the Nationally Recognized Standard for evaluation of Staffing and Response Times for Volunteers

Demand Zone	Demographics	Minimum Staff Responding	Response time minutes	Meets Objective (%)
Urban area	>1000 people per square mile	15	9	90
Suburban area	500-1000 people per square mile	10	10	80
Rural area	<500 people per square mile	6	14	80
Remote area	Travel distance >8 minutes	4	Dependent on travel distance	90
Special risk	Determined by AHJ	Determined by AHJ	Determined by AHJ	90

The above tables reference that the standard of cover document should plan on 10 qualified interior firefighters (including mutual aid partners), arriving within 10 minutes on 80 percentiles of all structural fires (low hazard occupancy) within North Cornwall Township to meet NFPA 1720, and this language can be adopted as the “standard of cover”. The township has the right to lower the number of personnel or expand the time requirement but must understand the implications of failure if challenged to liability to the national standard best practice. Automatic aid response personnel staff numbers do count towards the compliant fireground requirements but must be on the immediate response which should be inclusive of automatic fire alarms which may prove to be a more serious issue.

The current described compliment of staff made up of volunteer support (data provided by Chief of Fire Department):

Current Firefighters	26
Drivers cleared on all 5 apparatus	8
In Drivers Training	6
Interior Firefighters	19
Exterior Firefighter	5
In essentials of FF class	2

Members response on Worst Case vs Best Case scenario for each shift

A shift 00:00-0800		B shift 08:00-16:00		C shift 16:00-24:00	
Worst Case	5	Worst Case	3	Worst Case	8
Best Case	9	Best Case	8	Best Case	19

The above data was provided on the current state of membership and number of fire responders available in the entire system. The definition of qualified can be debatable and within the Commonwealth of Pennsylvania is determined by the authority that has jurisdiction which is usually the desire of the private fire company. The Chief of the department was further able to suggest the nominal number of staff available over three shifts based on time of day. As in most instances, this data suggests a daytime staffing shortage (worst case) most notable from 0800-1600. As advised from formal interview conversations with department leadership that day hours are experiencing stressed and “scratched” incidents frequently, which provides evidence of a slipping staffing system, mostly experienced from 0800 to 1600 hours.

Solutions to augment membership are provided below on a step-by-step process which is designed from the lower cost to higher cost model. The process should not necessarily be examined as “step 1 is complete, and sequentially step 2 should begin.”. It may be necessary to implement several or all the steps simultaneously to begin to change the trends of less than adequate staff response. The objective would be a NFPA target number defined by the standard of cover on a 24 hour per day methodology.

As departments approach the task of transitioning from an all-volunteer organization to another form of deployment where some members are compensated in some capacity, they need to be aware of a variety of pitfalls. It is common for such transitions to be emotionally charged events for those closely involved, and emotions often lead to serious mistakes. When emotions are allowed to overtake rationality, departments should expect some limited attrition of volunteers. Casualties could be significant but most of the volunteer members, even though some may be skeptical and cautious, will be willing to work through the issues and contribute meaningfully to improve the department. The same dangers apply to paid personnel. Those who are unable to integrate effectively with volunteer firefighters will quickly become a liability to the system. They seldom last if the department leadership recognizes and addresses the issue aggressively.

Step 1 - Recruitment and Retention Strategies for Volunteer Agency Support

Volunteer membership with fire departments has a long-standing history of success, for hundreds of years, especially within the Pennsylvania Fire Service. Community assistance should always be respected and honored for its intent to make your own region more safe and secure for your direct neighbors. However, the ability to maintain volunteerism in many communities has been threatened by changes in economics and lifestyle and thus making it more difficult to find persons with the available time for the fire department (Volunteer Retention 2005). The National Volunteer Fire Council estimates in a 2019 study that a volunteer's time has an estimated value of \$25 per hour and contributes approximately \$10,000 worth of productivity for their time to the fire department within a year. A replacement of all volunteers nationwide could cost the American taxpayer up to \$27 billion if not addressed appropriately (Cost Calculator, 2014). An additional internal pressure that threatens volunteer numbers within the State of Pennsylvania are the number of training hours required to meet standard as a qualified interior firefighter. Training being mandatory, with no reduction in the future, requires a 200-hour plus upfront. It must be reinforced that loss of dependability of the volunteer system such as failure of response, low turnout and response staff numbers, untrained staff response, or excessive response times from the firehouse to a scene will inevitably require replacement by a known supplemented or career staff. This reinforces the need for multiple municipalities to examine and discuss the need for a shared staff model and shared resourcing into the future to save or share service costs.

Our service advertisement should include excitement, friendship, respect, and an honorable method to serve our neighbors as the positives methods to draw quality people into our industry. Marketing must be planned to include creative locations to find new members such as fitness location, churches, community events, and educational facilities such as colleges. A successful recruiting program must create a community awareness of the fire departments and its needs. To accomplish this, the department should utilize social media campaigns, and publish over websites to draw interest. Television media campaigns can also be utilized to advertise the need for public support and reach a broader audience.

A formal document created by United States Fire Administration in 2007 indicated that a large loss of volunteer membership occurs because of internal friction, lack of leadership, and low commonality. This inevitably leads to an environment the volunteer member views as not enjoyable, and certainly not a great return on time invested. A department must eliminate this friction and build a "team oriented" workplace for the volunteer to feel appreciated (Retention and Recruitment, 2007). Lack of retention has also been strongly tied to lack of leadership, and poor morale within departments nationwide. Internal politics and stress from fundraising have been identified as areas of loss for personnel as well as overall time commitments. Retention is identified as maintaining a trained person within an organization with a certain level of satisfaction while assisting the organization. From the retention standpoint, it is critical to have incentives offered by the organization for reflected value of time for the member. The Commonwealth of Pennsylvania, Office of the State Fire Academy, created a new administrative position last year at the direction of Governor Tom Wolf to manage a statewide

recruitment and retention process. This necessity as one of the many critical points identified in the SR6 report to assist the Commonwealth Departments with cost effective membership to fire and EMS agencies.

<https://www.osfc.pa.gov/recruitment-retention/Pages/default.aspx>

The current recruitment strategy of Neversink Fire was described as:

- Social media page, which has a following of approximately 2,300 individuals
- Messaging board in front of our station, which displays informational messages, messages regarding events, and recruitment messages
- Current members speaking with friends, family members, and loved ones about the fire service
- Promotion in township issued calendar, website, and newsletter
- Word of mouth during fire company events, including but not limited to, Open House, fundraising events, fire extinguisher trainings, and community event nights.

Neversink Fire Company stated that future planning is to include development and implementation of formal recruitment programs with our local school district and service organizations, such as the Boy Scouts and Girl Scouts.

The current retention strategy of Neversink Fire was described as:

- Membership retention plan which pays volunteer firefighters \$5 per call after they have run 5 calls each quarter
- Coverage of the monthly gym membership fee for firefighters who work out and show proof of their workouts at least 6 times a month
- Company issued apparel program
- Company paid trainings for every fire/rescue training class, regardless of cost
- Annual banquet and the celebration of major holidays

Other options to add value to the time committed by a volunteer member. These programs should be investigated and include (Recruitment and Retention, 2007):

- Tax incentives from property taxes or earned income taxes locally. See the legislation for The Volunteer Firefighter Tax Credit Act passed in 2016.
- College educational assistance program especially if emergency service oriented.
- Retirement and Length of Service Remuneration plans (LOSAP)
- Additional funding to fire conference and educational opportunities
- Fitness plans or memberships to local amusement locations for staff (Pools and Parks)
- Annual compliant NFPA health physicals and wellness maintenance programs for membership
- Involvement of all family members in frequent social events and membership within the fire department

- Use of take-home vehicles for members if beneficial to the department
- Group rate changes on home and auto insurance for a volunteer member
- Access to low interest loans or credit union membership
- Residency programs for students in vocational or college educations and related housing cost savings (College Live-In Programs).
- Creation of funded scholarships based on a “time of service” agreement to assist volunteer firefighters working towards higher education.

Additionally, obstacles may exist for persons of different cultures or age groups, and a structured new member orientation period is recommended to identify if the new member has a question or concern. Remember, the goal is to attract them to the emergency service, however, the real challenge is to keep them involved and engaged within the organizational mission. It is also recommended that the recruit be tied to a strongly designed mentoring process, so they have at minimum one personal contact that has the best intention of guiding them in the learning process of the fire service. No individual should join a fire department and then be left to discover the group norms in the blind.

SAFER (Staffing for Adequate Emergency Response) grant funds may be utilized as a method to fund volunteer retention concepts and advertising campaigns. This competitive process, completed by a grant writer, may allow the township to move forward with NFPA 1710/1720 compliancy while offsetting budget stresses, or at minimum allowing for a planning period. FEMA offers a vast amount of guidance on its website for the application process and timelines. <https://www.fema.gov/grants/preparedness/firefighters/safer#> SAFER grant language allows for the following utilization of applied funds towards recruitment strategies:

1. Insurance packages such as accidental death and dismemberment (AD&D), disability, health, dental, and life.
2. Reimbursement to the new member for attending required basic training. This can include compensation for lost wages, mileage, lodging, daycare and per diem expenses.
3. Marketing costs to recruit new volunteer members.
4. Salary and benefits for a recruitment and retention coordinator.
5. The cost of physical exams; however, they must be consistent with NFPA 1582.
6. Development and initiation of an explorer, cadet, and/or mentoring programs.
7. The cost of a department staffing needs assessment.
8. Tuition assistance for higher education (including college tuition) and professional certifications (coursework or certifications in this category should be above and beyond what the department typically funds for required minimum-staffing firefighter certification. Books and lab fees are eligible, but computers are not.)
9. Length of service awards and other retirement benefits. (LOSAP)
10. Reasonable costs for the department to administer the SAFER grant.
11. Costs associated with team/committee building activities

Note on applications: Regionally planned recruitment requests activities that have a wide impact will receive a higher score in consideration than applications that benefit only one department. Recruitment grant funding applications should be approached by a coalition of departments if this appeals as a potential pathway. Recruitment should be examined from regional or county perspective as this impediment is being faced by all fire service partners.

Another helpful site to reference is <https://www.firegrantshelp.com/> which can provide a wide assortment of support information and available fund sources for many department issues. Also, this site offers many of the accepted professional grant writing tips to make an application more competitive in consideration of limited resources.

Volunteer Service Recruitment and Diversity Initiatives

Perspectives regarding the impact of diversity in the fire service vary from causing adversity and effectiveness in the organization to providing a position of strength and success through collective intelligence. No matter what your perspective may be on diversity, it is an issue that can evoke emotions” (McNeill, 2008). All public agencies today have an image of fair inclusion, some elements of fire service organization, nationally have been lethargic to truly examine diversity initiatives and make appropriate steps to accomplish change.

Some have compared and criticized diversity initiatives to impacts of lower standards. In fact, diversity is targeted at making a fire service organization stronger and matching it to the community it serves. Why should any community member not have an opportunity to apply and test for emergency services in the region they reside, or perhaps where their very family lives? Collective cultural or religious intelligence can allow an organization to move towards department goals, considering perspectives based on our differences and a closer community focus.

Targeted recruitment of demographic groups not typically reached by traditional fire service hiring practices must be examined and implemented, towards a wider population. This is equivalent, volunteer or career alike, with the question being “Where and how do we introduce our agencies to qualified applicants who have an obstacle such as a language barrier, or perhaps access to electronic media?” Diversity initiatives should examine solutions for gathering employees and volunteer membership based on age, ethnicity, gender, religion, and physical challenges. Recruitment and retention diversity are usually not just a fire department struggle, but usually all offices within a municipality may have similar concerns. An objective task force could be formed of representatives who can consider a strategic plan to open all hiring to diverse groups.

A committee, with collected feedback can be polished for individual departments, however broadly, North Cornwall Township in collaboration with human resource directors should examine all tools for diversity education both internally and externally of the fire service.

This is a continual maintenance need if the department functions entirely as a volunteer agency. For purpose of this report, it is considered a long, medium, and short-term strategic planning issue to continually monitor how to attractively draw membership from a widening pool.

Potential strategies to enhance diversity in recruitment may include the following:

- Application and announcement in multi-lingual websites, media, and across cultural social media sites for job announcements, job needs, and potential rewards of service as well as location to apply.
- Consider advertisement or visibility options at faith-based locations across the region to announce department career availability and processes.
- Attend as many local job and career fairs as appropriate for recruitment of candidates with job posting materials available.
- Local colleges may also be an option for advertising of career or volunteer opportunities. Consider “live-in” programs to attract an eligible volunteer.
- Local gymnasiums and fitness centers may also be an attractive location to post job openings and contact information for physically active persons of many backgrounds looking for a challenge or to assist the community.

The Fireman’s Association of the State of Pennsylvania (FASP), SAFER Grant, assists in enhancing recruitment for the Pennsylvania fire and emergency medical service community, has renewed as part of its program, and is a local grant opportunity. FASP is offering a recruitment and retention grant. Further information about this process as well as recruitment and retention assistance can be referenced at [FASP Recruitment & Retention \(becomeapafirefighter.com\)](http://becomeapafirefighter.com).

Development of College Live in Agreements: Provided lodging in lieu of members joining a fire department and providing staffing hours has become a very popular program throughout the country. Given the proximity to many colleges within Lebanon County and surrounding regions, a live-in process may very well allow for an additional recruitment opportunity. In this particular case, Neversink Fire would need a significant improvement in the facility to allow for dorm spaces and related areas and should be a consideration of the overall developmental goals. This agreement allows affordable savings for college students, while honing emergency service skills and serving a community. Many departments in the area provide for space from four to ten students within the firehouse, and then require a specific number of duty shifts or staff hours to cover what would be rental property costs.

Most hosting fire departments require the member to sign a contract of intent, as well as acknowledgment of training and hour requirements as part of the agreement. Minimum GPA standards are established to make sure students are attending and passing classes, as not to be more of a priority than the department needs. Most live-in programs also have structured work assignments and maintenance details during the week which would be set at the discretion of the fire chief or responsible fire officers.

Step 2: Enrichment of Volunteer Stipend and Incentive Rewards

North Cornwall Township currently has in place a stipend process to supplement the time and commitment of volunteer responders. The current process compensates a qualified and active volunteer at \$5.00 per call after completion of 5 fire incidents within a quarter (3 months) of the year, and a cap on earning at \$125.00 within a quarter. A responder having met the maximum over 4 quarters could earn \$500 annually. This stipend process is funded by North Cornwall Township fully from the local budget with a line-item amount of \$20,000.00 for 2022.

A Volunteer incentives reward programs (VIRP), in essence, currently utilized by the township, may also include such methods of quarterly reward programs based on a point analysis for fire department activities including training and can be rewarded to the member by small stipends or gift card purchasing. Likewise, pay for call and pay for duty programs can be crafted to provide small compensation to the member for actively being in a firehouse for a specific time, usually utilized during times of peak service responses. Obviously, this incurs a budget expense which may need to be supported by direct municipal funding. These options are generally used to fend off the need for full-time and part-time employee costs, which can be inevitable if volunteerism falls below acceptable risk tolerances to the community. The calculations for point accrual can be described in actions such as emergency response, hours provided as in station and on duty availability, attendance of training events, attendance to department meetings, or actions of fundraising for the department.

With a determined number of personnel that the fire department expects to be available or defined by the standard of cover within a specified period to the scene, it is imperative to know which staff are available and planning to respond either to the scene, whether they are home responders or will be posting duty within fire department quarters, which is most response time effective.

Another section of concern with supplementation of volunteer staff is compliance with Fair Labor Standards language. A document that should be referenced and co-authored by the International Association of Fire Chiefs, volunteer section states “10 years, the Volunteer and Combination Officers Section (VCOS) has been actively involved with our parent organization, the International Association of Fire Chiefs, in working with the U.S. Department of Labor to clear up a number of issues that have caused the American volunteer fire service concern. Over that time, a genuine need surfaced to obtain administrative changes and clarifications to the Fair Labor Standards Act (FLSA) of 1938 at the federal level because of conflicting regional and local interpretations and how these provisions affected the use of volunteers in local fire departments. Often, local administrators and legal counsel decided to allow or not allow certain groups of individuals to volunteer based upon community opinion or restrictive actions, constantly mindful of potential litigation (FLSA, 2006)”. This document legally defines the term volunteer and suggests that a member can be compensated up to a 20 percent threshold in several different methods as displayed in the following matrix:

Amount of Payment	Requirements	Additional Payments	Average worked
\$1,200 per year	Regardless of number of shifts worked or time spent	N/A	24-hour shift or 60 total hours responded during year
\$100 per month	Regardless of number of shifts worked or time spent	N/A	4 shifts per month or 8 total hours responding to calls for month
\$100 per month	Minimum of 2 shifts per month or 5 hours responding to calls	\$25 dollars for each additional shift over 4 and/or 2.5 additional hours responding to calls over 12 months	N/A
\$25 per 4-hour shift	Regardless of number of shifts or time spent on calls	N/A	N/A
\$25 for declared shift	Minimum of 8-hour shift or 2.5 hours responding to calls in total	\$15 that exceeds 8 hours or 5 or more hours or responding on calls	N/A
\$15,000 annual pay	N/A	N/A	3000 maximum attending calls or on duty annually
\$20 per shift	Regardless of the length of shift or number of hours spent on calls	Pay will increase \$1.00 per shift for each year of minimum service	N/A

Any of the above would require added municipal financial support, which is currently \$10,000 annually to supplement the stipend program. Potentially and depending on the number of participating and active qualified personnel, the local government may have to double this input annually to Neversink Fire Company, thus making it more attractive for volunteer firefighters from a time invested away from home standpoint. The above program totals can be tweaked to fit the needs of the schedule requirements that need filled or the required call volume. It should be stated that this economic impact will be substantially lower than the need to employ and attract part-time or full-time membership costs within the fire service if the volunteer system cannot be augmented.

A length of service award programs (LOSAP) must mandatorily be drafted, so that the volunteer willing to commit to active township fire participation for a significant time would, in essence, be vested in a long-term pension process and receive a long-term financial reward. These programs offer a defined benefit to the responder based on a pension calculation over a set of number of active years, providing a long-term financial reward to the individual. Many private pension agencies are available and easily shopped to provide the pathway to create and finance a LOSAP program through local municipal funding and support. These contributions are generally calculated with a requirement for a set number of years of service defined in “active” service to the agency, and like many pensions can require up to 15 to 20 years for full vestment. Agencies have begun to steer from these optional programs as the benefit accrument requires many years of active service and given the turnover rate and transitory nature of volunteer firefighters, as well as time of residence in a community, may not be realized by the responder as a fair exchange.

Step 3 Development and employment, at minimum, one Full-Time and one Part-Time Public Safety Officer (PSO) positions as supplementation to staffing model

During initial planning sessions with leadership of Neversink Fire Company, members indicated that the most severe threat to the organization was available personnel response numbers, particularly on the daytime hours, and that waning volunteer availability caused a higher percentage of ‘scratched’ responses.

Further consideration led to the need to examine some full-time support mechanism, properly supported by the local government to guarantee a minimum response to the firehouse of qualified individuals to address emergency responses. Additional meetings with the elected officials and administrator echoed the need to place persons on-duty and as employees to assist the local fire company. However, it was stressed that full job analysis was needed to maximize the work captured in this position for the expense incurred within the budget.

A public safety officer (PSO) has become a popular mechanism for municipalities, nationwide, to conglomerate several tasks from police, fire, codes enforcement, and emergency medical service activities into singular job role. The focus of development of these roles have been centered on potential cost effectiveness of quantity of work for municipalities, which may not have high call duty for fire, police, and EMS systems, while still finding suitable part-time or full-time work to support the needs of the public. Each agency approaches this process in a slightly unique fashion; however, many most common characteristic differences is whether law enforcement duties are connected in the job posting. It must be noted that these personnel may not be always within the fixed fire facility, with other duties to accomplish to support local government.

The best option for development of this career position, applicable to North Cornwall Township, would be the potential of two staff positions developed with the major task focus being property codes support, building codes inspection, fire codes inspection, integration of pre-planning intelligence collection for building stock within township, and fire department agency support. It should be noted that several agencies, nationwide have created these opportunities without a law enforcement element and have been very successful in assisting undermanned volunteer fire agencies. The peak time analysis displayed earlier, as in most Pennsylvania fire departments, justify the need for this assistance from the hours of 9 AM to 5 PM (8-hour shift 5 days per week) or could be dictated from 8 AM to 6 PM (10 hour working shift 4 peak days per week). With employment of multiple PSO’s, the schedules can be overlapped for wider response support.

A sample job description/analysis is included in Appendix A, taken from a municipality with similar demographics, local government structures, and an indicated difficulty in response staff numbers during daylight hours of the week.

Specifically, these PSO positions would be beneficial to ISO rating as well as impact to community outreach campaigns in terms with more expansive Community Risk Reduction (CRR) program capacity. Scheduled public education campaigns, with many available education outreach subjects, can be designed or provided by these personnel to fill other available time, as well as inspections of various types mentioned prior. When recorded correctly in the electronic database of fire department activities, this will directly increase the available point value within the next ISO evaluation period, which many communities pass over as small in nature.

Step 4 Development of regional shared cost mechanism for Full-Time/Part-Time Staff for Fire Department and Codes Enforcement Enhancement

Currently, the situation does not dictate a critical need in the position of the township department for this report but may necessitate a conversation for long-term attention if the downward trend of reduction in volunteer support continues, despite assistance of recruitment and full application of the public safety officer implementation process. This problem exists as a regional stress, and not entirely a burden of the connected local government, individually. The next step solutions should not be addressed in a silo, without resource sharing.

Somewhat progressive and relatively untested in nature, the consideration of a “rent a firefighter/fire officer” agreement can be generated with career municipal agents such as the neighboring City of Lebanon, Pennsylvania. In this instance, North Cornwall would reimburse, via an intergovernmental agreement, for an annual amount which dictates the City Fire Department supply a determined number of pre-trained firefighters for specific duty hours, and specific job definitions, which would provide a boost to fire coverage.

This intergovernmental agreement should be negotiated by any involved local government managers, solicitors, as well as any private volunteer agency leadership that will host the career personnel, provided by the agency with trained interior firefighters. For many local governments, the cost can be split in many methods such as 100 percent cost reimbursement, or even 50/50 or 25/75 financial cost sharing. In essence that staffed unit would serve a consistent response need for North Cornwall and could be a shared unit for the city as well. As many municipalities, regionally, that would like to participate, may, where the central city is the manager of the personnel, scheduling, and annual training requirements. In terms of solving the “regional” manpower concerns, for the Commonwealth of Pennsylvania, this may be a very effective method for the future to diversify locations of career-based fire department growth. The objective of cost sharing of personnel should be to examine regional placement of share staff and fire apparatus which addresses the common thread of loss of volunteer-based response capability and is a more planned and consistent model to move towards.

One of the key questions in any intergovernmental agreement is how the cost will be calculated where a shared resource is created. This cost is inclusive of hourly wages, benefits, or even maintenance of staff. Often these costs are split or shared based on population served, total

assessed evaluation of property protected, percentage of use of the resource (in this case call volume), or equal share where all carry the same financial burden.

One other point of consideration, examined within this report, is that all facilities must be designed or improved to be able to host, house, and bed on duty staff with functional, clean, and effective environments, which is an added financial investment moving forward. In addition, when working with application of career staff, there will be a need for contract and negotiation with labor stakeholders over multiple defined working conditions, shared amongst the participating agencies. This added staff coverage does not have to be defined as full-time coverage, but initially may be part-time coverage to fill a target number of man hours per week or on needed weekends.

**Recommendation
Statement #2**

Development and implementation of capital apparatus replacement plan with strategy to maintain minimum necessary unit service needs, as well as increase safety of fleet while reducing maintenance costing. Maintain adequate service life of units and transition to township owned/maintained model.

Strong evaluations should be made on the number of apparatuses maintained in total by the volunteer departments with emphasis on downsizing (sale) and reduction of maintenance costs for units, which are seldom responding in service to the community. The department should maintain at a minimum of three engines and one squad/engine for front-line response.

By instituting a vehicle replacement strategy in terms of policy or even a local adopted ordinance, the major objective for a purchased fire vehicle to be in front-line use no more than 10 years, and if condition allows and unit grading is adequate to remain in the reserve fleet for an additional five to ten years. A unit, then decommissioned from use at a 20-year age span, and still maintained, should have some significant resale value and interest in the used apparatus market. The revenue recouped from sale can then be cycled back into a sinking fund or investment for the next round of capital purchase. Given the call density of this township, the front-line service can be stretched to 15 years as apparatus do not accrue significant road miles.

A best practice recommendation is that apparatus be replaced as follows (time constraints can be adjusted if specific high or low call apparatus accrue mileage and repairs more quickly than expected). Call volume and use weighs heavily on the replacement need of apparatus:

Engine/Squad: 10-year front-line service, 10-year reserve (assuming acceptable annual repairs and limited downtime)

Aerial Unit: 10-year front-line service, 10-year reserve (assuming acceptable annual repairs and limited downtime)

Fire department apparatus total depreciation should become part of the calculation on the replacement cycle and that impact of capital replacements. A common depreciation value can be calculated as follows: When calculating depreciation, begin with the original selling price of the vehicle when new. The average fire apparatus depreciates approximately 15% within the first year, 10% the following year, 10% the third year, 7% the fourth year, and 5% the fifth year. The depreciation rate decreases every year thereafter. Typically, fire trucks lose half of their value within the first five to seven years of in-service time.

Ideal fleet size and typing: Given the nature and type of responses reported by statistics for North Cornwall Township the fleet would be best suited as:

- 1 structural firefighting engine with light rescue (passenger vehicle) capability
- 1 structural firefighting engine/tanker combination
- 1 minipump /4 door truck with cargo/towing capability
- 1 command/duty officer vehicle

Apparatus Capital Improvement Plan

Year of Action	Unit sold/replaced	Purpose	Potential costing
2023	Specification and purchase of suppression engine/tanker combination	New unit, 2 nd fire suppression engine capable of moving personnel with minimum of 1500 GPM pump, and 2500 gallons tank size. Placed in service by 2024	Estimated unit cost \$750,000
2024	2002 Mack Tanker sold	Unit age approaching obsolete definition under NFPA and new replacement unit in service.	Estimated resale return of \$100,000 placed towards funding of replacement
2025	Specification of 4-door heavy duty minipump/truck	New unit provides flexibility to move staff, pump, suppress small fires, move equipment, and prime mover for trailers	Estimated unit cost \$190,000 complete
2025	2004 Ford F-250 utility sold	Unit age and over all flexibility for department use as well as arrival of new replacement minipump	Estimated resale return of \$20,000 due to age of unit, placed towards funds for replacement
2029	2013 Pierce Rescue/engine sold	Unnecessary unit within the fleet with maintenance and insurance burden	Estimated resale unit value of \$80,000 due to age
2036	Sale and planning replacement of 2021 Pierce Saber engine-cycle begins again	Slight resale value and planning of replacement engine/rescue chassis	Unknown resale value

Implied total cost of \$940,000 over six-year period

The current 2013 rescue/engine can be maintained in the fleet for its useful lifespan of 20 years, however, should not be replaced as a fleet need. The current call demographics do not indicate a strong need for a robust rescue chassis for this region. If in need of rescue response, many mutual aid partners from neighboring districts can be added to these incidents to fulfill this occasional problem. An alternative is to outfit the new purchased 2021 engine with a minimal compliment of electronic based rescue tools, minimum handbooks, and stabilization materials to handle day-to-day passenger vehicle rescue. A small package of rope access materials can be added, which will not take on a significant amount of cargo space. Technical level tools should be requested from mutual aid partners when incident details call for that need. In essence, the current fleet is maintaining one additional unit with very little return on investment. The longer this unit is retained, the lower the resale value will be, which can be levied in the capital expense budget for other, more critical needs to the department.

During initial agency discussions, many attendees ask, “Does the township need to specify and include an aerial or defined quint apparatus for coverage and access to current building stock?” The current nature of mutual aid aerials can accomplish coverage of the township, without any negative impact to ISO and call time statistics. Two regional partners, Hebron at 2.4 miles and Annville at 3.0 miles, are able to provide need truck company fireground functions and should continue to be utilized as a mutual aid partner immediately on all fire responses or specific

incidents where aerial access is needed. In addition, the City of Lebanon is an immediate bordered neighbor who can provide efficient truck company functions for North Cornwall Township on a 24-hour basis. At this time, the municipality should not enter any planning or funding functions for this additional fleet expansion for Neversink Fire Company. Duplication of service has been identified in the Commonwealth of Pennsylvania as a serious issue in fire services and should instead be viewed with cooperative agreements.

Direct Purchase Financing versus Lease Options

The most traditional method of apparatus purchase is with financing of the unit from a manufacturer with utilization of lower interest loans. Typically, it is much easier to apply for financial aid in consideration of a new design unit, however, organizations will be faced with higher estimated costs particularly in today's custom chassis environment. Competitive bidding and comparison of like models with emphasis on cost effectiveness of dollars invested should be the mode of consideration. Likewise, a committee should be formed to determine what is mandatorily needed to best suit the emergency response functions for North Cornwall Township and not necessarily what are modern trends and thoughts.

Leasing, or referred to as a lease-purchase agreement, is becoming a more common solution to spreading costs on new design units out over a wider span of year of service. The reason this option is called a lease purchase rather than a loan is that you have the choice each year to cancel the agreement. By having this choice, most states consider this financing option an operating expense and it does not count toward any debt limits. However, when you choose to cancel the agreement, you return the truck to the bank.

The turn-in lease is like a walk-away lease with a couple of important differences. Like the walk-away lease, this option is designed to allow use rather than ownership of the truck. The difference comes at the end of the financing term, usually five or seven years. At that point, your choice is either to turn in the truck to the manufacturer and receive a new truck or purchase the truck for set amount, which was agreed upon upfront.

One disadvantage often cited with lease is that the physical property is often never an "owned" unit and thus no resale value can ever be generated. At the same time since the unit is not owned, the indirect losses of devaluation do not get passed on within fiscal budgets. In addition, maintenance programs can often attach or be financed with the lease of the unit also removing some of that cost burden to the owner, operating like insurance on the unit and covering some large expenses. In many locations, small vehicle fleets have shifted entirely to lease options, however, large vehicle ownership where mileage is incurred quickly, such as ambulances, have also begun a shift to this methodology for more rapid turnover.

New Design versus Rehabilitated Apparatus

Obviously, new design fire apparatus offers many advantages in dependability, serviceability, year of available use, safety refinements, and as a source of company pride. However, given the

financial concerns and inputs available for North Cornwall Township, apparatus that has been manufactured within the last three years could be examined for purchase if the specification fits to the community needs. Likewise, new design units may take well over a year or more for construction and months for delivery.

Rehabilitation of units which are seldom frontline or see lower response needs should be considered when that apparatus still meets safe and acceptable standards. These units for rehab already are past resale value of year of service, and generally see little input maintenance investment. North Cornwall Township may examine or consider slightly aged units as candidates for rehabilitation or purchase, as long as updated to facilitate NFPA compliant requirements, and still have some lifespan within the community while seeing lower costs in comparison to a new design. These units will be outlined within the sample replacement plan of the report. NFPA 1911 Annex D Standard for Inspection, Maintenance, Testing, and Retirement of In-Service Emergency Vehicles should be no longer than a 25-year time span. Any unit over that age should be considered non-compliant to safety regardless of mileage. NFPA 1901 Standard on Automotive Fire Apparatus as in the last revamp states no fire apparatus should be frontline with 15 years of service, or as a reserve with 20 to 25 years of service. Beyond 25 years of service is considered obsolete, of little value, and often will not meet current safety standards for effective response.

Municipal versus Private Ownership Comparison

With acquisition of the 2021 Pierce Saber demo unit, provided to Neversink fire company by municipal funds of North Cornwall Township, a cooperative relationship was defined which removes much of the financial burden for apparatus purchasing which inevitably relieves the need for most agencies to provide vast fundraising efforts.

The township, operating effectively, should continue the relationship of financing or leasing each new piece of apparatus in the legal title, and should effectively utilize fireman's relief funding to compensate and offset some of the burden to the taxpayer as each unit of the fleet is transitioned, sold, and new units are acquired. In addition, as each unit is moved to ownership of local government, so should the maintenance, insurance, and support of that unit as well. This strategic action should remove the gross burden of fundraising from the agency, for the largest part as apparatus costs are the principal capital investment typically absorbed by a volunteer organization. This reduction in fundraising need should refocus the fire department towards recruitment, public service, and training or preparation.

Given the growing burden of diesel fuel costs as well, it would be wise for the township to find a mechanism or relationship with whatever fueling resource is used for the public works agency.

Strategically, for the purpose of this report, this should be a **Medium Term-Strategic Goal (3-5 years)**

**Recommendation
Statement #3**

Development and implementation of capital facility plan with strategy to maintain minimum necessary firehouse service needs, as well as increase in safety and functionality of floor space. Maintain adequate length of service planning for facility upgrades to meet the needs of the future.

Fire department housing must accommodate extremely diverse functions, including cover, recreation, administration, training, community education, equipment and vehicle storage, equipment and vehicle maintenance, and hazardous materials storage. While it is usually only occupied by trained personnel, the facility may also need to accommodate the public for community education or outreach programs.

Physical facilities are as imperative to the community as the fire apparatus and personnel that respond from them. They are a foundation of pride for membership and provide security for fire department resources. It is necessary that North Cornwall Township assist in supporting the facility infrastructure improvement as well, much as any other public administration building of local government. All facilities should be designed to allow for residency of staff during emergencies including functional kitchens, male/female dormitories, bathroom facilities, office space, classroom space, and physical fitness facilities with overall health and welfare anticipated. In addition, space should be segregated for additional floor space for apparatus and equipment storage. It is highly recommended that architects are consulted for any long-term additions to township facilities as these buildings often have a lifespan of 40 to 50 years of use. Within this report this is declared as a **Long-Term Strategic Goal (5-10 years)**.

The Federal Emergency Management Agency released a document in 1997 with critical input and thoughts for station designs and should be referenced by local elected officials for funding and design criteria (Safety and Health Considerations. 1997).

The following excerpts were taken from The Whole Building Design Guide (Minion, 2017)

Apparatus Bays

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

Apparatus Support and Vehicle Maintenance

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

Agent storage is typically provided in a single-story structure separate from the fire station building. It should be located along the drive leading into the Apparatus Bay for ease of loading and unloading of firefighting agents. In some cases, it may be attached to the main structure.

A vehicle maintenance bay may also be included in a fire station. It is a dedicated maintenance area for the firefighting apparatus and includes a heavy-duty lift and all utility connections required for large vehicle maintenance.

Administrative and Training Areas

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

Residential Staff Housing

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

Dorm room design can vary widely from station to station and department to department. Each firefighter is provided with a place to sleep, work, and store personal items. Careful consideration should be given to the location and design of the area to ensure response times can be met. See Emerging Issues below for more information on dorm rooms.

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

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

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

Emerging Firehouse Design Issues

One emerging issue in fire station design is the additional attention given to firefighter quality of life and furnishings. As noted above in design considerations, one way to promote quality of life is to provide separate dorm (male/female) rooms for each firefighter. Typically, each room is shared between firefighters of different crews/shifts so that the room is never occupied simultaneously. Individual lockers are provided for each firefighter. Some departments are taking this one step further and providing separate beds for each firefighter. Wall-beds, also known as "Murphy-beds," are also becoming a common alternative. These combine the qualities of an individual bed with added space savings.

- **Response Time:** The layout of a fire station should be set up such that firefighters have a minimal distance to travel to the front of the apparatus bay where the first engines are located from both the sleeping quarters and the kitchen/dining/day room area.
- **Public to Private Separation:** A fire station should be organized such that there is a progressive transition from public areas to semi-private areas to very private areas. This can be accomplished by placing the administrative office near the lobby with a secured door. As visitors enter the station from the lobby, they should first encounter the living areas as transitional semi-private space, allowing the sleeping quarters to be the most private and furthest from public areas.
- **Visibility Protection of Living Area:** Visibility to the kitchen/dining/day room should be screened from the exterior front of the station to avoid members of the community observing fire personnel when off-duty. The community should see firefighters in action in the apparatus bay and not during off-duty relaxation time which may send a wrong message.
- **Noise Protection:** Great consideration should be giving to firefighters' sleeping quarters. Avoiding immediate adjacency to the kitchen/day room/exercise room will help minimize interior disruptions of firefighters while sleeping. Bunk rooms should also avoid immediate proximity to busy roads. Firefighters can be called at any time of the night and should have their rest protected when they can get it.
- **Exercise Area:** Exercise areas should be located on the house side of the fire station whenever possible to avoid the need to cross potential areas of contamination such as the apparatus bay. To allow firefighters good ventilation and additional space for exercise, several doors or roll-up doors should be provided to an exterior exercise patio as well as square footage to accommodate different fitness activity types.
- **Decontamination Process (red zones):** When firefighters return from a call, there is often a level of decontamination that is necessary before entering the station. It is optimal to have an exterior door from the rear apron enter the decontamination room to allow firefighters to perform the cleaning process prior to entering the apparatus bay. PPE (Personal Protective Equipment) washing should be immediately adjacent to the decontamination room prior to entering the PPE storage area or the apparatus bay. This provides a progression in the decontamination process as the station is being entered.
- **Vestibule Placement:** The apparatus bay and support areas are considered a hot zone with contaminants. The living and sleeping quarters are the safe or green zone that are to

be protected from those contaminants. A vestibule is to place between the hot zone and the green zone. It is recommended that this vestibule have two doors and the mechanical system for the station be designed to maintain a positive air pressure flow from the green zone through the yellow zone vestibule toward the hot zone. Before entering the vestibule from the apparatus bay, a hand washing sink shall be located next to each door. Additional boot wash stations or boot changing areas are recommended to be part of this vestibule.

- **Green energy efficiency:** Vegetative roofs, photovoltaic (PV) panels, energy-efficient windows have become a norm of the planning process. A generation ago these words were only in the design vocabulary of the most progressive architects. Today, these sustainable design trends have become a true reality. Green building design directly benefits owners and government through lower energy bills, lower water usage, and provides safer and healthier environments for fire department responders.

Shared Public Safety Complexes and Common Spaces

There are about 18,000 state and local law enforcement agencies in the U.S. As noted above, there are approximately 30,000 fire stations throughout the U.S. According to a study performed by Michigan State University, 128 of these agencies have merged fire services and law enforcement. Although a small percentage, the trend of co-location and, at times, cross-training, is on the rise.

Why has this become a popular movement? For much of the 20th century, police and fire departments have been a low-cost, high labor operation. But there has been a shift as pay and benefits for public safety continues to grow. In smaller jurisdictions especially, the cost of running separate police and fire departments with large workforces has become challenging to sustain, with many long-term, anticipated benefit costs.

In these structures staff from fire, police, and EMS can share bathroom, locker room, kitchen, and general seating areas while maintaining separation of specific office use, critical storage, sleeping quarters, or separation of vehicle access.

Building and Planning Process

Ken Newell, principal in Stewart-Cooper-Newell Architects, says fire departments should consider several factors before even engaging an architect to design a new station. “We recommend that departments find an architect with a lot of public safety experience,” Newell says. “They should look for a designer who specializes in fire departments because if the station isn’t done right, they will have to live with any mistakes for 50 years or more. We also recommend they check with end users who have engaged that architect for their feedback.” Newell says fire departments usually have a good idea of the type of equipment they’ll have in the building, so they should collect literature on the equipment and provide it to the architect. “We also recommend to the chief to bring young end users who will occupy the building onto

the planning committee,” he notes, “so they will have continuity when they have to build another station. (Petrillo, 2018)” Bob Mitchell, principal at Mitchell Associates Architects, further advises he sends a fire department a questionnaire to determine what equipment and use each room of the firehouse would have, as well as a list of all the apparatus to be housed. “When they tell me what they need to do in the space, I can show them a photo of a space and a floorplan that seems to accomplish what they need,” Mitchell says. “Initially, we ignore constraints and ask the department what it needs to do operationally. We also get a sense of its budget and then determine what can be done within that budget.”

Architect selection should go through a competitive bidding process set by local government legislation with an eye on transparency, based on presenting designs or remodels that fit the needs of the department and the “look” of the community. This selection process should be entered into deliberately, as time invested to find architects and general contractors that can provide proof of prior work, accept appropriate timelines, and document for needed insurance coverage.

Funding mechanisms and Local Government Support

In 2019, the National Fire Protection Association (NFPA) released the report Renovations Needs of the U.S. Fire Service. This report showed that 43% of the surveyed fire stations are more than 40 years old. In many cases, they are not equipped with cancer-preventing exhaust emissions control systems. Approximately one-third of the surveyed firehouses did not have access to backup power. In addition, these stations may be affected by mold, old ventilation systems and other environmental problems, and they may not have crew quarters for female fire and EMS personnel. Due to budget cuts and lack of federal grant funding, fire departments are often unable to upgrade or replace these facilities. Forty years ago, fire station construction cost \$50-\$60 per square foot. Today, this average has risen to \$190-\$250 per square foot, with significant inflation over the past decade especially. As municipalities face stricter budgets and pressure from the public not to raise taxes, building new and renovating current fire stations has become an exhaustive challenge.

This is one of the most daunting tasks for a fire agency to take on as the investment in the structure, once built-in place is expected to last 40 to 50 years and must be effective for the end use, the staff. However, it must be reinforced that this is a public use facility as well. The design and planning of a facility should be committee based including local government officials and will require an incredible time investment to accomplish correctly.

North Cornwall should direct funding support for renovation of the current facility. Given the immense investment this is, it may be effectively to spread the cost out over three budget cycles and consider a “phased” building renovation in the planning process with the architect and general contractor selected. The difficulty is where to create or direct township financial support of capital needs of the renovation and improvements. For preliminary discussion, it may be an effective, and cost saving method for the architect to maintain the frame of the existing firehouse

and generate additions that are beneficial to the points listed prior. The creation of an entirely new structure may not be reasonable given the cost to benefit ratio and the call volume of the agency involved. The deliberation must include local government and the private fire department working cooperatively to solve this issue.

Currently, Neversink Fire Company, according to recent account balance statements, shows a General Account balance of \$394,000 and a Fireman's Relief fund balance of \$326,000. This equates to the fire company having liquid assets of roughly \$700,000, which can be leveraged to begin to address some of the facility improvements and planning. In discussion with township elected officials they clearly provided they are willing to support the facility if the individual fire company is willing to expend some of its current fund balances, with shared ownership of the success of the project in mind. A potential option may be to set up a matched fund agreement between the fire company and North Cornwall Township, whereby the funds spent by the department to improve the nature of facility could be matched at 50% or 40% threshold to display the organizations intent as well as local government financial support.

In addition, the facility should be conservatively planned to save cost, and should not include unnecessary space, or cosmetic luxuries, which may not benefit the public response. As mentioned in a prior paragraph, since local government will most likely fund a matching portion of the project they should be included as a stakeholder in what is accepted or expected in the construction bid process.

North Cornwall Township currently has in place a local emergency service tax which is structured by millage rates from local and business property tax allocations. Current millage rate is set at .3 mill, which has accumulated approximately \$263,000 generated revenue across township property. The rate should be increased by .2 mill (.5 mill max) over a 4-year period, with those additional funds earmarked to support improvement of career positions, and fund balances to assist in facility improvements, assuming that the independent fire company displays cooperation with expense sharing. Obviously, even this slight increase in tax burden must be voted and comes with some executive and legislative pressure to assure these funds will be beneficial to public safety and fund pass transparently to stated projects.

Potential Grant Sources to Aid Construction

There are other available methods to alleviate some costing (grants) or advantage of loans in purchasing and funding of operational needs of fire departments including facility renovation. In some cases, a grant writer may be consulted or enlisted to complete necessary paperwork to file for federal and state grants if specific and measurable projects are known to be supported. Several of the below listed grants are defined as competitive grants and may require that the township or fire department employ a third-party grant writer specialist. Often the grants require a very detailed explanation of objectives, and an element of planning to close out the authenticity of the granted project.

Additional references for grant writing assistance:

NVFC Fire and Emergency Services Grant Writing Guide
www.nvfc.org/files/documents/Grant_Writing_Guide.pdf

The National Volunteer Fire Council (NVFC) developed this simple-to-follow guide to help departments navigate the complexities of applying for Federal grants. This guide is designed to make the process less challenging and assist fire departments and their grant writers in preparing a competitive application.

Proposal Writing Short Course
<http://foundationcenter.org/getstarted/tutorials/shortcourse/index.html>

Located on the Foundation Center website, this site offers advice on preparing a grant proposal.

Sample Grant Proposals
www.theideabank.com/onlinecourse/samplegrant.php

This website includes sample proposals and narratives from successful grant writers from the AFG program

Federal Grant Funding Assistance:

FEMA Assistance to Firefighters Grant (AFG) Program

This program enhances the safety of the public and firefighters with respect to fire and fire-related hazards by providing direct financial assistance to eligible fire departments, nonaffiliated EMS organizations, and State Fire Training Academies (SFTA) for critically needed resources to equip and train emergency personnel to recognized standards, enhance operational efficiencies, foster interoperability, and support community resilience. For more information - <https://www.fema.gov/assistance-firefighters-grant>. Note: AFG has specific, population-based non-federal matching requirements.

Fire department priorities include training, equipment, personal protective equipment (PPE) gear, firefighter wellness and fitness, modifications to fire stations and facilities, and firefighter vehicle acquisition. Note: Nonaffiliated EMS organization priorities include EMS operations and safety, EMS training, EMS equipment acquisition, EMS PPE, EMS wellness and fitness, modifications to EMS stations and facilities, and EMS vehicle acquisition.

The timeline of the project is also important, which is why the preference is to land-owning applicants since finding properly zoned land at an affordable price is tough in some areas. Those that have completed and accepted architectural drawings, architectural approvals, submitted permits, and other requirements will also score higher and stand a better chance of grant funding success.

U.S. Department of Agricultural Community Facilities Grant and Loan Program

Public bodies and non-profit organizations in rural communities (less than 20,000 residents) can use funds to construct, expand or improve public facilities. This includes municipal vehicles, police vehicles, fire trucks and fire stations. Graduated scale of grant assistance based on population and poverty, with highest priority to communities with a population of 5,500 or less and median household income below 80% of the state nonmetropolitan median household income. More information at <https://www.rd.usda.gov/programs-services/community-facilities-direct-loan-grant-program>. North Cornwall Township meets the intent and parameters of this grant and should fully examine the application process to see what could be generated to offset costs of new or rehabilitated construction.

U.S. Department of Housing and Urban Development (HUD)

Community Development Block Grants (CDBG) is a flexible program that provides communities with resources to address a wide range of unique community development needs. The CDBG program provides annual grants on a formula basis to States and local governments. Seventy percent of CDBG funds must be used for activities that benefit low- and moderate-income persons. In addition, each activity must meet one of the following national objectives: benefit low- to moderate-income persons, prevention, or elimination of slum and blight, or address community development needs having a particular urgency because existing conditions pose a serious and immediate threat to the health or welfare of the community for which other funding is not available. More Information: www.hud.gov/offices/cpd/communitydevelopment/programs.

State Grant Funding Assistance:

Much of the funds dispersed to emergency medical services (EMS) organizations by States come from Federal passthrough grants such as the Community Development Block Grants or the State Homeland Security Grant Program. These grants are managed within various State such as the Pa. State Fire Academy and transferred to local government and non-fire-based EMS organizations. Good sources of information on available grants can be found in State Departments of Health, Departments of Transportation (DOTs), Departments of Natural Resources, Insurance Departments, State Fire Marshal's Office, and Department of Emergency Management and/or Homeland Security, among others.

Volunteer Fire Company and Volunteer Ambulance service Grant Program (VFCVASGP)

This grant process managed by the Pennsylvania State Fire Academy, Office of the State Fire Commissioner is designed to assist with Construction and/or renovation of facilities; purchase or repair of equipment; debt reduction associated with facilities or equipment purchases; and training and certification of members.

Eligibility: Volunteer fire companies

PA Office of State Fire Commissioner: Volunteer Loan Assistance Program

The Volunteer Loan Assistance Program (VLAP) provides loans at a fixed 2% interest rate to volunteer fire, ambulance, and rescue companies for the acquisition, rehabilitation, or improvement of apparatus, facilities, and equipment. More information at www.osfc.pa.gov.

Local Government Funding Assistance:

Borrowing

Major capital improvements can be funded by borrowing money and repaying it over time. This can be accomplished with bonds, certificates of participation, not-for-profit revenue bond financing, or traditional borrowing.

Bonds

Bonds are a way for a local government to issue debt or, in other words, raise funds. A city issues bonds to support voter-approved projects and then agrees to pay back the bonds with interest. Bond funding is for assets with a long, useful life such as buildings, utility systems, or vehicles. The assets should have the same useful life or longer than the time it takes to repay the bond. For example, if a rescue station has a useful life of 20 years, the time it takes to repay the bond should not exceed 20 years. Bond funds cannot be used for operations, for instance, employee salaries. Bonds usually carry a lower-interest rate than other types of funding, therefore, it is an attractive way of financing capital improvement. One of the considerations in determining interest rate is a local government's ability to repay the bonds.

This ability is determined by a private assessment company that assigns the city a "bond rating." In order to receive and maintain a high bond rating and thus a low-interest rate, a city needs to have sound financial practices and policies. One example is to keep enough to maintain an adequate fund balance, typically between 8 and 10 percent, in the city's general fund and enterprise fund. If the fund balance falls below this amount, it could cost the community in the form of increased interest rates on borrowing. If this process of funding is utilized, then local government most likely is both the benefactor and becomes the ultimate property owner of the titled parcel.

501(c)(3) Revenue Bond Financing

501(c)(3) Revenue Bonds are a low-cost source of tax-exempt financing for capital-improvement projects for qualified not-for-profit organizations. Just like public sector fire and EMS departments, nonprofit agencies may need to purchase or construct a new facility, improve existing facilities, or acquire new equipment to provide community emergency services. A nonprofit fire/EMS agency may be able to finance expenditures on a tax-exempt basis and receive substantial savings through the use of tax-exempt 501(c)(3) bonds. To issue 501(c)(3) Revenue Bonds, a governmental authority must act as the issuer of the bonds, passing its tax-exempt status onto the nonprofit organization. Because the income earned by purchasers of these bonds is tax exempt from Federal and, in some cases, State taxes, these bonds traditionally carry a lower interest rate and longer terms than conventional bank loans. This saves the nonprofit agency money and gives them better loan terms.

Facility Use Rentals and Service Fees

Fire departments often rent out meeting space for private functions. Some departments intentionally design new stations to include meeting space that is not only useful to the department, but also serves as a community facility. Departments can rent out a dining hall or large room for dances, parties, exercise classes, weddings, and other gatherings. Some of these organizations provide catering upon request. The fire department needs to ensure that they have adequate liability insurance for hosting these types of events. Wedding, banquet halls and conference rooms provide meeting space for union events and meetings and are rented out to generate revenue for the organization.⁸

Facility rentals may face the same type of opposition as fees for service in that the public may feel they are being double-charged for a facility—once through taxes and again with a user fee. As with other charges, a department must weigh the potential public friction in charging for service against the revenue raised to support the facility. Charging for events that are clearly private affairs may prove more acceptable to the public.

Development Impact and User Fees

Provisions for insurable billing have been in existence since the 1700's and platforms for third party billing relationships for fire response, hazardous material response, and vehicle accidents have become common place in local government agreements, nationwide.

Historically, municipalities across the U.S. have charged fees to community residents based upon certain services provided. Examples of long-standing municipal fees include. building and licensing fees, and administrative fees for sewer and trash collection. Typically, the user of the service pays the fee. This funding mechanism enables communities to raise additional revenue without increasing property or personal taxes. In recent years some municipalities have been charging a new kind of fee. These fees are designed to recoup the cost of auto accident response services provided by police and fire departments or expenses accumulated from structural firefighting operations. Using a third-party claims administrator to help fire departments reclaim costs is legal and not new in Pennsylvania.

Most third-party agencies pursue vehicle insurance providers for over the road incidents and may include accidents of great environmental impacts as well. Fires, flooding, and other disaster response can be billed to homeowner policies. At no time should a private, local volunteer fire department present a resident or business with a direct service bill as this can be labeled as unethical, and generally unauthorized by local elected official visibility.

This report shall recommend adopting resolutions or ordinances permitting for insurance billing (not direct resident billing), by all recognized fire and rescue agencies within the township. The billing, however, should involve a representative of local government so that certainty and visibility of accounts, billing, and revenue collection can be authorized. Local fire department leadership should not be the sole proprietor and coordination of the third-party billing company. Further, the township board should be provided quarterly records of outstanding insurance bills, and total revenue generated as well as total incidents reported in this program.

The Pennsylvania Fire and Emergency Service Institute provides a sample template of an ordinance with language at [Model Billing Services Ordinance - Pennsylvania Fire & Emergency Services Institute \(pfesi.org\)](https://www.pfesi.org). Emphasis should be given to the adopted fee structure which must

also be adopted by local ordinance so that reconstitution of fees is standardized by all allowable agencies and may appear as the sample below:

The charge for all apparatus responding to an incident is as follows. The rates shown below are hourly rates.

- Special Hazards \$500 plus materials
- Aerial Device \$300
- Ambulance (non-transport) \$250
- Heavy Rescue \$300
- Brush Truck \$200
- Command Vehicle \$150
- Ambulance (transport) (3rd party billing)
- Engine Company \$250
- Chemical Truck* \$300
- Light Rescue \$150
- Tanker \$200
- Haz-mat/Decontamination units w/ prime mover \$300

Personnel costs to include:

- Personnel costs shall be calculated as follows:
One and one-half (1 ½) X the Hourly Rate per individual team member
- If an overtime backfill replacement is required for a team member, there will be a separate charge for the backfill, calculated at:
One and one-half (1 ½) X the Hourly Rate of the backfill member

Corporate and Foundation Based Gifts

Nationwide Insurance Foundation Grant Program

www.nationwide.com/personal/about-us/giving/nationwide-foundational/apply-now/

State Farm Safe Neighbors Grant Program

www.statefarm.com/aboutus/community/grants/company/company.asp

Another explanatory website can be examined at <https://www.grants.gov>. This page provide insight into grant writing and further availability with a massive library of federal agencies who provide grant funding in hundreds of specific categories.

Study Conclusion

This study began in March of 2022 and presented in completion in September of 2022, focuses strongly on realignment to satisfy organizational course corrections and prepare North Cornwall Township to address community and regional response improvement over a five-year period.

The most critical issues presented were adequate staffing for daily response statistics and the necessary capital investments in physical resources of apparatus and facilities for the enlarging population of the township. As in most instances, the examination of efficiencies and standardized planning for local government were questioned, and the budgetary requirements for stated needs.

The challenge of many communities and regions is in what manner to continue to provide for a mounting level of service requirements in the most cost-effective manner possible while determining the fair response resources. As the department refines its model over the next 5-year period, likely it will see an improvement in ISO rating, an improvement in firefighter training and safety, a better relationship with the supporting township government, reduction of response time indices, and a more satisfied citizenry.

The Commonwealth of Pennsylvania fire service is in a state of flux, addressing many issues within volunteerism and growth of career services, facing rising costs at all operational levels. Department leadership must be innovative and creative, finding shared solutions for development. Internal and external stakeholders, including local government representatives must communicate and invest time in building relationships for the future of North Cornwall Township fire and rescue services.

Elected government officials must plan for future growth and budgetary needs to have a responsive service for the taxpayer as well as a safe environment for emergency responders. Each of the above recommendations will separately impact and improve an element of the fire department both internally and externally, however, are mostly interrelated as increased total performance quality of the fire department.

Other considerations for future planning analysis:

- Shared, regional training planning and process with determined minimum qualifications (ISO loss in point total referenced earlier in report and should be examined as a priority)
- Regional planning for consistent, standard operational approaches to emergency response including mutual aid partners
- Strategic plan management for the next decade and strategic planning committee including mutual aid partners.
- Development of targeted community risk reduction processes and public education
- Examination of collective problems of all local fire departments such as group purchasing of vehicles, personal protective gear, and SCBA.

Appendix A Potential Task Analysis (JPR) for Public Safety Officer Positions

Major responsibilities require consistent attention and commitment to this agency's mission. All assigned duties and responsibilities are expected to be performed in an effective, efficient and safe manner. The Public Safety Officer must accept the responsibility to support and promote this organization's mission and comply with its directives. Personal conduct and behavior (on-duty as well as off-duty) must be such that it does not bring disrepute or unnecessarily endanger the public's trust or confidence in the agency or its members. This position requires high level of problem-solving ability, self-initiative, the ability and willingness to work a majority of the time without direct supervision, and the ability to accurately assess situations.

ESSENTIAL FUNCTIONS OF THE JOB:

- Drive Emergency Public Safety Vehicles (PS vehicles, EMS Vehicles, and Fire Apparatus) to and from incidents or emergency scenes.
- Ability to wear Self-Contained Breathing Apparatus (SCBA).
- With the expressed permission of a township supervisor, a Public Safety Officer may, but is not required, to engage in fire support and other volunteer firefighter activities, provided the Public Safety Officer is properly trained and outfitted.
- Perform daily and weekly apparatus inspections and equipment checks to ensure proper function and serviceability.
- Participates in apparatus maintenance and cleaning details.
- Provide on-scene assistance for primary ambulance, second due ambulance, and mutual aid ambulances.
- Maintains EMT, CPR/AED, and Firefighter certifications to meet minimum national standards.
- Complete documentation of Patient Care Reports and Fire Incident Reports by the end of shift to document activities and completed work during shift.
- Participates in training on-duty or as assigned in cooperation with volunteer staff and fire officers.
- Assist with Fire Inspections and Property Maintenance Inspections as assigned by township codes officials
- Ability to communicate via radio.
- Ability to effectively work with all levels of supervision and with all Township department employees as needed to accomplish tasks.
- Punctual regular attendance for duty hours is required. Employees are to be equipped and ready for work at the predetermined start time
- Assist with public relations activities and life safety education events.
- Has the ability to move 100 pounds to a height of 4 feet and carry 100 pounds.
- Has the ability to sit or stand for extended periods of time.
- Has the flexibility sufficient to enter and exit vehicles frequently, ambulate for long periods over all types of terrain, climb over and around obstacles, and suddenly move out of the way of dangers.
- Efficiently operates computer equipment and software programs used by the Fire and EMS Departments.
- Strives to obtain competency in accordance with employee's evaluation measures.

- Performs other related duties as assigned by township supervisors or fire department staff

Required pre-employment qualification and education:

- Minimum 18 years of age.
- High School diploma or equivalent GED.
- 3 years of structural firefighting experience and 100 hours of structural firefighting and/or rescue training, or an equivalent combination of experience and training.
- 2 years of fire apparatus Driver/Operator experience
- Firefighter I and II Certification (DOD, IFSAC or Pro Board).
- Hazardous Materials – Operations Level (refresher within 1 year).
- ICS-100, ICS-200, IS-700 and IS-800 certificates.
- PA State Driver's License (or out-of-state driver's license with the ability to obtain PA license within 30 days).
- Pump Operations I Certificate or Driver/Operator pro-board or IFSAC certification-pumper
- The ability to pass a background and criminal investigation.
- Ability to communicate effectively and professionally in English both verbally and in writing.
- Citizen or National of the United States, a lawful permanent resident alien, or an alien authorized to work in the United States.
- Offer of employment is contingent upon the successful completion of a satisfactory: pre-employment physical examination, (full-time personnel only); drug test and background investigation result (full/part-time and temporary personnel).

Appendix B Potential Replacement Measurement for Fire Apparatus

Fire Engine Replacement Guidelines *(Source: American Public Works Association Vehicle Replacement Guide)*

Factor	Points		
Age	One point for every year of chronological age, based on in-service date.		
Miles/Hours	One point for each 10,000 miles or 1,000 engine hours of use.		
Type of Service	One, three, or five points are assigned based on the type of service the unit is exposed to. For instance, Front Line Apparatus would be given a five because it is classified as severe duty service. In contrast, an administrative sedan would be given a one.		
Reliability	Points are assigned as one, three, or five depending on the frequency that a vehicle is in the shop for repair. A five would be assigned to a vehicle in the shop two or more times per month on average, while a one would be assigned to a vehicle in the shop an average of once every three months or less.		
M&R Costs	One to five points are assigned based on total life M&R costs (not including repair of accident damage). A five is assigned to a vehicle with life M&R costs equal to or greater than the vehicle's original purchase price, while a one is given to a vehicle with life M&R costs equal to 20 percent or less than its original purchase cost.		
Condition	This category takes into consideration body condition, rust, interior condition, accident history, anticipated repairs, and so on. A scale of one to five points is used with five being poor condition.		
Point Ranges	Fewer than 18 Points	Condition I	Excellent
	18 to 22 points	Condition II	Good
	23 to 27 points	Condition III	Qualifies for replacement
	28 points and above	Condition IV	Needs immediate consideration

Fleet Replacement Benchmarks

Purpose: The Replacement Class System and Replacement Guidelines are used to define practical criteria and guidelines for replacing fleet units and are applied in fleet unit life cycles projection. The replacement guidelines outlined in this policy generally reflect operational, technological, downtime, and financial criteria.

Life Cycles: Fleet unit life cycles are based on the best practice method recommended by industry standards. This method involves an internal customer survey and using replacement guidelines set forth in the vehicle replacement guide in most fleet software programs. The results

are compiled, and adjustments are made to consider factors unique to a fleet such as type of use. Once the vehicle has met the replacement criteria, it goes through a review process by the fleet manager/director and the user department to determine if the vehicle should be replaced, retained for limited use, or have its life cycle extended. The overall goal is to replace vehicles at the lowest life cycle cost before the operating cost exceeds vehicle capital.

Replacement Class System: The Replacement Classes and Replacement Guidelines are used to categorize the various types of fleet units and their target replacement miles, hours, and age in addition to each unit's operational feasibility while analyzing the most current technology and trends.

Consideration for Replacement

- Units that have met replacement criteria
- Units with replacement deferred from prior years
- Units that have reached maximum points or fleet software replacement program criteria
- Units that have excessive operating cost

Staff Vehicles Seven to 10 years or 85,000 to 100,000 miles*

Engines/ Aerials 10 years front-line and three to five years' reserve service*

Medic Units Seven years front-line and three years' reserve service*

Type III and Type VI Wildland Units 20 to 25 years or as needed*

Tenders, HazMat, other Specialty Units as needed*

Excellent Condition Grade

- Fewer than five years old
- Fewer than 800 engine hours
- Fewer than 25,000 miles if not used in stationary applications
- No known mechanical defects
- Very short downtime and very little operating expense
- Excellent parts availability
- Very good resale value
- Meets all present NFPA 1911 safety standards.

Very Good Condition Grade

- More than five but fewer than 10 years old
- More than 800 but fewer than 1,600 engine hours
- More than 25,000 but fewer than 50,000 miles if not used in stationary applications
- No known mechanical or suspension defects present
- Short downtime and above average operating costs
- Good parts availability
- Good resale value
- Meets NFPA 1911 safety standards

Good Condition Grade

- More than 10 years but less than 15 years old
- Some rust or damage to the body or cab
- More than 1,600 but fewer than 2,400 engine hours
- Some existing mechanical or suspension repairs necessary
- Downtime and operational costs are beginning to increase but not terribly above the average
- Parts are still available but getting difficult to find
- Resale value decreasing
- Meets all NFPA 1911 safety standards

Fair Condition Grade

- More than 15 but fewer than 20 years old
- Rust, corrosion, or body damage apparent on body or cab
- More than 2,400 engine hours
- More than 75,000 but fewer than 100,000 miles if not used in stationary applications
- Existing mechanical or suspension repairs necessary
- Downtime is increasing, and operational costs are above the historical average
- Parts are becoming harder to find and/or obsolete
- Very little resale value
- Does not meet all NFPA 1911 safety standards

Poor Condition Grade

- More than 20 years old
- Rust, corrosion, or damage to the body of cab impacting apparatus use
- More than 2,400 engine hours or 100,000 miles
- Existing mechanical or suspension problems affecting the apparatus operation
- Downtime is exceeding in-service availability
- Operational costs are exceeding the resale value of the apparatus
- Parts are obsolete
- Does not meet all NFPA 1911 safety standards

Appendix C. Sample Stipend/Volunteer Reward Program (VIRP)

Administration Language

1. The Volunteer Incentive Program is under the administration and sole discretion of The Office of the Township Fire Chief. The Township Fire Chief or his designee shall have the discretion to modify or amend the program at their leisure.
2. The Township Fire Chief or designee will review and approve all incentive disbursements.
3. All disbursements shall meet Federal, State, and Local tax withholdings and other tax requirements concerning volunteer incentives.
4. The disbursements of incentives will be distributed monthly within fifteen (15) days after qualifying month.
5. Any entries into the reporting database for incentives must be completed within five (5) days ending the given month.
6. Any volunteer found falsifying documents to obtain incentive will be subject to discipline in accordance with Swatara Fire-Rescue policies and procedures.
7. Any volunteer found to be in violation of item 6 will forfeit all privileges of the incentive program for a period of one (1) year.
8. Any volunteer that receives written discipline will forfeit participation of the incentive program for a period of three (3) months of incentive disbursements.
9. Any volunteer that is suspended will forfeit participation of incentive program for a period of six (6) months of incentive disbursements.
10. The Office of the Township Fire Chief, any Township Asst. Chief, and or [REDACTED] Fire-Rescue Executive Board reserves the right to remove any volunteer from the incentive program for any length of time for disciplinary infractions.
11. All training requirements will meet the standards as set forth by the Office of the Township Fire Chief. These shall include equivalents to those contained in this document.

Qualifying Participants Sample

1. Junior Firefighter: (those persons 14 to 17 years of age)
 - a. First Aid/CPR/AED
 - b. Bloodborne Pathogens
 - c. NIMS 100, 200, 700, 800
 - d. Modules A through C
 - e. Completed department training packets
2. Probationary Firefighter: (new members not grandfathered) During this period the volunteer is considered probationary until completion of classes and 1 year of service.
 - a. First Aid/CPR/AED
 - b. Bloodborne Pathogens
 - c. NIMS 100, 200, 700, 800
 - d. Modules A through D

- e. Firefighter I
 - f. Completed department training packets
3. Firefighter Apprentice: (grandfathered members)
- a. First Aid/CPR/AED
 - b. Bloodborne Pathogens
 - c. NIMS 100, 200, 700, 800
 - d. Haz-Mat Operations
 - e. Completed PQS
 - f. Completed department training packets
 - g. Annual Township burn
4. Firefighter I:
- a. First Aid/CPR/AED
 - b. Bloodborne Pathogens
 - c. NIMS 100, 200, 700, 800
 - d. Firefighter I
 - e. Completed department training packets
 - f. Annual Township burn
5. Firefighter II
- a. First Aid/CPR/AED
 - b. Bloodborne Pathogens
 - c. NIMS 100, 200, 700, 800
 - d. Firefighter II
 - e. Completed department training packets
 - f. Annual Township burn
6. Driver/Operator
- a. First Aid/CPR/AED
 - b. Bloodborne Pathogens
 - c. NIMS 100, 200, 700, 800
 - d. Haz-Mat Operations
 - e. EVOC
 - f. By-annual driver recertification
 - g. Completed department driver packet
 - h. Annual Township burn
7. Fire Police
- a. First Aid/CPR/AED
 - b. Bloodborne Pathogens
 - c. NIMS 100, 200, 700, 800
 - d. EVOC
 - e. Basic Fire Police Course
 - f. Sworn in Officer

Sample Incentive Program

The incentive program is a point system based upon three (3) tiers with benchmarks for call participation, training, adequate staffing, and the individual volunteer's current certification level.

A. Certification category of disbursement yearly maximums

- a. Firefighter II \$1,400
- b. Firefighter I \$1,200
- c. Firefighter Apprentice \$1,000
- d. Driver/Operator \$1,000
- e. Probationary Firefighter \$600 (exempt from point system until completion of classes and 1-year probation)
- f. Junior Firefighter \$500 (exempt from point system until completion of classes)
- g. Fire Police \$5 per call with maximum of \$900 yearly
- h. Township Duty Officer \$1,600 (exempt from point system and based upon duties/responsibilities)

Note: may only qualify for one (1) category

B. Point system

- a. Calls: 1 point per call for a monthly maximum of 20 points
- b. Training: 1 point per training hour
 - i. 16-hour training classes qualifies for 10 points
 - ii. 24-hour training classes qualify for 15 points
 - iii. 40-hour training classes qualify for 20 points
- c. Standby: 5 points per 4-hour block of continuous standby
 - i. No maximum points for staffing

C. Tier system monthly disbursements

- a. Basic Incentive - Participant earns between 20 and 39 points during any calendar month \$25
- b. Mid Incentive - Participant earns between 40 and 50 points during any calendar month \$65
- c. Incentive – Participant earns 60 or more points during any calendar month \$120

Exempt Volunteer

The incentive program shall have point exempt volunteers in which their incentive disbursements are based upon duties/responsibilities and meeting training certification levels.

A. Junior Firefighter

- a. \$100 at completion of First Aid/CPR/AED, Bloodborne Pathogens, NIMS 100, 200, 700, 800 and company training packet.
- b. \$100 at completion of Module A
- c. \$100 at completion of Module B
- d. \$200 at completion of Module C

B. Probationary Firefighter

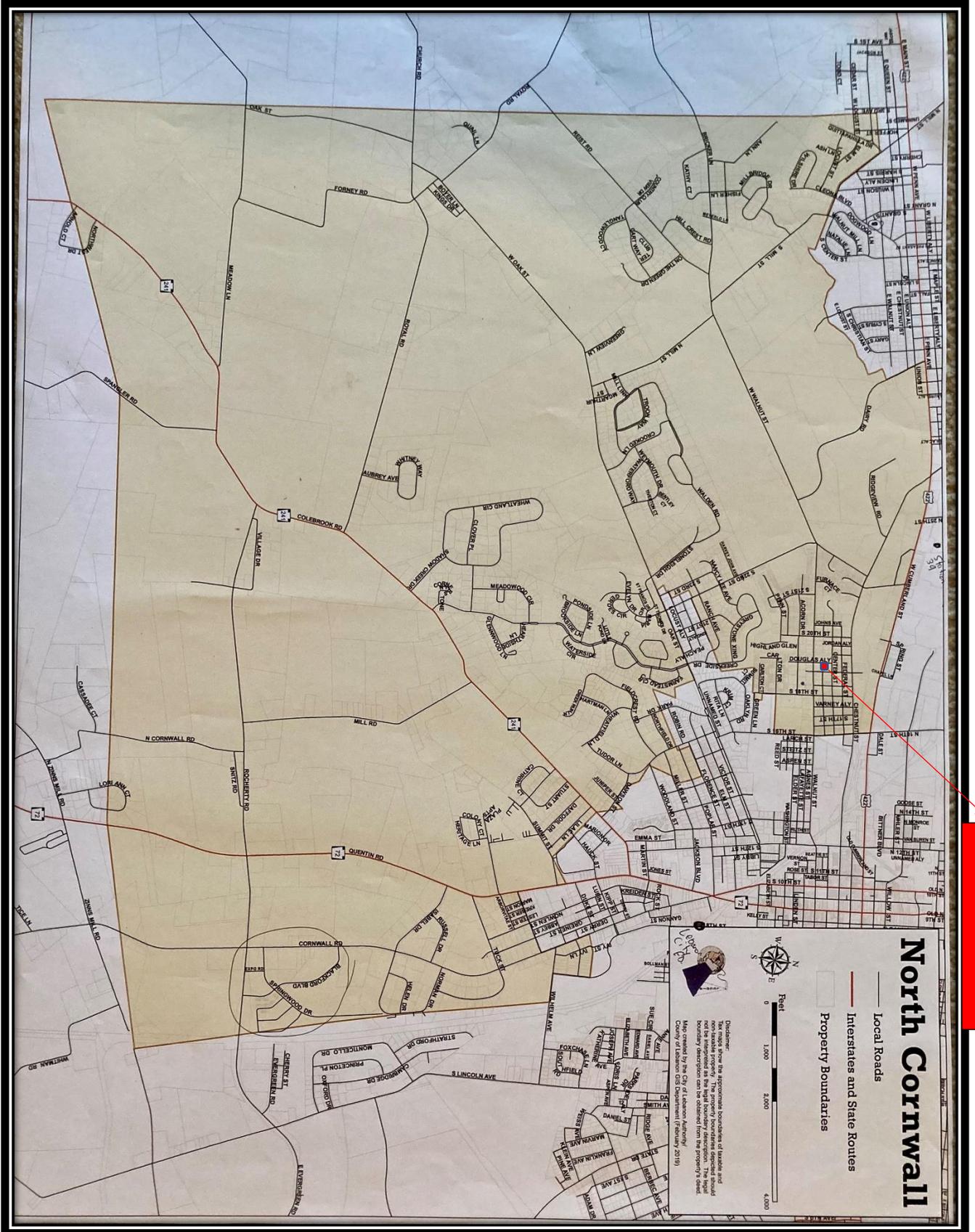
- a. \$100 at completion of First Aid/CPR/AED, Bloodborne Pathogens, NIMS 100, 200, 700, 800 and company training packet.
- b. \$100 at completion of Module A
- c. \$100 at completion of Module B
- d. \$100 at completion of Module C
- e. \$100 at completion of Module D
- f. \$100 at completion of Firefighter I

C. Township Duty Officer

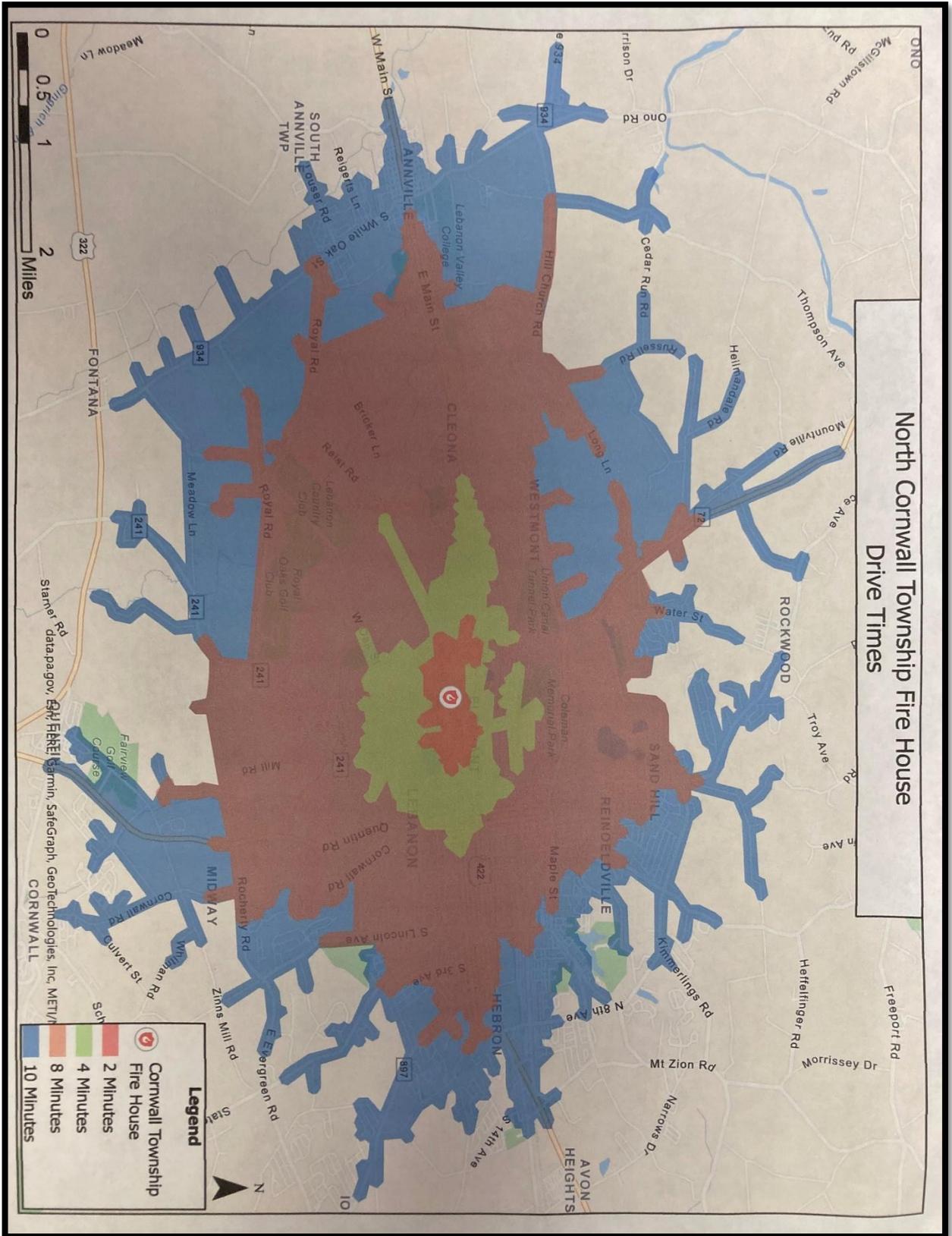
- a. The duty officer shall meet all requirements of [REDACTED] Fire-Rescue Personnel Qualifications Standards and have assigned duties and responsibilities to qualify for incentive.
- b. Eligible for a yearly \$1,600 incentive

D. Township Assistant Chief

- a. The Assistant Chief shall meet all requirements of [REDACTED] Fire-Rescue Personnel Qualifications Standards and have assigned duties and responsibilities to qualify for incentive.
- b. Eligible for a yearly \$5,000 incentive



Newerskin Fire Company



References

- Cost Calculator. 2014. Cost Savings Calculator. National Volunteer Fire Council, Washington, DC.
- FLSA. (2006). Managing Volunteer Firefighters for FLSA Compliance. International Association of Firefighters, Volunteer and Combination Officers Section.
- Insurance Service Office (2014). Fire Suppression Rating Schedule. New York. Insurance Service Office.
- ICMA. (2002). Managing Fire and Emergency Services. International City/Council Manger Association. ICMA Press.
- Minion, E. (2017). Whole Building Design Guide-Firehouses Retrieved from <https://www.wbdg.org/building-types/community-services/fire-station>
- National Fire Protection Association (2018). NFPA 1001. Standard for Fire Fighter Professional Qualification. Quincy, MA.
- National Fire Protection Association (2021). NFPA 1500. Standard on Fire Department Occupational Safety, Health, and Wellness Program. Quincy, MA.
- National Fire Protection Association (2016). NFPA 1901 Standard for Automotive Fire Apparatus. Quincy, MA.
- Recruitment and Retention. (2007). Retention and Recruitment for the Volunteer Emergency Services. United State Fire Administration. FEMA PDF document
- SR6. (2018). Senate Resolution 6 Committee Final Report. Commonwealth of Pennsylvania
- Koen, S. (2005). 24/48 vs. 48/96 Work Schedules: A Comparative Analysis. Round the Clock Systems. Suite 209. Portland. ME.
- McNeil, J. (2008). Diversity in the Fire Service: A Problem or a Solution. Recruitment and Retention. 2007. Recruitment and Retention for the Volunteer Emergency Services. Federal Emergency Management Agency. FA3-10
- Petrillo, A. (2018). Architect Advice for Fire Departments Designing New Stations. Retrieved from <https://www.fireapparatusmagazine.com/the-fire-station/architect-advice-for-fire-departments-designing-new-stations/>
- Safety and Health Considerations. 1997. Safety and Health Considerations for the Design of Fire and Emergency Medical Stations. Federal Emergency Management Agency. FA168.
- Volunteer Retention. (2020). Volunteer Retention and Recruitment Research Report. National Volunteer Fire Council, Washington. DC.