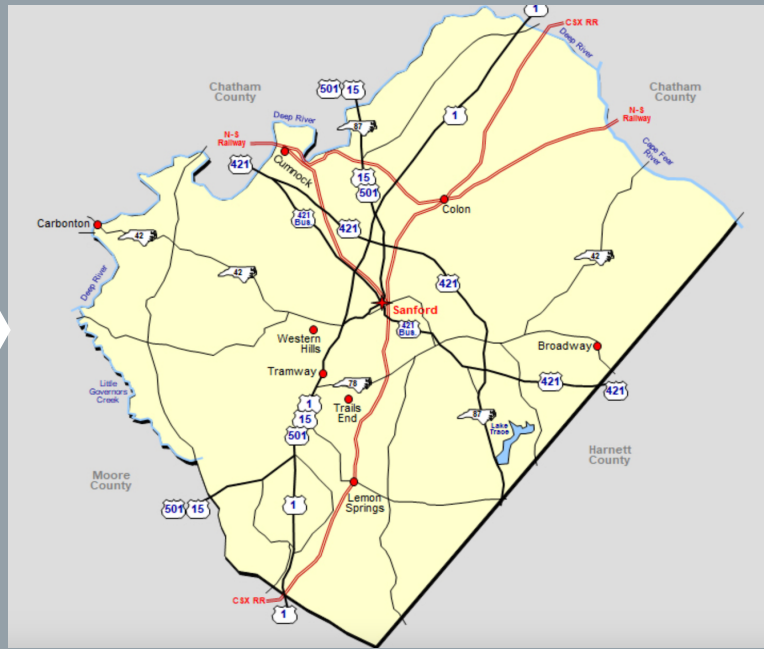


FIRE AND RESCUE SERVICE DELIVERY SYSTEM ANALYSIS



Lee County, North Carolina June 2024

A Progressive North Carolina Local Government Initiative
Prepared and Presented By:



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Approved Scope of Work and Project Disclaimer

NCFCC 2023-2024 Lee County Fire and Rescue Service Delivery System Analysis

Structured Communication with Lee County Project Team, Executive and Elected Officials:

- a) Monthly virtual meetings held over an approximate six-month period with the members of the Lee County Project Team to report on progress and gain direction on next steps in the process.
- b) Establish a project Dropbox for all pertinent documents for the Lee County Project Team to use throughout the process to immediately always have up-to-date information. All posted work documents will be provided digitally to Lee County.
- c) Provide virtual interviews with the County Manager and seven (7) county elected officials as stakeholders to gain perspective and understanding of the needs of the service delivery system into the future.
- d) Provide a virtual draft presentation to the Project Team of the report findings, making modifications as necessary.
- e) Provide an approximate one-hour presentation to the Lee County Board of Commissioners at the conclusion of the project, as scheduled by Lee County staff. This will include one hard copy report and PowerPoint presentation developed for this purpose.

Structured Communication with Lee County Fire Service Stakeholders:

- a) Hold one fire chiefs group stakeholder session on site, in person at the onset of the project with full fire chiefs' group to explain project plan, purpose, approach, provide some introductions and build rapport. NCFCC will develop and provide a PowerPoint presentation for use at this session. At least two (2) NCFCC consultants will attend in person.
- b) Hold one stakeholder session on site, in person at the completion of the project, same as Commissioner meeting date with the fire chiefs to deliver the presentation to them.
- c) Hold individual virtual sessions with each of the seven (7) provider fire chiefs and the Board of Director President with two (2) consultants to hear from each provider agency about key issues and concerns (SWOT format).
- d) Hold an individual virtual session with the Sanford Fire Chief and the Sanford City Manager to hear from them about key issues and concerns (SWOT format).
- e) Subsequently, assemble and administer an electronic survey for all members of the seven (7) contracting Lee County fire departments based upon the information received from the fire chiefs to gauge priority issues across the county with firefighters determining the priority needs/issues/concerns electronically and providing open feedback in the survey instrument as well.



NCFCC will provide a customized link and convey the information to fire chiefs via written format. NCFCC will provide a high-level summary of responses from the survey within the final report.

- f) NCFCC will provide fire chiefs with periodic briefs as needed for components, such as directions for the surveys, information sought from the one-on-one sessions, etc.

Structured Communication with Lee County General Public:

- a) NCFCC will assemble and administer an electronic survey for the public to provide input and feedback on their fire protection service delivery system. NCFCC will provide a customized link for Lee County and Lee County will be asked to distribute the link through their public information resources. The link would be valid for 3-4 weeks. NCFCC will provide a high-level summary of the responses within the final report. (Note, this component originally included a town hall style meeting. However, Lee County elected to defer the town hall style meeting component during the process to allow for a higher level of technical review on the 9-1-1 center.)

GIS/RMS (Geographical Information System and Records Management System) Data Analysis of Demonstrated Performance in Lee County:

- a) NCFCC will provide a GIS data needs analysis sheet that will allow us to provide needed data and create the necessary layers to conduct analysis.
- b) Visually establish geographic response areas that reflect a closest station response area from all current ISO/NCOSFM recognized fire stations.
- c) Identify areas of overlap in coverage utilizing the ISO and NFPA 1720 travel time standard.
- d) Create ISO/NCOSFM travel distance maps with fire districts and fire stations.
- e) To the extent possible, based upon data available from the County's computer aided dispatch (CAD) system, establish a first unit arrival standard of coverage (SOC) and compare that SOC to the NFPA 1720 standard for first unit arrival with available information.
- f) Create maps depicting gaps and overlaps between existing fire stations.
- g) Determine the overall system demand coverage percentage and depict those values visually.
- h) Conduct a workload analysis with data provided by the County to the extent possible for the following components for each individual contracting fire department:
 - Workload history by year and type trends.
 - Workload by month and type trend analysis.
 - Workload by day/week type trend analysis.
 - Workload by hour and type trends.
 - Response time performance by call type.



- Response time performance by hour of day compared to workload by hour.
 - Conduct future deployment analysis for provided population projections at 5, 10 and 15 years.
 - Conduct fire service workload projections at 5-, 10- and 15-year intervals.
- i) Conduct an analysis of fire station locations additions, deletions, or relocations based on analysis of population, risk and demand coverage against modeled travel time and analyze any additional units that would be recommended, if needed.
- j) Note that based upon initial research, NCFCC would need to extract data from the Central Square One-Solution CAD, by exporting from the training CAD database. This will be a labor-intensive process and require NCFCC to build out a new data model for Lee County. However, the PowerPivot table that is built could continue to be used by Lee County into the future.

Fire Department Financial Analysis:

- a) NCFCC will develop and provide a digital data collection spreadsheet for each contracting fire department in Lee County to complete which will capture fiscal data and capital equipment data. It will require attachments of the organization's federal 990 form (where applicable).
- b) This review of available financial records of each contracting fire department will determine the following key elements over the most recent fiscal year period:
- i. Outputs:
 - Current annual capital funding/debt service obligations.
 - Current total annual operating costs.
 - Total dollars/percentage designated to personnel and benefits.
 - ii. Inputs:
 - Municipal funding.
 - Fundraising.
 - Grants and other identified funding sources.
 - iii. Fund Balance:
 - Designated and undesignated amounts.
- c) NCFCC will also use the Lee County developed form to collect data to determine a staffing analysis, determining staffing by contracting fire departments based in relation to their workload analysis.
- d) Fire apparatus data will also be collected by this instrument, capturing the age, pump capacity and tank capacity and other data for each fire department as well as other significant capital equipment.
- e) This data will be reviewed and discussed during the one-on-one discussions with each fire department to ensure accuracy and resolve any questions that NCFCC may have related to the data. NCFCC can only work with the data that is provided by the Lee County contracting fire departments.
- f) For Broadway (the only municipality currently noted in Lee County that is served by a private, non-profit fire department, NCFCC will construct a viable



conceptual cost-share city-county model as a North Carolina best practice for a fire department that serves both a municipality and an unincorporated area using the following data points as provided by the County and other credible sources (as available):

- i. Population.
- ii. Property square footage.
- iii. 9-1-1 dispatches.
- iv. Square mileage.
- v. Property valuation.

Lee County Fire Service Capital Assets:

- a) Develop a listing of real property assets owned by contracting fire departments with approximate valuation.
- b) Develop a listing of large fire apparatus owned by contracting fire departments and associated valuation of each piece of apparatus.
- c) Develop a general inventory of high value loose equipment such as radios, self-contained breathing equipment, extrication equipment, etc.
- d) Construct a projected capital replacement plan for capital assets based upon industry best practice in North Carolina with projections for life expectancy for both real property and apparatus.
- e) Project capital replacement costs in the next five (5) fiscal years beginning with FY 23-24 through FY 28-29.
- f) Estimate the capital replacement costs for the following five fiscal years based on data submitted (10 years total).
- g) Data used to determine the fire apparatus replacement costs will be through industry best practice.

Apparatus Mechanical Evaluation and Fire Facility Evaluation:

- a) Physically conduct in-person, on-site a mechanical evaluation of each large fire apparatus, against the NFPA consensus standard. NCFCC will provide a rating for each apparatus and identify any significant issues that are apparent to the two (2) mechanical SMEs. This data will be reported in both chart and written form.
- b) To operate as efficiently as possible, Lee County will need to coordinate these visits for NCFCC personnel such that each fire station can be visited in the most efficient manner. NCFCC will also need a digital or written document showing the most recent ISO report for each of the fire districts.
- c) NCFCC will conduct an ISO comparison against the actual fire apparatus that is inspected against the ISO requirements related to providing the basic fire flow for the district. The outcome of that comparison will be reported in chart format. If there is a delta between needed in relation to basic fire flow and apparatus that the fire department actually operates, that will be reported.



- d) During this same on-site, in-person visit, NCFCC will provide a third SME that will review and evaluate the fire station facility from a functional and safety perspective. Key items of attention that are needed for consideration will be captured and reported upon. NCFCC will also provide some baseline facility observations and considerations.

Lee County Hydrant Review:

- a) To the extent that information is available, Utilizing GIS, NCFCC will review area of Lee County covered by hydrants, as defined by ISO, and identify areas of greatest need related to population density.
- b) NCFCC will review what maintenance procedures are being conducted currently and make recommendations consistent with ISO of changes that would be needed to gain an improved ISO rating.

Lee County Service Contract Review and Automatic Aid Agreement Review:

- a) Review Lee County's current service agreement with provider fire departments and provide observations and recommendations, presenting a best practice service district model contract/agreement between Lee County Government and contracting private non-profit corporation fire departments and/or municipalities for Lee County to consider that is in alignment with other actual experienced models within North Carolina. This document should be customized to meet the specific needs of Lee County.
 - b) NCFCC will also review current automatic aid agreement(s) and make recommendations for improvement in order to gain the most credit possible under the ISO system.
-



North Carolina Service District Analysis:

- a) NCFCC will conduct an analysis of the current fire district funding system and structure and contrast opportunities with pros and cons to developing a unified county service district (NCGS Chapter 153A) as the primary funding structure for Lee County to use in the future. This analysis will review any municipal area that would need to be considered (Broadway) and provide a summary that outlines the essential elements that the Lee County Board of Commissioners must consider as specifically outlined in North Carolina General Statutes for Lee County to present any potential service district plan along with conversion of any existing service districts or rural fire tax districts (NCGS Chapter 69) to the countywide service district model.
- b) Illustrative documents will be provided for Lee County, such as the resolution calling for a service district public hearing, the municipal resolution, the required NCGS plan that must be available to the public prior to the public hearing, the resolution adopting the service district, as well as an essential fiscal year timeline.

Lee County Hazard Risk Community Analysis:

- a) Integral to station location analysis is evaluating the risks within the community. We utilize the community risk reduction modeling that depicts the following attributes:
 - Description of Community Served
 - Population history if available
 - At-risk populations
 - Lands Use and growth patterns
 - Target Hazards
- b) Natural Hazards
 - Flooding, Storms, etc.
- c) Critical Infrastructure
 - Roads, Communications, Water, etc.
- d) Community Risk Reduction
 - Prevention and Mitigation
 - Code enforcement, prevention programs

Lee County Strategic Plan Formulation:

- a) With a collective review and analysis of all the data outlined in sections 1-10 of this proposal, NCFCC will construct a strategic plan document of the key elements that Lee County should consider in response to the situation and conditions that NCFCC SMEs discover when conducting the work.
- b) This strategic plan document will follow the general format of the Center for Public Safety (CPSE) standard and will demonstrate goals and objectives. Primary goals, supporting objectives, the timeframe for each objective, and



critical tasks essential to accomplishing the objective will be outlined in the CPSE format.

- c) This strategic plan will go through a Chief's roundtable team review process to produce the most comprehensive document possible that will be most usable for Lee County to determine what goals and objectives that are desired to be utilized and what timeline Lee County wants to assign to the identified critical tasks.
 - d) Where needed and appropriate, team observations and recommendations will be made for Lee County to consider within the next 5- and 10-year performance period.
 - e) Produce all the above in a bound, hard copy as well as digital format.
-



Project Disclaimer:

This project has been conducted upon the written request of Lee County, North Carolina. The sole intent of this project is to improve, advance and strengthen the fire protection and rescue service delivery system in Lee County and the State of North Carolina. Persons involved in this report have contributed for the purposes of providing information, professional observations and recommendations to the county elected officials, management, and the fire service leadership. Recommendations included in this report are based upon professional experience and understanding of current fire and rescue service best practices. Examples and references in the document are for informational purposes only. Information contained within this document is not intended to be comprehensive, and recommendations are based on limited information available at this time. As with any project based on a snapshot in time, additional facts, local issues and/or changes in the facts could alter the conclusions and recommendations in this document. This document is solely to be utilized by local government and fire service officials for long-term planning purposes. It should not be utilized for any other purpose. No warranties or guarantees (express or implied) are provided. While this document will hopefully assist local officials in their deliberative and long-term planning process, it should be recognized that there are many local issues that may impact the ultimate decisions and what works for a particular jurisdiction. The ultimate decision-making lies with the appropriate local government and fire officials.



Project Executive Summary

Many dynamics are changing in the North Carolina fire service, primarily due to significant **shifts in volunteerism** coupled with **major cost increases** in fire apparatus, equipment and fire station facilities post pandemic. Lee County is aware of the current environment and the short-term impact and potential long-term impact. The county demonstrated a strong commitment to supporting the fire and rescue service by engaging an independent, third-party consulting team to evaluate the Lee County Fire and Rescue Service Delivery System to better understand the overall needs and challenges in the foreseeable future. NC Fire Chief Consulting (NCFCC) was selected to provide this analysis for Lee County. NCFCC serves as the NC League of Municipalities exclusive fire consulting services provider and assists counties across North Carolina with similar professional assessments.

For many years, the people of Lee County have been **greatly blessed by the volunteer firefighters** within fire departments in the county. These volunteers continue to provide a tremendous level of essential, dedicated service to the people of Lee County. **Lee County should continue to support and utilize the volunteer-based service delivery system as long as possible**, recognizing that growth will impact the system. This report provides a “snapshot in time” of the current service delivery system. More importantly, the report includes a focus on methods to help sustain the volunteer system to the extent possible through presenting **sustainable funding methods and models** for Lee County to consider. Beyond that, the report also recognizes areas of transition that Lee County and fire service leadership will need to consider moving forward to maintain the delivery system with the many changing conditions that the fire service is currently facing.

Methodology

To conduct this comprehensive analysis, NCFCC utilized valuable **feedback** from fire service leadership in the county in one-on-one sessions capturing what each department identified as the greatest strengths, gaps, missed opportunities and perceived threats as well as recommendations for funding structures moving forward. **Input from firefighters** across the county also added a high degree of inclusion from those persons directly providing services. A **community feedback survey** was also conducted as well as interviews with key community leaders. In addition, a **community hazard/risk analysis** was conducted utilizing available data about the demographics of Lee County to depict information about the people that are served and protected in the county and how that demographic information could help better understand or explain some of the fire and rescue challenges that exist.

NCFCC utilized a **geographic information system (GIS) analysis** to evaluate the overall geographic coverage within Lee County, evaluating against the insurance rating standards and determining where any gaps existed and where any overlaps



may occur as well as any potential opportunities to provide improved services from a geographic perspective. Fire hydrant information was also included in the work with GIS. **Response data** from the computer aided dispatch (CAD) system was analyzed and evaluated for five full years to determine call volume, workload, demonstrated performance, approximate standard of coverage and response trends to help determine future needs. A general review of the current 9-1-1 center was conducted as well.

A basic **financial analysis** was conducted with information provided by the fire departments in the county to evaluate baseline income and expenses of the departments and benchmark those against comparable fire departments across the state. A **capital asset analysis** including large fire apparatus and fire station facilities was also evaluated against the industry consensus standard to help determine how a long-range capital improvement plan for fire apparatus should be structured for Lee County. A review of the **current service contract** for fire and rescue services was also conducted.

From all the information above, the assessment team formed a set of **observations and considerations** for Lee County to review and evaluate regarding the service delivery system and future governance moving forward.

Fire Chief Feedback Summary

As a group, the fire chiefs in Lee County held a strengths, weaknesses, opportunities and threats (**SWOT Analysis**) session with NCFCC. As **strengths**, the quality of equipment, relationships and dedicated volunteers topped the list. The **gaps** were highlighted by changes in volunteerism and the negative effects that dynamic was having on service delivery in the county. The majority of gaps included significant concerns about the county 9-1-1 Emergency Communications Center and radio system in Lee County. Leading the comments on **potential opportunities** was the need for competitive pay for personnel, establishing minimum staffing for daytime and peak response time calls, establishing a high school fire academy for firefighter recruitment and higher use of the current fire advisory board. **Concerns** were led by issues with emergency communications, the implementation of career personnel within traditionally volunteer organizations, fear of losing control of the fire departments that many have worked hard to build, internal communications and mitigating the significant growth coming to the area.

Subsequently, all fire chiefs were **met with personally one-on-one** and asked a series of questions to gain input and understanding. Regarding the question of what the chiefs saw as the **key positives** and what was working the best in the fire and rescue service delivery system in 2024 in Lee County, the top responses included 1) the working relationships of fire departments collaborating well together 2) the people – both career and dedicated volunteers that serve the people of Lee County, and 3) the condition of the fire apparatus fleet and overall response equipment.



When asked about what is perceived as the **greatest barriers** for their fire department and what was holding their fire department back the most in 2024, the top responses included 1) the significant decline of volunteerism and the future financial burden that adding career firefighters to make up the gap will place on contracting fire departments, 2) issues that harm service delivery with the current 9-1-1 Emergency Communications Center and the lack of a modern VIPER radio network, and 3) the need for additional funding for additional firefighters due to the population growth and call volume growth.

In response to what the fire chiefs would like to see **Lee County do to best support firefighter volunteerism**, the primary responses included 1) establish a high school fire program similar to Harnett County's successful program to get recruitment back in schools, 2) provide funding for volunteer incentives including tax incentives (although acknowledged that would require state legislation, and 3) for the county to provide more information about the fire service in the county on their web site and be stronger public advocates for the fire service in publicizing the need for volunteers.

In response to what the fire chiefs would like to see **Lee County do to best support the fire departments** that they are not already doing, almost one-half of the feedback received was focused on the issues of the current 9-1-1 emergency communications center and the emergency communications radio system. There is much frustration with the 9-1-1 center operations and the significant need for a modern 800MHz radio system for county contracting fire departments to better communicate with each other, law enforcement, EMS, and neighboring counties, who are already on the 800 Mhz radio system. The need to strengthen interpersonal communications, build trust and collaborate together between Lee County and the fire service was also noted multiple times.

The fire chiefs' responses to, "**What type of funding system or model do you believe is the best next step for Lee County to consider?**" were equally split between those who were agreeable to using a flat tax system/structure and those who were opposed to that system/structure. The fire chiefs that were agreeable to moving to a flat tax system almost all had a caveat of concern in the way that the flat tax system was structured to be fair and equitable. Many acknowledged that eventually the county will go to a flat tax system, but did not feel that now was the time to do so.

The **data elements** that the Lee County fire chiefs most supported to be considered when designing risk hazard models were in order 1) tax valuation, 2) call volume/road miles (tied), and 3) address points.

Fire Chiefs also shared **additional items of interest that they had to improve the fire service in Lee County**. There was a wide variety of topics noted in this section. Some of topics mentioned are the many staffing challenges fire departments are having



with recruitment and retention, such as being competitive with other municipalities that have more resources to provide more attractive employment opportunities to potential staff and the need for more staffing in order to get the truck out of the door. It was also expressed that there is a desire for the quickest response, strategic placement of ladder trucks in the county, the issues with 9-1-1 emergency communications and the urgent need for "fixes" there, concern that some fire departments with fewer resources could close down and concerns about getting essential fire flow information from the City of Sanford to help better know the water availability within the response district.

Firefighter Feedback Summary

Firefighters throughout Lee County were invited to provide their input to the strategic planning process. A total of 35 firefighters chose to respond to the survey that was provided. **Each rank** had representation within the survey, with 60% of respondents being firefighters or engineers.

Firefighters saw the **strongest positives** being 1) the people who do most of the work – the volunteers, 2) the relationships across the county fire service, including automatic aid and mutual aid system throughout the county, and 3) the fire equipment and apparatus and the care that goes into maintaining those.

The **greatest barriers or gaps** identified by firefighters included 1) the service provided by the City of Sanford emergency communications center (9-1-1) PSAP, 2) Lee County not using the VIPER radio system to help with emergency communications, and 3) the lack of needed personnel to meet the current call demand and the gap will continue to widen with future growth. The firefighters identified establishing high school program(s) in the county would be the best move that Lee County could make to **strengthen volunteerism**.

As indicators of internal perception, Firefighters were asked to **choose three single words** that best describes the fire and rescue service delivery system in 2024. Approximately 64% of the 103 total words used were associated with positive attributes, with approximately 36% associated with negative attributes. When asked about the **overall quality of services** currently provided by their fire department, approximately 69% of respondents stated that they were either satisfied or very satisfied. When asked about the **overall effectiveness** of the fire and rescue services, approximately 77% of respondents stated that they were either satisfied or very satisfied.

Community Survey Summary

The people that the fire departments in Lee County serve and protect were also given an opportunity to comment about fire department services and offer their feedback and input. A **Lee County Resident Survey** was distributed electronically by Lee County through its outlets to all residents to provide input and give guidance to



Lee County serving as an **indicator of public perception**. Keeping a pulse and check for the public that the fire department serves and protects is essential to being a strong and credible public servant agency and Lee County demonstrated stewardship in this effort. With 94 responses, persons who reside in each fire department district, other than Carolina Trace, responded to the open survey. Approximately 44% of respondents had received fire department services in the past five years. Approximately **73% of residents reported that they were either satisfied or very satisfied with the quality of services** provided by the fire departments in Lee County. **72% of residents reported that they were either satisfied or very satisfied with the overall effectiveness of services** provided by the fire departments in Lee County. Residents provided up to three words each to help depict their perceptions of fire and rescue services in Lee County. A total of 241 words were submitted, with over **75% of the words having a positive connotation** and about 25% having a negative connotation. This is another indicator that the fire department is generally positively perceived within the community, but with room for improvement.

Elected and Executive Officials

NCFCC spoke with both city and county officials as well as five (5) of the Lee County Commissioners to gain an understanding of issues and perspectives from their viewpoints.

Executive officials were primarily focused on the growth that has already come to the county and the potential for significant growth coming in the future and how that growth will impact fire and rescue services.

Commissioners expressed appreciation for the services that the contracting fire departments in Lee County provide the residents and businesses of the county. They recognize the need to support volunteerism to help sustain the primarily volunteer system as long as is feasible. The elected officials were aware of challenges with the 9-1-1 communications system including the emergency radio system. They were also focused on growth in the county and the impacts that the growth will demand on the current service delivery system. The elected officials also discussed financing fire and rescue services into the future and that they do not desire to reduce fire department funding with the growth that the fire departments are managing.

Community Risk Analysis

Each community needs to closely evaluate the **hazards and risks** that exist and ensure that the proper levels of protection are in place to mitigate those risks. Within this detailed information, Lee County can better understand the needs of the people they serve and protect. Furthermore, the use of this data can assist Lee County in better **prioritizing resources** to mitigate risks. As trends evolve, this risk assessment data helps explain many of the “whys” for types of calls and the fire and rescue needs of Lee County.



A **demographic analysis** of fire protection related issues in Lee County demonstrates that Lee County's **population has increased almost 16%** since 2010. The percentage of children less than 5 years old is about at the same percentage as the North Carolina average while the residents age 65+ and populations with a disability are slightly higher in Lee County than the North Carolina state averages. Lee County has fewer persons speaking a language other than English than the North Carolina state average. These at-risk groups demand additional attention and outreach to mitigate fire and life safety issues.

Unfortunately, fire often follows **poverty**. However, in Lee County, approximately 11% of the population is in poverty, which is less than the state average of 12.8%. **Community education levels** can also impact safety and the need for the fire department's community risk reduction programs. However, Lee County is higher than the North Carolina state averages with persons who are high school graduates and persons with an associate degree. Comparatively with North Carolina, Lee County is slightly lower with higher education, including bachelor degrees (14.8% versus 21.4%) and with graduate degrees (6% versus 12.5%). Lee County has approximately the same percentage of persons **without health insurance** than the North Carolina state average. Often, persons without health insurance use 9-1-1 when they have a medical need/emergency because they have no other course of action to take.

When assessing **homeownership**, Lee County also has a more stable population as the number of owner-occupied properties in Lee County is higher than the state average (77% versus 66.29%), and the number of renter-occupied homes in Lee County is somewhat lower than the North Carolina state average (23% versus 33.8%). Lee County has approximately 6 times the number of mobile homes than the state average. Collectively, the above components help to "paint a clearer picture" of the fire and rescue needs and challenges for the Lee County Fire and Rescue Service Delivery System moving forward and to better understand how to prioritize community risk reduction services and programs for the people served.

GIS Analysis

The GIS system created a baseline map with all seven contracting fire departments and the City of Sanford with 15 fire stations across the 258 square mile area in Lee County. In addition, a distance coverage map consistent with ISO mileage and a **travel time analysis** was produced.

Approximately 83.5% of all fire call incidents occurred within a five (5) minute travel time. Approximately 97.5% of incidents occurred within an eight (8) minute travel time and approximately 98.6% of all fire call incidents occurred within a ten (10) minute travel time.



An analysis of **closest station response** was conducted as well for first fire unit arrival. A population density map and analysis was performed. The most densely populated areas (more than 1,000 people per square mile) of the county mostly included a portion of Sanford and the areas along the transportation corridors coming in and out of Sanford. On the other end of the spectrum, most of the geographic area of Lee County has less than 500 people per square mile, which is considered rural.

A **risk analysis** based upon land use and zoning was compiled, because some uses of land pose more risk to a community than others. A map of the hazards and risks was generated, depicting that the most significant risks generally fall on or near the major transportation corridors within the county. **New developments** were also plotted for projects both planned and approved. This includes 2,761 residential units, producing a population increase of 7,179 people and generating approximately 336 additional emergency responses annually.

Demand for services was also evaluated with actual response data. Response data was plotted to create a “heat map” of where incidents most frequently occurred. Almost all (87%) of emergency incidents that occurred during the five year evaluation period were within a 6-minute travel time from an existing fire station. Not including the City of Sanford, approximately **76% of the emergency incidents were within a 4-minute travel time**. The four-minute travel time would be considered best practice under the national consensus standard that would apply to volunteer and primarily volunteer fire departments – NFPA 1720 “*Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Volunteer Fire Departments*”. Overlaps with fire stations in Lee County were found to be comparatively minimal through the GIS analysis. Overall, from a geographic coverage perspective, the fire stations are generally well located and distributed throughout the county. In several locations where fire stations may not be in optimal locations, they were so close geographically that a relocation would not be cost effective for the additional beneficial outcome received.

Closest fire station response is a recognized best practice in the fire service due to minimizing overall response times. Many times, fire district areas are originally drawn for a variety of reasons such as tax revenue, existence before other districts founded or before the existence of additional stations in a district. Sometimes, fire stations are relocated due to age or development incentive. Using the travel time model, given the station locations, and assumed availability, NCFCC utilized the geographic technology to develop a closest response area for each station. Although the GIS technology shows the adjustments that could be made, it is critical that leadership from the fire departments agree to the boundaries in terms of what makes the most sense, such as using an intersection, river or other physical indicator so that the district boundaries best fit the community. We do not recommend splitting a road down the center for district boundaries. That only leads to confusion and delay. In Lee County’s



case, re-engineering district boundaries utilizing GIS ranges from 0% change to a reduction of 44% of the address counts.

Ladder coverage was evaluated as well. Northview Station 1 houses a ladder and covers most of the commercial properties in unincorporated areas. Other commercial properties without ladder coverage are primarily near Lemon Springs Station 1.

Fire hydrants in the unincorporated areas were evaluated as well. The GIS system calculated that approximately **82% of the county addresses were within 1,000 feet of a fire hydrant**. Comparatively, Lee County is covering much more land area in the unincorporated areas with fire hydrants. However, there can always be improvements. Although countywide 82% is covered, the Pocket Fire Department's area is only at 61%. One of the greatest concerns expressed to NCFCC was hydrant testing and inspection due to the City of Sanford owning the hydrants and water system in the unincorporated area and not allowing contracting fire departments to conduct flow tests that are necessary for the fire department insurance ratings. However, Cape Fear Fire Department recently earned all available points in this category and their guideline is provided for consideration by other fire departments. Training of personnel conducting hydrant flows will be an essential component.

Response Data Analysis

NCFCC analyzed **response data** received from the Lee County 911 Center, isolating data specific to Lee County Fire Departments for the timeframe of **01/01/2019 to 12/31/2023**. This represented five full years of data and yielded 6,740 total emergency incidents, excluding those in the City of Sanford. While CAD data is not ideal to analyze for demonstrated performance, the response performance in this report can be viewed as an **indicator of performance**. The data does correctly reflect the demand at the geographical area representing the fire district or department.

There has also been a **steady increase in county-wide demand for service** during the time of analysis. **Overall, the Lee County Fire Departments have demonstrated their ability to provide a response time (turnout and travel time) of 10:44 minutes (10 minutes 44 seconds), or less, on 80% of all emergency incidents.** The above demonstrated performance can be identified as the current standard of cover or level of service for this evaluation timeframe based upon the data reviewed. Response times are trending upward over the review period. The busiest 8-hour period is Noon to 8pm. The busiest 12-hour period is from 9am till 9pm. Also, specific performance data for each individual fire department for the evaluation period has been provided within the report.



9-1-1 Emergency Communications PSAP and Radio System Review

Due to the significance of concern from the fire service in Lee County, NCFCC conducted a high level overview of the City of Sanford 9-1-1 Public Safety Answering Point (PSAP). Subject matter experts observed operations for about three hours during one day and sought to determine enhancement opportunities that could ultimately benefit service delivery for fire and rescue emergencies. Fire service concerns were principally around telecommunicators frequently asking firefighters to repeat radio traffic, perceived inattention from the communication center and lack of modernization with radio equipment and systems.

Eleven observations and recommendations were developed for consideration for improvement. These included: 1) Utilizing the E911 button from CAD to import ANI All data into CAD and then confirm the information for accuracy, 2) Re-evaluate alerting/toning stations, 3) Technical integration between the CAD application and the paging application, 4) Hold training with staff to define a consistent point in time when this “dispatch” button should be pressed, 5) Conduct a feasibility study to determine if an 800 MHz communication system or the NC VIPER system would be a good fit in Lee County based on terrain, tower availability and cost, 6) Evaluate how the fire station alerting feature could enhance services, 7) Establish a scheduled CAD map update of all critical layers, 8) Adopt a time-based performance measure as a goal – known as a benchmark, 9) Technical integration of CAD-to-CAD with neighboring counties, 10) establish an EMD quality control program, and 11) Create user groups to give structured input to fire and rescue needs and form stronger communication with first responder agencies. Note that the observations and recommendations in this report are not reflective of any opinions or feedback provided by the Sanford Police Department, Lee County, or Lee County rural fire departments. Further information may be needed to understand feasibility and effectiveness of the recommendations provided.

Capital Resource Analysis

Fire station facilities and fire apparatus are recognized as the highest cost capital resources for the fire service and generally fall just under personnel when evaluating cost centers. NCFCC conducted a mechanical analysis of forty-eight (48) fire apparatus in Lee County and visited twelve (12) fire station facilities.

The Lee County fleet was overall evaluated as “Good” per the NFPA guidelines. Several mechanical issues were identified and noted in detail on the Data Collection sheets (attached). The County should work toward implementing a vehicle replacement schedule to become more compliant with NFPA 1911 (Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Emergency Vehicles). Many of the departments had tires on emergency vehicles that were near or out of compliance with NFPA 1911 (maximum 7 years). Additionally, NFPA 1901 (Standard for Automotive Fire Apparatus) recommends body chevron reflective



striping to cover fifty percent of the rear-facing vertical surfaces (this consensus recommendation was implemented in 2009 and is current in 2024).

The overall condition of all **fire station facilities** was highly satisfactory to the current operational standard and capability. However, most facilities do not possess essential safety components or have the capability to accommodate response personnel for continuous (24-hour) staffing or shift work. Due to these factors, the overall rating of Lee County, NC fire facilities is "Fair". Six (6) facilities representing 50% of the total, have the capability for facility expansion.

Financial Analysis

Each fire department throughout Lee County cooperatively participated in providing important financial information for the assessment team to review through a survey capturing volunteer and paid personnel in the department, department overall funding, grants and all other revenues, and other relevant data. NCFCC developed tools to analyze this data for Lee County and compare the fire departments across the county. In addition, data by individual fire district, tax valuation, population, address points, road miles, area, parcels, historic (multi-year) response data and other dynamics was compiled to help better establish some of the hazard and risk within each of the individual districts.

The seven separate rural fire departments within Lee County operate on budgets that are supported by taxes levied within their identified service district coverage areas. The differences among these fire departments are many and varied:

- The taxes levied in these areas vary from \$0.08 to \$0.145 per hundred-dollar valuation.
- The property valuation within the department districts range from a low of \$354 million to a high of \$778 million.
- The coverage areas for these fire departments range from 28.8 to approximately 52.5 square miles.
- The populations protected range in size from 1,722 to 9,778 residents.
- While all fire departments within Lee County respond to fires and have varying levels of staffing; all of the departments rely on volunteer firefighters to provide the bulk of their effective response forces.
- The administrative and financial burdens associated with fire departments have increased due to more complex regulations and training requirements.
- As with the fire service in the United States, the volunteer fire departments within Lee County have faced challenges in maintaining membership.

Service contracts are administered by Lee County to each of the seven provider fire departments for eight fire protection service districts, which is a local government best practice. **Total income received** by the seven departments, as recorded on



their fiscal year 2023 federal 990 forms averaged \$596,427 with a high income reported of \$1,151,117 and a low reported of \$392,966.

The **annual operating budgets** for the seven fire departments ranged from a high of \$1,024,350 to a low of \$203,370. When reviewing **debt service payments**, all departments maintain an active debt service, totaling slightly over five million dollars (\$5,026,926), with an average department debt of approximately \$718,132.

Personnel costs are typically the highest single cost for fire departments. An analysis of the total budget dollars and percentage of total operating budget allocated to personnel costs was performed. The Pocket Fire Department had the lowest personnel to budget ratio of the seven fire departments at 32% with the Northview Fire Department devoting 71% of their operating budget to personnel.

The seven contracting fire departments provided a listing of **38 large fire apparatus capital assets**. These vehicles included engines (pumpers), an aerial (ladder truck), tankers, and combination vehicles (pumper/tankers, engine/rescues, etc.) The number of vehicles aged between 1 and five years was seven, with eight vehicles ranging six to fourteen years old. There were six vehicles aged fifteen years through twenty years old and **seventeen vehicles older than twenty years old**. Nineteen of the apparatus were engines, with nine additional vehicles being a combination engine/rescue (1) or engine/tanker (8). Tanker vehicles comprised five of the listed apparatus. There was one aerial vehicle listed by Northview Fire Department. There were four rescue-type vehicles reported. Replacement cost for **all** department large apparatus would conservatively be over **thirty-four million dollars** (\$34.3 million).

For the purposes of this analysis, vehicles ten-years old or older were considered for replacement, to establish a generalized cost figure for a potential capital replacement five-year plan. There were eleven vehicles less than ten-years old and twenty-seven vehicles ten-years or older, of which, five vehicles were listed as reserve apparatus and were not considered for replacement. The replacement cost for large apparatus, turning fifteen-years old within the next five years, is over \$19.7 million. NCFCC provided an illustrative 5 year capital replacement plan for this apparatus.

Loose equipment necessary for firefighters to operate, including generators, thermal imagers, self-contained breathing apparatus, automated external defibrillators, extrication equipment, pagers and radios were also evaluated. These essential components can also have high replacement costs. As one illustrative example, a conservative cost estimate for replacement of the twenty-six older air packs could approach or exceed \$208,000. Lee County will need to give attention and priority to replacing loose equipment as well as fire apparatus.



Staffing Levels of the contracting fire departments were also evaluated. According to the submitted survey forms/NCSFA rosters, all of the seven study departments utilize volunteer firefighters as the majority of their response force. All departments also indicated that they utilized paid firefighters (primarily part-time) to staff their stations, with five departments indicating their use of some full-time personnel in station manning. Of these seven departments, one department did have a full-time paid fire chief, and one department had two part-time (20 hour/week) chief officers to attend to administrative duties.

The departments utilized similar shift schedules and employed both full-time and part-time staffing. To simplify the staffing comparisons, each department's staffing hours were converted to 40-hour full-time equivalents (FTEs). As an example, a department scheduling a firefighter for eight hours five days a week would equal 1 FTE (40 hours /40 hours), while a department scheduling a firefighter for 24 hours seven days a week would equal 4.2 FTEs (168 hours/40 hours). FTE equivalency does not differentiate between full or part-time positions. As such, a part-time position scheduled for 60 hours per week would equal 1.5 FTEs. **The cumulative total FTEs for the seven contracting fire departments in Lee County was approximately 27**, with the mean average of 3.86 FTEs per fire department.

Volunteer staffing levels within Lee County fire departments is diminishing. Data indicates that Lee County has a net loss of volunteers at about 2.5% per year. While this is less than the statewide trend with a net loss of 3.5% per year, it should still be concerning for policy and decision makers. Since 2018, Lee County has a net loss of approximately 25 firefighters according to records filed with the NC State Firefighters Association.

Municipal cost share modeling was also evaluated. This calculation determines a conceptual, equitable cost share between municipalities and unincorporated areas based upon several key indicators such as calls for service, area, population, valuation and building square footage. Ideally, there is an agreement for the percentage weight on all factors between the county and the municipality. However, for illustrative purposes only, an equal weight for each dynamic is presented.

NCFCC **reviewed the current service contract** that Lee County utilizes to establish contractual service with the seven (7) private, non profit corporation fire departments. A list of observations and recommendations for improvement to this contract document was developed. Also, the current countywide mutual aid agreement was reviewed and recommendations for improvement developed. Specific items from the current service contract were identified as well as a comprehensive list of questions for Lee County to consider in order to be in stronger alignment with other North Carolina counties. The question areas include 1) Core Contract Language, 2) Fiscal Issues, 3) Insurance and Indemnification, 4) Fire



Department Performance Standards, 5) Personnel and Compensation, and 6) Board of Directors.

Fire and Rescue Service Delivery System Considerations Moving Forward

1. Operational Funding Needs:

Lee County is experiencing many of the stressors that most North Carolina counties are experiencing with providing fire and rescue services, including significant changing dynamics with **volunteerism**, the pronounced need for more focused work with **volunteer retention and recruitment efforts** and the implementation of additional volunteer incentives and programs. The demanding need for adding part-time or paid personnel to provide for **minimum staffing**, especially during weekday hours is also highlighted for many fire departments. Costs of providing protective clothing, gear, self-contained breathing equipment, radios and other **essential firefighting equipment** also tops challenges of most volunteer and combination fire departments. From every perspective of the fire chiefs across Lee County, **operational funding** is of paramount importance and concern to sustaining fire and rescue services. Simply stated, several fire chiefs believe that the current level of funding is not adequate to sustain current fire service operations in Lee County into the future, especially related to personnel – hence, **more funding will be needed in the future primarily due to personnel costs and capital needs**.

Looking forward, the greatest projected increase in operational funding will be **personnel**. Currently, an average of approximately **one-half (51%)** of the total budgeted system funding goes to personnel. Career fire departments operate with approximately 85%-90% of total funding dedicated to providing personnel. Therefore, Lee County should invest now where and when possible, to support and sustain the primary volunteer-based system if it is feasible. The assessment team constructed recommendations to aid Lee County with this effort by identifying six (6) short term (1-3 years) recommendations, twelve (12) more intermediate recommendations and three (3) longer-term (3-5 years) practices that could be considered. Most notably, the team recommends that Lee County establish a **retention and recruitment position** that will serve all 7 contracting fire departments in a unified way as a service delivery system in attracting volunteer firefighters and work with all the fire departments in developing meaningful ways to retain the valuable volunteers that are within the system now. Other counties (especially in Virginia) have found this approach helpful, and the position may be able to be funded through a federal grant program (SAFER) in the future. Until conditions will allow, the team recommends that the retention and recruitment position be established at least on a part-time (less than 1,000 hours/year) basis.

Reviewing statewide data from across North Carolina over the past five years demonstrates that **volunteer firefighter numbers have a NET decrease of approximately 3.5% on average per year**. In the next five-year period for Lee County,



this data indicator could potentially mean the loss of 18% of Lee County's approximate 185 volunteer firefighters – or a net loss of 33 firefighters. Beyond the state data, NCFCC specifically evaluated the data from Lee County firefighter rosters. Between 2018 and 2023 – a six year period – Lee County has had a net loss of almost 12% of volunteer firefighters – or about 2% per year, totaling 25 firefighters. Proactively pushing back on the volunteerism trends through specific and determined retention and recruitment efforts and targeted investments could reduce that potential loss for Lee County and **help to better sustain the primarily volunteer service delivery system.**

2. Principal Capital Funding Needs:

In the observation of the assessment team, a distinguishing and concerning capital cost for Lee County will be **replacing fire apparatus**. Replacing fire apparatus will be a significant consideration that Lee County leadership will need to consider with contracting fire department budget requests. These future needs will be best served by developing a Capital Improvement Plan and funding plan for fire apparatus into the future.

Post-pandemic, fire engines are often in the **\$700K+ range** and most often on a **two-year plus delivery timeline**. Used fire apparatus is also at a premium cost due to the high demand for fire apparatus across the United States with high costs and significant production delays. With 17 of the total 48 fire apparatus in Lee County (35%) currently 20 years old or older, **capital replacement of fire apparatus is an important issue for Lee County to prioritize. A few fire departments have the most older apparatus with two or more aged apparatus – Deep River, Pocket, and Tramway.**

Fortunately, though the **mechanical assessment** NCFCC conducted of all fire apparatus within Lee County, only two (2) of the older apparatus were in the “fair” condition status (Deep River and Pocket) and only one (1) was in the “poor” condition status (Lemon Springs). It is recommended that all fire departments with older apparatus evaluate the necessity of replacing that apparatus and develop capital improvement plans for apparatus replacement.

It is recommended that **fire station facilities** be considered for capital funding. This is especially important where facilities are not properly equipped to accommodate 24/7 firefighters with dorm facilities. Expansions are possible with several of the current fire station facilities, such as Cape Fear Station 5, Deep River Station 4 and SubStation 4, Northview SubStation 6, Pocket SubStation 9. Only one station (Northview) currently has firefighter dorm rooms.



3. Future Funding Models to Consider:

With the significant operating costs to consider in coming years coupled with the pending capital needs of fire apparatus and fire station facilities, **it will be necessary to re-evaluate the funding models that Lee County will use moving forward** to help achieve the necessary level of funding to support the delivery of fire and rescue services to the people of Lee County.

NCFCC developed four key considerations for Lee County to consider. Each consideration has pros and cons that will need further evaluation at the county level. The four identified options that were developed for consideration at this time include:

1. Keep Funding Structures Status Quo. (Current Lee County model.)

Keep using the 7 service district structures that Lee County is currently using (plus the Clearwater service district), and continuing to escalate the fire tax rates within those fire protection service districts upward to fund the credible needs presented and approved by the Board of Commissioners, up to the \$.15 per \$100 valuation maximum rate for fire protection per NCGS 153A. Note that the \$.15 per \$100 valuation restriction may not be applicable in Lee County.

2. Establish One Single Fire Protection Service District in All Unincorporated Areas of Lee County and in Municipalities (Broadway) that Elect to Participate in the Single Fire Protection Service District for Funding All Fire and Rescue Services. (Model used by Bertie, Scotland, Bladen, Moore, Wake, Vance, Gaston, Iredell, Stokes, Person, Caswell, Cleveland, and Avery Counties.)

Shifting the funding model to be fully dependent upon a single, uniform service district tax rate across most of the entire county, with all funds dedicated to delivery of fire and rescue services within the defined service district.

3. Establish A Fire Protection Service District in All Unincorporated Areas of Lee County and in Municipalities that Elect to Participate in A Single Fire Protection Service District for Funding Fire Service Staffing, or "Overlay Service District". (Forsyth County model).

This type district is principally considered due to the firefighter staffing needs that are a primary need in Lee County. An overlay service district is similar to option #2, but keeps all seven current service districts (plus Clearwater) in place and adds an additional funding layer specifically dedicated for firefighter staffing (or other designated purposes). This model supports the operational funding needs of each department paired with an additional service district with a single tax rate across most of the county, most commonly known as an overlay service district, that may be dedicated to providing



enhanced firefighter staffing at all contracting fire departments initially focusing on peak call volumes.

Fire protection service districts, as enabled by NCGS 153A-301(a)(2) primarily follow the model of 1) an overall countywide single fire protection service district with some area(s) excluded, such as some municipalities, or 2) an “overlay” district which is in addition to existing individual service districts. The overlay service district simply is an additional layer on top of the other district(s) that are or may be in place.

Generally, overlay service districts are implemented to address needs that are necessary or beneficial for the entire service delivery system when it is desired for each geographic or regional area to keep the local service district. The process to establish an overlay service district is identical to the process required to establish a countywide single fire protection service district, with some area(s) excluded.

The “good for all” purposes that counties in North Carolina utilize overlay service districts to support fire protection vary. Some counties have a single, more focused purpose, such as to support staffing units within the county that aid and support contracting fire departments with supplemental firefighters on emergency scenes. In other counties, the overlay districts provide a variety of services and support functions for the contracting fire departments to help lessen burdens on their individual districts where the economies of scale or size make purchases more efficient, or management of processes more streamlined and fill system needs or voids.

As with any service district in North Carolina, the funds collected from the service district must only be used within that service district and must be used for the purposes of fire and rescue services, or however the service district structure is established. In the situation with Lee County, the principal need could be for dedicated peak time firefighter staffing for all contracting fire departments.

4. Utilize the Lee County General Fund to Provide Some Supplemental Firefighter Operational Funding for Contracting Fire Departments. (*Guilford, Cabarrus County Model.*)

Because of the unique nature of most of the municipalities in Lee County, except for Sanford, currently already being in the current fire service districts, Lee County could transition a portion of the County’s General Fund to provide supplemental firefighters operating as a “flying squad” of firefighters to respond to significant incidents throughout Lee County.



As an initial step to strengthen fire protection services throughout the County, Lee County could consider establishing at least one regional crew of four full-time career firefighters that would be regular County employees. Some jurisdictions that use this model refer to this model as a “flying squad” or a “task force” approach. This crew would be comprised of a Fire Captain, a Fire Engineer and two Firefighters who were highly trained in all aspects of fire service delivery. This initial crew would work under the direction of the County Fire Marshal on a weekday basis when volunteers are least available. They would be available countywide and could be based at a location that was statistically determined to be most optimal to have a positive impact on the structure fire responses in the County. If this resource were funded through the General Fund, the crew would respond into municipalities as well when requested or programmed.

With a total of 258 square miles in Lee County, one crew centrally positioned in the county would have limitations of effectiveness. However, it would enhance staffing beyond the current model and would provide a reasonable infrastructure to support all of the contracting fire departments countywide. Annual staffing expense for one crew is estimated at a minimum of \$300,000, including a necessary staffing buffer to manage leave. In addition, a response vehicle as determined appropriate by the County would need to be purchased and maintained. It is recommended that a service truck, or similar be utilized in this model. In addition, there are also potentially costs for facility either through partnership, agreement, lease, or eventually construction of a facility.

Although the county could consider contracting service for such regional crews with the City of Sanford, there would be certain advantages to consider in these personnel being county employees. In addition to response duties, this crew could assist all of the contracting fire departments in the County with maintenance type duties such as hose testing, ladder testing, training and other essential support functions, as would be requested by the contracting fire departments. They could also perform some fire code enforcement and prevention services under the direction of the County Fire Marshal if necessary.

It is critical to note that this model should only be considered as a supplement to the excellent services provided by the dedicated volunteer firefighters in the county during the most challenging time for staffing. It is NOT recommended to replace volunteer personnel in any way whatsoever.

As this pilot program operates over time, a more thorough analysis could be completed to determine if expansion of the program was appropriate and if so, how and where it would be most effective and most beneficial. Although this initial one roving County crew will only make up a small contingent of the



firefighters necessary on a fire scene, it would be a progressive effort towards strengthening service levels when volunteerism is at the weakest point – weekdays. Other NC Counties use similar models. An outline of the similar Guilford County model is found in the appendix. This program has operated successfully for many years and expanded in 2015.

Due to the significant amount of funds that are going to be necessary in the coming years to provide for personnel plus replacement of fire apparatus in Lee County coupled with the additional funds that are projected to support fire service operational needs, **the NCFCC team recommends that at a minimum Lee County consider Option #3 (Overlay Service District)** as a starting point to move the overall service delivery system funding progressively forward. Options #1 (keep the current system but increase the rates), #2 (create a single countywide service district) or #4 (use the county General Fund to support a county funded supplemental response unit) are all viable considerations as well. However, any of the options will require additional funding within the foreseeable future to adequately fund the needs identified for providing fire and rescue services in Lee County.

The projected cost of providing salary and benefits funding to seven (7) separate fire departments with the enhancement of adding one engineer level full-time equivalent is estimated to be \$525,000 for FY 25-26. This annual amount is indexed, associated with and based upon the City of Sanford's fire engineer salary mid-point and standard benefits percentage. NCFCC recommends indexing the cost so that it can remain current with market in the immediate Lee County area. Based upon projected revenue, this enhancement alone would require approximately \$.015 per \$100 valuation on an unincorporated overlay district.

Appendix Documents

Within the appendix documents of this report, there are detailed documents that can assist Lee County in transitioning to a model with fewer service districts – either a **single service district model** or an **overlay service district model** if so desired. This includes a drafted NCGS report, county resolutions, municipal resolutions, and other models that Lee County will need to consider in the process of advancing to a service district model.

A **core strategic plan document** is provided to Lee County to begin to build from as decisions are made to sustain and enhance services. Also, significant materials and information regarding **volunteer retention and recruitment** have been offered to fire departments in Lee County to continue to work towards in order to advance the fire service. A depiction for the legally required **“two in-two out” rule** for entering structure fires is included along with a host of other visual representations that relate to the specific recommendations for Lee County in this report. An **ISO analysis of needed fire apparatus** is included. Important **merger considerations** and illustrative **county service contracts** are provided. Additional details on Guilford County's **long-**



term supplemental staffing program is provided. Last, applicable excerpts from “**21st Century Fire and Emergency Services**” from ICMA and CPSE are included.

Next Steps:

The next steps for this process will be for Lee County to **review the data and information contained within this report** as well as the recommendations contained herein.

In order to increase the funding available for staffing, Lee County elected officials will need to **determine which funding model change** is most appropriate for Lee County. In order to implement a change on July 1, 2025, it will be necessary for that decision to be made no later than the November-December 2024 timeframe to develop the budget data and outline the process that will be needed to hold a public hearing, present a NCGS report and ensure that the adoption schedule meets North Carolina Statutes.

Lee County is encouraged to implement a **volunteer fire retention and recruitment officer as soon as conditions will allow**. This could begin with a part-time, dedicated person focused on volunteerism in the FY 24-25 budget if so desired.

Given that this analysis depicts multiple components needed on the journey to improving the overall service delivery level (response data, fiscal data, community data, etc.), Lee County should **conduct a periodic review of the analysis within this report and refresh the key data** periodically to ensure that current and relevant data is being used by decision makers with the most up-to-date information available at the time.

The entire NCFCC team sincerely appreciates the opportunity to provide this vital information to Lee County. We are proud to have assisted in efficiently supporting Lee County in this critical endeavor. We humbly and sincerely thank everyone who supported this progressive initiative and genuinely express our honor to serve in this beneficial capacity of continuous improvement.



Section I: Stakeholder Feedback Summary



Lee County Fire Chiefs Feedback

As a group, the fire chiefs in Lee County held a strengths, weaknesses, opportunities and threats (**SWOT Analysis**) session with NCFCC. As **strengths**, the quality of equipment, relationships and dedicated volunteers topped the list. The **gaps** were highlighted by changes in volunteerism and the negative effects that was having on service delivery in the county. The majority of gaps included significant concerns about the county 9-1-1 Emergency Communications Center and radio system in Lee County. Leading the comments on **potential opportunities** was the need for competitive pay for personnel, establishing minimum staffing for daytime and peak response time calls, establishing a high school fire academy for firefighter recruitment and higher use of the current fire advisory board. **Concerns** were led by issues with emergency communications, the implementation of career personnel within traditionally volunteer organizations, fear of losing control of the fire departments that many have worked hard to build, internal communications and mitigating the significant growth coming to the area.

All fire chiefs were **met with personally one-on-one** and asked a series of questions to gain input and understanding. Regarding the question of what the chiefs saw as the **key positives** and what was working the best in the fire and rescue service delivery system in 2024 in Lee County, the top responses included 1) the working relationships of fire departments working well together 2) the people – both career and dedicated volunteers that serve the people of Lee County, and 3) the condition of the fire apparatus fleet and overall response equipment.

When asked about what is perceived as the **greatest barriers** for their fire department and what was holding their fire department back the most in 2024, the top responses included 1) that there is a significant decline of volunteerism and there will be an increased financial need for career firefighters, which is placed on the contracting fire departments, 2) there are issues that harm service delivery with the current 9-1-1 Emergency Communications Center and the lack of a modern VIPER radio network, and 3) the need for additional firefighters and not having enough personnel for adequate response.

In response to what the fire chiefs would like to see **Lee County do to best support firefighter volunteerism**, the primary responses included were, 1) get a high school fire program re-established that is similar to Harnett County's successful program, which will get recruitment back in schools, 2) provide funding for volunteer incentives including tax incentives (although acknowledged that would require state legislation, and 3) for the county to provide more information about the fire service in the county on their web site and be stronger public advocates for the fire service in publicizing the need for volunteers.



In response to what the fire chiefs would like to see **Lee County do to best support the fire departments** that they are not already doing, almost one-half of the feedback received was focused on the perceived inadequacies of the current 9-1-1 emergency communications center and the emergency communications radio system. There is much frustration in the 9-1-1 center operations and there is a significant need for a modern 800MHz radio system in order for the county's contracting fire departments to better communicate with each other and with neighboring counties, that already use 800 Mhz radio systems.

The need to strengthen interpersonal communications, build trust and collaborate together between Lee County and the fire service was also noted multiple times.

The fire chiefs when responding to the question of what **type of funding system or model do you believe is the best next step for Lee County** to consider we rather equally split on those fire chiefs that were agreeable to using a flat tax system/structure and those that were opposed to that system/structure. Those fire chiefs that were agreeable to moving to a flat tax system almost all had a caveat of concern in the way that the flat tax system was structured to be fair and equitable. Many acknowledged that eventually the county will go to a flat tax system, but did not feel that now was the time to do so.

The **data elements** that the Lee fire chiefs most supported to be considered when designing risk hazard models were in order 1) tax valuation, 2) call volume/road miles (tied), and 3) address points.

Fire Chiefs also shared **additional items of interest that they had to improve the fire service in Lee County**. There was a wide variety of topics noted in this section. Some of those included the many staffing challenges fire departments are having with recruitment and retention, such as being competitive with other municipalities that have more resources which provides more attractive employment, as well as the need for staffing to get the truck out of the door. They also expressed the desire for the quickest response, strategic placement of ladder trucks in the county, the issues with 9-1-1 emergency communications and the urgent need for "fixes" there, concern that some fire departments with fewer resources could close down and concerns about getting essential fire flow information from the City of Sanford to help better know the water availability within the response district.



Chief Feedback Data:

NCFCC held an initial meeting with the Lee County Fire Chiefs on November 30, 2023, which provided a project overview and review of the data collection form that was being requested from all Lee County fire departments which provides fiscal data and apparatus data.



Subsequently, NCFCC provided outreach to each fire chief in Lee County one-on-one with individual meetings in January 2024 to hear feedback on specific questions related to the overall service delivery system in Lee County. Below are the questions that the consultants asked on site.

1. What do you see as the key positives and what is working the best in the fire and rescue service delivery system today in Lee County?
2. What do you perceive as the greatest barriers for your fire department today for service delivery? What is holding you back the most?
 - 2a. (If volunteerism is an answer provided – what could Lee County be doing to better help you strengthen volunteerism, if anything?)
3. What type of funding system or model do you believe is the best next step for Lee County to consider in support of your fire department and why?
4. What else would you like to see Lee County do to best support you and your fire department that they are not already doing?
5. Looking at the list below, please put these seven items in rank order (1-7 with 1 being the highest) for us on what you think is most important to be considered to reflect the overall hazard and risk in your fire district: *(These are just listed alphabetically)*

- ____ Address Points – locations with addresses
- ____ Area – square miles served
- ____ Call Volume – total workload annually
- ____ Parcels
- ____ Population
- ____ Road Miles
- ____ Tax Valuation

6. What else would you like to share with us today that you think we should know about your fire department or the fire and rescue service delivery system in Lee County?





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December 18, 2023

Dear Lee County Fire Chiefs,

Thank you to everyone who was able to attend the recent SWOT analysis session with Lee County Fire Chiefs. We very much appreciate your valuable input, cooperation, and support.

During that meeting, we discussed and subsequently distributed a data packet for each fire department. We initially asked each department to complete the packet by 12-31-23 and offered to collaborate with any fire department that was challenged by that due date.

This past week, Lee County has asked us to provide up to an additional 30 days (until January 31, 2024.) to complete the packet as a firm final date. So, **the new final date is 1-31-24**. However, we have already received completed packets from several fire departments and encourage you to send your information forward as soon as possible.

Thanks to folks asking questions and assistance. Again, Chief Campasano is available to help you with needs. His email is ncampasano@ncfirechief.com. He has provided the following clarification for the apparatus and loose capital equipment valuations that may be helpful:

When completing the capital equipment forms, please use the following:

1. *Apparatus values should be the replacement value. This figure can typically be obtained through your vehicle insurance company (such as VFIS).*
2. *Loose capital equipment should be the current estimated value of the equipment, not the replacement value. These values do not need to be exact market-place values. Your best guess estimated value will suffice.*

Although the packet date has been pushed back, we are planning to continue forward with the following components during January:

1. One-on-one **fire chief discussions during the week of January 22, 2024.**
2. On-site **apparatus evaluation and facility review during the week of January 29, 2024.**
3. Other non-financial related components such as CAD and GIS analysis.

Mr. Bullard will be helping to coordinate the visits for the on-site apparatus/facility visits. For individual discussions the week of January 22, please let us know the time that is most convenient for you using the below SignupGenius link:

"Strengthening fire and rescue service delivery systems through continuous improvement." ¹



Lee County Fire Chiefs Countywide Analysis Feedback
December 2023

Key Strengths of the Lee County Fire Service:

- We have strong relationships between fire departments in the county to provide both reciprocal automatic aid and mutual aid when necessary.
- Our equipment is in excellent condition, with excellent fire apparatus, operational equipment, station locations, and more.
- We are adapting to the future by hiring personnel.
- We have very dedicated volunteers throughout the county. We are fortunate to have an older population of veteran firefighters (but more transient younger firefighters).

Recognized Organizational Gaps Within the Lee County Fire Service:

- Diminishing numbers of volunteer firefighters throughout the county.
- Recruitment and retention of both career and volunteer members is very challenging.
- Unacceptable service from the Sanford 9-1-1 Emergency Communications Department. This includes, but is not limited to:
 - As our only PSAP, the city 9-1-1 staff have a different vision than we have.
 - We have asked for call/dispatch locution but still do not have it.
 - The 9-1-1 center is using EMD, but not EFD.
 - The 9-1-1 center is not using quick links for EMD to better expedite critical medical calls and get us enroute.
 - We do not get needed patient information on our tablets.
 - We are still on VHF and UHF and have not made the needed upgrade to 800 MHz. We need to move forward towards VIPER, like the rest of NC.
 - There is no single CAD administrator for the system.
 - There is a lack of 9-1-1 telecommunicator training.
 - The 9-1-1 center frequently provides inaccurate CAD data to us.

Potential Opportunities You See for the Lee County Fire Service:

- The ability to provide competitive pay and benefits for our career personnel, including offering our personnel beneficial retirement plans.
- Being able to establish minimum staffing for daytime and peak times for calls. Our volunteers are not as available, especially weekdays and often not available in the early morning hours because they must go to work the next morning.
- Establishing a high school fire academy to serve as a recruitment method for new volunteer firefighters.
- Higher use and utilization of the current Fire Advisory Board for Lee County.

Threats/Concerns about the Lee County Service Fire Service:



- Service from 9-1-1 Emergency Communications is poor and hurts our service delivery level and outcomes to our residents.
- Implementation of career personnel within the fire department can present challenges.
- Fear of the thought of losing control of the fire departments that we have worked hard to build.
- There may not be good quality information from the top to the bottom.
- Managing and mitigating the growth coming to our community.



Below is a summary of responses from Fire Chiefs from one-on-one sessions:

1. What do you see as the key positives and what is working the best in the fire and rescue service delivery system in Lee County?

- Resources are very good.
- The apparatus fleet that the county has is a very good fleet.
- Membership is strong in different areas of the county.
- Call response is good in some areas.
- All the departments have a good working relationship. There is no friction across the service districts in the county. It is a built relationship that has gotten a lot better in the last 10 years.
- Departments work well together, including mutual aid.
- Personnel are shared.
- People are the biggest positive.
- Equipment is up to date, up to speed and really good.
- Everyone is in pretty good shape related to equipment.
- Departments communicate well with one another related to staffing. If a department is short staffed or otherwise committed, then the other departments will listen out for them.
- The people. Our people can get done whatever needs to get done.
- Explosive growth. We have a lot of geographic diversity, but the majority is residential. Overflow from Wake and Durham counties have contributed to growth.
- The people who are dedicated are really dedicated.
- A lot of dedicated volunteers that have grown up in the fire service here in Lee County
- We are the second smallest county in NC which has kept us from some of the issues that larger counties have experienced.
- We all try to provide the same service and we are looking at increasing our capabilities as first responders.
- The fire chiefs work better together today than they did 10 years ago. Quarterly chiefs' meetings. Group purchases have been good, but you don't get the discounts that you used to.



2. What do you perceive as the greatest barriers for your department today for service delivery? What is holding you back most?

- Call response has dropped because volunteerism has dropped. Having to add more and more paid staffing.
- Finding young firefighters is hard due to demographics of our fire district. We have to increase our pay significantly to attract firefighters.
- We are going to start allowing volunteers from outside our district to volunteer.
- Staffing is greatest barrier for our department and all of Lee County.
- Incentive checks have allowed us to maintain volunteer participation. Has not increased volunteers but it has maintained our volunteer level.
- Funding for paid personnel as volunteers dwindle. Twenty years from now you will have to have paid staff 24/7. We have to be prepared to pay for that when the time comes.
- People. Not enough firefighters coming into the service
- Number of volunteers. Volunteerism is low. Only 3-4 volunteers added in the last 6 months. State has made it hard for the volunteers to get certified by changing individual classes to block classes.
- Pay per call did not increase participation of volunteers.
- Station is un-sprinklered so we cannot do 24-hour staffing.
- The departments who want to grow and progress should be funded by the county to hire personnel.
- Money. You don't want to run your tax rate through the roof, but you want to provide adequate service. It is a delicate tight rope.
- Our tax base. We do not have the property values that some do.
- Tax rate stays low to help community. A flat tax rate would prevent the department from matching the community's needs. The department would not have the control to keep the tax rate at a level that the community would support.
- We have a high tax rate because we do not have commercial and industrial. We have struggled with funding. The re-evaluation has changed this.
- Annexation has decreased potential for growth. US 1 corridor is developing, and annexation will continue in this area, and it will hurt the bottom line.
- We don't have the infrastructure to handle the growth in Lee County.
- 911 Communications is terrible. They do not have the training they once had. We will bury someone in the fire service or community because of our 911 system.
- We are all wanting to go VIPER, but the city and county do not want to play together. If a mayday is called the 911 center will not know what to do.
- PSAP - consolidated PSAP needs to happen. Currently controlled by the police chief who doesn't want to improve it



- Radio system
- Some chiefs believe the purpose of this study is to have a county wide fire department. I know this survey is to help the fire departments in this county.
- There is poor communications between the fire departments. Some departments don't want the other departments to know what they are doing.
- Communication from the county manager has not happened as it should. She wants to make big changes but doesn't communicate with the departments about it. No communication to tell us where the county wants to go.



2a. What could Lee County be doing to better help you strengthen volunteerism?

- I have seen recruitment and retention programs that did more harm than good. I don't see that the county can do anything to fix the issue. It is not a fixable issue.
- There is nothing the county can do to fix volunteerism across the county.
- It would be hard to get them to do anything because we are a 3rd party contractor, not an extension of the county.
- High school firefighter program or a feeder system to bring us new volunteers.
- Model Harnett County's program or have something similar to their high school program.
- Getting us into the schools to recruit. There is no high school academy in Lee County. COVID stopped the academy, and it hasn't picked back up.
- Departments working together as part of the Firefighters Association on recruitment. School visits from the association to recruit.
- Find ways to make kids and parents aware of the opportunities available in the fire service.
- Actively support the volunteer departments through the county's web site. Contact information, etc. should be on the county's web page.
- Getting the word out that we don't just fight fires and that we can find a job for you to do if you want to volunteer.
- Some fire chiefs have come up with some ideas, but they are not able to be done because of laws or funding.
- Pay per call ends up with just giving a bonus to those already responding and not any more response.
- The county could do better with follow through on things that have been promised like radios. This would remove the perception and stigma that volunteers aren't valued by the county.
- Incentives. 10% off property tax. The volunteer firefighters save the citizens a lot of money on their fire insurance costs. A program to save firefighters on their property tax.
- Waiver for property taxes for volunteers. I know that this would require state legislation first.
- Travel reimbursement (pay per call) countywide for volunteers would make volunteers feel more welcome.
- A strong plus would be if the county could take our employees and make them county employees so that pay and benefits would be equal.



3. What type of funding model do you believe is the best next step for Lee County to consider in support of your fire department and why?

- A flat tax can be a good thing if it is managed correctly, and a department has their capital outlay already set. I support a flat tax as long as departments have prepared and don't feel that they can spend more money just because they have a flat tax. Some departments don't prepare for the future.
- Not opposed to a flat tax. Does not like Moore County's approach. Their system is based off of formulas related to population and call volume, and number of trucks. Amounts need to be updated every year. Moore County is providing \$450K for a fire engine as an example. District specific needs are not considered. Community members want 24-hour staffing and higher levels of service and are willing to pay for it. A flat tax like Moore County would not allow for that.
- I'm not an advocate of flat tax but I'm not against it either.
- The have nots want a flat tax. The haves do not want a flat tax. We are the haves in this county.
- I don't know if a flat tax is the best funding system. I don't see a great need for a department
- Our last budget year the county tried to enact a flat tax. Flat tax can be a very good thing if it is implemented and managed properly. The county tried to implement a flat tax with 60 days' notice. Fire chiefs were upset, and it did not make the fire departments look good because of the perception that reaction gave.
- For the long-term longevity of the Lee County fire service a flat tax will have to happen at some point in time due to annexation and volunteerism decreasing. I don't believe we are at that point yet.
- We have no problem with the flat tax collection, it's the distribution that gives us heartache. They would take our tax money and give it to other departments. Some departments would need some help, which is okay, but a department with a budget twice our size would get some of our tax money.
- I am a firm believer in a unified flat tax countywide. It makes some of the departments who have been mindful of their budgets equal to departments who have spent money just because they have it. I believe this could help morale.
- A flat tax model would not be spread out to where it is fair and equal for every department. Our residents would be taxed at a higher amount to fund other departments for services that they are not getting.
- The Fire Advisory Board needs information from the county. Example is the flat tax. The Fire Advisory Board was not able to answer questions about it from the Fire Chiefs.
- I am content to leave it like it is but we need to have a sustainable system for the fire services in this county.



- We already have created service districts overlays
- We should not change anything. Let departments budget and set their tax rates as we do now.
- The current system we use works well. The only downside is if the department gets a conservative board the department is not spending as much money and unable to keep the department going. If you get a very aggressive board, you can end up with a very high tax rate and money spent on things that don't matter.
- We are comfortable with our current model. Sooner or later, we may have to merge with another department and things would change. Until that occurs, we are pretty sufficient with where we are at.
- We have never had to fund raise to survive, so I do not know of any other models than what we are doing now.
- There needs to be some form of standardization but there needs to be an acknowledgement of each department's specific community needs. An example would be standardized trucks would not work in every community. This community needs shorter trucks for access.
- Surplus money is currently held in a fund balance and then applied to the next fiscal year by the County. The County does not tell the fire chief how much is in that fund balance. He prefers to have that money available during the fiscal year to use for unmet needs.
- There should never be a fund balance. The surplus funds at the end of the fiscal year should be used to pay down the department's capital debt.
- I believe the county could do better on funding service.
- A portion of our tax rate and budget is used to fund the fire marshal and emergency management. We have no control over those increases and no information is given to the department. Our residents only see an increase in their fire tax and only see it as the fire department increasing their taxes.



4. What else would you like to see Lee County do to best support you and your fire department that they are not already doing?

- The biggest thing is the dispatch center. I have purchased 800 MHz radios on my own for interoperability with Harnett County. The best thing the county can do is switch to an 800 system. The current system is outdated and needs to be updated.
- The radio system needs to be done fairly and justifiably. All vendors need to be evaluated and the best selected.
- Communications. The PSAP needs to be run correctly. Something needs to change. We have asked for VIPER for years with little communication. The City and County do not always play well together and that has been an obstacle in getting things like VIPER accomplished. The PSAP needs to be under one roof but needs to be independent of the city and the county.
- The county could advocate better for the fire departments related to the 911 center.
- The county has budgeted money for replacement radios, but it keeps getting pushed back. We anticipate the county to do a large group purpose, so we are holding off on buying them.
- Communications is an issue but you just kind of deal with it. I think some people make a bigger issue out of it than it is. Across the United States everyone complains about communications. The biggest issue is the dispatch times. Sometimes we get active 911 sometimes we don't. There is technology available that will overcome the limitations of people, but it comes at a cost.
- Communications both PSAP and radio system. We have dead spots in areas. The city and county do not talk or get along. If I have a problem with the PSAP, I have to email city, county, and elected officials to get the problem fixed.
- The radio system falls on the county and the fire department has no say. The county tells us what type of system it will be, and we have to buy radios to match it.
- The county could advocate better for us to the city related to annexation and county versus city politics.
- There is a disconnect between the higher ups in county government and the fire departments. They do not know what we do, just that we are there, and we do it.
- Over the past 20 years, the county hasn't reached out and communicated with the fire departments. If they had communicated like the conversation we are having now, then we may not be in the place that we are in.
- Better and stronger communications from the county. Last year we were told about the flat tax without any discussion or planning with the fire departments.



- The fire marshal's office does not train with us. We work well together at what we do but there is not a close relationship.
- There is not a close working relationship with emergency management.
- There is mistrust between the fire marshal's office, emergency management, and the fire departments due to how the flat tax was slid in without any communication.
- Having resources available for specialty rescue is a void in Lee County. Some consideration for these resources needs to occur. We have a boat in our station from Emergency Management but never given any training or guidelines when it would be used.
- A lot of our departments can't offer benefits with just one or two employees. This could happen if they became county employees.
- I would love to see the county adopt one fire tax rate for the entire county. Some of the departments that have been struggling would be able to get caught up. If we knew how much money, we would be receiving every year we could plan for purchases better. A lot of positive would come from this.
- Need to go to a city county system or find a way for the county to provide those services to the fire departments as a primary not a secondary.
- It would be helpful for the county to provide address numbers for the road like they do for the house. You can't always see the house numbers from the road.

5. In rank order (1-7, with 1 being the highest), what do you consider the most important to reflect the overall hazard and risk in your fire district?

The following data elements have been listed by the average ranking provided by department chiefs with 1 being highest and 7 lowest.

1. Tax Valuation – 5.00
2. Call Volume – 4.29
3. Road Miles – 4.29
4. Address Points – 4.00
5. Population – 3.86
6. Area/Square Miles – 3.43
7. Parcels – 3.14

“Call Volume” and “Road Miles” were tied with an average ranking of 4.29
The rank order of tied elements are listed alphabetically.



6. What else would you like to share with us today that you think we should know about your fire department or the fire and rescue service delivery system in Lee County?

- We buy custom trucks because they are safe and more reliable and easier to maintain. The county needs to know that is why we spend more money on a fire truck than some other departments.
- Interested in seeing how department's strategic plan aligns with NCFCC recommendations.
- Would like to see response areas evaluated for quickest response.
- Need to look at strategic placement of equipment such as ladder trucks.
- We did a study 20 years ago and nothing came of it because the fire service doesn't like change. We have to embrace change and adapt and overcome even though some chiefs will complain.
- We hope there are no surprises from this study like they did with the flat tax. The biggest things that need fixing is the 911 center and radio system.
- Will the 2005 tri-data study be looked at in this study?
- Will the results of this study be shared with the fire departments?
- A lot of good can come out of this survey and I hope that the county will use the information provided.
- As a whole we are in pretty good shape in Lee County. As small as we are we have good coverage overall. I think it goes back to staffing which is a nationwide thing. We are so busy that we don't have time to volunteer. I don't think that will ever come back. The staffing problem is the biggest issue that needs to be addressed.
- A little volunteer fire department does not have much to offer to employees as they transition to a combination department. I can't afford to pay what a municipality is paying plus their benefits.
- If you will give me the money that some of the other departments are getting, I could have some paid staff and increase coverage, but we are doing pretty well with what we have.
- We have kept our tax rate low, and some are unhappy with increasing our tax rate with a flat tax and not increasing our budget but giving that money to other departments.
- Without unified tax, annexation could cause departments to close.
- Our department has been researching and looking for land for a new station for growth. We are willing to increase taxes for our district if that's what our district requires and needs. If the county is going to go with a flat tax, then they need a clear plan as to where this money is going.
- My issue is not communications or 911 or dispatching the call but getting the truck out after the call is dispatched. Having the personnel to respond.
- Will the departments have the ability to decide on station construction or will the county prevent the construction because it's not within the county's plan?



- A new station and new equipment is our biggest priority in terms of expenditures.
- Who will determine if the department does or doesn't need new equipment and who decides what we get?
- One item that we did not touch on was the water system. It would be nice and very helpful to all FD's if we could get some information help from the city. Example if they kept documented records on when hydrants are touched, flowed, serviced, etc.... and shared with us it would greatly help in our ratings inspection. The city does not allow fire hydrants to be marked. But they will allow marking with reflective tape. A lot of good things could happen if they worked with us.
- The system when installed by the county was a bare minimum system with hydrants at 2000 feet apart and some areas more. Many dead ends that if tied into other would make loops thus giving better flows, I believe. But I do not think this is an option, but the areas of keeping and sharing documented information would be a huge step.
- I am very proud of how far our department has come.
- I hope that y'all will look at each station with open eyes when you visit.



Many counties use different dimensions of risk and hazard to help balance some portion of funding across fire departments. Using a formula to distribute the funding rather than only basing funding on property valuation or call volume, as an example provides for a more well-rounded and balanced system. Generally, it is a recommended best practice to include four or more components to consider when distributing funding through a funding model. These components can be evaluated over a 3- or 5-year period, and optimally a 3 to 5 rolling year period so that there are not spikes in the funding streams for the fire departments, but the funding can adjust as an area grows and the fire department has more hazards and risks to protect.

We asked the Lee County fire chiefs to rank the dimensions of what they valued the most for helping to determine hazard and risk in Lee County and they provided the following response

1. **Tax Valuation – 5.00**
2. **Call Volume – 4.29**
3. **Road Miles – 4.29**
4. **Address Points – 4.00**
5. **Population – 3.86**
6. **Area/Square Miles – 3.43**
7. **Parcels – 3.14**

Therefore, tax valuation, call volume/road miles, and address points were the top three identified. This type of data helps to provide NCFCC to model/demonstrate how the percentages of these factors could be utilized to help distribute a portion of funding across Lee County utilizing these factors as an option based upon hazard and risk.

It should be noted that in North Carolina counties that utilize this model, those counties most typically provide a “base” of funding for all fire departments, then provide additional funding based upon each fire department’s unique hazards to protect.

This model is also most valuable to ensure equity when needing to evaluate that a municipality is paying an equitable amount for fire protection as an unincorporated area when a fire department serves both areas. This is not a priority issue for Lee County currently. However, this type of model can be applied in the future if ever needed.



Firefighter Feedback:

To gain a higher degree of inclusiveness, a survey was provided to all firefighters in Lee County. This additional perspective from firefighters who are answering the emergency calls is valuable when modeling systems for the future. The following are the results of the survey.

INTRODUCTION/OVERVIEW:

This report provides feedback on Lee County Firefighter's feedback on strategic planning. The feedback was collected from 35 Lee County Firefighters via Survey Monkey. This report will be a comprehensive overview of the firefighter's opinions. The survey consisted of 8 questions.

BREAKDOWN:

The report will examine the breakdown of the 8 questions.





North Carolina Fire Chief Consulting

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March 14, 2024

To: All Lee County Firefighters
RE: Extension of Lee County Firefighter Survey for One Additional Week

THANKS to everyone who has already participated in the Lee County Firefighters survey thus far. We are extending the deadline one additional week – until **March 22, 2024**.

The Lee County fire chief's input has allowed us to assemble a survey to gauge what the collective fire service sees as the highest priorities, which will help with the strategic plan for the next few years. We also want to make sure that everyone has an opportunity to give input. Please take a few minutes to participate in this survey with only eight (8) questions. It won't take much of your time, but your contribution will be most important to this process. Please complete this survey by **5pm Friday, March 22, 2024**. There is a QR code below that you may choose to use, or the link to this survey is:

<https://www.surveymonkey.com/r/LEECOUNTYFIREFIGHTERS>

Please know that this survey is anonymous. We are an independent contractor and we are not tracking who responses come from. We are simply interested in collecting what you have to say and reporting the summaries of the responses. Thanks for your cooperation and support. More importantly, thank you for your dedicated service to the people of Lee County!

Sincerely,

Gregory H. Grayson
Chief Officer



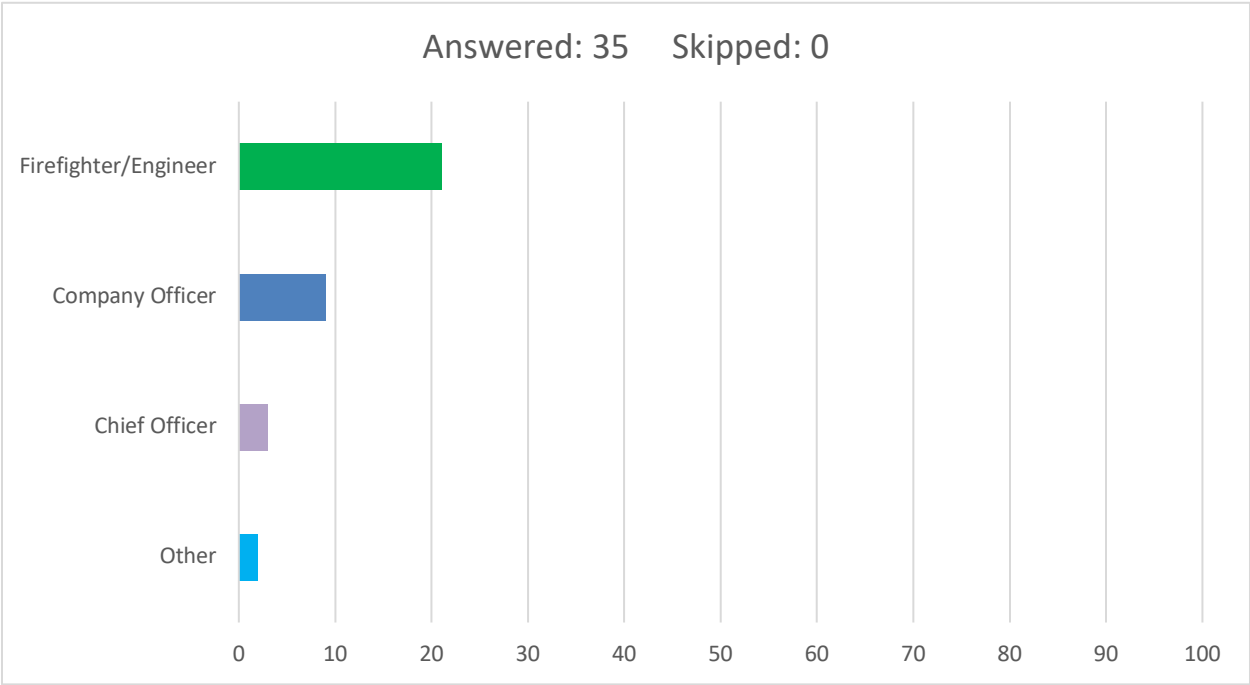
"Strengthening fire and rescue service delivery systems through continuous improvement."



SURVEY QUESTIONS

Question 1

Q1 What rank best represents the rank that you currently hold?

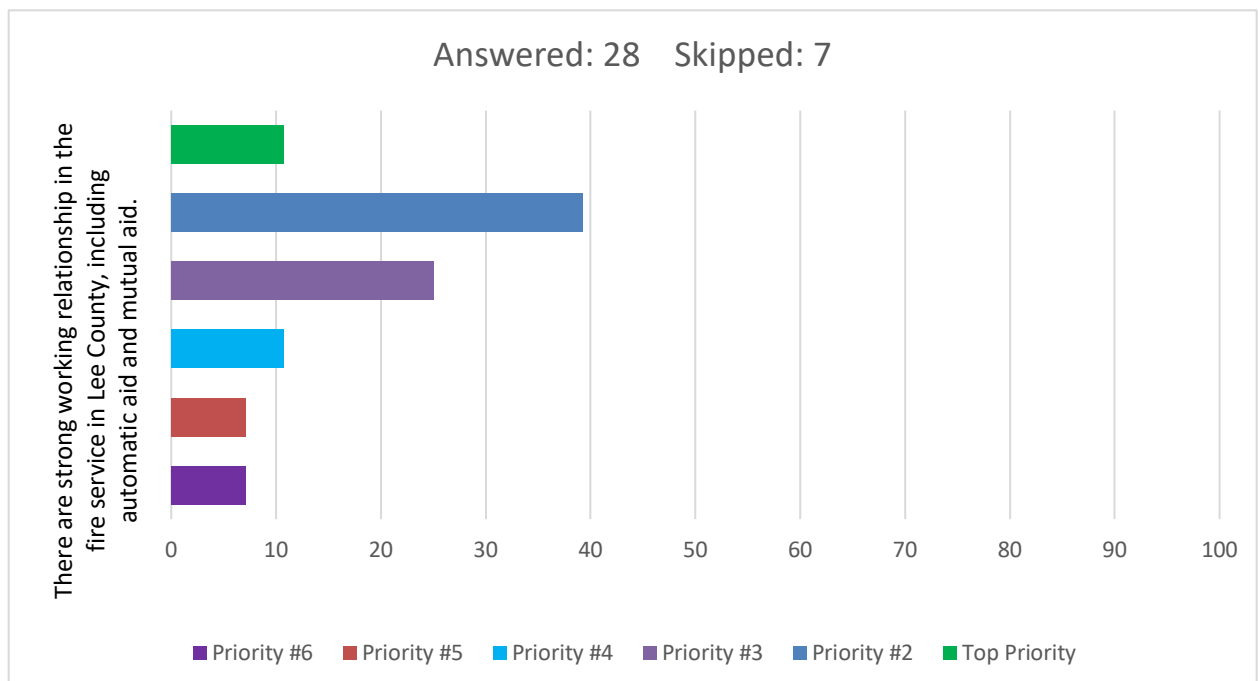
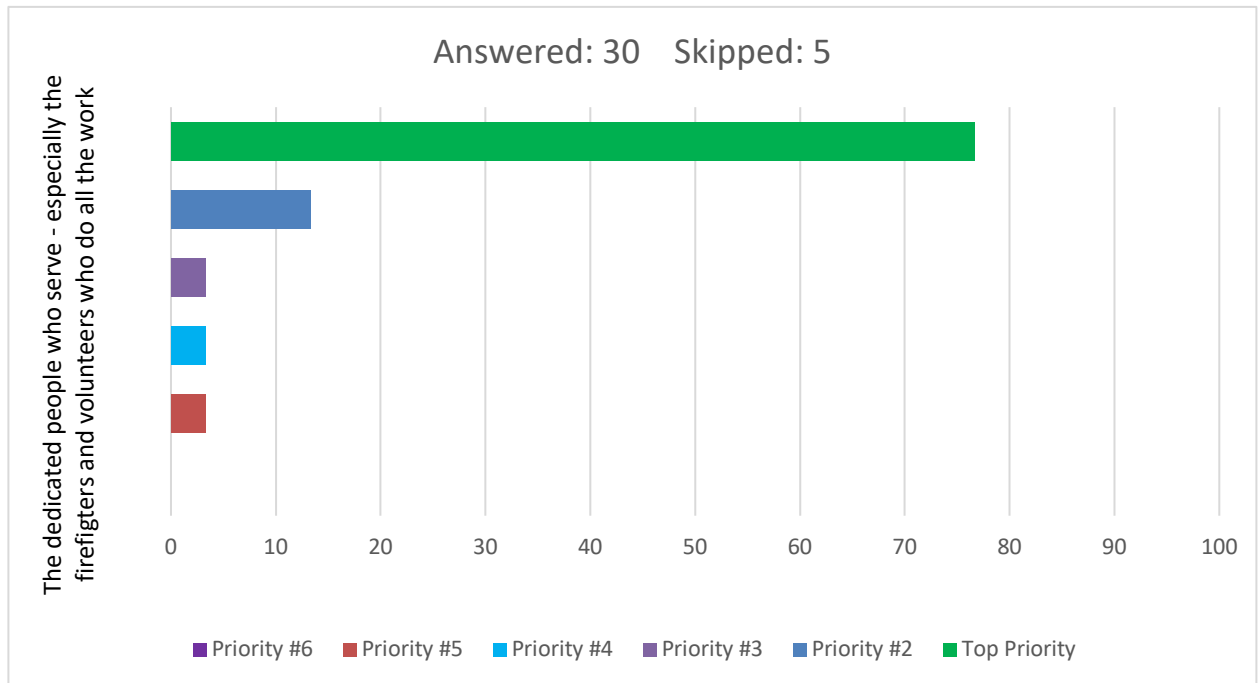


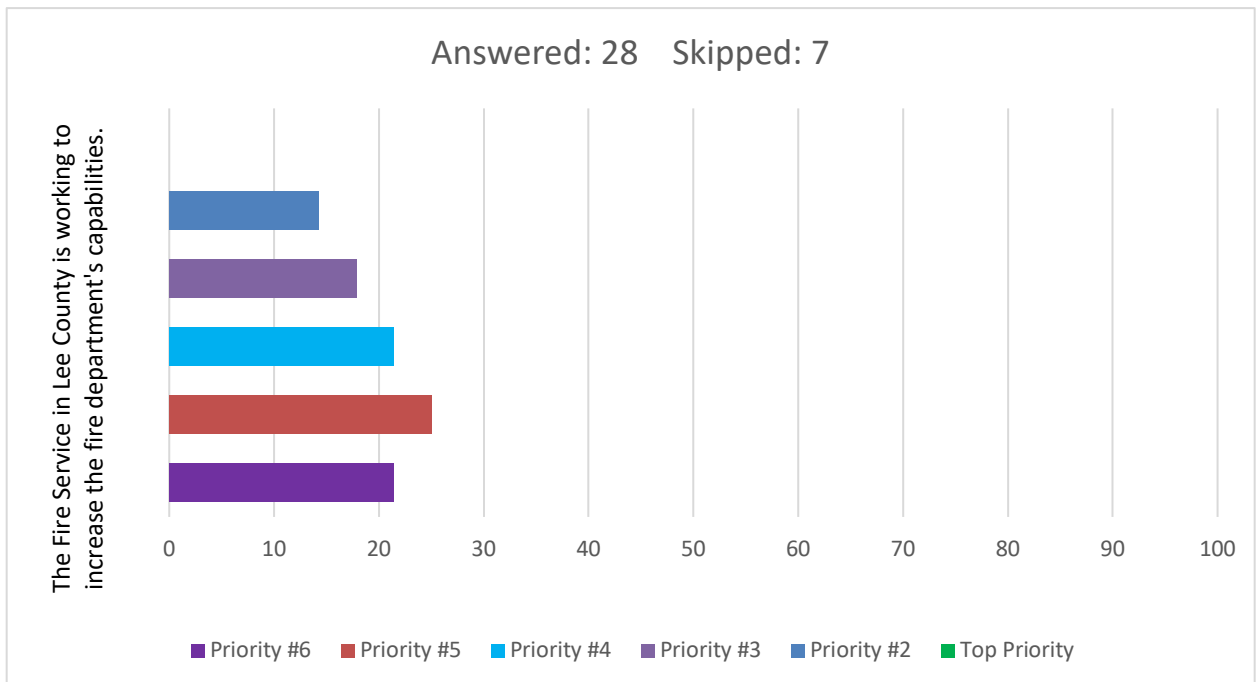
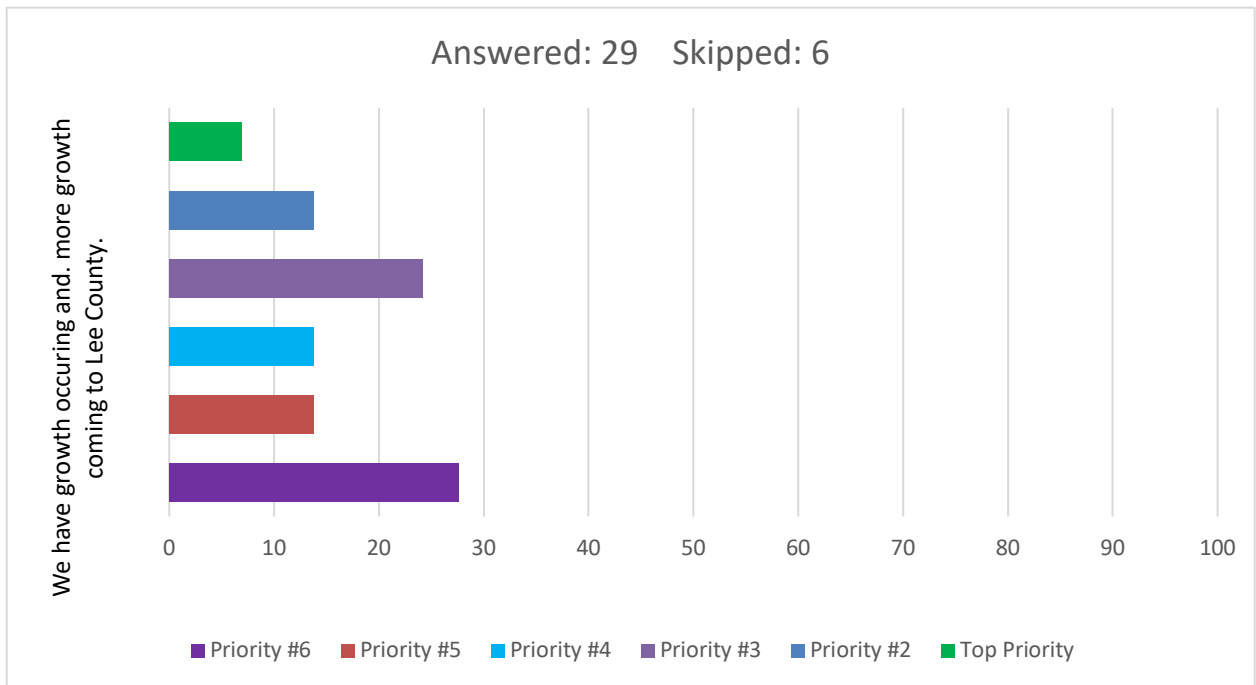
ANSWER CHOICES	RESPONSES	
Firefighter/Engineer	60.00%	21
Company Officer	25.71%	9
Chief Officer	8.57%	3
Other	5.71%	2
Total Respondents:		35

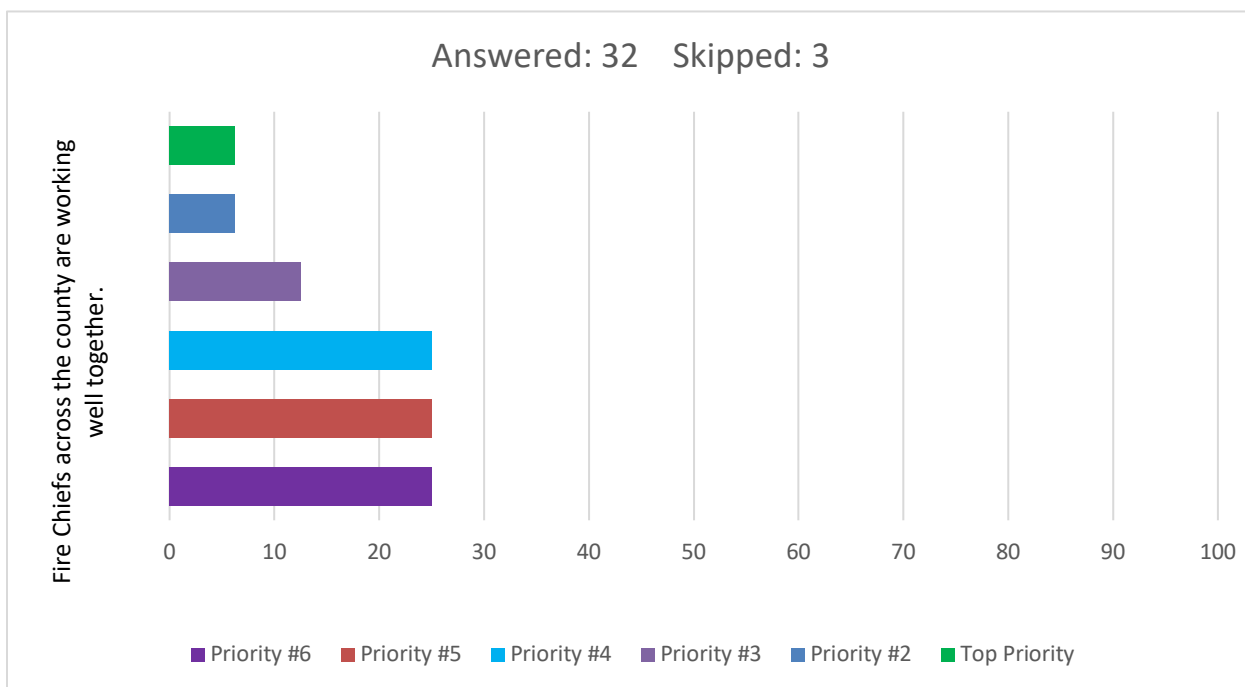
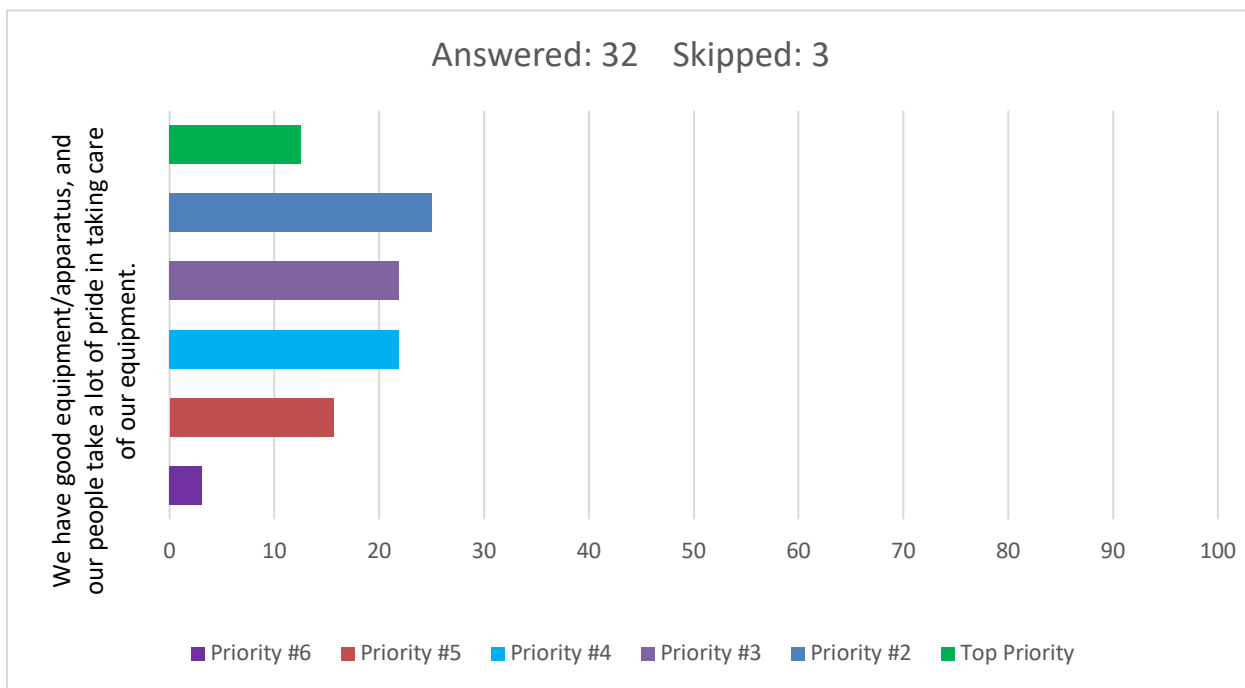


Question 2

Q2 What do you identify as the greatest strength of the fire and rescue service delivery system in Lee County? What are you most proud of about the fire and rescue services provided by the fire departments throughout Lee County? Please place these in your priority order.







	TOP PRIORITY	PRIORITY #2	PRIORITY #3	PRIORITY #4	PRIORITY #5	PRIORITY #6	TOTAL
The dedicated people who serve – especially the firefighters and volunteers who do all the work.	76.67% 23	13.33% 4	3.33% 1	3.33% 1	3.33% 1	0.00% 0	30
There are strong working relationships in the fire service in Lee County, including automatic aid and mutual aid.	10.71% 3	39.29% 11	25.00% 7	10.71% 3	7.14% 2	7.14% 2	28
We have growth occurring and more growth coming to Lee County.	6.90% 2	13.79% 4	24.14% 7	13.79% 4	13.79% 4	27.59% 8	29
The Fire Service in Lee County is working to increase the fire department's capabilities.	0.00% 0	14.29% 4	17.86% 5	21.43% 6	25.00% 7	21.43% 6	28
We have good equipment/apparatus, and our people take a lot of pride in taking care of our equipment	12.50% 4	25.00% 8	21.88% 7	21.88% 7	15.63% 5	3.13% 1	32
Fire Chiefs across the county are working well together.	6.25% 2	6.25% 2	12.50% 4	25.00% 8	25.00% 8	25.00% 8	32

Question 2 Comments:

- There is a large gap between municipalities and volunteer departments and their willingness to work together.
- I question what you mean in the third question down, the "Fire Service" is working to increase the fire departments capabilities. We obviously don't have a county wide fire department, the fire advisory board is nothing but a joke and the fire marshal office and emergency management have nothing to do with what we do or how we operate. The county doesn't seem to be here to support the individual departments, instead they (county) now seem to want to take over. There is a lot of ownership within each of the departments that have been doing this for a long time and now with the state continuing to make things hard, ems placing their burden of not having enough e ambulances on the road and trying to use us to supplement us to fill that gap (by the way the emergency management director's father is head of firsthealth and is on the ems board (conflict of interest) and now the county is trying to head to a county department, is a little hard to swallow for all of us.
- The overall communications system in Lee County/Sanford is trash. We need an E911 system we can rely on that is not putting our firefighters lives more at risk! The radios are not reliable and the staff in the current 911 center do not listen or give accurate information. There are no protocols in place at the 911 center do not listen or give accurate information. There are no protocols in



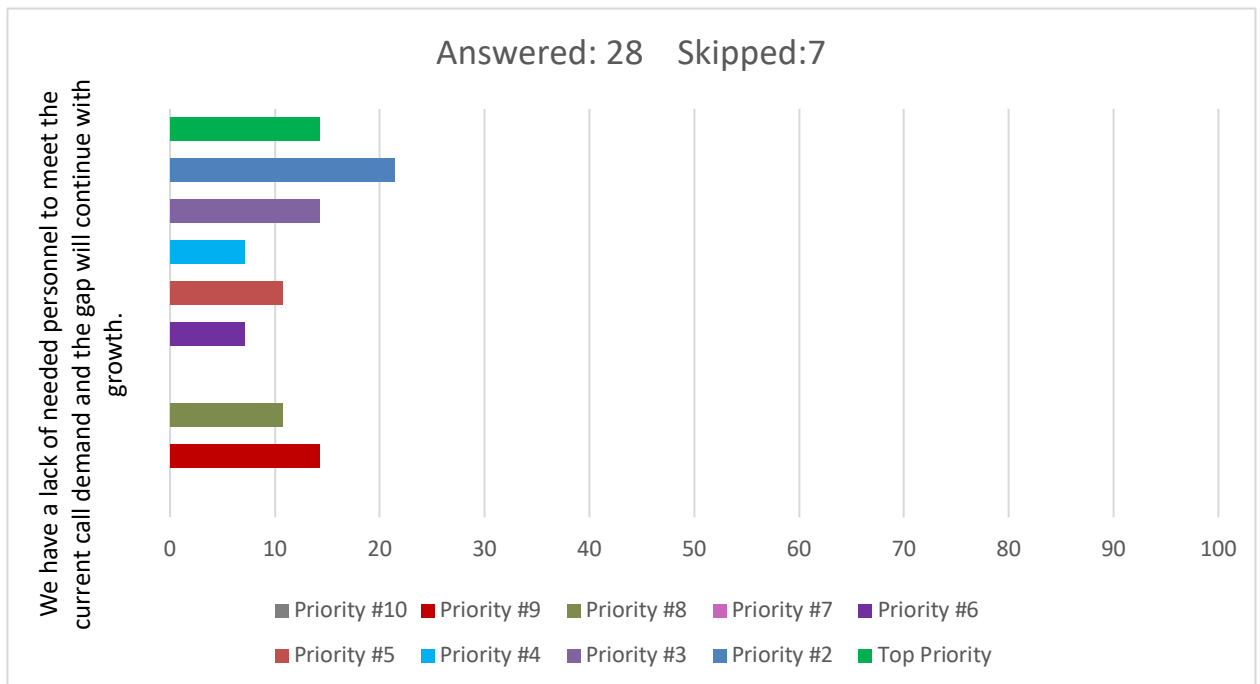
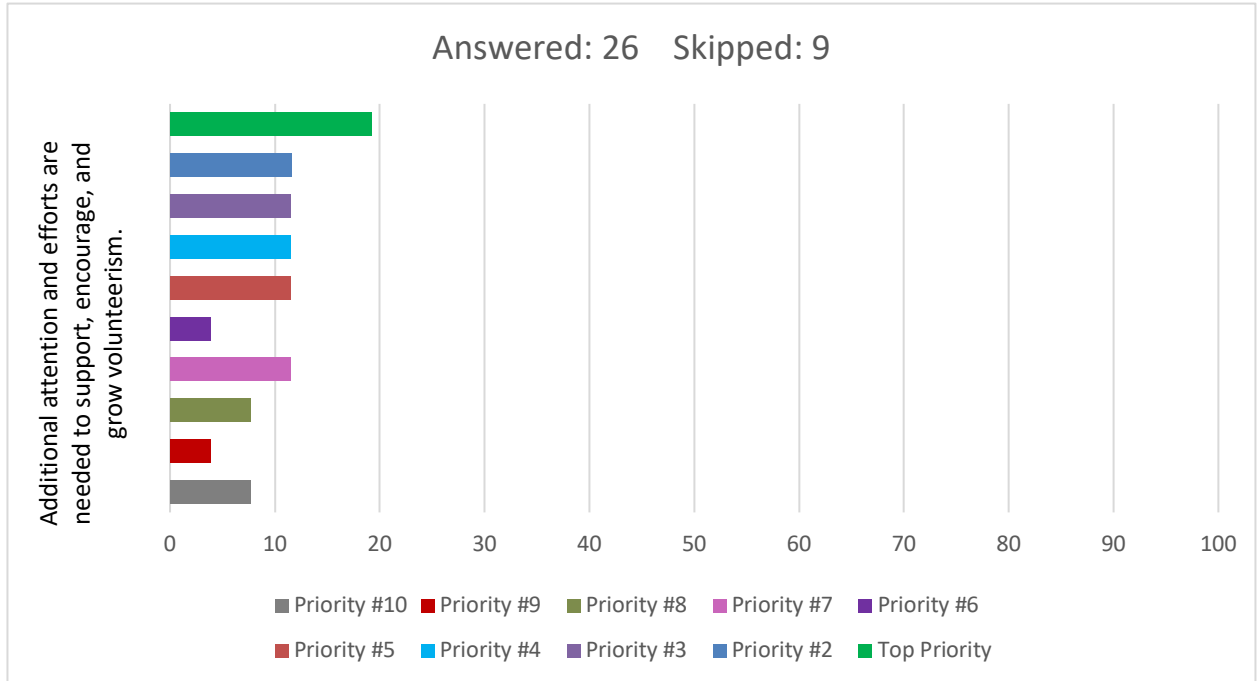
place at the 911 center as is an when told of problems they ignore them or blatantly lie stating that they have no problems!

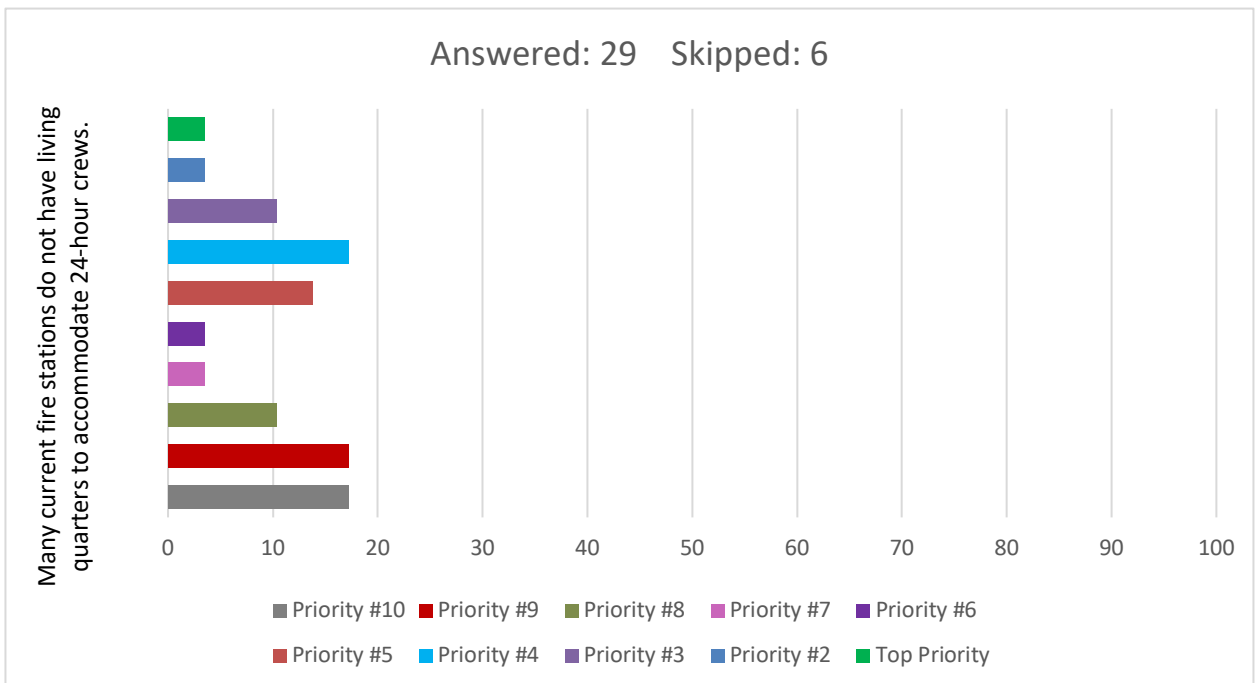
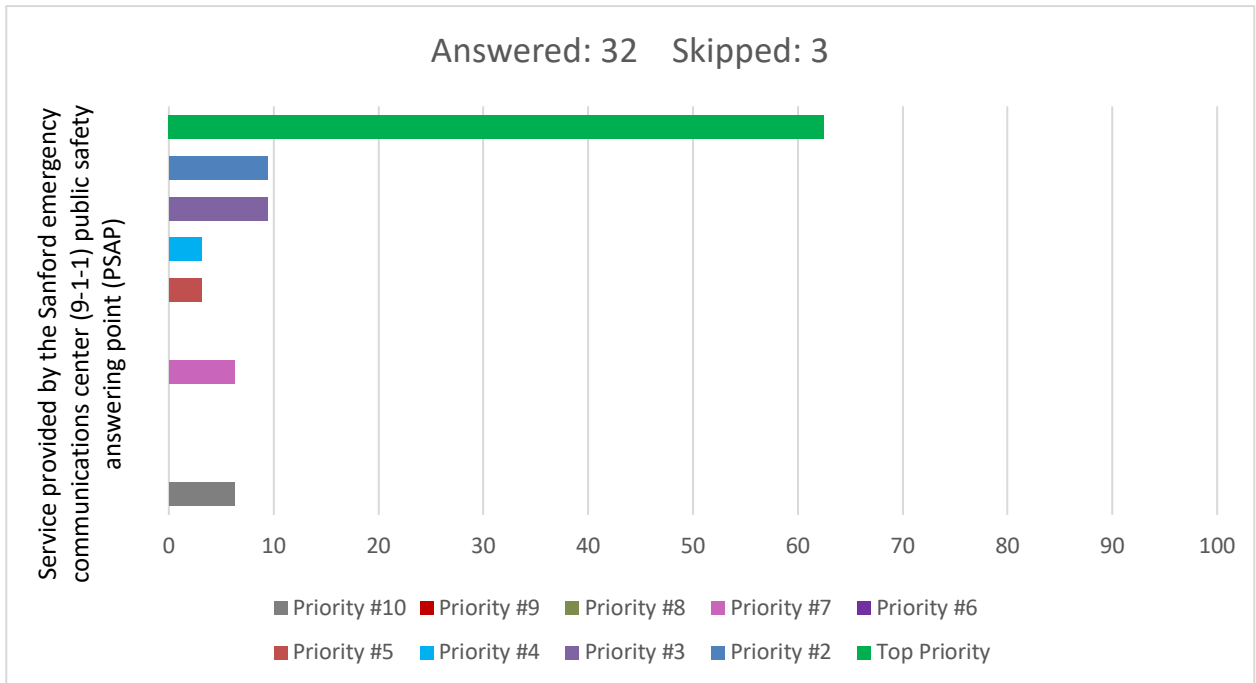
- There is a really addly posed question. Are you asking what I personally believe should be a top priority or what is actually a top priority of the county? Next, I feel these all to be important...of course you need dedicated people, and of course you need mutual aid, and chiefs working together. No questions there, so it doesn't matter seem you're asking me anything at all, because we all agree these are necessary. A large, well-equipped station will say that mutual aid is less of a concern because they don't need it as much as a volunteer-only station would rank it. Please reword this for a better answer.
- Improving communications is top priority over everything right now.
- We need a trained working, dependable 911 center, we need to move forward also with viper radios, we need unified tax so that some of the lesser FD's can let's say be equal to the better off FD's

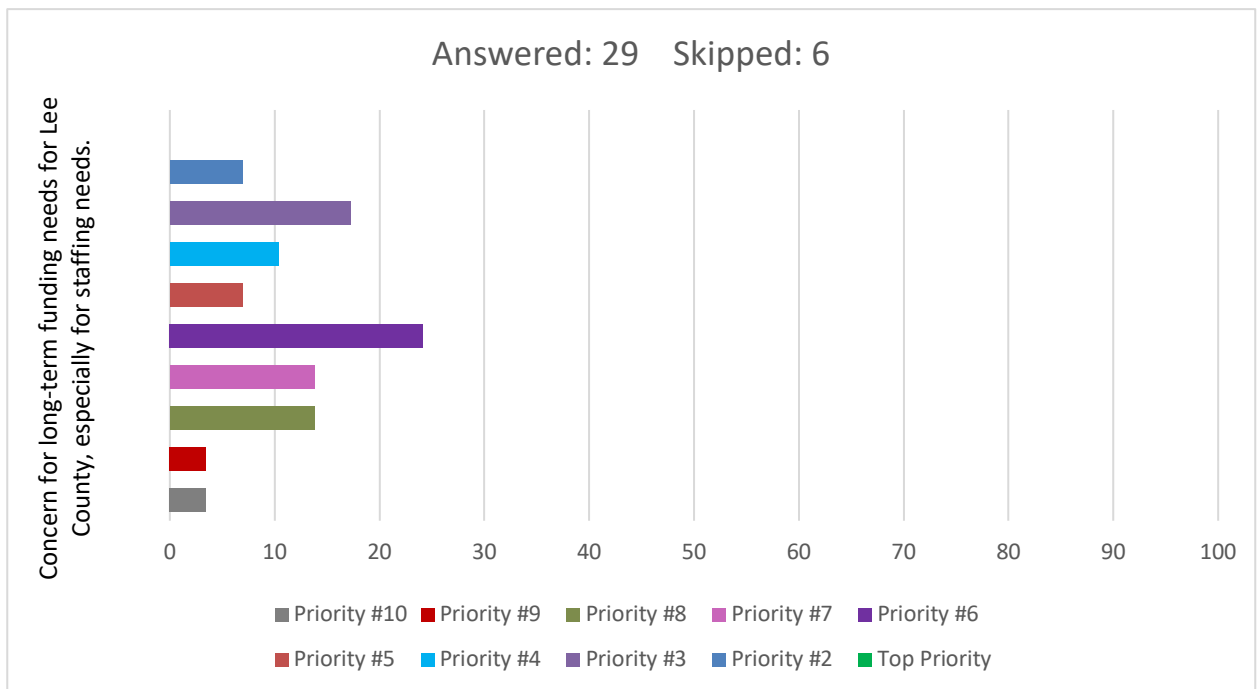
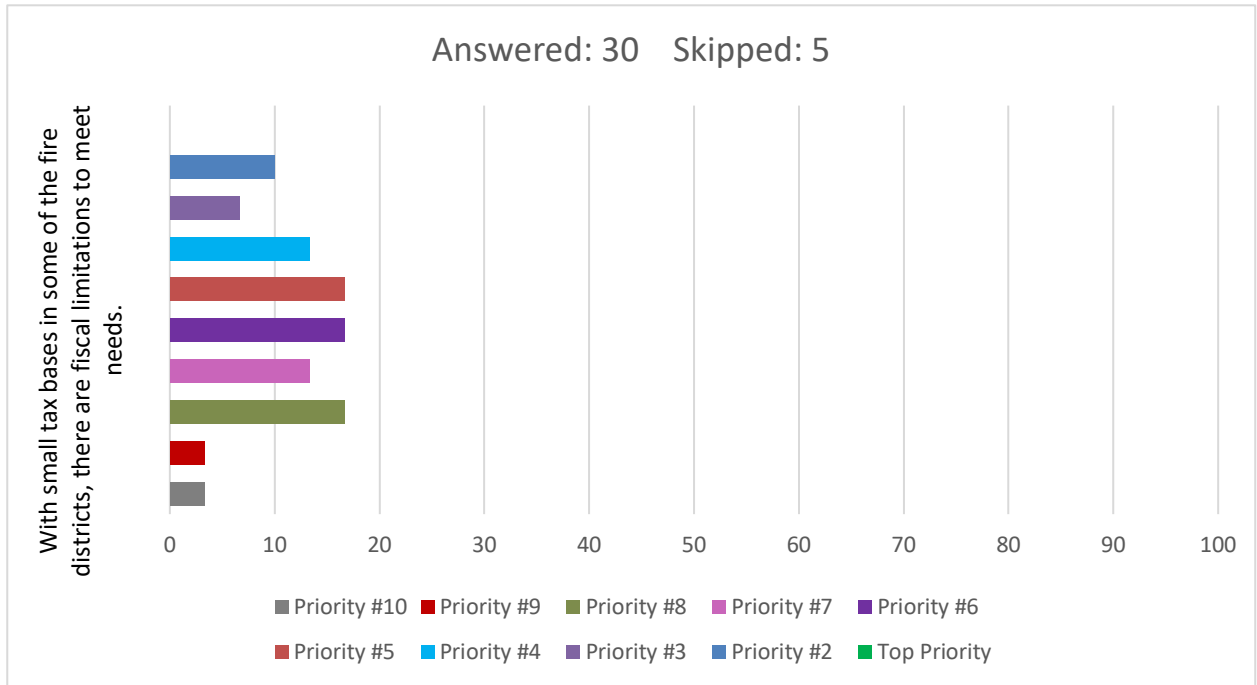


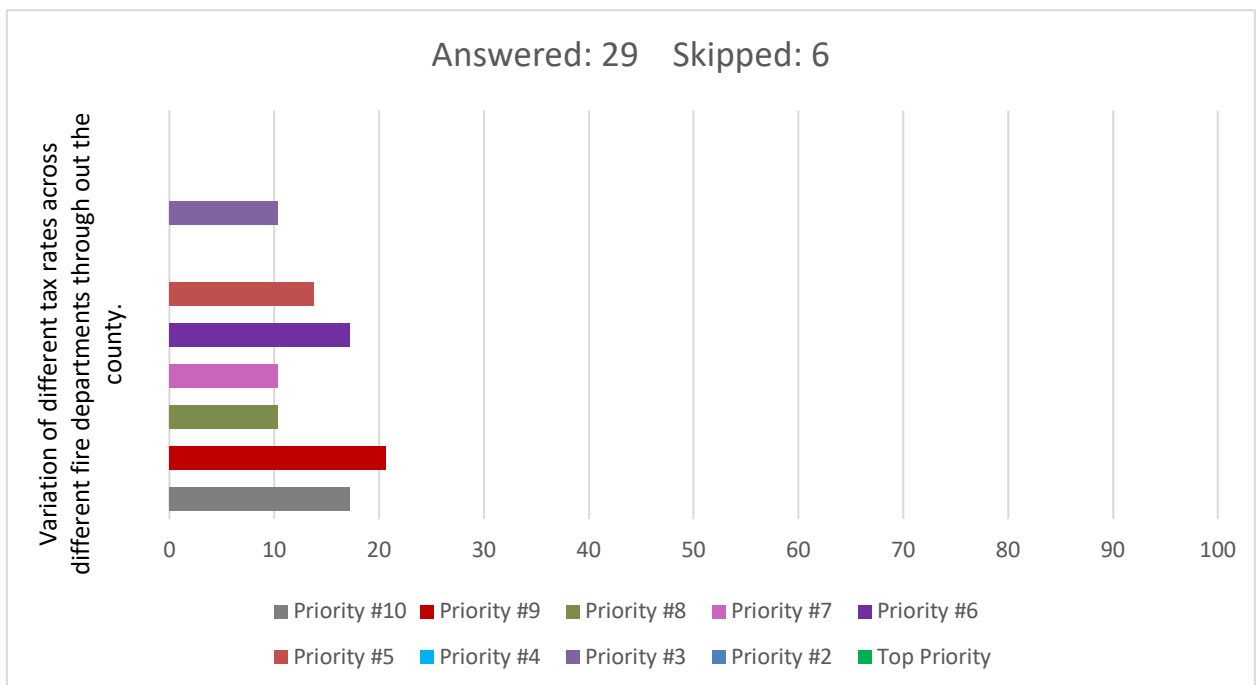
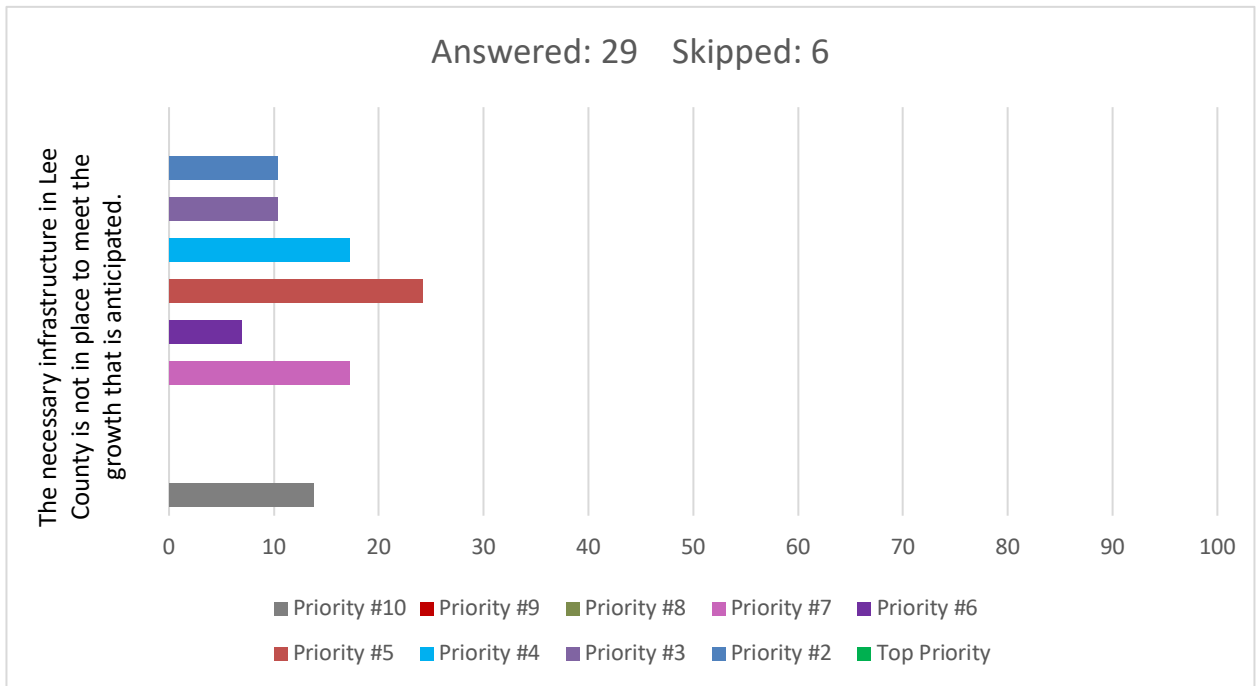
Question 3

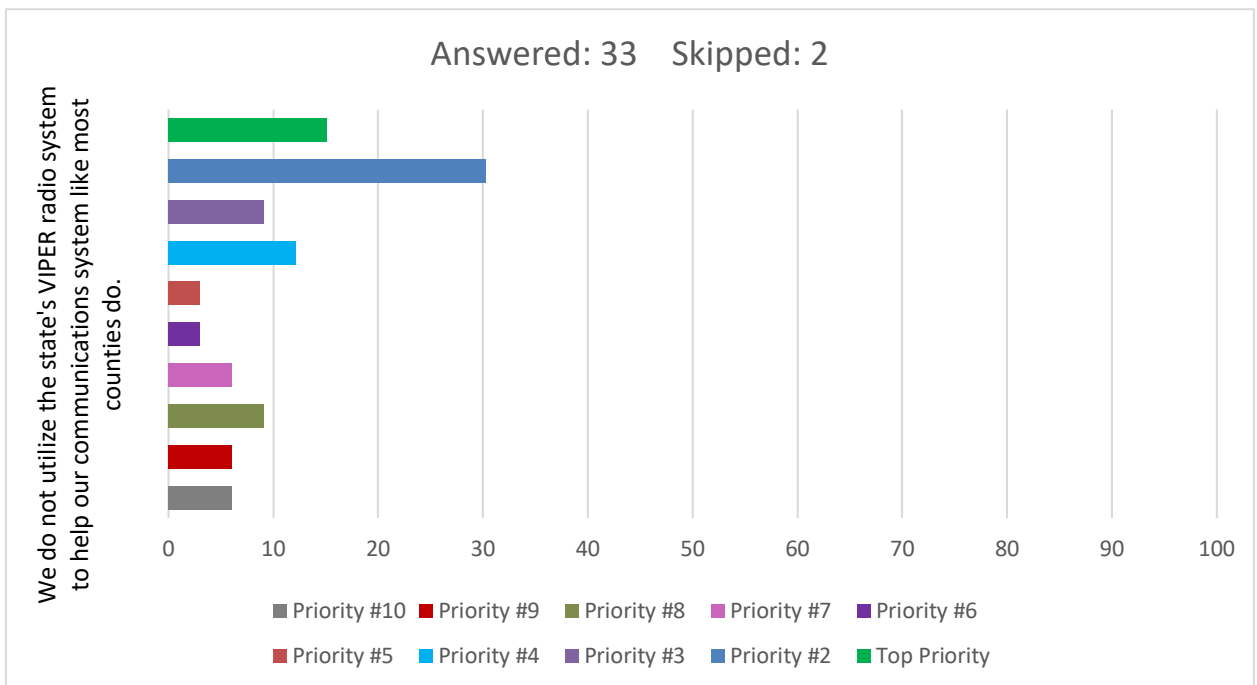
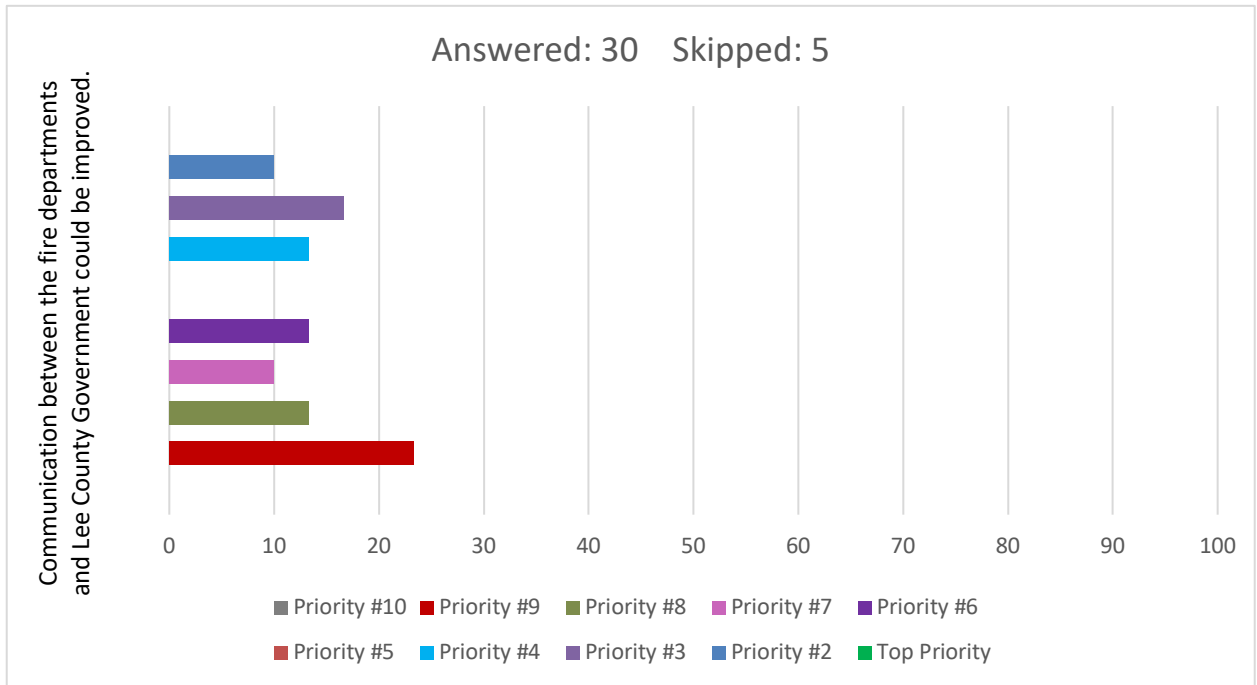
Q3: What do you identify as the greatest weaknesses needing the most attention within the fire and rescue service delivery system in Lee County? Where is the greatest gap? Please place these in your priority order.











2024 Fire and Rescue Service Delivery System Analysis for Lee County, NC

	TOP	#2	#3	#4	#5	#6	#7	#8	#9	#10	TOT
Additional attention and efforts are needed to support, encourage, and grow volunteerism.	19.23% 5	11.54% 3	11.54% 3	11.54% 3	11.54% 3	3.85% 1	11.54% 3	7.69% 2	3.85% 1	7.69% 2	26
We have a lack of needed personnel to meet the current call demand and the gap will continue with growth.	14.29% 4	21.43% 6	14.69% 4	7.14% 2	10.71% 3	7.14% 2	0.00% 0	10.71% 3	14.29% 4	0.00% 0	28
Service provided by the Sanford emergency communications center (9-1-1) public safety answering point (PSAP)>	62.50% 20	9.38% 3	9.38% 3	3.13% 1	3.13% 1	0.00% 0	6.25% 2	0.00% 0	0.00% 0	6.25% 2	32
Many current fire stations do not have living quarters to accommodate 24-hour crews.	3.45% 1	3.45% 1	10.34% 3	17.24% 5	13.79% 4	3.45% 1	3.45% 1	10.34% 3	17.24% 5	17.24% 5	29
With small tax bases in some of the fire districts, there are fiscal limitations to meet needs.	0.00% 0	10.00% 3	6.67% 2	13.33% 4	16.67% 5	16.67% 5	13.33% 4	16.67% 5	3.33% 1	3.33% 1	30
Concern for long-term funding needs for Lee County, especially for staffing needs.	0.00% 0	6.90% 2	17.24% 5	10.34% 3	6.90% 2	24.14% 7	13.79% 4	13.79% 4	3.45% 1	3.45% 1	29
The necessary infrastructure in Lee County is not in place to meet the growth that is anticipated.	0.00% 0	10.34% 3	10.34% 3	17.24% 5	24.14% 7	6.90% 2	17.24% 5	0.00% 0	0.00% 0	13.79% 4	29
Variation of different tax rates across different fire departments throughout the county.	0.00% 0	0.00% 0	10.34% 3	0.00% 0	13.79% 4	17.24% 5	10.34% 3	10.34% 3	20.69% 6	17.24% 5	29
Communication between the fire departments and Lee County Government could be improved.	0.00% 0	10.00% 3	16.67% 5	13.33% 4	0.00% 0	13.33% 4	10.00% 3	13.33% 4	23.33% 7	0.00% 0	30
We do not utilize the state's VIPER radio system to help our communications system like most counties do.	15.15% 5	30.30% 10	9.09% 3	12.12% 4	3.03% 1	3.03% 1	6.06% 2	9.09% 3	6.06% 2	6.06% 2	33



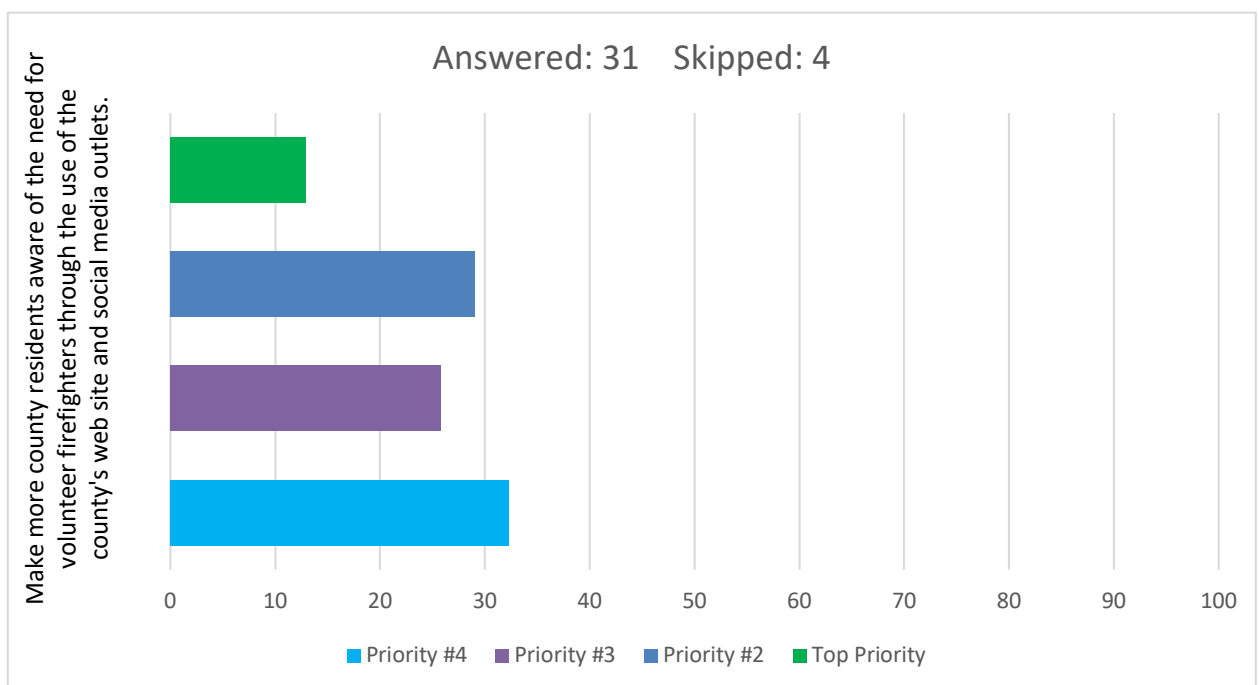
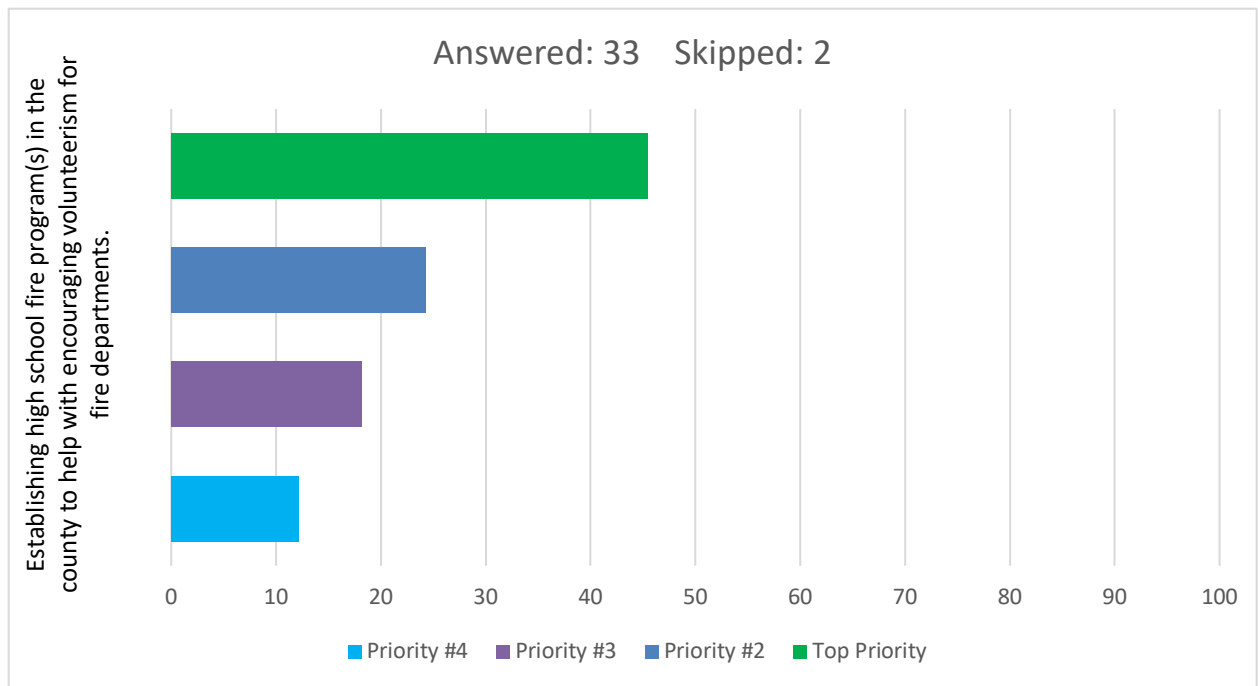
Question 3 Comments:

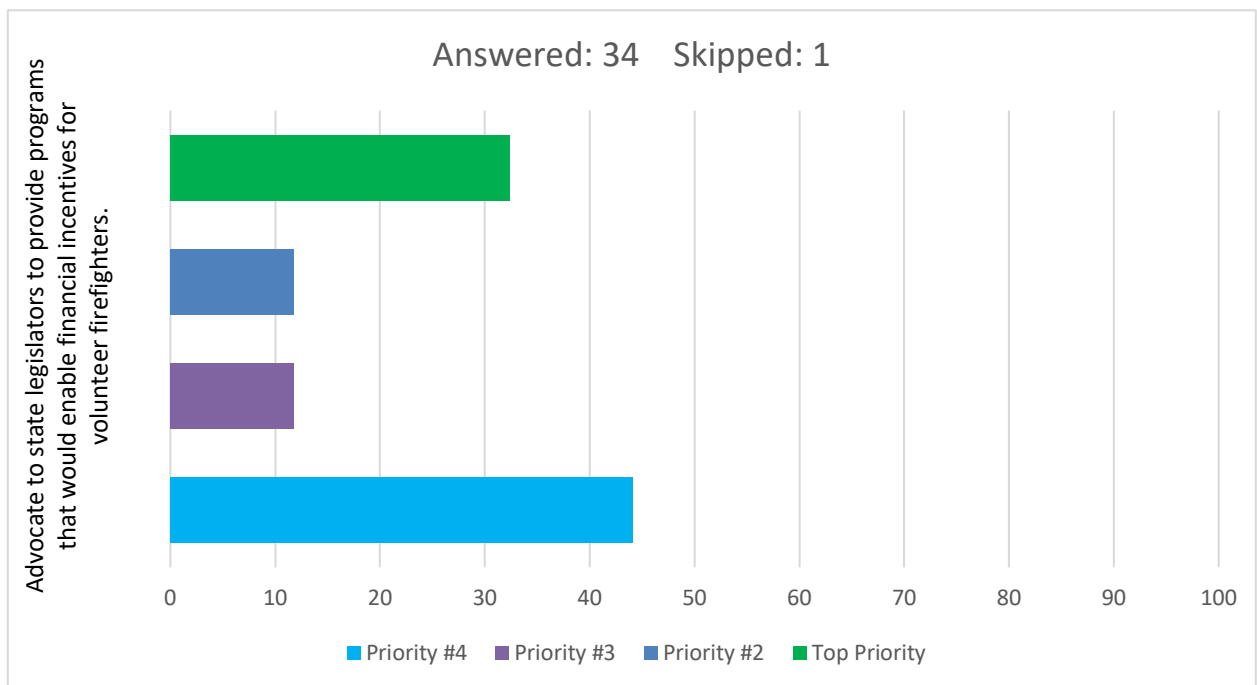
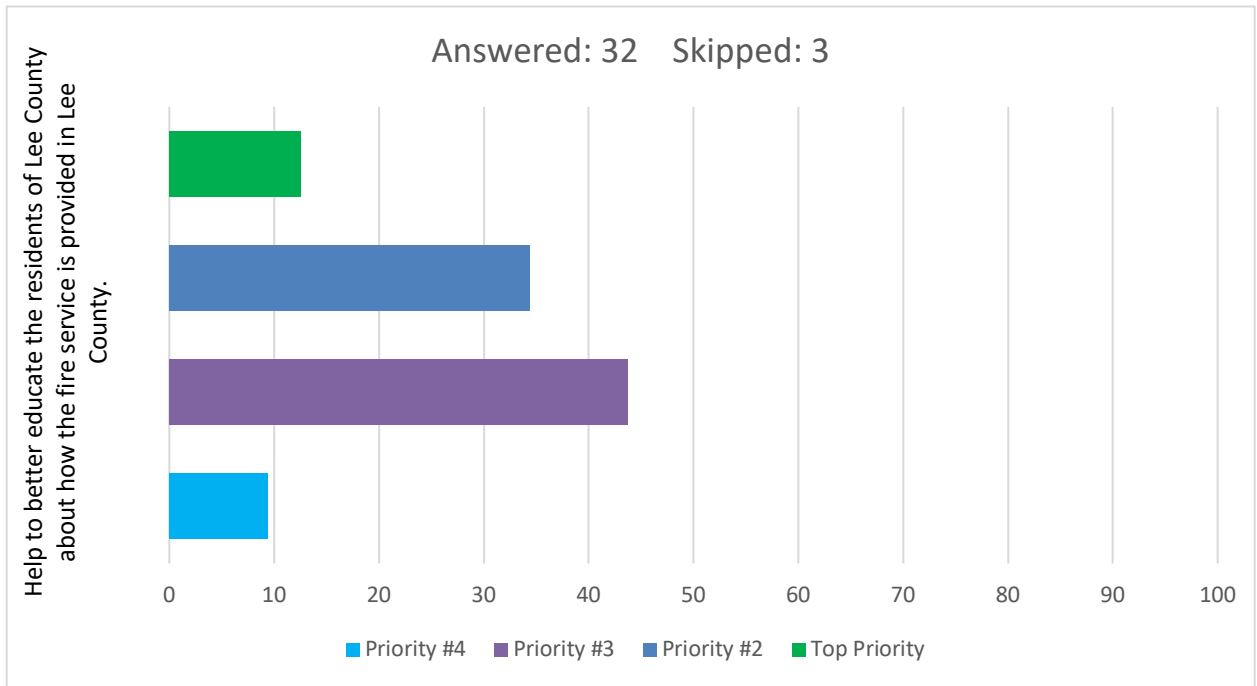
- The viper radio system needs to move forward as well as the management of communications office needs to improve.
- Sanford communications is a failure. We have complained time and time again, and nothing has been done to correct the problem. The county management have been made aware of the problem and unfortunately their answer is that they cannot do anything about it. That's unacceptable period. Something has to be done before someone is killed. That's the truth that nobody is willing to do anything about because of the expense of taking it over. That alone is enough for us to know that ALL of this is just a waste of time and that money is priority over life. Also we have told the county of the problems in emergency management and nothing has been done to fix that problem. Again money and policy get in the way of making change where we need change, they choose to apply the attention where they want.
- Unified fire department funding is a must for this county, too many FD's providing the same service responding to the same calls should not have such a huge gap in funding just because their districts not being as rich as others.
- Need better communications, the system creates a serious safety risk to all firefighters, EMS, and police in the county.



Question 4

Q4: Where do you believe Lee County Government could best be putting energy towards helping strengthen volunteerism in the Lee County Fire Service? Please place these in your priority order.





	TOP PRIORITY	PRIORITY #2	PRIORITY #3	PRIORITY #4	TOTAL
Establishing high school fire program (s) in the county to help with encouraging volunteerism for fire departments.	45.45% 15	24.24% 8	18.18% 6	12.12% 4	33
Make more county residents aware of the need for volunteer firefighters using the county's web site and social media outlets.	12.90% 4	29.03% 9	25.81% 8	32.36% 10	31
Help to better educate the residents of Lee County about how the fire service is provided in Lee County.	12.50% 4	34.38% 11	43.75% 14	9.38% 3	32
Advocate to state legislators to provide programs that would enable financial incentives for volunteer firefighters.	32.35% 11	11.76% 4	11.76% 4	44.12% 15	34

Question 4 Comments:

- County incentives could help volunteerism.



Question 5

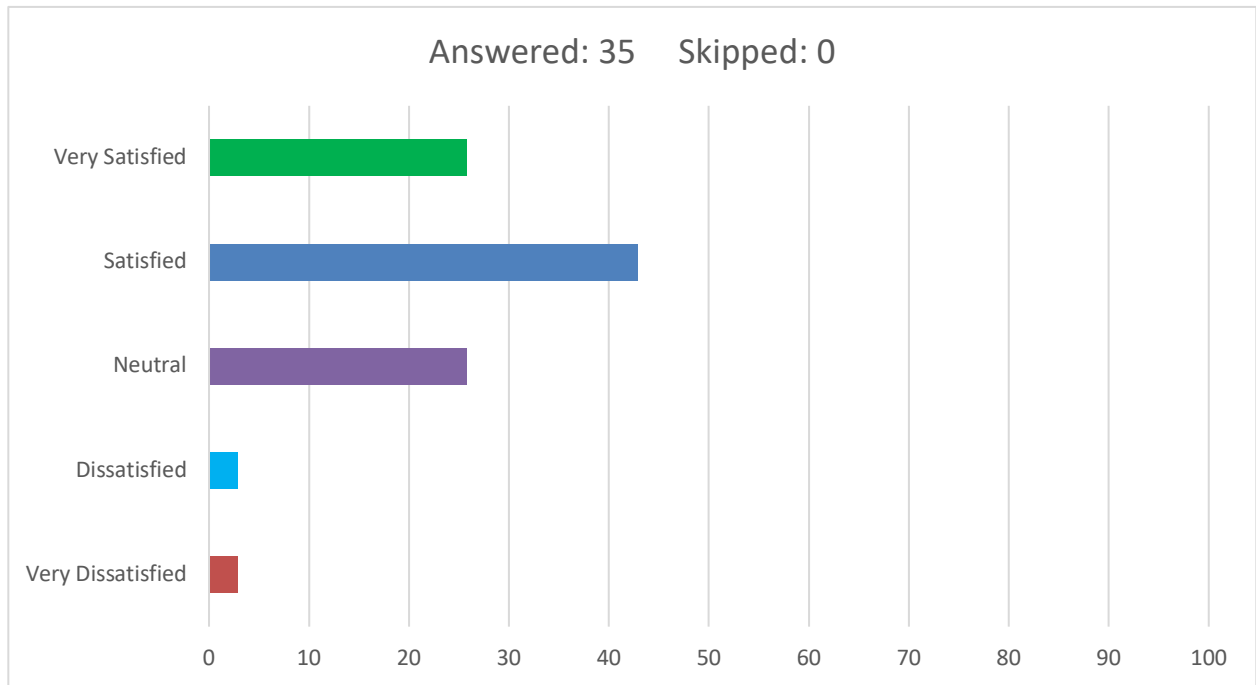
Q5: Please list up to three (3) single words that you believe best currently represents the fire service in Lee County in 2024.

WORD 1	WORD 2	WORD 3
Improving	Strong	Helpful
Inadequate	Underfunded	Understaffed
Reliable	Knowledgeable	Sexy
Dedicated	Struggling	Trying
Hardworking	Devoted	Willing
Hardworking	Great	Respectful
Good	Good	Good
Good	Egoistic	Antiquated
Average	Supportive	Effective
Interesting	Understaffed	Prideful
Professional	Caring	Reliable
Strong	Broken	Power hungry
Divided	Behind	Tired
Trying	Selfless	Overwhelmed
Capable	Quality	Pride
Strained	Professional	Understaffed
Dedicated	Enthusiastic	Valuable
Encouraging	Growing	Struggling
Traditional	Tenuous	Dedicated
Behind	Honor	Helpful
Dedicated	Pride	Dedication
Service	Volunteer	Unappreciated
Dedication	Useful	Lacking in benefits
Antiquated	Willingness	Honor
Dedication	Dedication	Fiasco
Teamwork	Professional	Overlooked
Volunteers	Slow	Unorganized
Outdated	Need vipers	Family
In need	Good	Amazing
Great	Needing	Slacking
Old	Family	Selfishness
Strong	Performance	Communication sucks
Behind	Strong	Leadership
Funded	Trusting	Accelerating
Knowledgeable		



Question 6

Q6: How satisfied are you with the overall quality of services currently provided by your fire department in Lee County?



ANSWER CHOICES	RESPONSES	
Very Satisfied	25.71%	9
Satisfied	42.86%	15
Neutral	25.71%	9
Dissatisfied	2.86%	1
Very Dissatisfied	2.86%	1
Total		35

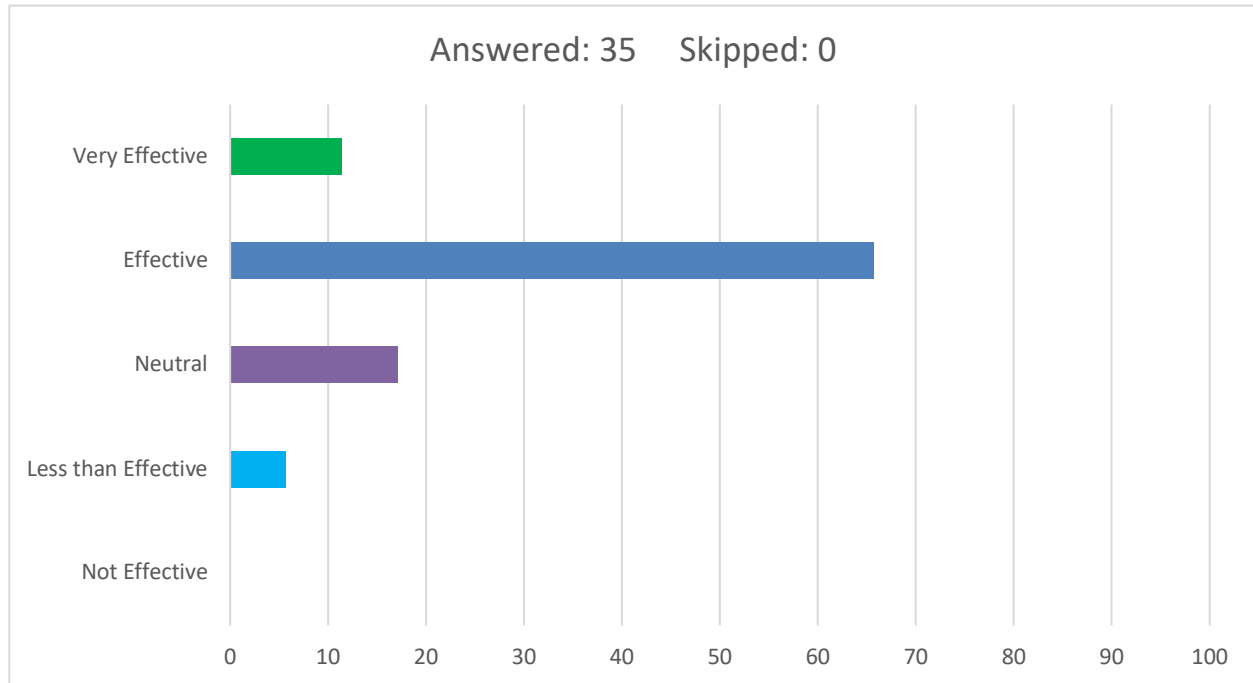
Question 6: Comments:

- With my department I'm very satisfied but there are some county departments that don't put in the same amount of work, and it shows through their service. This is not a county fire issue. This is a departmental issue due to the different mindsets in the fire service.
- Always striving to do better for the community that we serve.
- Would love to improve communications.
- We do all we can with the lack of funding unlike the majority of other FD's that has higher budgets due to their districts being richer.



Question 7:

Q7: How would you rate the overall effectiveness of fire and rescue services in Lee County against your personal expectations?



ANSWER CHOICES	RESPONSES	
Very Effective	11.43%	4
Effective	65.71%	23
Neutral	17.14%	6
Less than Effective	5.71%	2
Not Effective	0.00%	0
Total		35

Question 7: Comments

- Need communication system that allows for communication between all first responders on each scene. LEO, EMS, Fire, Emergency Management, State Patrol, Public Works, DOT, and adjoining counties.
- Effective but outdated.
- Can be improved.
- It has dropped a little due to the drop in volunteers, but with help from the county volunteerism can increase.



Question 8

Q8: If you could make only one change to improve the fire and rescue services in Lee County, what would that be?

Answered: 34 Skipped: 1

- Improving/finding the gap of having a good communications office and getting the VIPER radio system. It appears that they need more dispatchers and better pay.
- Updating the CAD infrastructure to allow for easier transfer of information between responders and dispatchers. I have been a fireman in 4 counties and the Lee County dispatch service is the least efficient dispatch system I have worked with.
- Replace Lee County Communications leadership. Museum worthy leadership, antiquated training and zero effort to understand community and first responder requirements leaves Lee County Communications a satire of a poorly written episode of CHiPs. Communications does an incredibly poor job of providing Fire and EMS the situational awareness to be: 1. Safe; 2. Optimal effective; 3. A benefit to the community Lee County Communications functions at a high level of ignorance. While being a part of a small town is wonderful, I would not expect our communications to function with such an outdated and insular set of SOGs/SOPs. Quite candidly, our entire communications department is surreal and reminds me of a Gomer Pyle episode. EMS and Fire complete the mission even with the deep knowledge vacuum and lack of attention to detail Lee County Communications provide. I work in the Fire Service in Moore County partly because Lee Co. Communications does not understand basic emergency medicine terminology or grasp simple situational awareness concepts. The knowledge level of Moore County telecommunications and its leaders is polarizing when compared to Lee County. Unfortunately, the issues most likely lie within the bygone leadership of communications and its unwillingness to adapt to the integrated communications platform it should be. Once Leadership is replaced, a basic emergency medical terminology, simple situational awareness, and communications training regime should be put in place and all will be up to date.
- Provide 24/7, personnel at all fire stations coverage.
- Viper radios.
- Viper system.



- More personnel.
- Make all the fire stations equal.
- A unified department with one operational approach.
- Nothing.
- Communications and radio systems.
- Better communications.
- Better layout of jurisdictions due to annexed sections and better communication between fire and 911 call center.
- Sanford 911. They are going to get someone killed.
- NEW COMMUNICATIONS CENTER!!!! Where they are competent for the job and the job is taken seriously. Have them ride a fire truck, ambulance, and cop car once so they get a feel for how it is on the other side of the radio and the frustrations we have when they are dispatching half tailed.
- Better pay.
- Communications.
- I love our fire and rescue services and we work the best we can, and we invite new members to join us to help serve the community.
- 24/7 staffing county wide.
- Create an independent communication center to serve all emergency service organizations in the city and move all organizations to the VIPER system. Communications is cited in almost every NIOSH LODD report. I fear that if something drastic isn't done to improve the communications system we are one bad day away from a tragic event.
- Fix the communications issues we need better radios and dispatch keeps making mistakes that can be life altering to the community and emergency personnel.
- Form a single county department that all current members are a part of.
- Better E911 system that is a stand-alone system integrated with VIPER system. It needs to be ran as a county not by city or Sanford.



- Better communication with 911 services. Having an accurate explanation in the comments box of the app before we arrive on scene describing the urgency or severity of the call. "Personal injury" (10-50 PI) is useful, but is this a kitchen knick with a knife or chainsaw accident? With so many volunteers at our station, we don't want to exhaust efforts on a small call, but if it's a chainsaw, we need to make it clear that all hands-on deck.
- Fix the 911 center update to VIPER radio.
- Communications.
- 911 communications center and staffing, its training requirements, and the entire radio system.
- Better communications.
- 911 communication training and personnel.
- Needs more school programs to get kids into firefighting.
- Incorporate a more professional environment for the customer.
- UPDATE COMMUNICATIONS, RADIOS, AND OTHER RELATED EQUIPMENT.
- Better radio systems.
- Just need more volunteers to serve the community as it continues to grow.



Community Resident Feedback:

INTRODUCTION/OVERVIEW

This report provides feedback on Lee County Residents feedback related to Lee County's Fire and Rescue services. The feedback was collected from 94 Lee County Residents via Survey Monkey. This report will be a comprehensive overview of the resident's opinions. The survey consisted of 10 questions.

BREAKDOWN

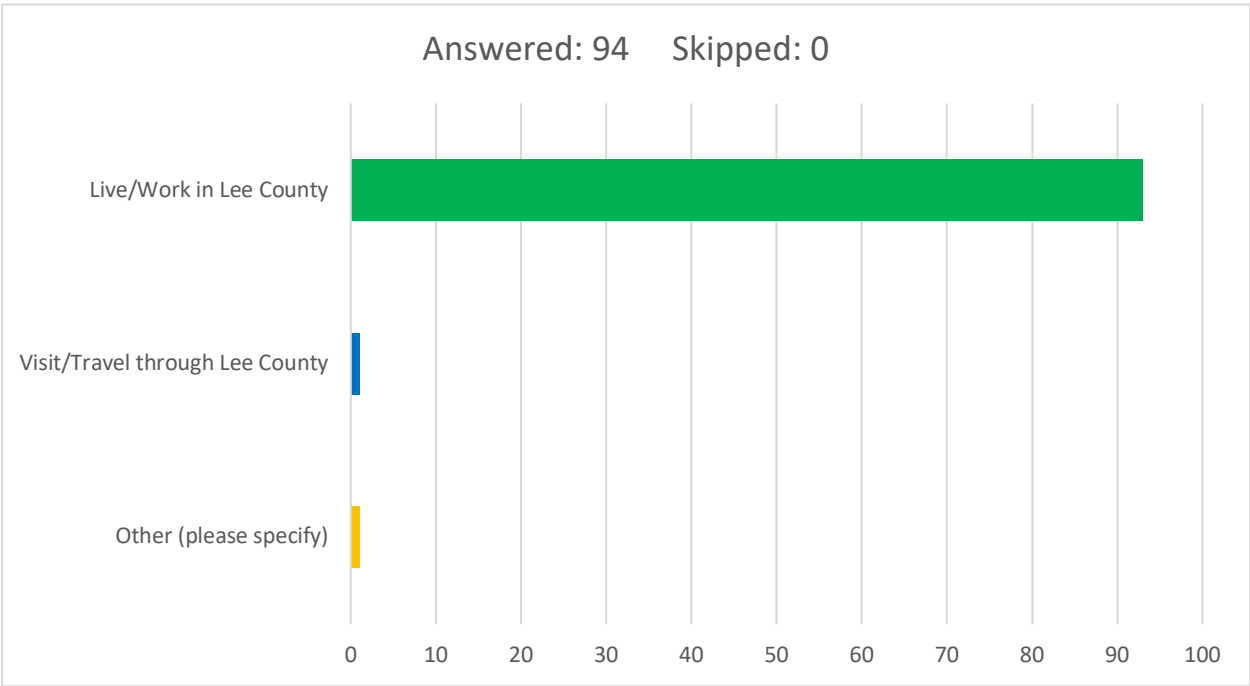
The report will examine the breakdown of the 10 questions.



SURVEY QUESTIONS

Question 1

Q1 Which of the following options best describes you? (Check all that apply)



ANSWER CHOICES	RESPONSES	
Live/Work in Lee County	98.94%	93
Visit/Travel through Lee County	1.06%	1
Other (please specify)	1.06%	1
Total Respondents:	94	

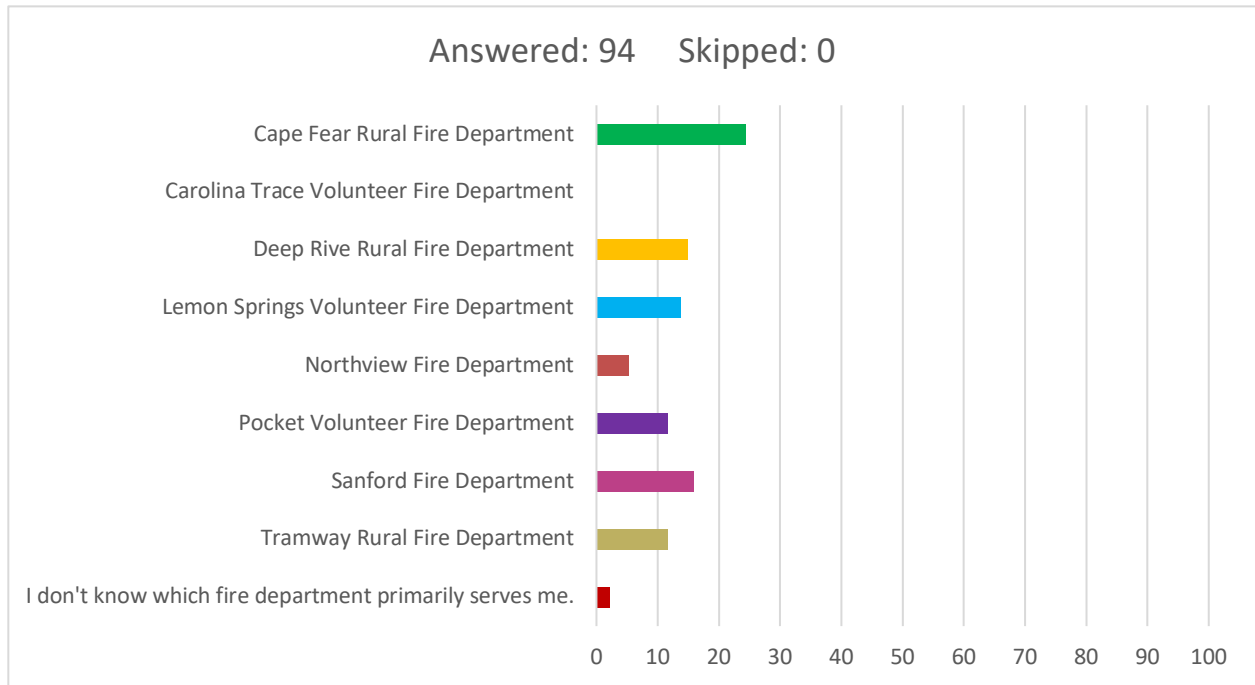
Other (please specify)

- Retired.



Question 2

Q2: Do you know which fire department in Lee County Primarily serves you?

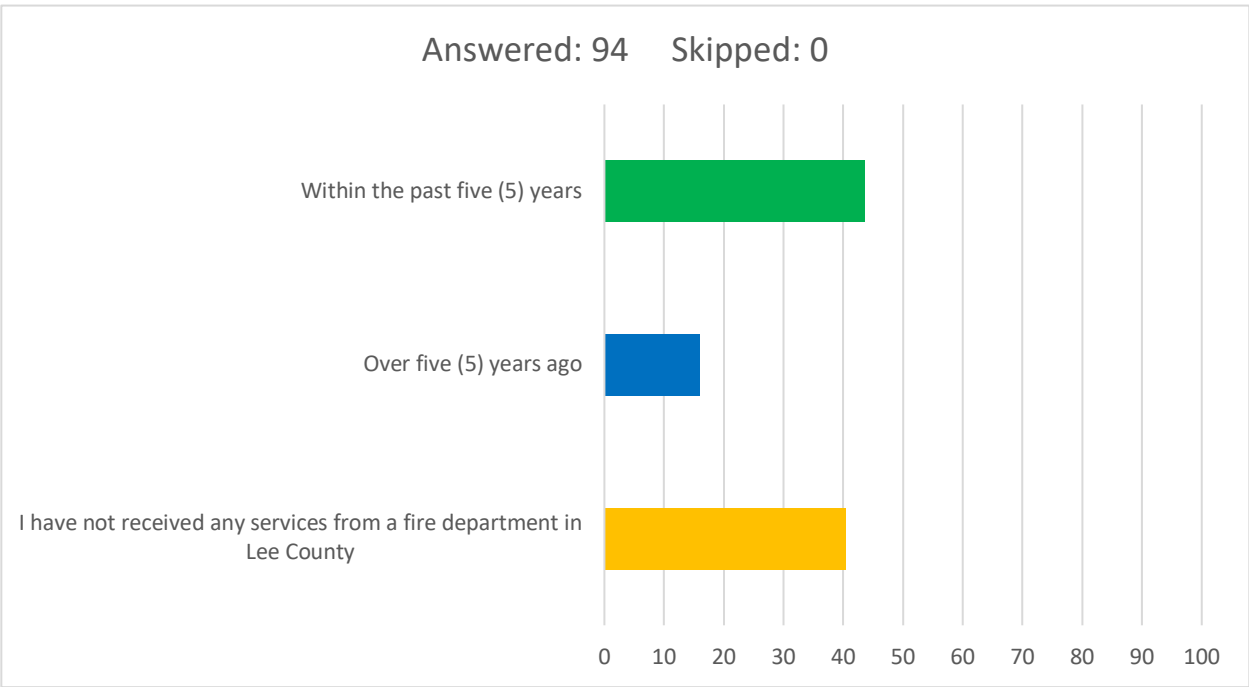


ANSWER CHOICES	RESPONSES	
Cape Fear Rural Fire Department	24.47%	23
Carolina Trace Volunteer Fire Department	0.00%	0
Deep River Rural Fire Department	14.89%	14
Lemon Springs Volunteer Fire Department	13.83%	13
Northview Fire Department	5.32%	5
Pocket Volunteer Fire Department	11.70%	11
Sanford Fire Department	15.96%	15
Tramway Rural Fire Department	11.70%	11
I don't know which fire department primarily serves me.	2.13%	2
TOTAL		94



Question 3

Q3: When did you last receive services from a Fire Department in Lee County?

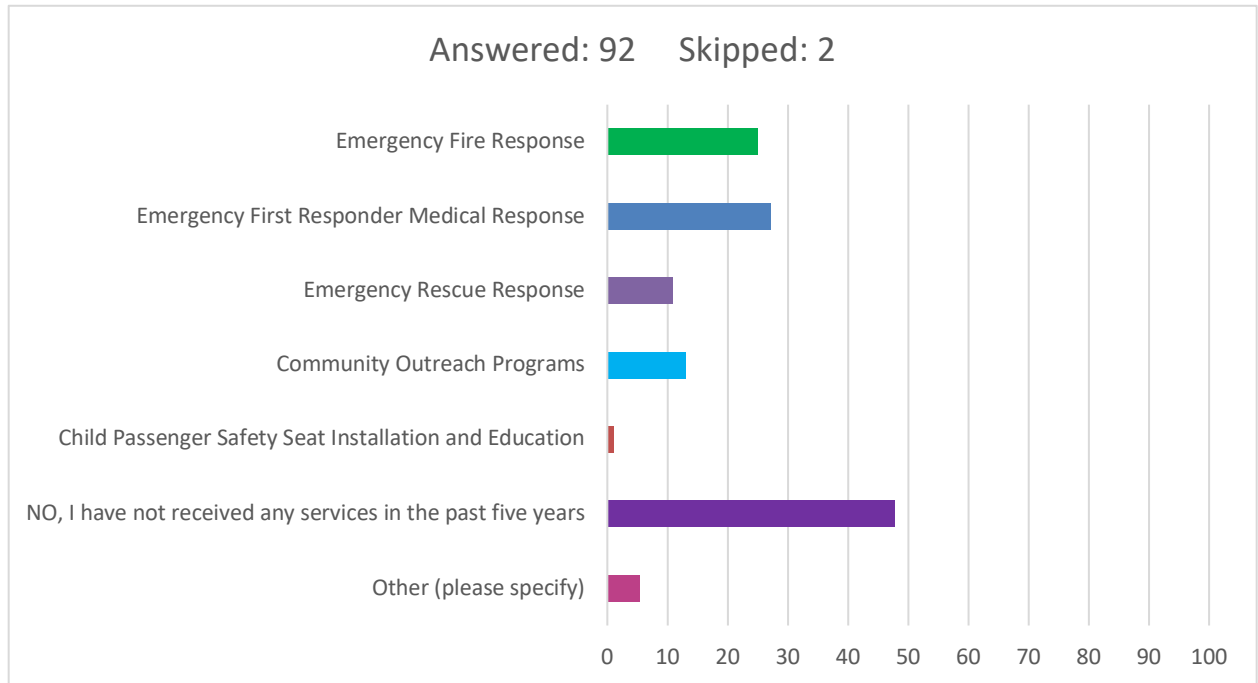


ANSWER CHOICES		RESPONSES	
Within the past five (5) years.		43.62%	41
Over five (5) years ago.		15.96%	15
I have not received any services from a fire department in Lee County.		40.43%	38
TOTAL			94



Question 4

Q4: If services were received from a Fire Department in Lee County during the last five (5) years, please check all that apply.



ANSWER CHOICES	RESPONSES	
Emergency Fire Response	25.00%	23
Emergency First Responder Medical Response	27.17%	25
Emergency Rescue Response	10.87%	10
Community Outreach Program – injury and risk reduction programs such as fire prevention programs, displays, interactive events, smoke alarm checks, etc.	13.04%	12
Child Passenger Safety Seat Installation and Education	1.09%	1
NO, I have not received any services in the past five years.	47.83%	44
Other (please specify)	5.43%	4
TOTAL	94	

Other (please specify)

- Smoke detector alarm issues.
- Responded during Tornado that hit St. Andrews Community.
- Responded to remove a tree that was blocking ingress and egress from neighborhood.
- Tree in roadway.
- Fire alarm false trigger.



Question 5

Q5: How satisfied are you with the overall QUALITY of services provided by the Lee County fire department that serves you? (Knowledge, professionalism, competency, kindness, compassion, etc.)

Answered: 94 Skipped: 0

VERY DISSATISFIED	DISSATISFIED	NEUTRAL	SATISFIED	VERY SATISFIED	TOTAL	WEIGHTED AVERAGE
4.26%	4.26%	18.09%	22.34%	51.06%		
4	4	17	21	48	94	4.12

Comments Question 5:

- We have one of the only municipal fire departments that do not run EMS calls (other than Echo level). Put EMT's on those trucks!
- They do not provide first responder services, which seem to be standard today. They also don't seem to have very many people at the station or when I see them out.
- Never have had a firsthand experience.
- I think the fire departments of the county do a great job at what they do. I think the focus should be on adding more ALS ambulances on the road. The county pays an enormous amount for a poor service that also charges additional rates for the service they are supposed to provide.
- Professional group of volunteers. Wanting to put the community and other needs before their own.
- Great group of responders and very professional in their actions and their equipment was spotless.



Question 6

Q6: How satisfied are you with the overall EFFECTIVENESS of services provided. By the Lee County fire department that serves you? (Responsiveness, helpfulness, demonstrated outcomes, etc.)

Answered: 94 Skipped: 0

VERY DISSATISFIED	DISSATISFIED	NEUTRAL	SATISFIED	VERY SATISFIED	TOTAL	WEIGHTED AVERAGE
3.19%	6.38%	18.09%	21.28%	51.06%		
3	6	17	20	48	94	4.11

Question 6 Comments:

- Again, never had a firsthand experience.
- The fire service does great, other departments within emergency services need to be looked at hard.
- Departments county wide could use more backing from the county.



Question 7

Q7: Please list up to three (3) words that you believe currently represents your perception of the fire and rescue services in Lee County.

Answered: 84 Skipped: 10

WORD 1	WORD 2	WORD 3
Dedicated	Honest	Professional
Reliable	Courageous	Awesome
Professional	Dedicated	Community Oriented
Professional	Dedicated	Selfless
Competent	Understaffed	Kind
Experienced	Brave	Professional
Trained	Responsive	Committed
Prompt	Skilled	Dedicated
Professional	Well trained	Confident
Volunteer	Understaffed	Competent
Caring	Committed	Professional
Professional	Caring	Loud
Dedicated	Committed	Knowledgeable
Hats	Fire truck	Stale
Professional	Diligent	Hardworking
Quick	Professional	Valuable
Present	Mediocre	Stations
Limited	Busy	Dedicated
Critical	Busy	Honorable
Help	Equipment	Fine
Wonderful	Hardworking	Behind
Noble	Fast	Dated equipment
Outdated	Prevention Education	Nonempathetic
Volunteers lacking	Understaffed	Professional
Outdated	Professional	Old school
Understaffed	Dedicated	Unsupported
Effective	Undereducated	Compassionate
Lazy	Strong	Compassionate
Thorough	Separated	Necessary
Disengage	Lacking	Dependable
Outdated	Team workers	Competent
Knowledgeable	Caring	Family
Professional	Underpaid	Responsive
Small	Dedicated	Dedicated
Professional	Territorial	Knowledgeable
Fragmented	Community	Helpful
Dedicated	Responsive	Trained
Dedicated	Necessary	Dedicated
Helpful	Limited	Slow
Wasteful	Strong	Responsible
Professional	Friendly	Informational
Dependable	Equipped	Underpaid
Dedicated	Professional	Excellent
Knowledgeable	Outdated	Unequal
Unorganized	Aggressive	



2024 Fire and Rescue Service Delivery System Analysis for Lee County, NC

Efficient Professional Dedicated Excellent Misunderstood Helpful EMS – poor quality without enough ambulances Honest Honor Old equipment Great Loyalty Slow Volunteers Reliable Helpful Professional (volunteer & paid) Professional Understaffed Quick response Underpaid Reliable Dedicated Heart Nearby Disjointed Underperforming Dedication Dedicated Caring Lack of radio Honest Quick First responder Professional Volunteer professionals Outdated Dedicated Overreaching	Hard working Understaffed Excellent Underappreciated Communications center – nightmare from what I'm told Respectful Courage Cheap Dedicated Lazy Politics Honorable Reliable Caring Prompt Old views or ways or doing things Knowledgeable Safety Understaffed Selfless Loyalty Equipped Not prepared Outdated Stewardship Hero's Knowledgeable Lack of funding Trained Efficient Emergency Dedicated Dependable Community Driven Knowledgeable Arrogant	County government-unwilling to listen concerns Compassionate Amazing Making the best with what they have Passion Help Inconsistent Trustworthy Respectable Disciplined Pride Not people first Friendly Help Well equipped Action Numerous Resistant to change Friend club Professional Professional Lack of manpower Professional Professionalism Professional Knowledgeable Willing to help Caring Understaffed Efficient Uncaring
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Question 8

Q8: If you could make just one change to improve the fire and rescue service delivery system in Lee County, what would that be?

Answered: 83 Skipped: 11

- Put control of the fire department back in the department and not emergency management.
- Lee County should move from volunteer departments to full-time professional department.
- Ability to provide 24-hour coverage.
- Pay the volunteers – something is better than nothing. They give of their selves freely but get nothing in return.
- More recruitment.
- Still too reliant on volunteers – need more paid individuals.
- Rescue needs to be updated to current standards.
- Have duty crews for each volunteer station and allow career firefighters to volunteer without any meeting or call requirements to allow for it to be easier for career firefighters to volunteer, as a career firefighter it is difficult to work full time as a firefighter, work my part time job to feed my family and find the time to make the required meetings or calls at the volunteer department.
- Improve the response time involving the 9-1-1 call center.
- When I call 9-1-1 from my cell phone, I get connect to Harnett County causing a delay in the emergency notification.
- Improve the 9-1-1 communications network.
- First responder qualified.
- Unknown
- Put EMT's on the trucks.
- Add more manpower.



- Improve dispatch training.
- County Fire Department 24 hrs shift improve response and safety and manpower.
- A standard level of service delivery across the county, hold departments accountable to a standard that is set by the Fire Advisory Board to ensure equal levels of protection throughout Lee County.
- Ensure they get training refresher courses every couple of years so they can be up to date on current/new practices.
- The county and city need to work hand in hand to properly dispatch fire units as needed for each response based on location and not district. Citizens pay to get the fastest and closest unit. No matter what the side of the fire truck says.
- Having grown up with volunteer fire service only, I know kids now aren't willing to become fireman like they once were.
- I have had to call 911 before, they seem very unprofessional and unconcerned. As the first person I talk to in an emergency, it should be better.
- Have the rural departments do more training with the city and update the communications side of emergency services.
- Modern equipment, when I see fire trucks, they look old.
- Higher pay.
- 911 Communications. Overall response and delivery of services is great but calling 911 and speaking to them is an absolute pain as they are rude and do not listen.
- Communications.
- A single county wide fire department.
- If I had to make one change to the current delivery it would include a better first responder and mutual aid program.
- Whichever fire department can get to the scene the fastest let them take the lead to respond.
- Add first responder services to all departments.



- Provide them with adequate funding so as to keep the best equipment and training available.
- Reduce barriers to coordinate, cooperative service between all VFDs and the city fire dept.
- County should give them more money.
- Improving radio communications to better communicate.
- Improve radio communications and coordination from dispatch center.
- Management.
- Dispatch and communication.
- Can't think of anything.
- Move to VIPER radio system.
- I'm not sure.
- Provide 24-hour, 7 days per week on duty staffing for all departments. Provide full rescue services.
- Improve communication systems (portable radio range).
- Transparency from the county manager all the way down to the firefighters.
- More staffing of knowledgeable and well-trained personnel.
- All have the same amount of money coming in so they could have the same amount to provide service to their district and to the people.
- A checks and balance of power and money expenditures. This was supposed to have been done through a Fire Advisory Board in the early 2000's. this has been a formality where the budgets have grown farther apart with the same types of protection provided. There needs to a TRUE budget assessment and equal representation for each department.
- More funding so all departments could have more paid staff for coverage at night.



- Staff the stations with enough coverage around the clock to do what's asked of them.
- Utilizing ladder companies and rescue companies.
- 911 call center and dispatch need to be changed: a lot of issues.
- Better looking fire trucks, not dump trucks with pumps.
- Sanford dispatch.
- Put them under one leadership and have more control of them.
- Adequate staffing per NFPA 1710.
- Finding a way to have more personnel for each department that will be able to respond to each call.
- Better communication capabilities within all agencies.
- Would like to see all county departments offer 24-hour on duty staff.
- Unknown.
- Add EMS units, in order to handle the huge influx of people moving to Lee County.
- Keep each department as they are. Do not combine.
- VIPER radios and better training and/or more dispatchers.
- Recruitment and retention for volunteers.
- To have each department respond to all ems calls for service.
- Make it Lee County Fire Service. All one department pull together.
- That they all could get more funding for things they need.
- Have the most qualified people lead the department. There should be checks and balances to secure a good product is being delivered. Deep River has friends in leadership positions that don't truly benefit the citizens. Most are not physically able or willing to give what it takes to help others in need, in a true emergency environment.



- Standard leadership and oversight.
- The ability to receive basic life support services prior to the arrival of EMS.
- Upgrade dispatch to allow a more efficient dispatch. Communication is key.
- Better support from their elected officials.
- Faster response time.
- Move to the VIPER 800 radios system.
- Paid staff at all stations 24/7.
- Communications.
- Unknown at this time.
- Improved communication (VIPER radios, etc.).
- Get them a great radio system and 911 Center.
- Same level service throughout the county/city.
- Increase the pay for those that work at the firehouse Monday-Friday 8-5 to answer calls during the day.
- More community outreach and sensitivity.



Question 9

Q9: Please share any additional feedback that you believe would improve fire and rescue services in Lee County. Be as specific as possible.

Answered: 59 Skipped: 35

- Keep emergency management out of the day-to-day operations of rural fire departments.
- We need a better communications center. From what I hear it is a nightmare and not adequate. Is it going to take one of your family members top not get the 9-1-1 emergency services they need? Is it going to take someone in a higher position to have. family member get killed from the delayed response or inaccurate information given to first responders. STEP IT UP LEE COUNTY! Pull the communications and set them up for success.
- I listen to the scanner, and I am embarrassed by Lee County Dispatchers. Their ignorance of the role of telecommunications, absence of basic emergency medical terminology and general lack of situational awareness is due to either ignorance, poor training, or incompetent leadership. All can be rectified, but starting with leadership replacement would be most impactful. As a taxpayer, this is currently a waste of money. Sadly, it has only become worse over the last year.
- Consider consolidation of departments in areas where services are now close together. I.E. Deep River and Northview.
- The City of Sanford continues to annex areas into the county and not contiguous to the City creating islands of Sanford in the county. This creates a unique and serious problem involving the dispatching of fire and law enforcement. Confusion and delays can cost lives!
- Work on improving the Fire and Emergency Services radio systems.
- Help the dispatchers known what is a Lee County Call and what is a Sanford City call.
- Add better pay , more incentives for volunteers and more manpower.
- County Fire Department.
- Better salaries/equipment if paid department.
- All fire departments should be responding to medical calls today. Volunteers are a positive in our community but can no longer keep up with today's world.



Our tax dollars should be going to towards professional emergency personnel. My family doesn't deserve any less quality of service than my brother who live in Southern Pines, just because I live in Lee County.

- Update the communication in Lee County to the VIPER system. Have more community outreach programs.
- I think we have a great group of volunteers in Deep River; however, they appear to have dated equipment. I believe one truck is 30 years old.
- I personally think updating equipment and 911 communication procedures would help responders in the field as well as help citizens with better more accurate info.
- To upgrade communications.
- It's time to seriously look into a county wide fire department. Sanford has taken over much of the Deep River area, Tramway area, and Carolina Trace area outside of the gated community. West Sanford is gone and it's time to look into merging these departments as one.
- Departments working better together, additional stations, more county support, EMS units in departments other than just Trace and Northview. City and County working more side-by-side and as mutual aid for each other. Better funding and replacement schedules for apparatus and stations. Less encroachment on county property. Working as a City and County together for the betterment of services. Better public education and fire prevention as well as transparency.
- Ensure that all fire departments have adequate resources, trucks, equipment.
- The dedicated fearless men and women will risk life and limb to protect and help the citizens in their jurisdiction. We owe them our thanks, support, and respect. Whatever we can do to encourage them back them we must do. Remember, they run to the fire, not away from it!
- Find ways to help address issues with staffing, volunteer recruitment, and development of plans for service delivery with the goal of keeping progress consistent with current and future projected growth.
- Excessive spending without defined priorities. Each department should have 10 years capital plans that are managed and supervised to achieve. County needs a growth strategy for fire and rescue service with growth that is coming.
- Continue to work together with each other and with other organizations.



- Full integrated communication services between all first responder services.
- It is sad to see the volunteer fire service taking the downfall that it has taken over the last several years. The downfall of the number of volunteers has caused departments to go to a combination department of a straight paid department. I believe that the volunteer service mentality has been lost by some of these departments.
- Equal amount of money to the fire department.
- This whole assessment was the cause of a Fire Advisory Board meeting where there were underlying circumstances that come to light. Circumstances that were run under the radar to start a flat tax agenda that would happen without the approval of the individual Board of Directors approval for the individual fire departments of Lee County. This was a last-minute idea thrown up by Commissioner Smith after there were no answers for the items and questions asked. I personally watched this suggestion be made and approved in under five minutes which would in-turn, essentially be paid from the fire tax. This was a shoot from the hip decision that could have been avoided if there was clarity, communication and no underlying agenda from those who tried to push it through the 2023/2024 Lee County budget approval. I would also like to formally say that the ringleader and the one whom attempted to push of the idea was County Manager Lisa Minter. Any further questions, my name is Christopher Cox. I would love to have a meeting to discuss any further if you think u can stand to hear the truth.
- Communication center sounds horrible. Also heard radios haven't been addressed. County have been told of numerous problems and nothing has been resolved because money more a priority than safety.
- Fire departments around the county are increasing their budgets by a lot recently. I feel that issue has to be addressed. Maybe they can start thinking of utilizing other county fire department assets as their own on a joint operation.
- 911 dispatch center needs to be corrected, I feel it is hurting our fire service.
- Our commissioners need to set a standard on what they want the fire departments to do and the level the fire departments should operate at.
- Sanford dispatched needs to be shut down and dispatch needs to be under emergency management.



- Add 24-hr staff.
- County wide career fire dept instead of eight different volunteer fire depts. Would lead to a more consistent service across the board.
- More personnel, better funding for the departments to have what they need.
- Support from the governing bodies within the county.
- Better pay and benefits with competing counties in the area.
- Update the 911 center communications. We are severely behind in comparison to our surrounding counties, as well as the state. Updating the communications would allow the emergency services as a whole, to be able to better serve its citizens. Also installation of AVL to emergency vehicles will better serve the citizens of Lee County by sending the closest units to calls for service.
- Hire qualified personnel for volunteer is dying.
- Each department needs full time paid personnel with the goal of having 24-hr personnel.
- One department work together. Not many people want to be volunteers any more. Very sad.
- County leaders should have more involvement in choosing the heads of departments and define requirements for their qualifications.
- Consolidation of fire services to provide a more consistency in response as serious incidents already require the use of multiple departments. Equal tax rates with an annual needs assessment performed by non-biased industry experts. Development of an alternative water supply system to supplement fire flows. Improve collaboration with outside agencies to improve out-of-county response.
- A true understanding from the county commissioners of what the volunteers actually provide for this county.
- Add an additional hub.
- Incentives for volunteering like Tax breaks for years of service to attract more volunteers.

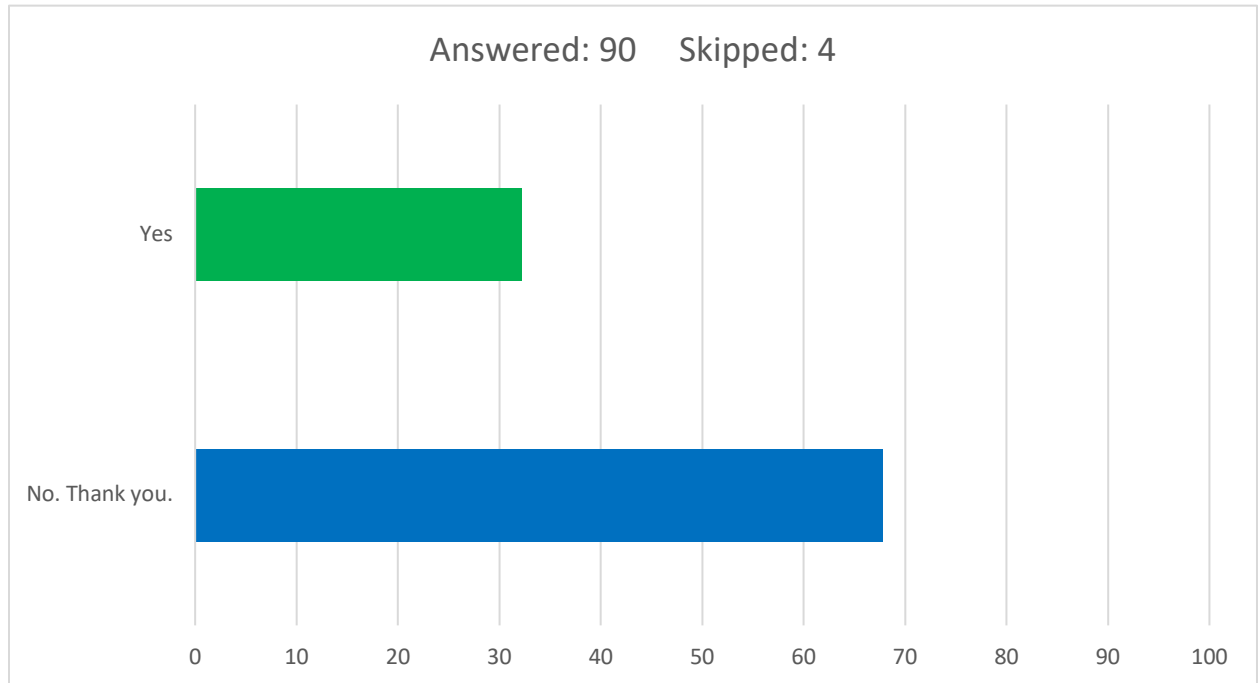


- Keep up the good work.
- Keep our volunteers.
- I hope Lee County Fire and Rescue departments comply with current trends and standards to provide the highest level of service for all county districts.
- More training.



Question 10

Q10: Are you interested in learning more about the fire and rescue services in Lee County?



ANSWER CHOICES	RESPONSES
Yes. Please go to: leecountync.gov/departments/fire_marshall/index.php or call 919-718-4670	32.22% 29
No. Thank you.	67.78% 61
TOTAL	90



Elected /Executive Officials Feedback:

With governance over the fire and rescue service delivery system by establishing the contract for service and setting all supporting tax rates, elected officials are an integral and critical component of the fire and rescue service system in Lee County.

NCFCC individually interviewed five (5) of the current Lee County Commissioners regarding their thoughts on 1) their current perspective of service delivery along with 2) their perspectives on the service delivery system moving forward and 3) any concerns that they had about the fire and rescue service delivery system. More than 40 key take-away themes were gathered from the commissioner's responses within the parameters of the three questions.

The **greatest number** of these general themes were around their **support** for firefighters in Lee County and the fire and rescue provider fire departments. The elected officials applauded the work that firefighters do throughout the county and how Lee County residents are pleased with the services that they have been receiving. There is appreciation for the volunteer and combination service delivery model, but also recognition that as Lee County continues to grow and if volunteerism continues to diminish, there will be a solid need for more funding for more career fire rescue personnel (firefighters) for the contracting fire departments in the years ahead. The Commissioners expressed a high level of confidence in the service providers and deep gratitude for their dedication.

In a tie for the **second** most common themes with the commissioners was the need to **support volunteerism** and the current issues/challenges with the **9-1-1 Emergency Communications system and emergency radio system**. The elected officials demonstrated a high level of knowledge and concern about declining volunteerism trends in the nation, state, and county. Commissioners recognized that funding was necessary for improving radio equipment by modernizing to improve service availability and interoperability. They also acknowledge the concerns that have been expressed to them regarding the current 9-1-1 Emergency Communications Center, which is operated by the City of Sanford. There was a strong recognition about the importance of the 9-1-1 Communications Center and radio equipment to help firefighters be able to conduct their essential work effectively and safely for the people of Lee County.

Growth in the county and the necessary change that must come along with growth provided the Commissioners a **third** tier of themes. The impacts that growth has and will make to the fire and rescue service delivery system were noted to include annexation, additional collaboration with the City of Sanford, and the increasing hazards and risks that Lee County based fire departments are taking on with additional commercial and industrial properties. Closest unit response, more



automatic aid between departments, and municipal growth reducing the unincorporated area were all noted as additional areas impacted by growth.

The **final** group of themes captured from the elected officials was around the **finance perspective**. That feedback included interest in affirming to fire departments that the commissioners were not interested in reducing any funding for fire departments by changing the current tax distribution model, which sets the separate fire tax rate by district; however, they are considering setting a flat tax rate in the future across the county for fire and rescue services to move the overall service delivery system forward and better meet the emerging needs of all contracting fire departments by operating like every other local governmental supported service. This model would result in an equivalent tax rate across the unincorporated area for service delivery. Although different than what has been done in the past, there are more counties moving to the unified tax model across the state.



Section 2: Community Risk Analysis



Lee County's Community Risk Assessment

A risk assessment provides information to identify hazards that impact the community. The following provides an overview of Lee County's risks. The following section will describe the community, including those at highest risk, land use and future growth, and target hazards. The assessment will review natural hazards, critical infrastructure, and community risk reduction. The demographic data is from the 2021 American Community Survey (ACS) 5-year estimates and the 2020 U.S. Census.

Demographics of the Community Population

The following information provides an estimate of population decreases and increases since 2020. The ACS 5-year estimates show an increasing population of 15.7% since 2010, as shown below. The estimated population in 2022 is 33,187 in the service area.

Figure 1: Population Growth 2010–2022

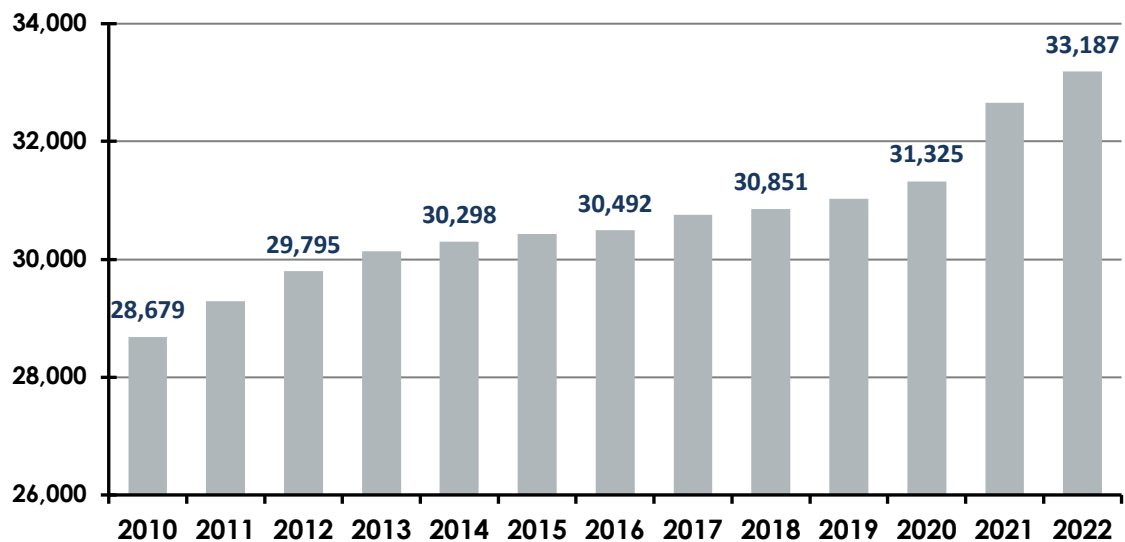
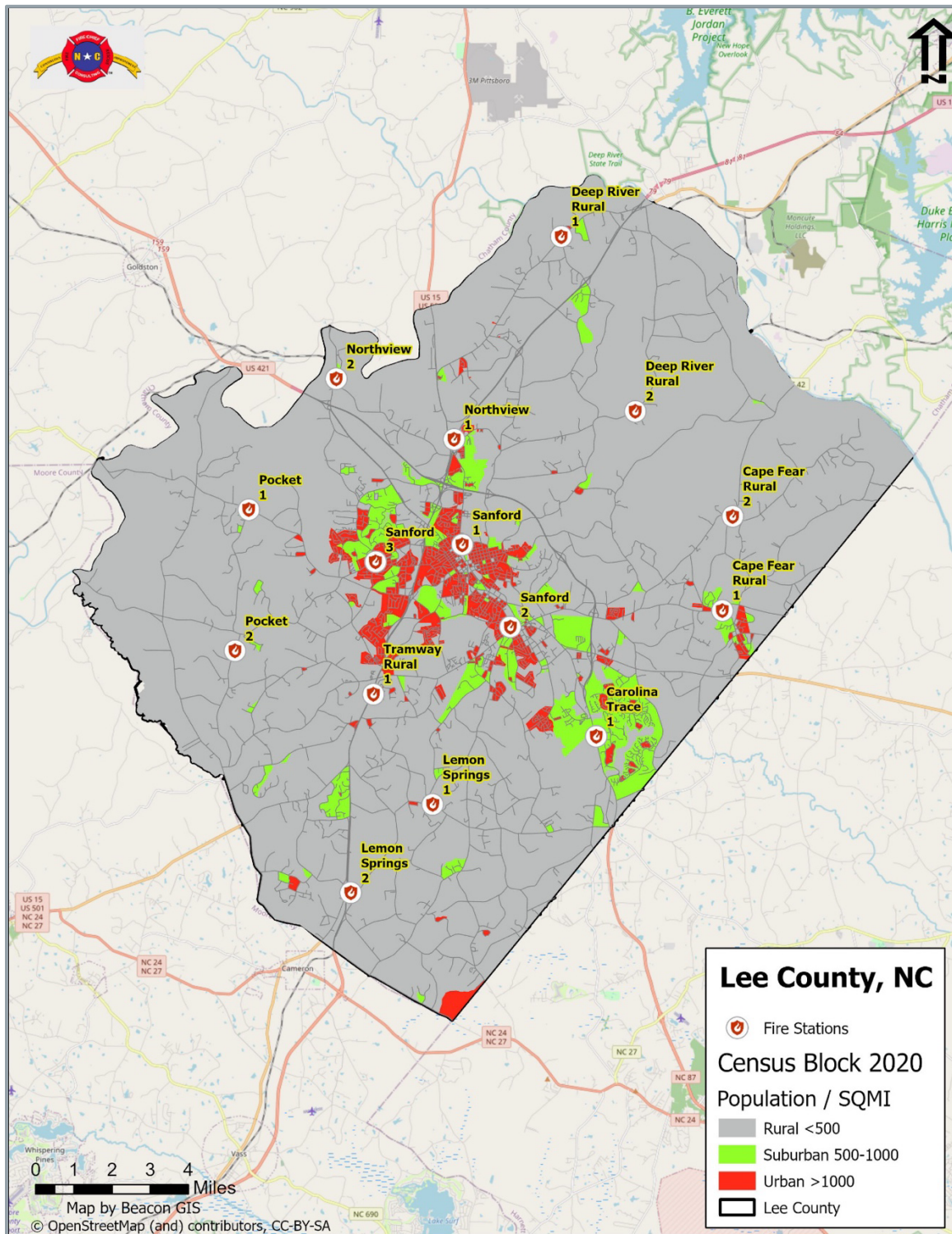


Figure 2: Population Density



At-Risk Populations

At-risk populations can place additional workloads on an organization, thus increasing service demands. The National Fire Data Center has identified them as groups at a higher risk of being injured or killed in a fire.¹

- Children under 5 years of age
- Adults over 55 years of age
- Adults over 85 are at the highest risk
- Gender

Data from 2022 U.S. Census American Community Survey five-year estimates identified several groups in these categories that are more likely to need emergency services, specifically EMS, than other populations.²

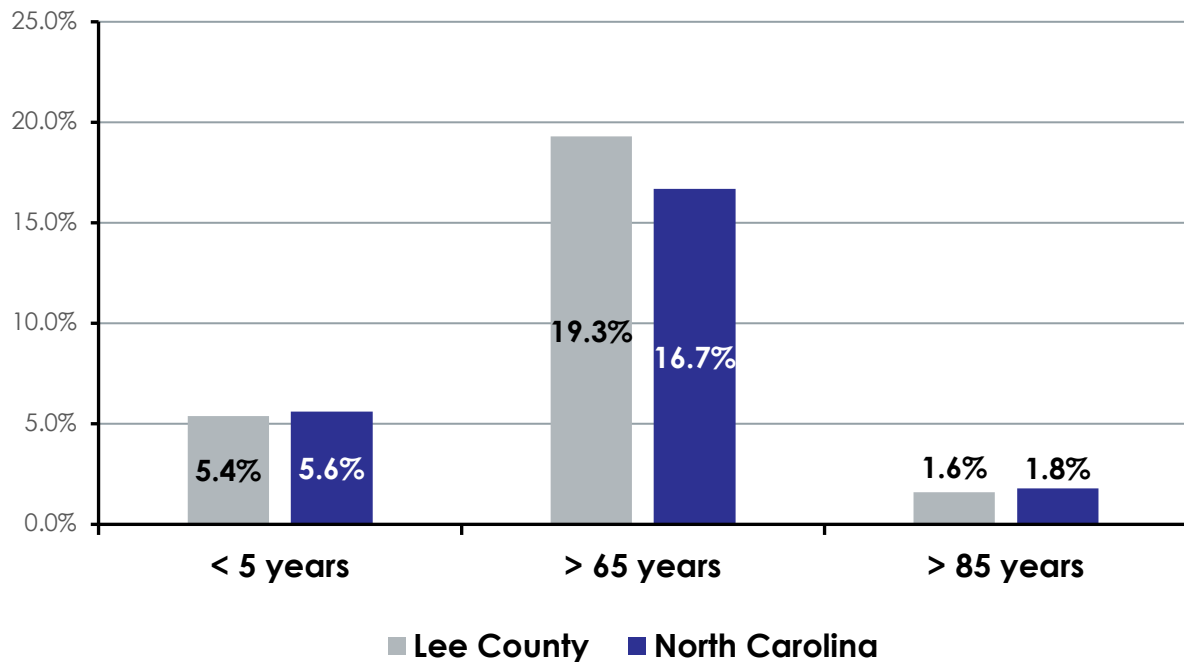
Age

A person's age in a high-risk population directly relates to an increase in unintentional injuries and death or injury from a fire. Older adults are 2.6 times more likely to die in a fire than the overall United States population. These age risks increase service demand, specifically for older adults needing additional medical care.³

Children under the age of five are at more risk because of their inability to care for themselves and their need for additional assistance during an emergency. Recent trend data (2018) from the U.S. Fire Administration indicates that this age group's relative risk of dying in a fire has dropped 30% in the last ten years and is credited to increased fire prevention and education. The percentage of children under five in Lee County is 5.4%, compared to the state at 5.6%. Adults over 65 are 19.3%, higher than the state at 16.7%. Those 85 and older are 1.6%, compared to the state at 1.8%. The following figure shows the percentage of children under five years, 65 years and older, and those aged 85 and older.



Figure 3: Age Risks



Gender

The U.S. Census Bureau states that 51% of the population is female, while 57% of the fire deaths and 55% of the injuries are male between 2015 and 2019. This is 1.3 times more likely than a female. Based on fire department reports, 12% of males were impaired by alcohol, compared to 6% of females. Twenty percent of females with a disability died in home fires compared to males at 16%. Middle-aged males had a higher rate of deaths from intentionally set fires, while females 75 and older were more likely to be injured in a cooking fire than males.⁴ The following figure shows gender percentages by age.

Figure 4: Gender by Age

Age Groups	Male	Female
Under 5 years	2.5%	2.9%
5 to 9 years	2.5%	2.1%
10 to 14 years	3.1%	3.4%
15 to 19 years	3.3%	3.2%
20 to 24 years	2.0%	2.9%
25 to 29 years	3.2%	2.7%
30 to 34 years	2.8%	2.6%
35 to 39 years	2.4%	2.8%
40 to 44 years	3.6%	3.2%
45 to 49 years	2.5%	3.1%
50 to 54 years	4.1%	3.6%
55 to 59 years	3.8%	3.1%
60 to 64 years	4.2%	5.0%
65 to 69 years	3.1%	3.0%
70 to 74 years	2.7%	3.3%
75 to 79 years	1.7%	1.9%
80 to 84 years	1.0%	1.2%
85 years and over	0.6%	1.0%

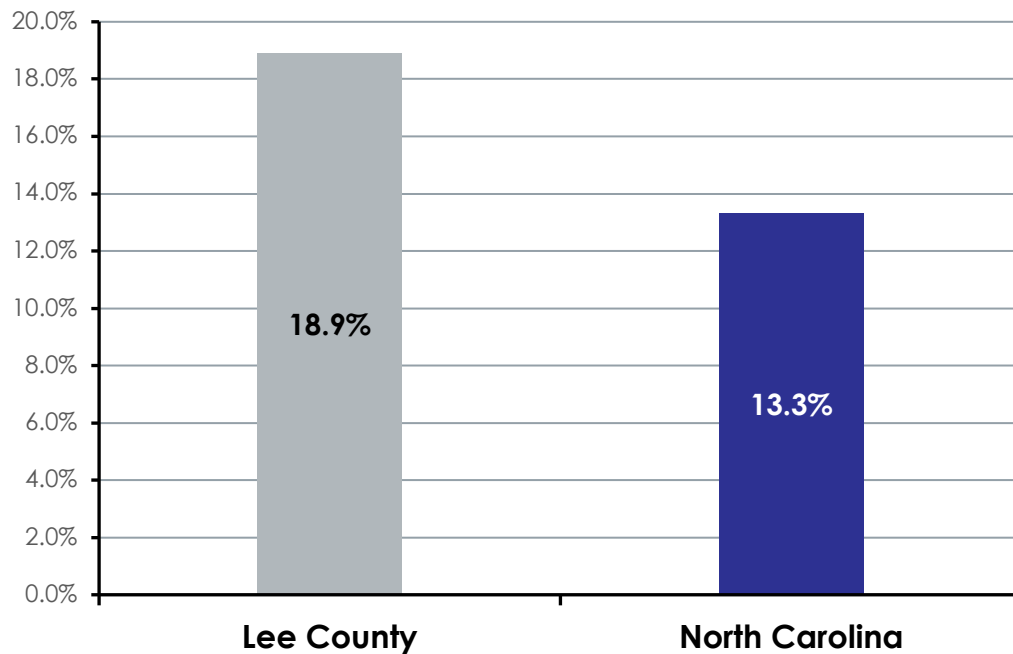
Additional Demographics

Other demographics provide additional information on people living in Lee County. Although these people do not fall into the NFPA high-risk populations, they can impact the community's risks.

Disabilities

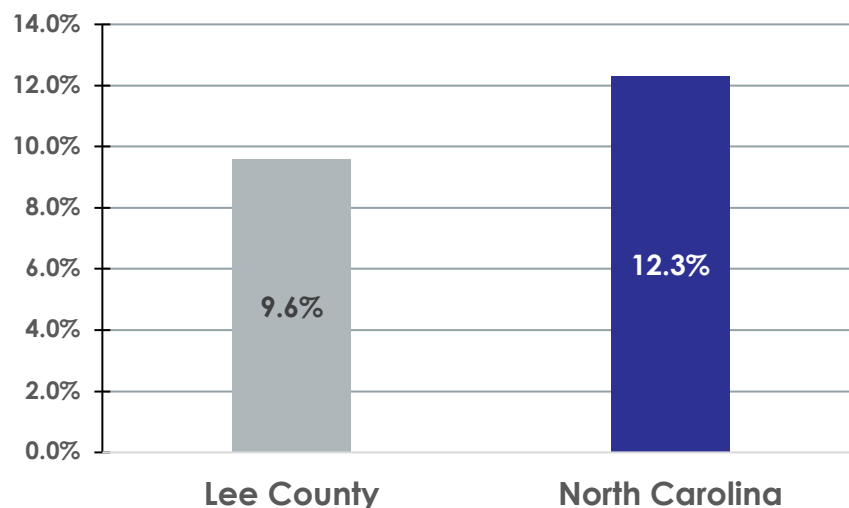
Populations with a disability increase risks in the community, and this group may not be able to escape during an emergency, increasing the chance of injuries or death from a fire. In Lee County, the percentage of people with a disability is 18.9%, which is greater than the state at 13.3%, as shown in the following figure.



Figure 5: Percentage of People with a Disability

Language Barrier

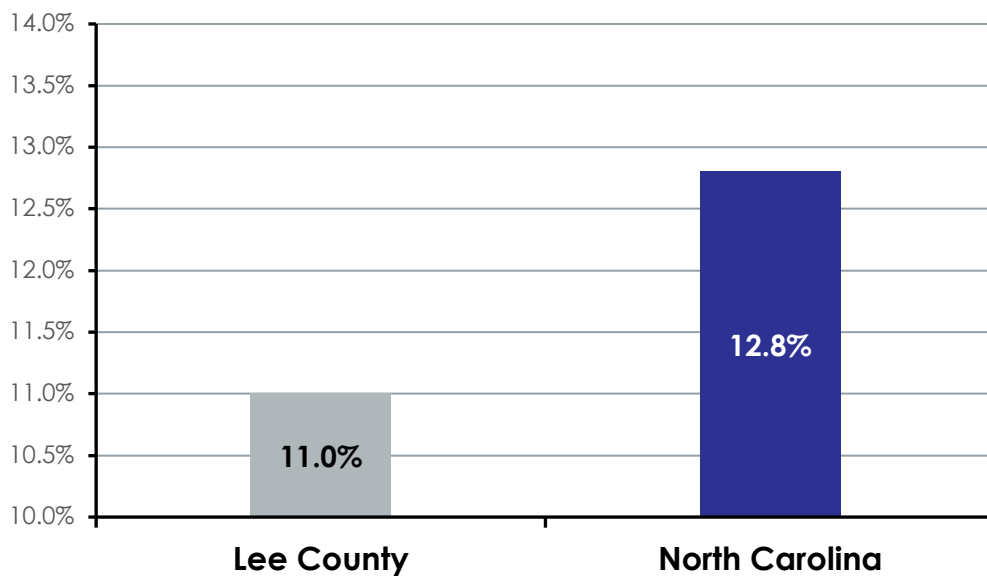
People without proficiency of the English language can increase risks. Emergency personnel who respond to an incident may encounter a patient unable to understand or answer questions because of their limited English-speaking skills. This population will have difficulty understanding mitigation or prevention materials and programs if not provided in their native language. The number of people speaking a language other than English at home is 9.6% in Lee County, less than the state at 12.3%.

Figure 6: Language Barrier

Poverty

Without sufficient wages, the number of people living in poverty increases. In Lee County, the percentage of people in poverty is 11%, which is less than the state's 12.8%. Combined with other risks such as education levels, disabilities, and inability to work, poverty can increase risks to this population, as shown in the following figure.

Figure 7: Percentage of People in Poverty

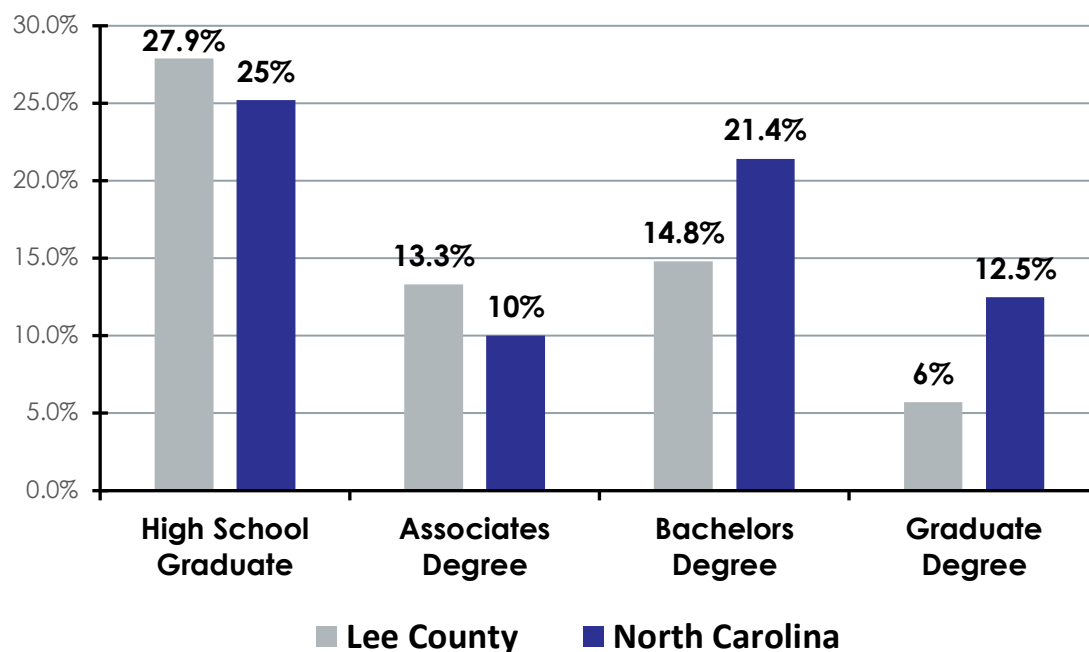


The lack of higher incomes increases the risk of fires and medical emergencies because of their age, inability to receive adequate medical services because of no health insurance, failure or inability to pay a doctor, and housing conditions.

Education Levels

According to the U.S. Bureau of Labor Statistics, the higher the educational levels obtained directly relate to higher wages. In 2022, the median weekly earnings for someone with a high school diploma and no college education were \$853, 60% less than someone with at least a bachelor's degree who earned \$1,432.⁵ In Lee County, 27.9% of the population only has a high school education, slightly higher than the state at 25%. Residents with a bachelor's degree are 14.8%, less than the state at 21.4%, while 6% have a graduate or professional degree, less than the state at 12.5%. The following figure shows the education level of people over 25.

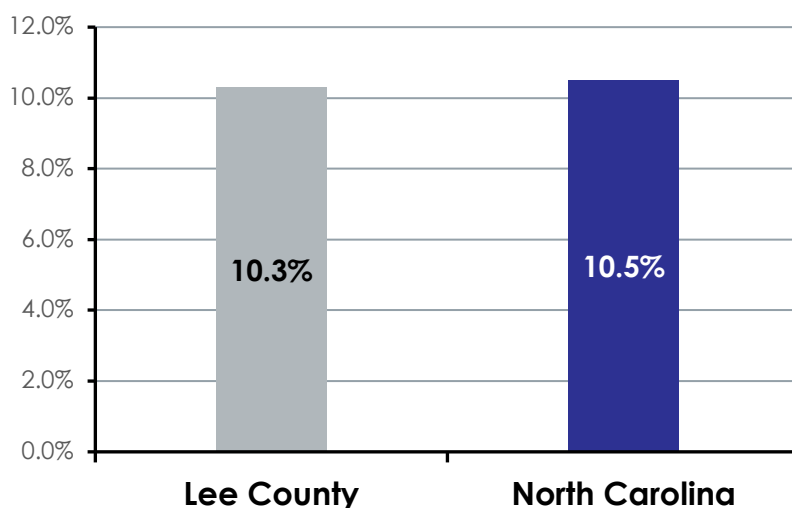
Figure 8: Education Levels



Health Insurance

Without adequate insurance, lower-income populations cannot pay for healthcare visits; thus, it may delay medical appointments, making their conditions worse. When health insurance is unavailable, an additional burden is placed on emergency services, increasing the number of medical responses. The following figure shows that the population without health insurance in Lee County is 10.3%, compared to 10.7% in the state.

Figure 9: People without Health Insurance



Lee County's Social Vulnerability Index

The Centers for Disease Control (CDC) released a social vulnerability index that uses U.S. Census data to determine risks by census tract levels. The 2016–2020 ACS data combines the following information to determine the ranking. The higher the ranking, the higher the risk.

Socioeconomic

- Poverty
- Unemployed
- Per Capita Income
- No High School Diploma

Housing Type/Transportation

- Multi-unit
- Mobile Homes
- Crowding
- No Vehicle
- Group Quarters

Household Composition/Disability

- Aged 65 and Over
- Aged 17 and Younger
- Single-parent Household
- Aged 5 and over with a Disability

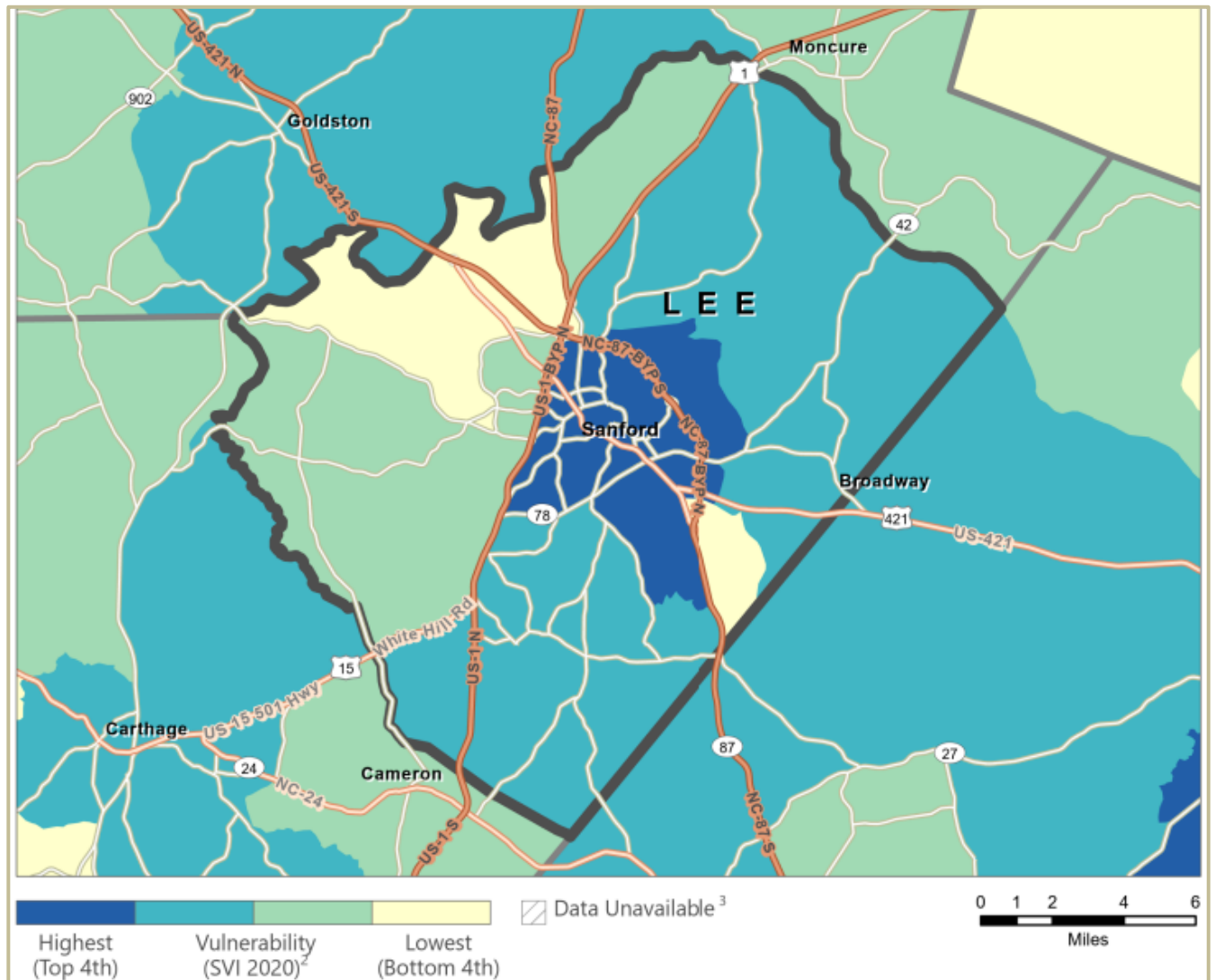
Race/Ethnicity/Language

- Minority
- English Language Ability

The below figure shows the rankings for each census tract in Lee County from the highest to the lowest. The City of Sanford holds the overall highest risks in Lee County.



Figure 10: Social Vulnerability Index



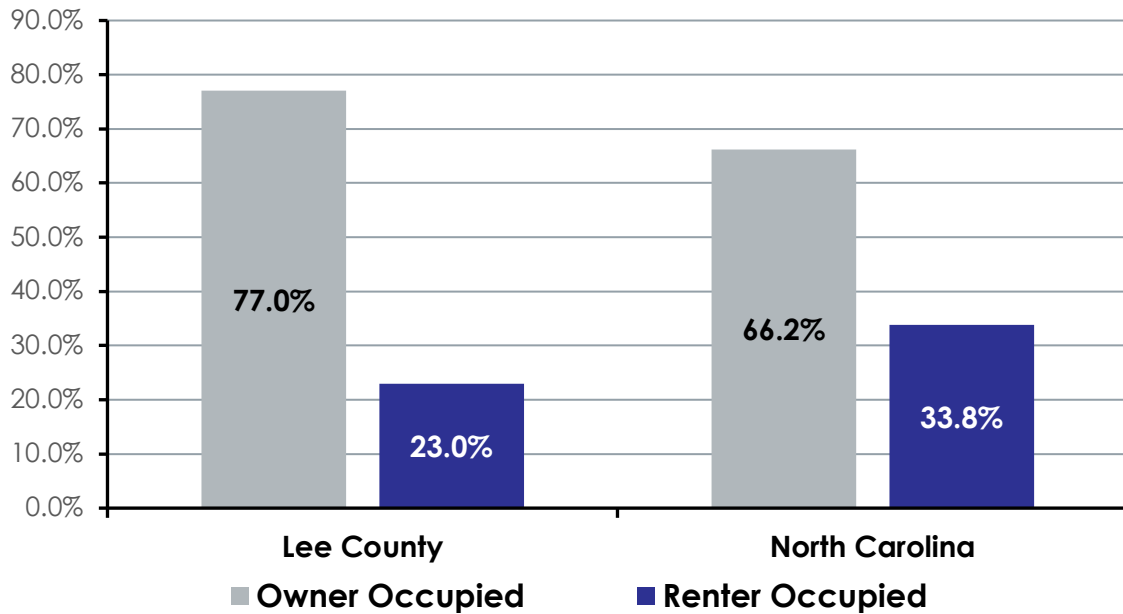
Housing Characteristics

The type of housing in a community varies and provides insight into ownership, the age of housing, and the number of units in a building. The 2022 U.S. Census Five-year Estimates state there were approximately 14,503 housing units, with 1,316 vacant. These vacant structures create additional problems for the community and the fire department. If these buildings are not maintained, the structural integrity will decrease and pose difficulties for responding personnel. If these buildings are not secured, the chance of vandalism may increase and create additional problems for the fire department and law enforcement.

Home Ownership

The homeownership rate in Lee County is 77%, which is higher than the state at 66.2%. Renter-occupied housing may have a greater need for smoke alarm canvassing programs.

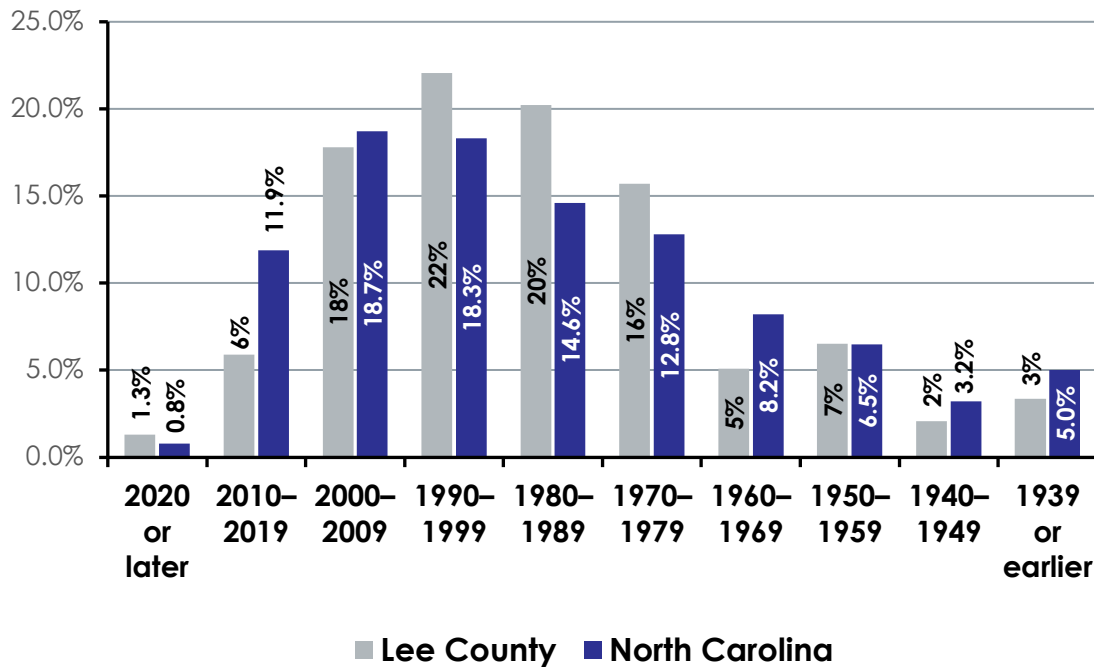
Figure 11: Homeownership



Age of Housing

As a home ages, the maintenance needed to maintain the structure increases. If problems are not corrected, the home can become more hazardous to its inhabitants and emergency responders. Homes built before 1975 in North Carolina did not require smoke alarm installation during construction, thus potentially increasing the risk for the occupants. The following figure shows that 33% of the housing was built before 1980.

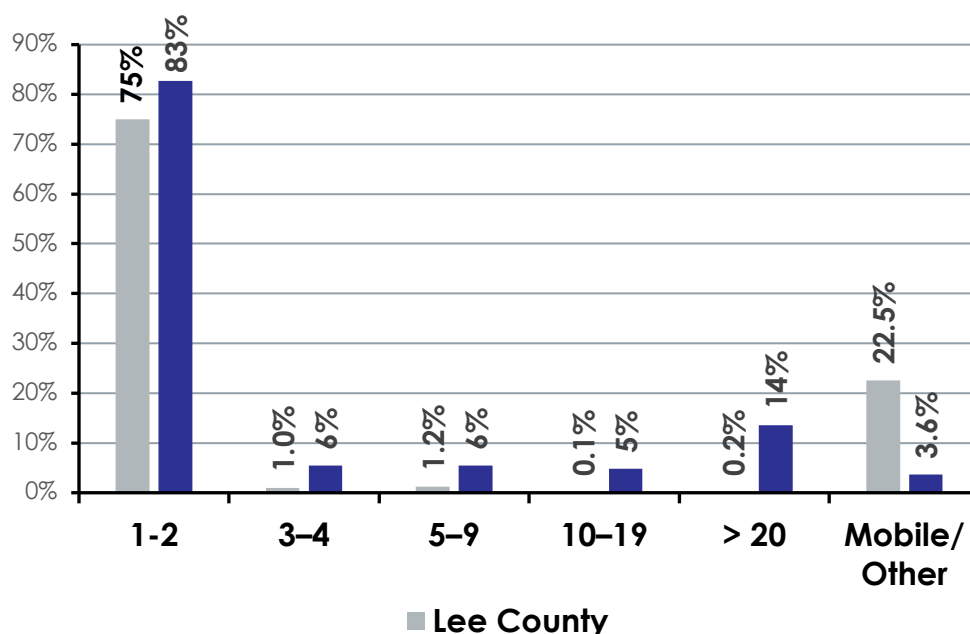
Figure 12: Age of Housing



Housing Units

75% of the housing units in Lee County are one- or two-family dwellings, which is less than the state at 83%. Mobile homes and other housing types are 22.5%, much higher than the state at 3.65. The following figure shows the number of units per building.

Figure 13: Housing Units per Building



Target Hazards

Within the community are buildings considered target hazards. These buildings or facilities typically present higher risks to people, property, or the environment. These may include buildings with a high occupancy rating, facilities where the occupants may need assistance during an evacuation, or locations where hazardous materials are present. These occupancies create special hazards for the occupants and emergency responders. Target hazards can also be considered significant or historic properties that are important community assets.

Public and private schools and preschools present an increased risk for the community and require additional assistance during an incident. Mass casualty events can easily overwhelm an agency, and outside assistance becomes necessary. These occupancies require up-to-date pre-incident plans so emergency responders become familiar with the building and surrounding area for site-specific hazards.

Land Use

Land use regulation provides a jurisdiction a method to manage community growth and is defined by locally appointed or elected officials. Where land use regulations exist, they offer a way to determine if a development is suitable for that area. Regulations may require minimum street widths, landscaping, and proper turning radius, potentially impacting fire service responses. Most new residential and commercial growth is occurring in Sanford or annexed to receive utilities, specifically wastewater, for the project. Any residential growth in the unincorporated area is low-density and requires a septic wastewater system.

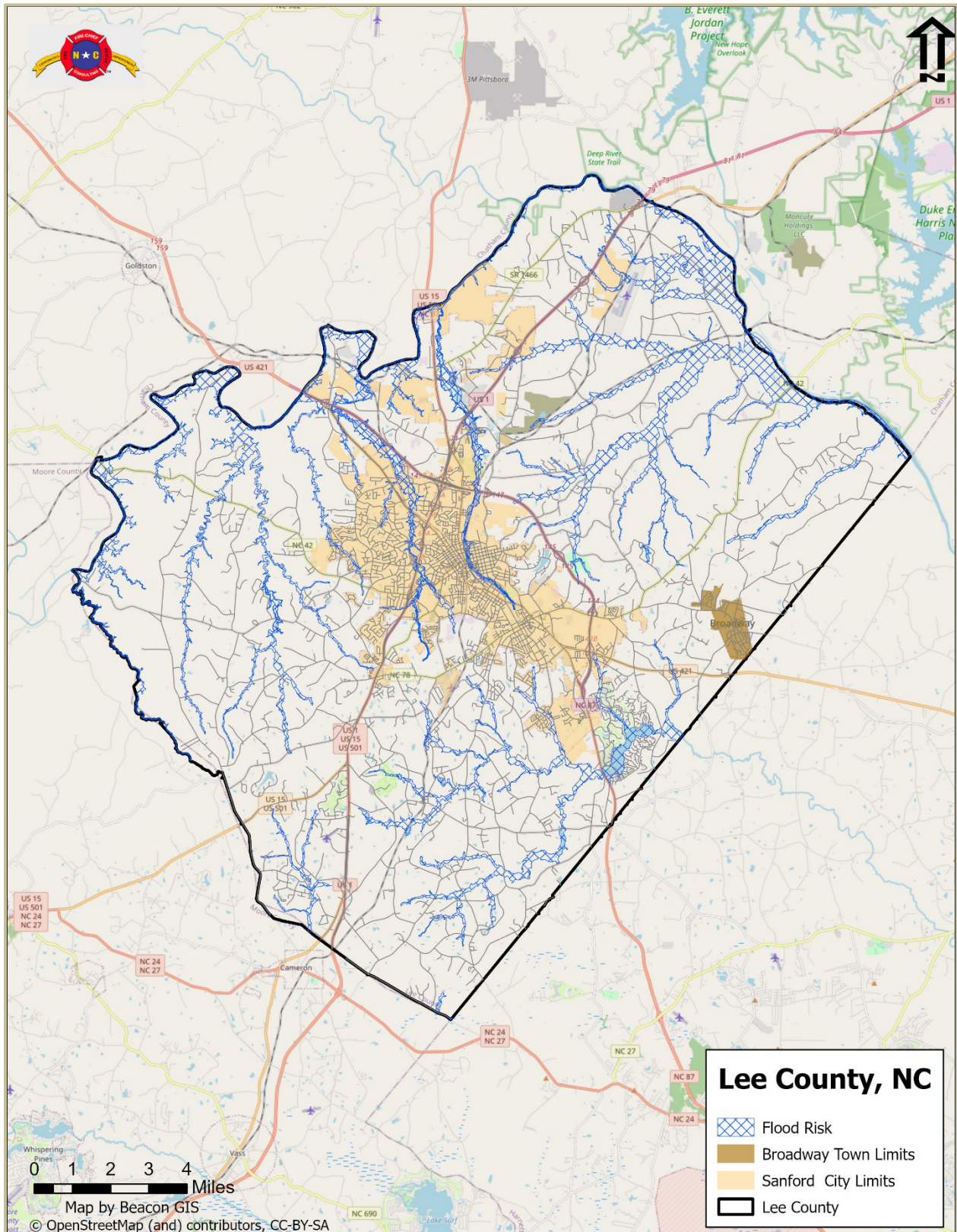
Natural Hazards

Flooding

When flooding occurs, it can impede emergency responders' and delay their arrival. There are areas in Lee County with a higher risk of flooding. These areas, including Zone A (1% annual floodplain chance) and Zone X (0.2% annual floodplain chance with elevations), are primarily along the Cape Fear and Deep Rivers and their tributaries. The Cape Fear River is the northeastern boundary for much of the County, while the Deep River is the boundary from where it intersects with the Cape Fear River and the County's northern edge. The overall risk of significant flooding in Lee County is moderate per the Cape Fear Regional Hazard Mitigation Plan (HMP).⁶ There are no levees in Lee County.⁷



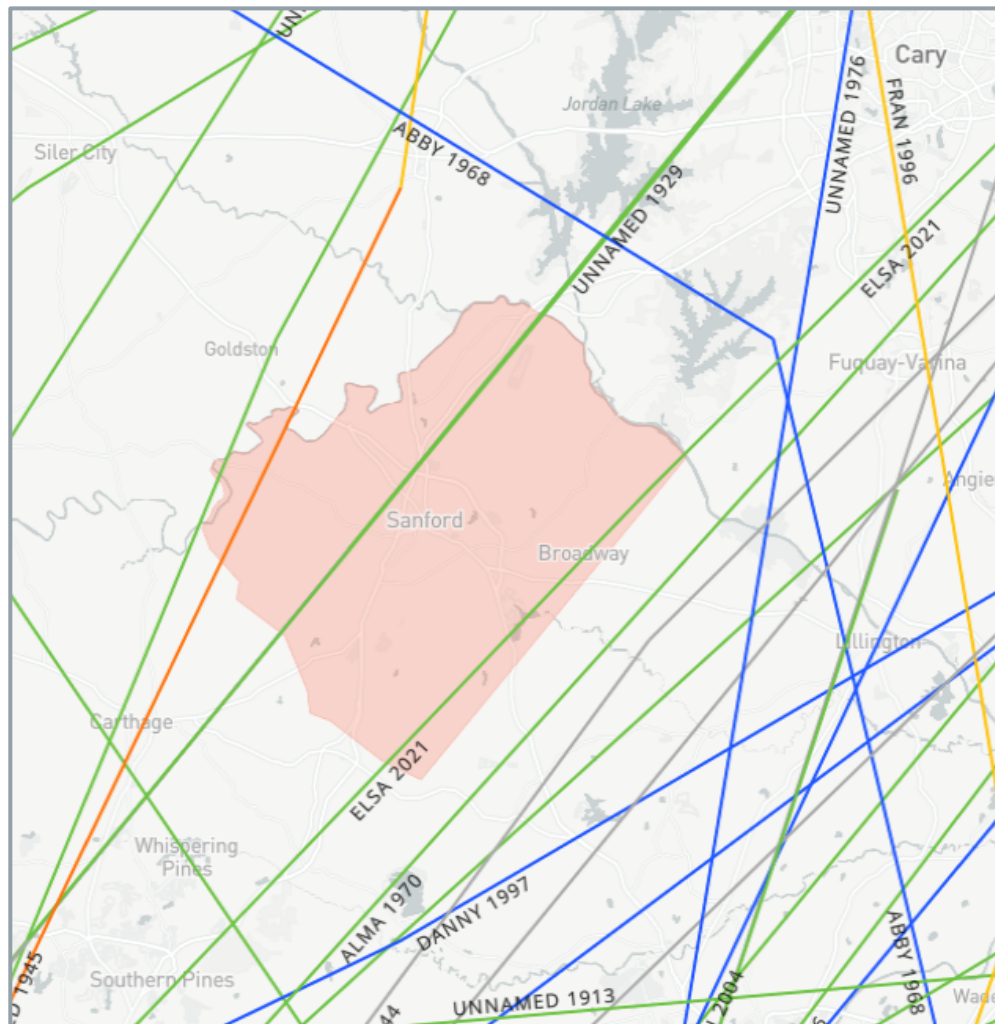
Figure 14: Flooding Zones



Hurricanes and Tropical Storms

Although the direct impact of a tropical storm or a hurricane in Lee County is low, the secondary effects, such as heavy rainfall, tornados, and high winds, can create numerous problems in the community. When exposed to falling trees or limbs, personnel risk increases during the storm, and extreme caution is necessary during a response. Response by emergency services may be delayed by down trees or power lines when they cannot reach the incident location. Lee County has had seven federal disaster declarations for tropical storms or hurricanes, and the HMP lists it as a top hazard. The following figure shows the track for tropical events passing through Lee County.

Figure 15: Tropical Event Tracks for Lee County



Winter Storms

When winter storms occur, a response by emergency personnel can be delayed because of road conditions. Severe winter weather is listed as a top hazard in the North Carolina Hazard Mitigation Plan for the Piedmont 4 Region, including Lee County. The HMP considers a severe winter weather event likely. These storms may occur each winter, but most are not significant enough to receive a Federal disaster declaration. Since 1993, three declarations have included Lee County, as shown in the following figure.

Figure 16: Winter Storm Federal Declarations

Type	Date
Blizzard of 96	January 1996
Severe Winter Storm	January 2000
Severe Ice Storm	December 2002

Thunderstorms

The chance of a thunderstorm occurring in Lee County increases during the spring of each year and into the summer, much like the other areas in the southeastern United States. The HMP notes that these storms can include hail and tornados, increase property or human damage, and are considered high regional risk. These storms can strain local emergency services during these events, specifically during an electrical storm.

Critical Infrastructure

The Cybersecurity & Infrastructure Security Agency defines critical infrastructure as sectors whose assets, systems, and networks, whether physical or virtual, are considered so vital to the United States that their incapacitation or destruction would have a debilitating effect on security, national economic security, national public health or safety, or any combination thereof.⁸ The 16 sectors are in the following categories:

- Chemical
- Communications
- Dams
- Emergency Services
- Financial
- Government
- Information Technology
- Transportation
- Commercial Facilities
- Critical Manufacturing
- Defense Industrial Base
- Energy
- Food and Agriculture
- Healthcare and Public Health
- Nuclear Reactor, Materials & Waste
- Water and Wastewater systems



This study will only review the sectors that may affect emergency response.

Roads Highways

A network of streets and roads allows emergency responders to navigate the district quickly and efficiently for service delivery. Without a well-designed and developed highway system, it becomes difficult to respond promptly and safely.

Lee County has a system of highways, roads, and streets. Many of these are in rural areas. There are some subdivisions with interconnected streets and cul-de-sacs. Subdivisions with one access can create problems for emergency responders if downed trees block the street. US 421 is controlled access in a portion of the County as it bypasses Sanford. Limited access to the highway can present problems when an incident occurs, and there is a lack of water or quick access to the location.

Lee County has several major highways and roads throughout the County, including US 1, US 421, US 501, NC 42, and NC 87, and other collector streets to disperse traffic in the community. The following figure shows the traffic counts at selected intersections in Lee County.

Figure 17: 2021 Annual Average Daily Traffic Count⁹

Location	Ave Annual Daily Traffic - Vehicles	Ave Annual Daily Traffic - Trucks
US 421 east of Mt. Pisgah Church Rd	14,000	1,580
NC 42 south of Popular Springs Church Rd	2,600	320
US 1 north of Farrell Rd	33,000	2,900
NC 87 south of Commerce Dr	35,500	2,280
Edwards Rd south of Greenwood Rd	4,100	No data
US 1 south of US 15-501	17,000	2,060



Communications

Internet services are essential for the public, commercial establishments, and emergency services to conduct business daily. Other communications are vital to the community, such as cellular phones, Voice over Internet Protocol (VoIP) telephone systems, or transmission lines from the local telephone company. These systems allow the public to notify emergency services of an incident. When these essential communication systems fail, the community is impacted when an emergency occurs.

The City of Sanford's Police Department provides dispatch services to Lee County fire departments. They also dispatch law enforcement and EMS. Four telecommunicators are on each shift daily from 6:00 am to 6:00 pm and 6:00pm to 6:00am. There are no dedicated/minimum staffed telecommunicators assigned as call-takers. The center utilizes Emergency Medical Dispatch to prioritize EMS responses and dispatch the fire departments based on the type of call. The fire departments are dispatched by the station response areas for fire incidents. The center's computer aided dispatch software is One Solution. If the primary 911 center fails, there is a four-position backup center if required to relocate.

Water Resources

Controlling a fire becomes challenging without an adequate water supply and distribution system consisting of water storage, mains, and a fire hydrant system. A system of well-distributed hydrants and appropriately sized water mains are necessary to provide the required water for fireground use.

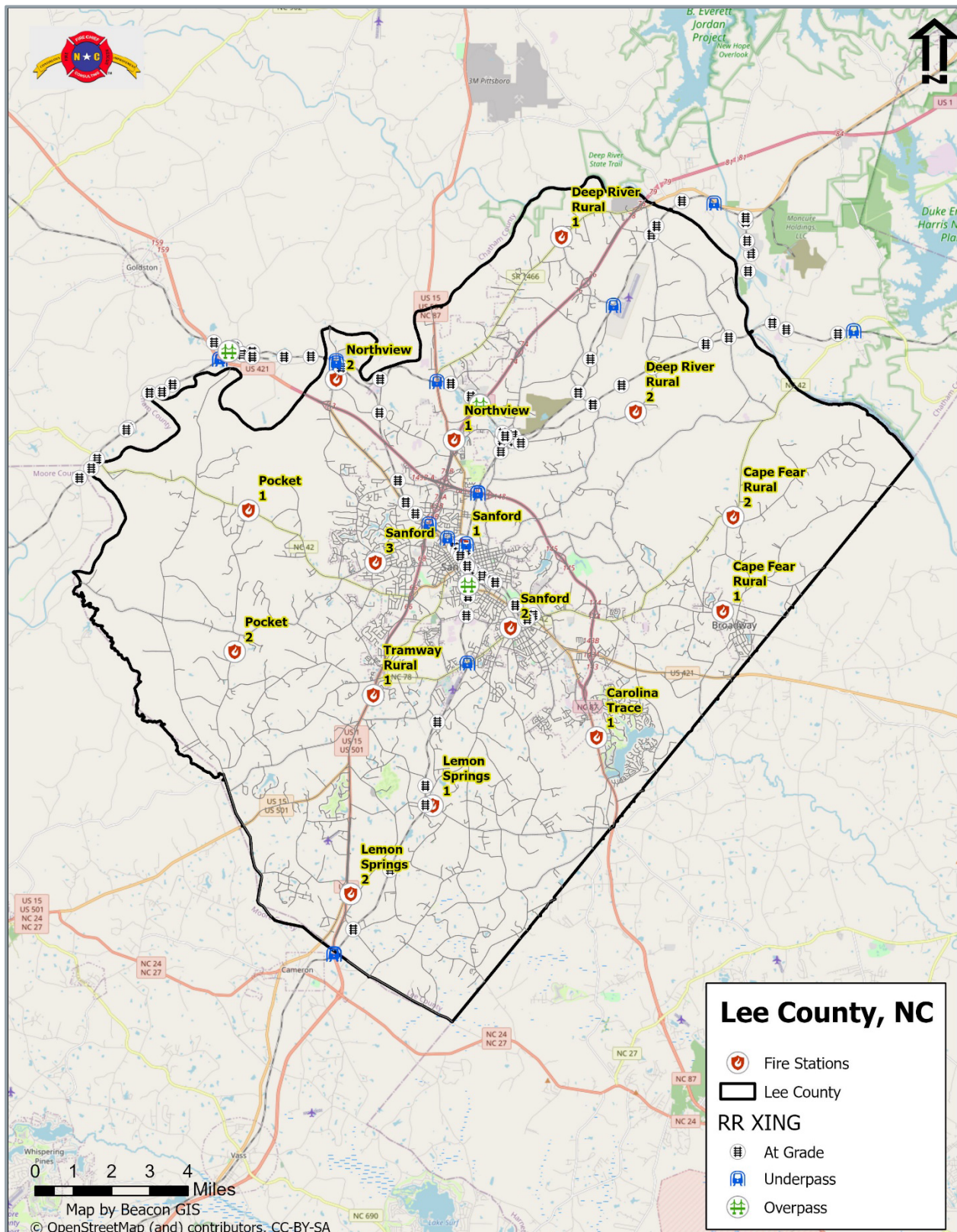
The City of Sanford provides water services in many of the unincorporated areas. The communities of Carolina Trace and Quail Ridge have separate water systems. Areas without fire hydrants have water points for firefighting purposes.

Rail

CSX operates a main north-south rail line through Sanford and Lee County.¹⁰ Atlantic and Western operates two rail lines that terminate in Cumnock and connect to Norfolk Southern. One line goes to Brickhaven, and the other to Sanford.¹¹ There are controlled crossings at major intersections to prevent accidents, but other low-traffic areas are uncontrolled except for warning signs or lights. Trains traveling through unincorporated Lee County can delay response from emergency services if the crossing is blocked during an incident. Uncontrolled locations present an increased risk if drivers are unaware of an approaching train. A derailment may occur in remote areas of the county and create problems accessing the location during an incident or availability of water during a fire. Creating contingency plans for these types of emergencies will assist in developing strategies and tactics for the incident.



Figure 18: Rail Crossings



Community Risk Reduction

Fire and Life Safety

The Lee County Fire Marshal's Office (FMO) enforces the North Carolina Fire Prevention Code (NCFPC) in the unincorporated areas and the Town of Broadway. The FMO is staffed by the fire marshal, deputy fire marshal and fire inspector. The fire marshal is level III certified, deputy fire marshal has a probationary Level III, and the fire inspector has a probationary Level I certificate. They are currently meeting the state's mandated inspection schedule for all commercial properties. The fire marshal and the deputy fire marshal have their fire investigator technician (FIT) certification. The fire marshal holds a certified fire investigator (CFI) certification.

There are approximately 700 commercial properties that need fire inspections conducted. There is an industrial park, and approximately 90% of it is located in the jurisdiction of the FMO. Any new residential or commercial project is submitted to the City of Sanford, and the FMO participates in the technical review process to determine if the plans meet all fire codes and other technical standards before construction begins. The FMO reviews plans and uses ESO Solutions for its records management system.

The individual fire departments offer all fire and life safety prevention programs, such as smoke alarm installations, public or private school fire prevention training, or how to use a fire extinguisher. The FMO does prevention programs when requested.

Station-Based Community Risk Reduction

The following is part of an overall Community Risk Reduction (CRR) program, defined as "The identification and prioritization of risks followed by the integrated application of resources to improve public safety and reduce increasing call volumes."¹² The goal is to incorporate emergency operations with prevention efforts at the fire station level. The station-level approach is preferred because risks vary from one station to another and even within a station's district. A CRR program aims to examine problems and develop prevention or mitigation strategies to reduce risks and hazards.

Data collected for this master plan and continued analysis in the future creates an opportunity to determine if specific hazards are increasing or decreasing based on incident response. Risks may change as new development or demographic change occurs in Lee County, impacting service delivery.

When developing strategies, they should include the use of the Five E's.

- Education – Will education help the public – who, where, when?
- Engineering – What engineering or technology is available to help?
- Enforcement – Is additional or more substantial enforcement needed?



- Economic Incentives – Could incentives increase compliance?
- Emergency Response – Would changes in response make a difference (personnel, training, etc.)?

The concept of using the Five E's is to identify a strategy or, in many cases, multiple strategies to prevent or mitigate the risk from reoccurring.

When developing a CRR plan, Lee County must determine what strategies have already been implemented in the community to prevent duplication. Outside resources may be available through partnerships with many community organizations such as law enforcement, nonprofits, health departments, EMS, religious, and local businesses. These groups may offer a different perspective to provide staff and additional funding and resources because of limitations within the fire department.

Preparing a CRR plan should align with the department's mission and strategic plan. Creating a plan at the station level allows personnel to engage the community they serve. It empowers personnel to interact and learn more about their community and take ownership of the program. Station personnel begin to understand the importance of collecting accurate data to support their plan, developing strategies using partnerships, gaining their input, soliciting feedback from the community, and ultimately deciding what risk to prioritize. The below figure is a basic methodology offered by Vision 20/20 to identify and analyze risks within a community. Vision 20/20 includes a coalition of national organizations and experts that exemplify how collaboration, communication, and commitment to data-based solutions can save lives and properties.

Using the following process, Lee County should begin integrating CRR into the fire departments to address all risks in the community.



Figure 19: Community Risk Reduction Process

Summary

Every community should review and evaluate the risks and hazards in its response area to ensure proper protection levels are provided. This gives Lee County detailed information on better understanding its citizens and the types of services needed. It allows the County to prioritize its resources for prevention and mitigation programs. The population in Lee County has increased by 15.7% since 2010, and the lack of wastewater infrastructure will limit future growth to low-density development.

A demographic analysis of Lee County shows that the under-five population is 5.4%, less than the state at 5.6%. Adults older than 65 are higher at 19.3% than the state (16.7%). This reflects the higher percentage of the population with a disability (18.9%) and the state at 13.3%. The County has a lower percentage of people speaking Spanish (9.6%) at home than the state (12.3%). Poverty is 11%, lower than the state at 12.8%. Education levels are similar to the state, except for bachelor's degrees, where the district is at 14.8%, considerably lower than the state at 21.4%. Homeownership is 77%, compared to the state at 66.2%.

Lee County is at moderate risk of flooding, primarily near the Cape Fear and Deep Rivers and their tributaries, which can increase when tropical events impact the area. CSX has a main rail line through the County between Hamlet and Raleigh. The Lee County Fire Marshal's Office provides fire code enforcement and fire investigations, and they can meet the state-mandated inspection schedule.

Section 3: Geographical Information System (GIS) Data Analysis



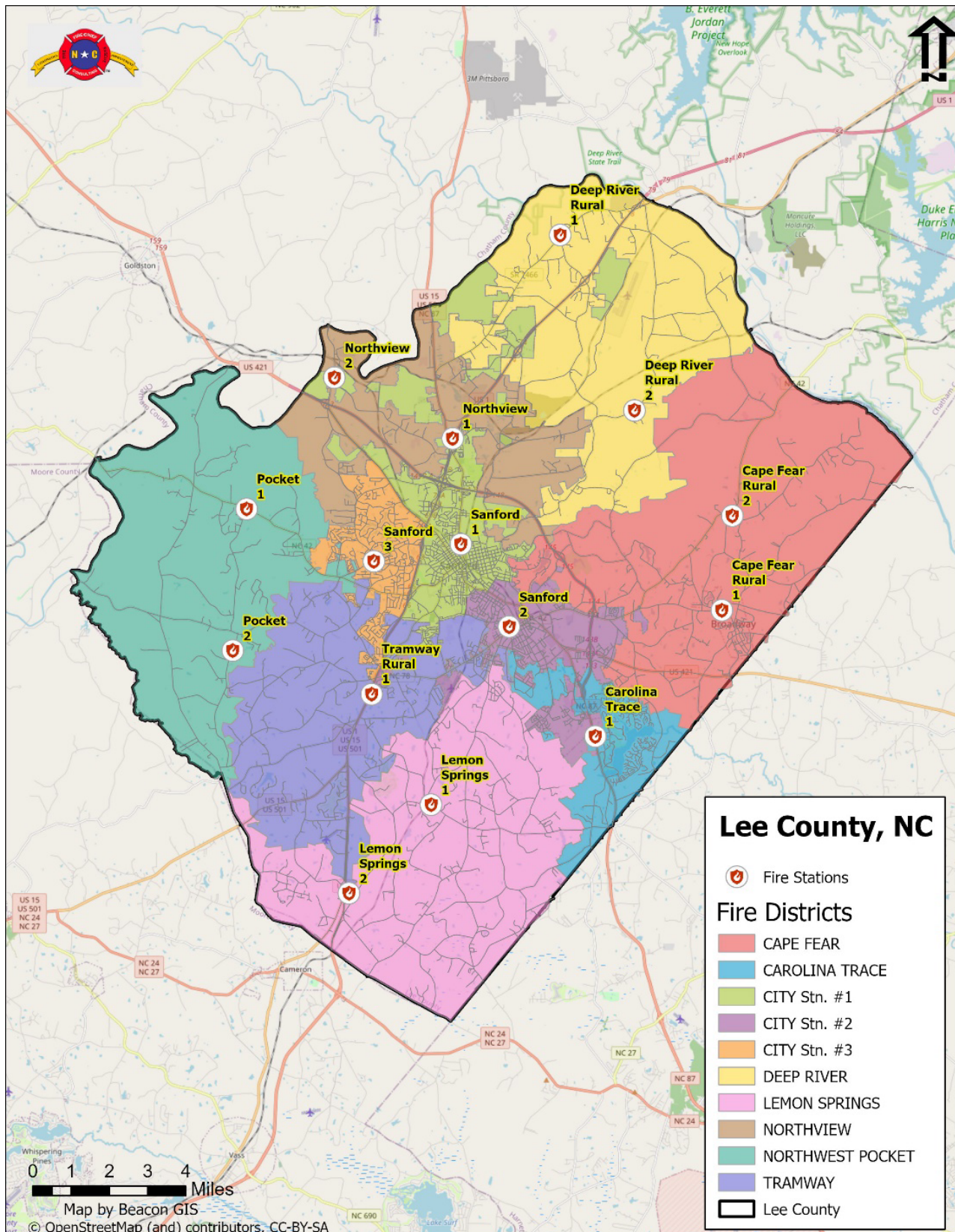
GIS Analysis

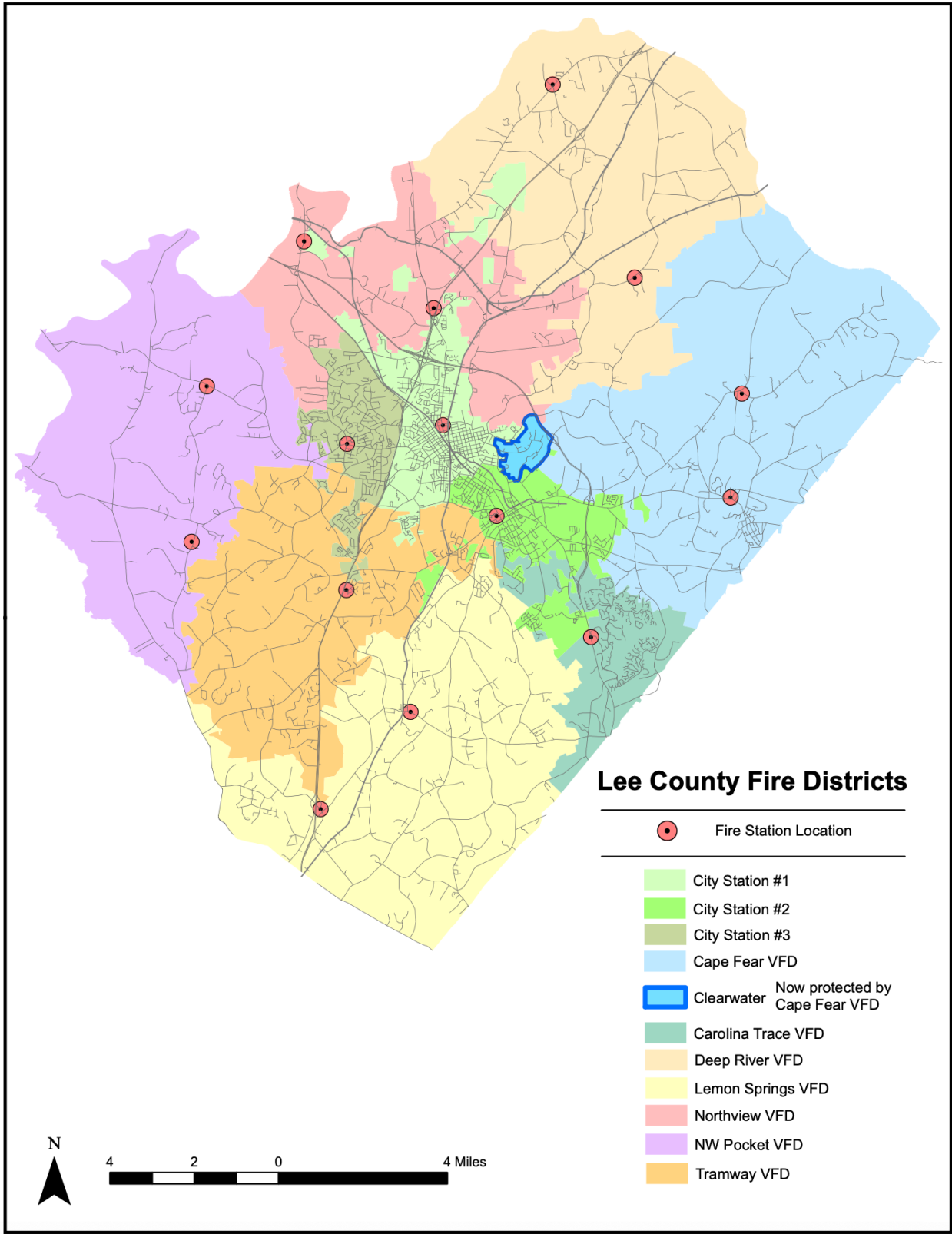
Introduction

Lee County is located just southeast of the City of Raleigh, North Carolina. Several arterial roadways (US1 & US15) traverse through including a limited access bypass around the town of Sanford for US421. The fire departments operate from 15 stations across the 258 square mile area. The Sanford Fire Department also covers the town (31 SqMi) with 3 Stations. The fire district areas and the stations are seen in the following figure.



Figure 20: Current Fire Service Area & Fire Stations





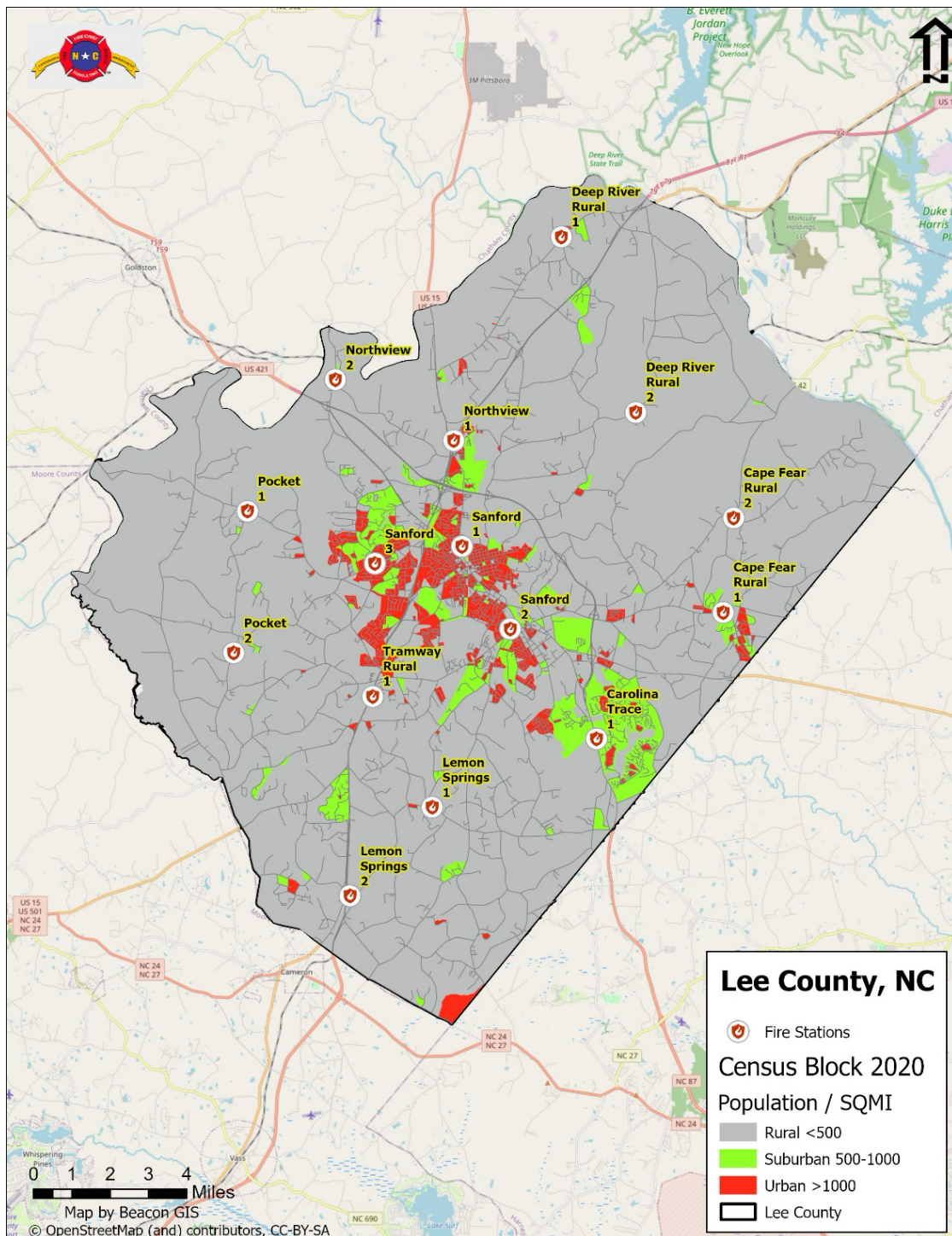
This section discusses the county fire departments closest station area and coverage.

Population

According to the US Census Bureau, 63,272 people reside in Lee County. 49% within the Town of Sanford. This is about 9% more than 2010, when the census tabulated 57,872. The following map shows the population per square miles categorized according to NFPA 1720 guidelines that apply to volunteer fire districts.



Figure 21: Population Density



It can be seen that the county is generally rural with pockets of higher population densities scattered except for the Town of Sanford in the center which is primarily urban based on NFPA 1720 category.

Land Use Risk

The use of land related to the structures and stockpiles vary in size and type. Some uses of land pose more risk to a community than others, such as a single-family home versus a chemical storage facility. Because of the myriad of uses, a macro analysis of risk based upon current zoning in the Town and county is employed in the methodology.

The types of uses pose differing risks to a community. Some may be a point of public assembly; others may be a facility that contains hazardous materials for its processes. Others are homes, that if lost to a fire is tragic to the owner and family. A loss of a structure that employs 300 residents is a greater overall impact loss to the community. The study team defines risk level as follows with some examples noted:

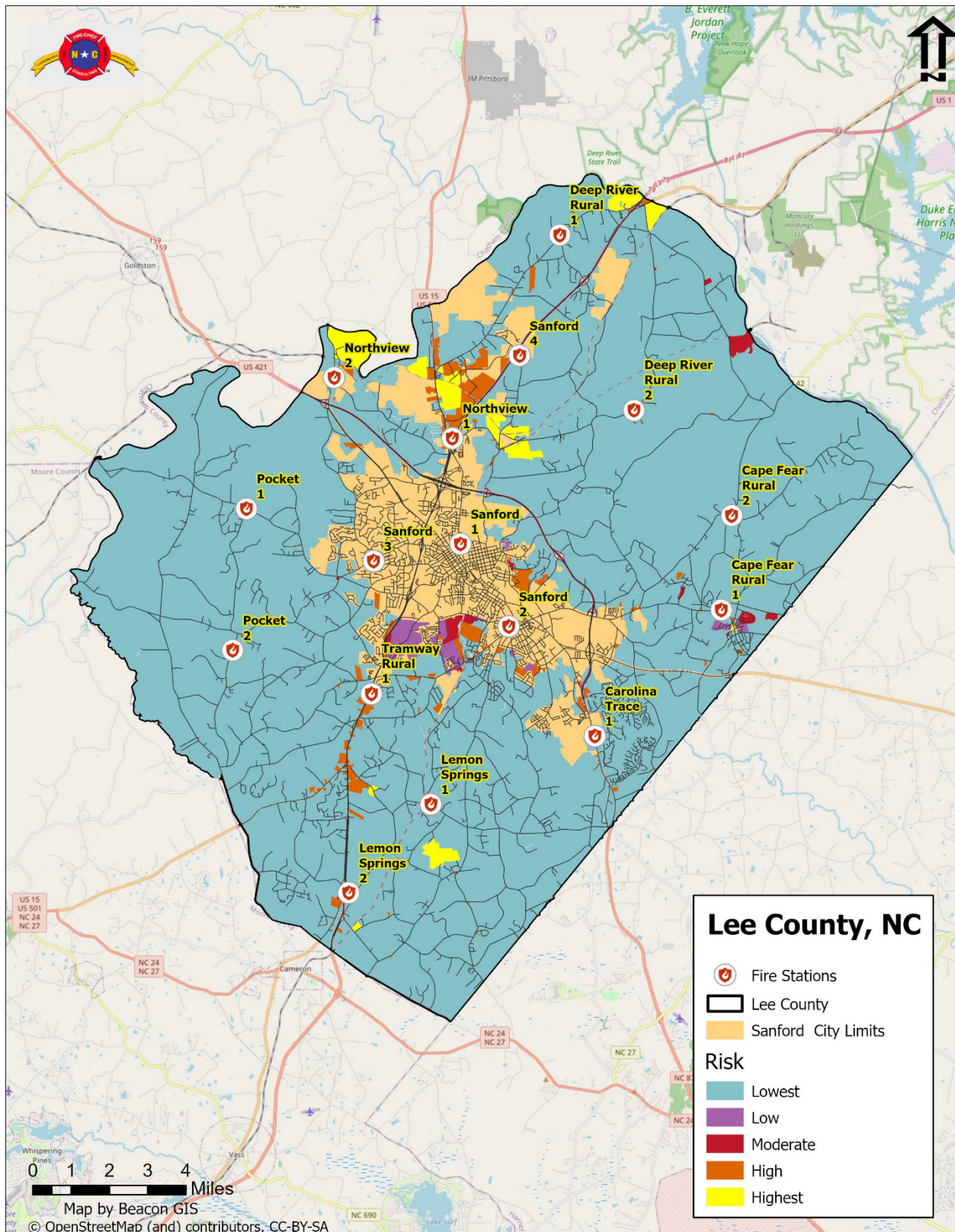
Risk Category Criteria

- Lowest - Wide separation of single-family dwellings and farmland.
- Low - Single-family dwellings with a separation of at least 100 feet between buildings.
- Moderate - Commercial and light industrial facilities, small shopping centers, and high-density, low-rise residential buildings.
- High - High-rise hotels and residential buildings, large shopping centers, and industrial complexes.
- Highest - Refineries, large industry, lumber yards, and propane storage facilities.

These risk levels were applied to the zoning data provided in the resulting map.



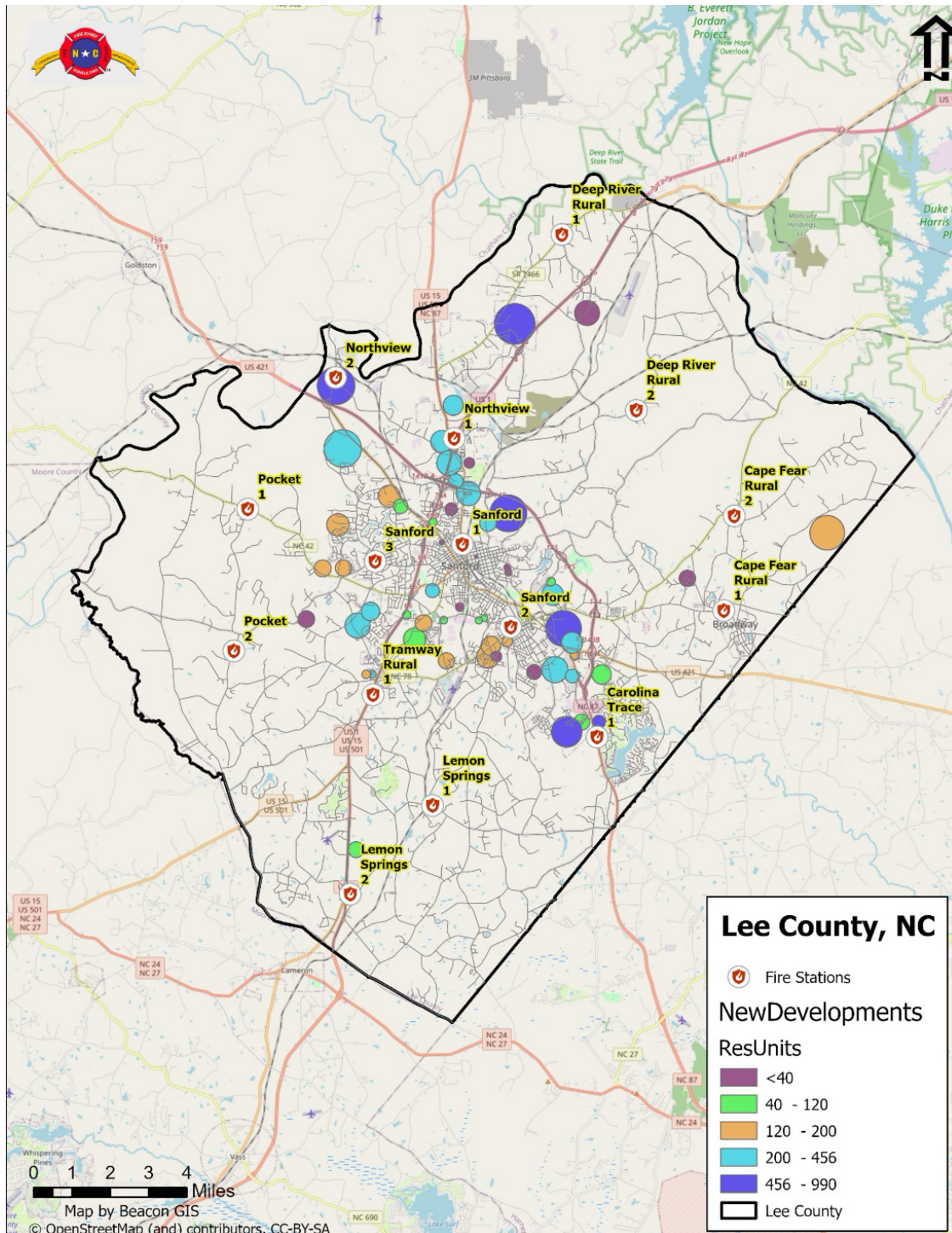
Figure 22: Land Use Risk



Planned Development

Identified by county planning, there are several projects both planned and approved that will impact the fire service.

Figure 23: Planned Developments and Fire Station Locations



There are 18 developments noted within the County. With development comes increased population and demand for fire services. Population is expected to increase by over 7,000 (>22%) at build-out when the units are multiplied by the census bureau's population per household of 2.6. Demand for service is expected to increase by over 300 calls (5%) when the utilization rate of .046 is applied to estimated additional population.

PIN	Owner1	Res Units	Est. Pop	Est Demand
current		150	390	18
TRC 2022-07	The Cove at Steel Bridge	30	78	4
REZONE	REZONING REQUEST 2022-04	130	338	16
TRC 2022-12	Carthage St Subd	115	299	14
TRC 2022-06	Matthews Preserve	297	772	36
TRC 2022-07	Adams Village Multi Family	288	749	35
TRC 2022-07	Copper Ridge Estates	19	49	2
TRC 2022-08	Petty Rd Subd	126	328	15
TRC 2022-08	Midtown Village South Part 2	399	1037	49
TRC 2023-05	Olde Jonesboro PH VI	23	60	3
TRC 2022-10	Franklin St Subdivision	278	723	34
TRC 2023-11	1509 Carthage St Subd	135	351	16
current	Hickory Grove	130	338	16
TRC 2023-02	Willowbrook Phase III	33	86	4
TRC 2023-06	Cole Pottery Apts (Concept)	312	811	38
TRC 2023-06	Harkey Towns South	66	172	8
TRC 2023-10	McMillian Lane Subd	80	208	10
TRC 2023-11	Tramway Townhomes	150	390	18
TOTALS:>		2,761	7,179	336

Distance Coverage

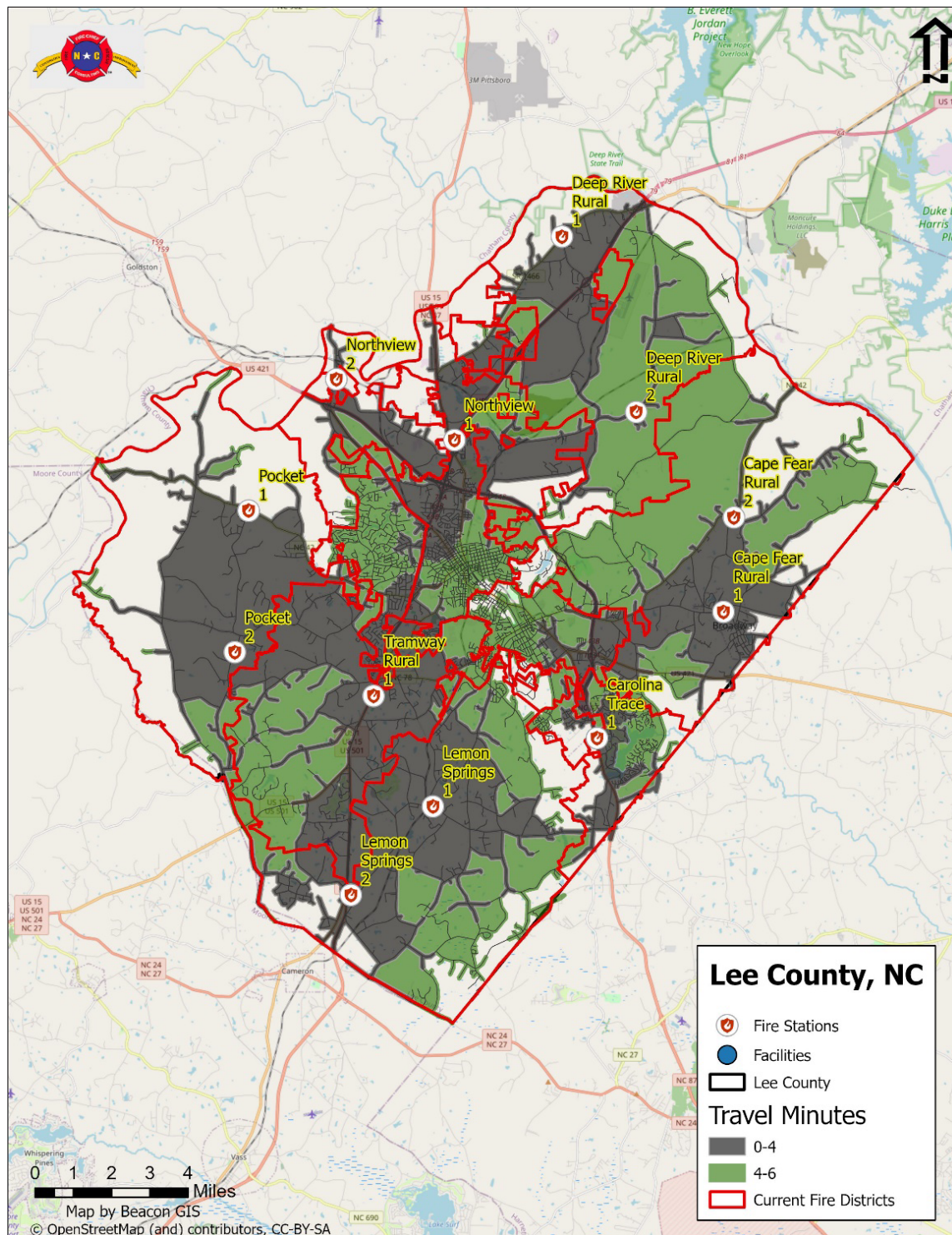
The Office of the State Fire Marshal (OSFM) considers a 6-mile distance for favorable rates in unincorporated areas. This is not an issue for the Lee County fire districts.

Time Coverage

The most important element to the citizens is the time it takes to receive help in an emergency. The following map represents the extent of a modelled travel time using the street network, posted speed limits, and the restrictions in place, if any. While turns, intersection crossings such as traffic lights, and at-grade railroad crossings are time reduced, uncontrollable events such as weather, detours, and traffic congestion are not. The following map shows the extent of travel time from the county fire stations at differing time lengths.



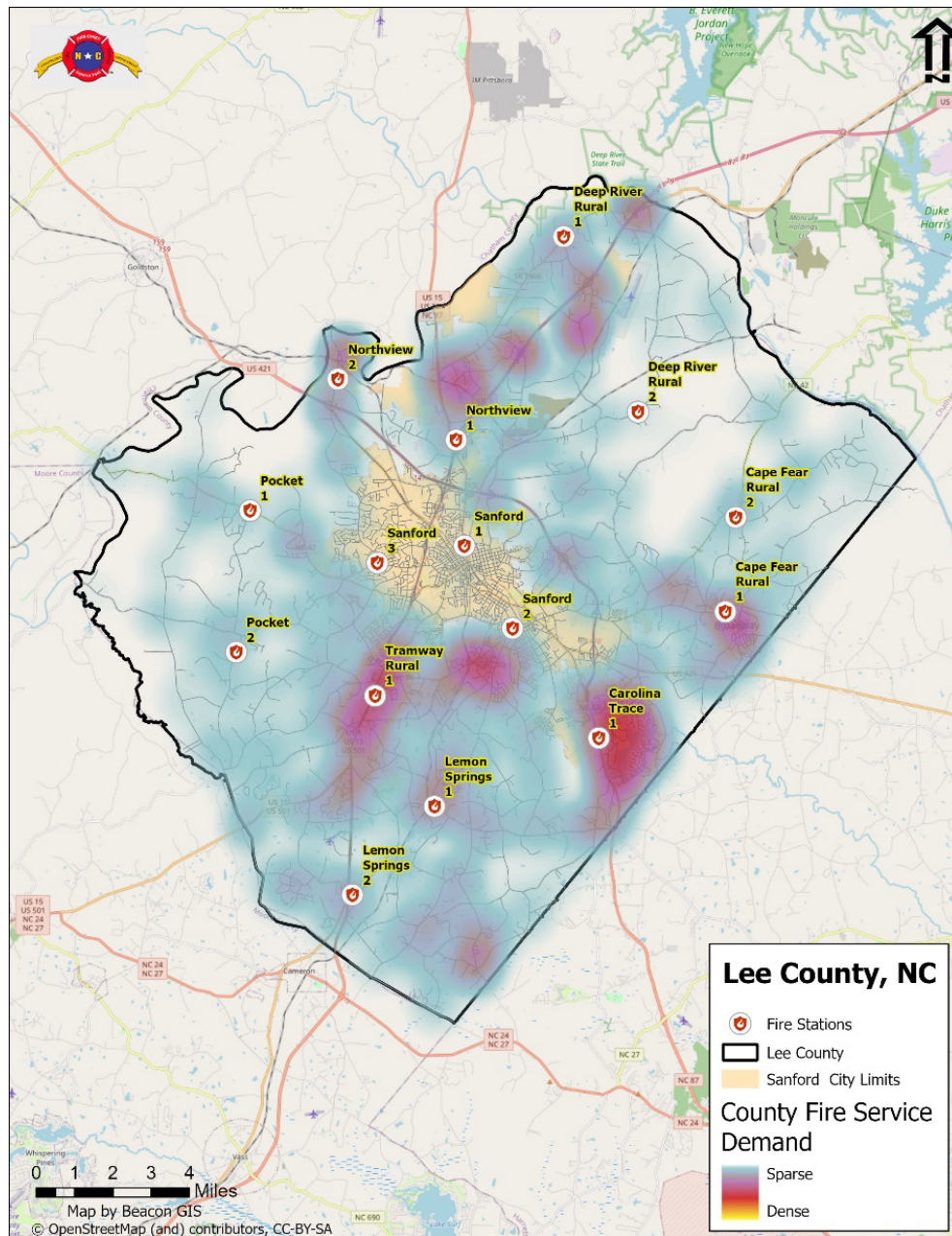
Figure 24: Travel Time Coverage



Demand for Services

The demand for services, although correlated with higher population, can also be driven by non-residential commercial facilities like nursing homes, higher education, and public facilities such as airports, and transportation terminals. Highly congested and unimproved intersections can also drive service demand for the fire service. The following map demonstrates where the demand for services is the most intense based upon five years of raw incident data.

Figure 25: Service Demand Density



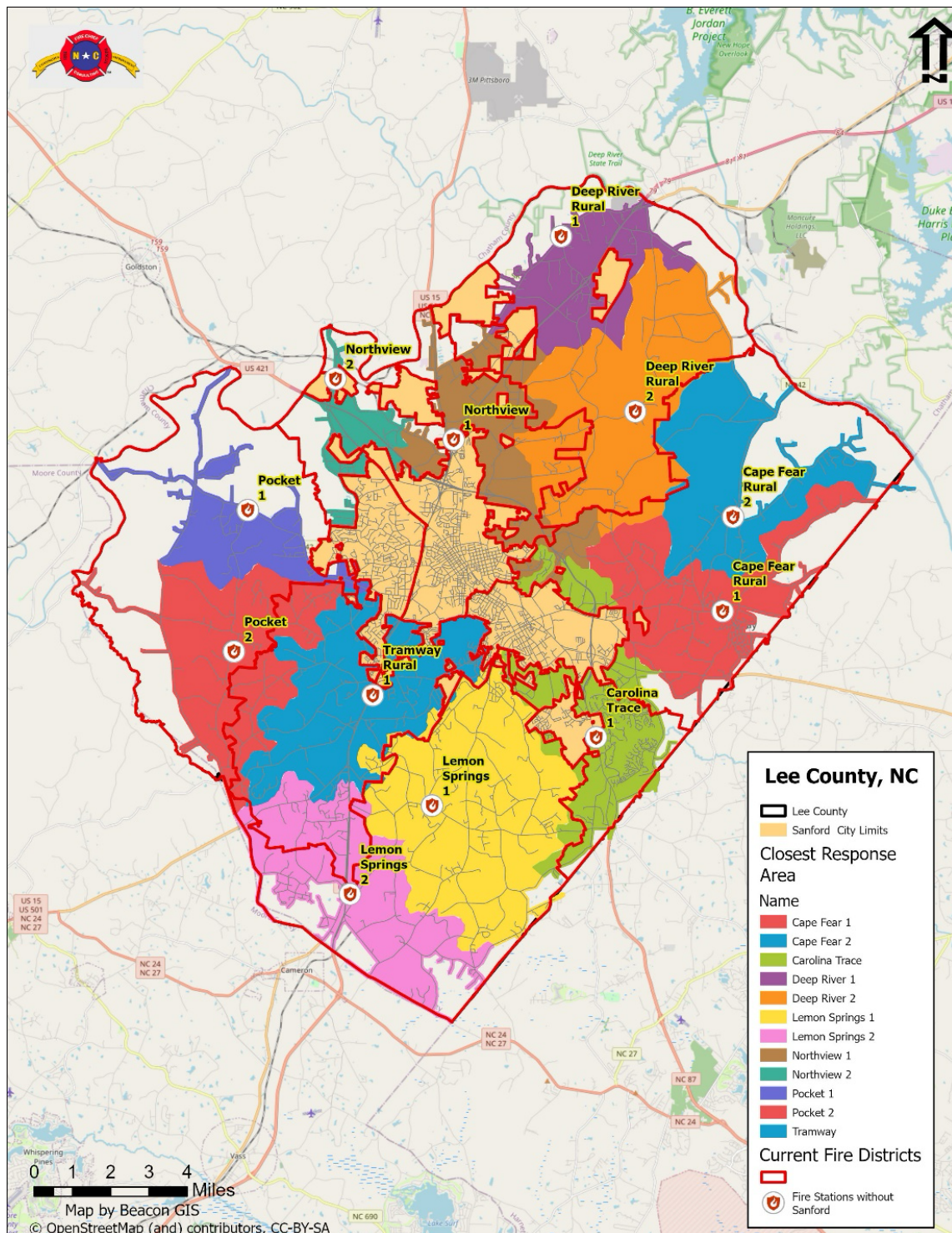
Much of the demand is concentrated where higher population density is located, arterial routes, and higher density planned developments. 76% of the demand can be reached with four minutes of travel time from a fire station. Within six minutes of travel from a county fire station, 87% of incidents can be reached. If Sanford FD was factored into covering county incidents, the four-minute coverage would increase to 80%.

Closest Response Areas

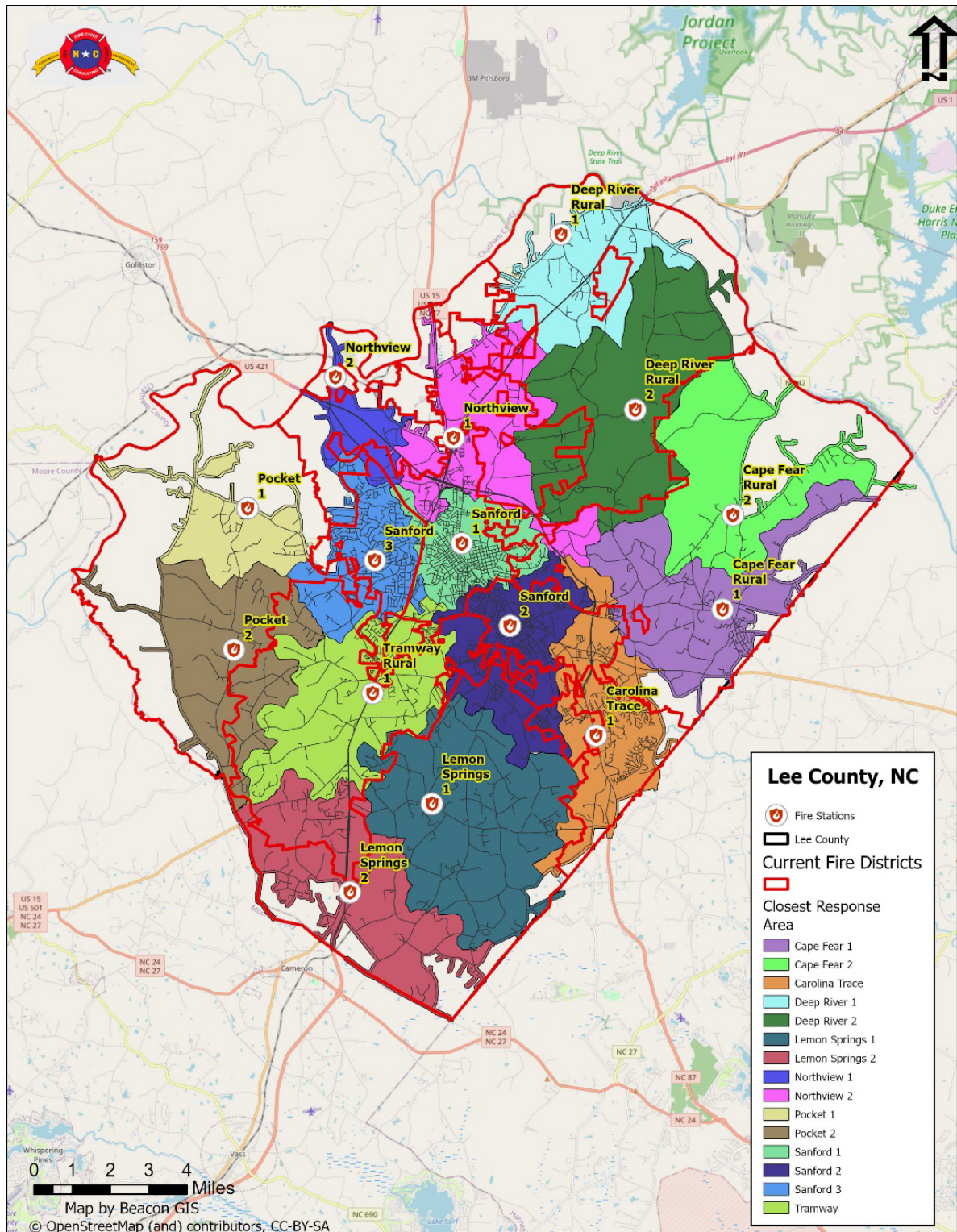
Many times, fire district areas are drawn for a variety of reasons such as tax revenue, existence before other districts founded or before the existence of additional stations in a district. Sometimes, fire stations are relocated due to age or development incentive. Using the travel time model, given the station locations, and assumed availability, the geographic technology drew a closest response area for each station. Note that on the following map, there are no roads within the GIS system where there are not colors, or white areas are shown.



Figure 26: Closest County Fire Station Areas



When the Sanford Stations are included, the resulting closest areas are as shown in the next figure.



Some districts gain in certain areas/addresses while others have a net loss in area/addresses. The following table details the address counts compared between the current fire districts and the closest response area maps.

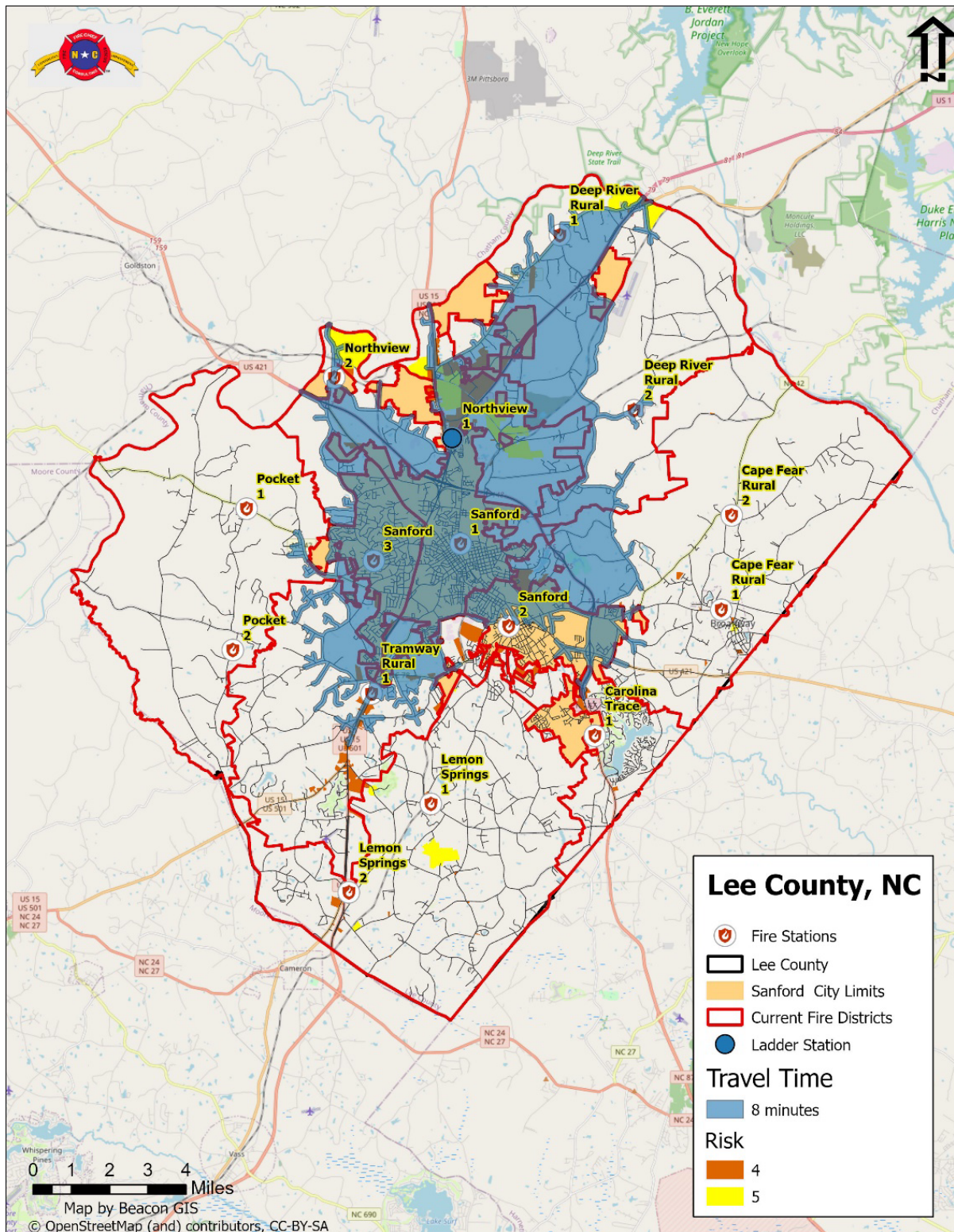
Fire District	Current Address Count	Closest Response Area			Closest Response Area w/SFD		
		CRA Address Count	Net Change	% Change	CRA Address Count	Net Change	% Change
Cape Fear FD - County	2635	2166	-469	-22%	2400	-235	-9%
Carolina Trace FD	2098	2609	511	20%	3329	1231	59%
Deep River FD	1570	1570	0	0%	1578	8	1%
Lemon Springs FD	3178	3621	443	12%	3186	8	0%
Northview FD	1167	1219	52	4%	2378	1211	104%
Pocket FD	1200	1610	410	25%	1457	257	21%
Tramway FD	3101	2155	-946	-44%	3377	276	9%
Total	14949	14949	0	0%			
Sanford	15605	0	0	0%	12849	-2756	-18%
Total:	30554		79		30554		

Ladder Coverage

Ladder Trucks are usually positioned in areas where multi-story or large square footage structures are nearby. In the County, the lone ladder truck is located at Northview Station 1 while the city has one at Station 1.

The insurance ratings system may not identify the need for ladder service within certain fire districts in the unincorporated areas. However, ladders are typically identified as a need in the ISO system when there are large commercial structures or several multiple story structures in a district. The following map shows an eight-minute travel coverage from the one ladder in the unincorporated area of Lee County (Northview).





Projections

It was already noted that due to development a 22% increase in residents causes a 4.5% increase in county fire workload. The State Demographer has also generated projects of Lee County Population. Using these figures that do not precisely take into account planned development and often adjusted on a regular basis, the share of the county outside of the Town of Sanford is expected to have increase in incidents as shown in the following table.

	Census	NC Demographer	
	2020	2025	2036
Whole County	63,285	68,430	77,392
Annualized Growth Rate		2%	1%
Share (Without Sanford)	32,061	34,668	39,208
County Population %	51%		
Avg. Annual County Incident Demand	1,501	1,623	1,835
Utilization Rate of Fire Districts	0.047		
Increase in incidents>>>		122	213



Fire Hydrant Analysis:

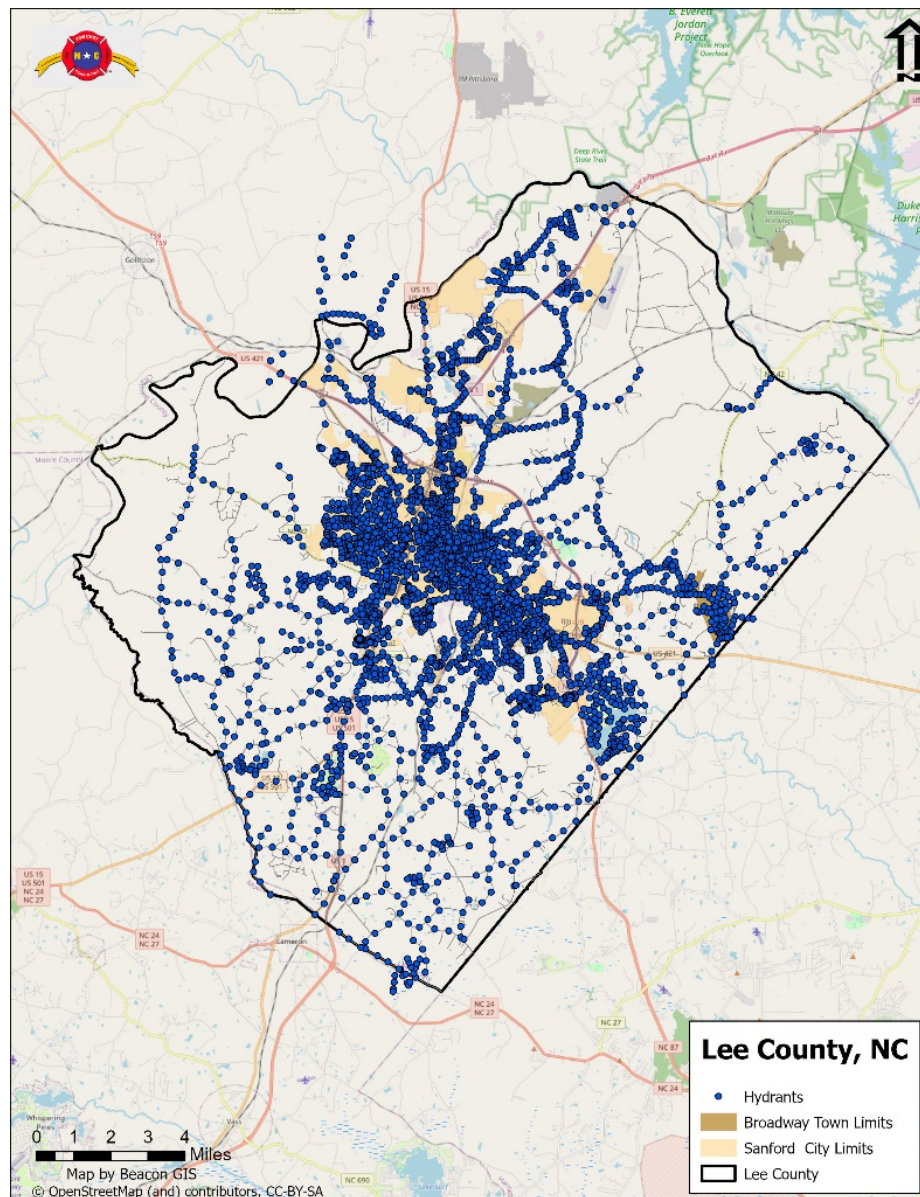
NCFCC was asked to review the current fire hydrant situation within Lee County. A GIS analysis was conducted to determine that a mean average of 80% of address points in unincorporated Lee County were within 1,000 feet of a fire hydrant. Of course, that varies by district from a high in Carolina Trace (93.6%) to a low in Pocket (61.3%).

The county hydrant system is shown in the following map. Typically, better insurance rates are given to addresses within 1000 feet of a hydrant¹. Approximately 80% of the county addresses are within 1000 feet of a hydrant.

¹ Reference from ISO/NFPA



Figure 27: Hydrants

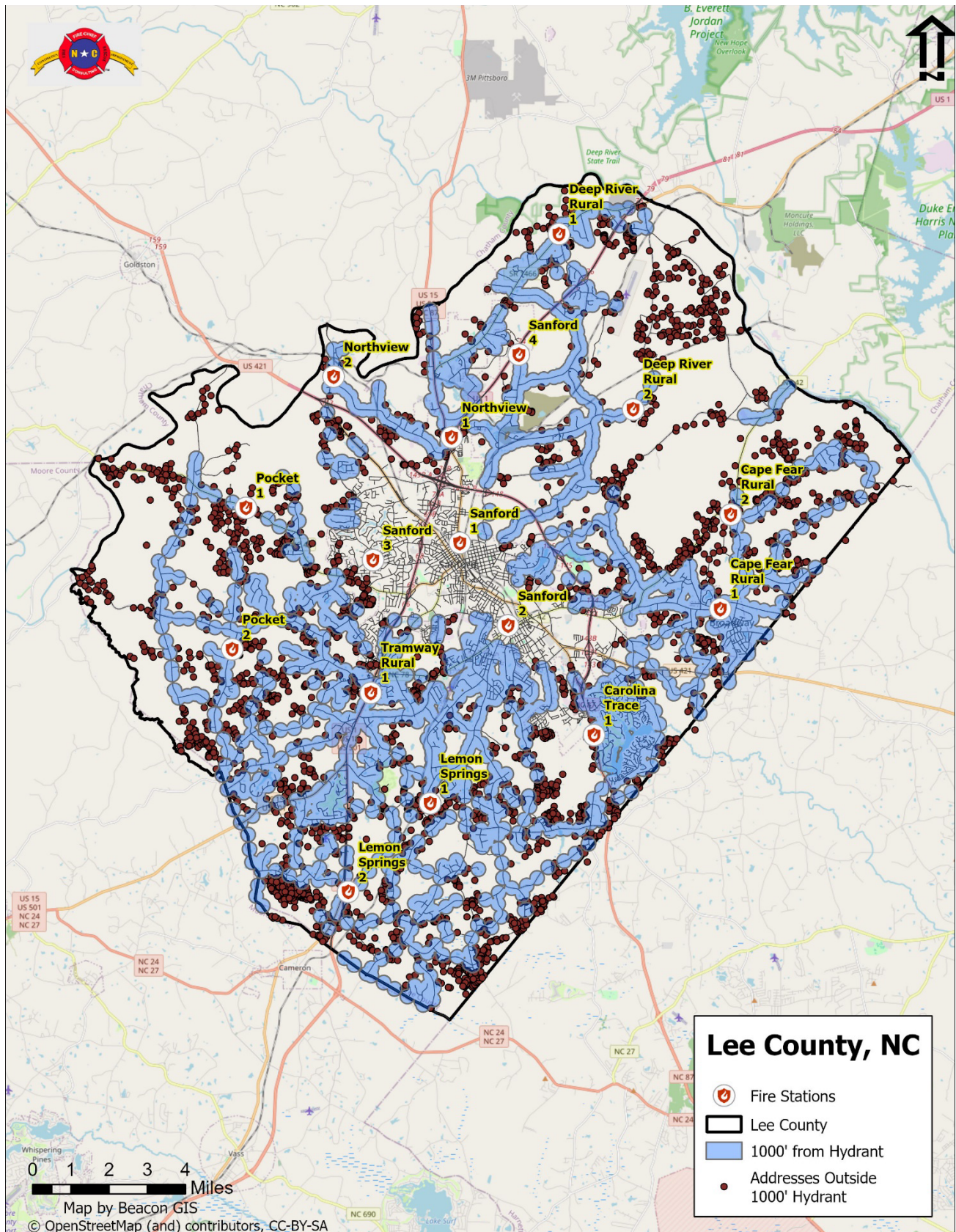


Comparatively to other counties in North Carolina, Lee County has a higher distribution of hydrants. Some fire chiefs report that their greatest frustration comes with the annual testing that is part of the Insurance Services Office (ISO) Public Protection Classification rating system. The City of Sanford owns and operates all of the fire hydrants within Lee County and has the responsibility of maintaining the hydrants. The chart below shows the distribution of hydrants for each of the seven current service districts:

Fire District	Current Address Count	Hydrant Count	Address Coverage (1000')	Address Count Outside 1000'
Cape Fear FD - County	2635	297	80.1%	-524
Carolina Trace FD	2098	178	93.6%	-135
Deep River FD	1570	203	74.5%	-400
Lemon Springs FD	3178	291	77.0%	-730
Northview FD	1167	206	86.7%	-155
Pocket FD	1200	90	61.3%	-465
Tramway FD	3101	326	87.6%	-386
	14949	1591	80.1%	

The map below depicts the fire hydrants throughout Lee County, indicating areas and address points that are within 1,000 feet of a hydrant and those areas or address points that are further than 1,000 feet. It is recommended that continuous efforts be made to expand the fire hydrant distribution to the remaining approximate 20% of unincorporated Lee County as soon as conditions allow. This water supply distribution will improve fire protection service delivery.





It is the understanding of the assessment team that the City of Sanford does not condone the Lee County contracting fire departments to physically conduct flows of hydrants due to concerns about potential damage to the water lines. However, some fire departments are flowing the hydrants. In fact, recently the Cape Fear Fire Department received the maximum credit with fire hydrant maintenance and testing. Their policy is included in this section as illustrative information that may be helpful to others.

Note that the City of Sanford reports that they use hydraulic modeling to determine approximate flow availability throughout their water distribution system.

The ISO rating schedule is comprised of three primary components: Fire Department (50%), Water Supply (40%) and Emergency Communications (10%). Bonus points may be added for measures taken for community risk reduction.

Hydrant maintenance and testing is under the water supply category of the the ISO inspection schedule and can credit up to seven (7) of the forty total points for “Inspection and Flow Testing of Hydrants”, so this component is seen as an important measure for the community to take. Specifically, the fire hydrant inspection frequency, and the completeness of the inspections are to be in accordance with the American Water Works M-17 document – *“Installation, Field Testing and Maintenance of Fire Hydrants”*. Many communities utilize hydraulic modeling to determine available water flow from hydrants in the system. In fact, the City of Sanford is installing smart hydrants within the system now which continuously capture static pressure on each hydrant and alert to issues before they become a problem. A photo is provided of one of these new style hydrants below.



Since Cape Fear Fire Department recently received full credit for their fire hydrant inspection and flow testing to meet the ISO schedule, the department's Hydrant Testing Policy is attached for illustrative purposes. Thanks to Cape Fear Fire for providing/sharing this information. In addition, the hydrant testing and inspection from the North Carolina Office of State Fire Marshal is provided as well.

CAPE FEAR RURAL FIRE DEPARTMENT

STANDARD OPERATING GUIDELINE	NO. 23
	PAGE 1 OF 2
Hydrant Testing and Marking System	EFFECTIVE: 5/8/23 SUPERSEDES: new
REVISED BY: Joshua Billings, Fire Chief	APPROVED BY: Board of Directors

SCOPE

This guideline shall apply to all members of the Cape Fear Fire Department (CFFD) and shall be adhered to by all members.

PURPOSE

The purpose of this SOG is to provide direction on hydrant testing and a uniform marking system.

DEFINITIONS

SHALL - Indicates a mandatory requirement.

STANDARD OPERATING GUIDELINES (SOG) – Documents that help establish how an organization will operate and how its members are expected to carry out specific duties outlined in general terms.

GUIDELINE

All hydrants will be flow tested every 4 years and serviced every year. Personnel will flow one of the 4 zones each year and after the zone is flowed and the hydrants in the flow zone are serviced the hydrants in the remaining 3 zones will be serviced.

Hydrant servicing:

- Check area around for any obstructions or debris.
- Make sure they are visible from all directions if possible.
- Check exterior for any visible damage.
- Remove the steamer cap and make sure that it's dry and there are no debris present.
- Make sure all caps are present and they can be removed easily.
- Cap the steamer port and one of the 2½" ports, open the valve to make sure there are no debris in the barrel.
- If the hydrant is draining correctly all the water will drain from the barrel and there will be a slight suction on the discharge while your hand is covering the discharge opening.
- If any of the threads need to be cleaned use a steel brush to clean the threads, Check the gaskets to make sure they are not cracked, broken, or missing. If they are damaged or missing replace with the appropriate size.



- Grease the threads and gaskets with a lubricant that is safe for potable water, spray the operating stem with lubricant that is also safe for potable water.
- Replace all caps.
- Check marking system to make sure its visible from 360 degrees and doesn't need to be touched up.

Hydrant Testing: (2 hydrant method)

- Two Firefighters are typically used for this operation.
- One Firefighter will operate hydrant #1 and another Firefighter will operate hydrant #2.
- Firefighter #1 will remove one of the 2&1/2" caps and flush the hydrant, once flushed place a cap gauge on the outlet.
- Open the hydrant fully allow wait a few seconds once fully open and record the number, this will be the static pressure.
- Firefighter #2 will remove one of the 2&1/2" discharge caps from hydrant and place a Pilot gauge on the outlet #2 and turn the hydrant on fully.
- Firefighter #1 will wait a few seconds and then record the number on the gauge this will be the residual pressure.
- Firefighter #2 will record the number on the Pilot gauge.
- This will conclude all operations hydrants shall be returned to a state of readiness.

Hydrant Marking System:

- Hydrants in the town will have the top bonnet painted to NFPA color coding system and a clear reflective tape material placed around the flat part of the bonnet.
- Hydrants out of town will have a reflective color-coding tape material placed around the bonnet on the flat side.
- Less than 500 gpm (Red)
- 500 -999 gpm (Orange)
- 1000 – 1499 (Green)
- 1500 gpm and higher (Blue)

North Carolina Office of State Fire Marshal Guidance:

Hydrant Inspection/Testing

Data Requirements

1. Hydrant identification number.
2. Hydrant location, use street names, numbers and intersections as needed.
3. Which service level/pressure zone serves the hydrant.
4. Number and size of outlets on hydrant.

Inspection/Testing Requirements

1. Remove caps, check treads for damage and ease of operation.



2. Lubricate, as needed, per manufacturers recommendations.
3. With one or more caps removed from hydrant, open valve stem and free flow hydrant, check for any obvious restrictions or contaminants, close valve stem.
4. Open valve stem fully, pressurize hydrant.
5. Check valve stem ease of operation, check hydrant for any water leaks while under pressure.
6. Close valve stem fully, check for adequate barrel drainage, or check for a vacuum with a gauge if possible.
7. Provide for an obstructed and obvious view of hydrant from roadway (cut grass, remove debris, etc. as needed)
8. Paint per local protocols/requirements, as needed.

Frequency:

Inspections include pressure tested, flushed, caps lubricated, etc. Department must document the inspection Department will provide 3 most recent years of hydrant inspection records.

Frequency of Inspection Points

1 year	30
2 years	20
3 years	10
4 years	5
5 years or more	No Credit

Condition:

1. Standard condition (no leaks, open easily, good ground clearance, no damaged in any way, conspicuous and well located for use by a Engine).

Frequency of Flow Testing	Points	Points w/Marking Program
5 year	40	50
6 years	30	37.5
7 years	20	25
8 years	10	12.5
9 years	5	6.25
10 years or more	No Credit	No Credit



Section 4: Response Data Analysis



Preface

The demand and performance analysis contained in this document is based on data received from the City of Sanford Police Department 911 Center, from their Computer Aided Dispatch (CAD) software called Central Square One Solution. The county fire district data was isolated using the agency value of "LCFD". The data is limited to a single record for each incident dispatched. Record timestamps are non-unit specific to first dispatched, first enroute, first arrived and last to clear. Other data elements such as nature code, fire demand zone (FDZ), station area and call priority were present in the data and were useful in detailed analysis and to possibly filter out key incidents, or groups, to exclude from response time performance capabilities. The dataset is from 01/01/2019 to 12/31/2023, five full years of data and yielded **6,740** total incidents for the county fire districts, excluding the City of Sanford unless the county fire district responded to assist Sanford.

This report will focus on the demand of service on the fire department, and response time performance. The report will evaluate the entire county fire district system as a whole and then evaluate each fire district individually. It is important to note that demand and response time performance is based on the incidents identified within a fire district's primary response territory as identified in the CAD data from a field called a station beat, per the 911 acting director. This means that demand of services for a department will not be inclusive of mutual/auto aid given events because that incident will be accounted for in the department having jurisdiction's count. Response time measures will be presented at the 90th percentile.

Of the 6,740 incidents, 505 (7.49%) did not have a station/beat associated with the incident. Many, but not all, had no latitude/longitude associated with the record and these records, based on a small testing sample, were thought to be aid given outside the county of Lee. This was not able to be confirmed with the county 911 staff.

The data contained has not been scrubbed or quality checked in any way, it is presented as exported from the 911 center. This may introduce inaccuracies to the timestamping of unit's status, based on the information recognized above and/or delayed timestamping from the field unit to the dispatcher for many reasons such as radio traffic preventing the field unit from transmitting, or dispatcher's involvement in another incident or phone call, to name a few.



County – Wide Demand for Service

Lee County fire departments have experienced an annual increase of approximately 8% in demand in each of the five years except for 2023 where a decrease of 10.69% occurs over the previous year. The increase in 2020 is despite the COVID pandemic which historically decreased demand for most fire departments in the industry from March 2020 until mid-2021. Overall, for the five years, the trend is a monthly increase in demand of services for the service as a whole.

Figure 28: Demand by Calendar Year

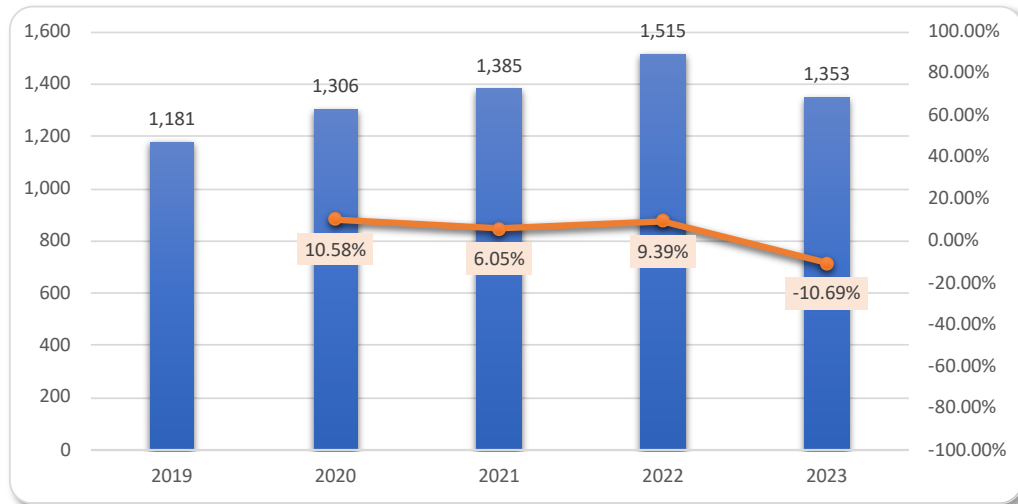


Figure 29: Demand by Year-Month

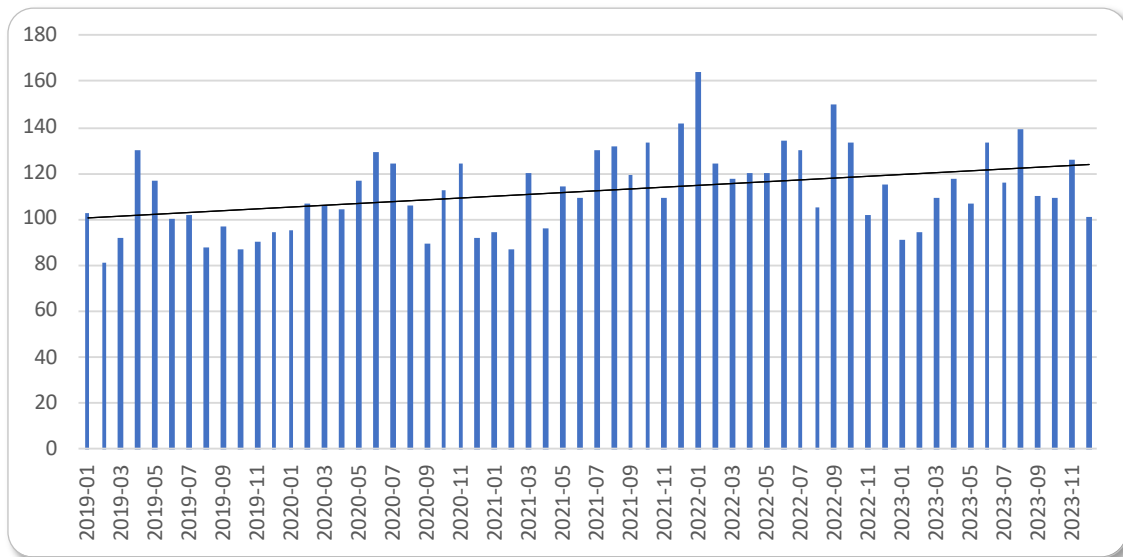
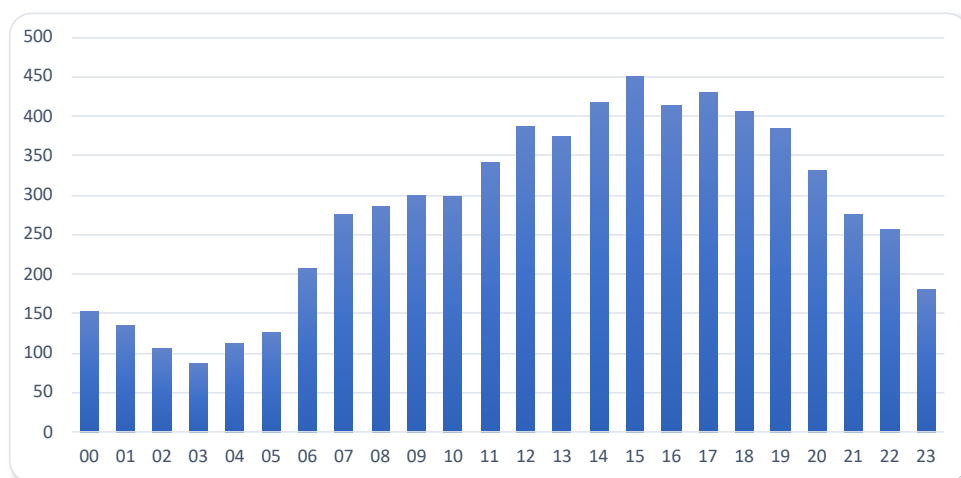


Figure 30: Heat Graph - Demand by Month, by Year

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Grand Total
2019	103	81	92	130	117	100	102	88	97	87	90	94	1,181
2020	95	107	106	104	117	129	124	106	89	113	124	92	1,306
2021	94	87	120	96	114	109	130	132	119	133	109	142	1,385
2022	164	124	118	120	120	134	130	105	150	133	102	115	1,515
2023	91	94	109	118	107	133	116	139	110	109	126	101	1,353
Grand Total	547	493	545	568	575	605	602	570	565	575	551	544	6,740

Demand by alarm hour follows the industry trend, increasing during the daylight hours and decreasing in the nighttime hours. Monthly demand is relatively steady with June and July as the busiest months during the 5-year period.

Figure 31: Demand by Alarm Hour

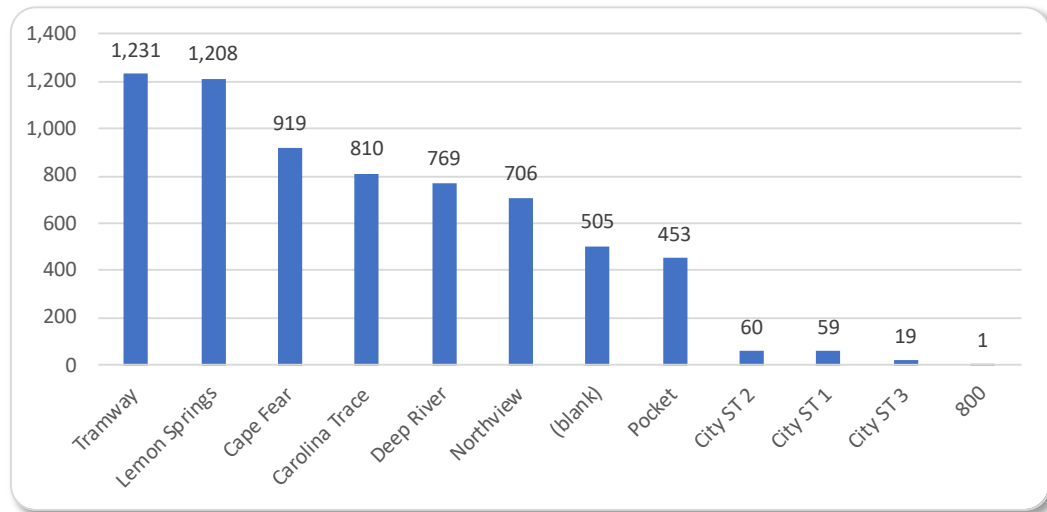


The busiest 8-hour period is from 12 noon to 8pm. The busiest 12-hour period is from 9am to 9pm. Thursday and Friday are the busiest days of the week.

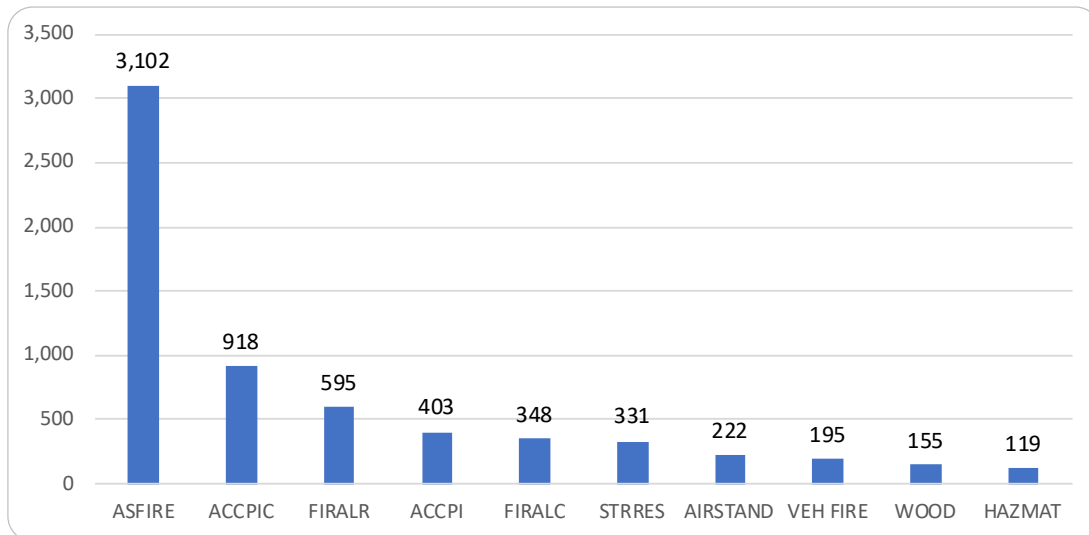
Figure 32: Demand by Hour of Day/ Day of Week

Alm Hr	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Total
00	32	12	18	24	23	21	24	154
01	23	19	14	12	21	16	30	135
02	22	9	16	17	15	14	14	107
03	15	11	12	12	12	13	13	88
04	17	13	16	11	19	19	18	113
05	20	18	15	17	22	21	14	127
06	24	35	29	28	30	34	27	207
07	25	47	47	32	50	41	34	276
08	43	39	39	48	41	36	39	285
09	40	46	53	48	43	46	24	300
10	30	48	41	42	52	41	45	299
11	36	45	50	48	56	45	62	342
12	47	66	41	58	64	55	55	386
13	57	52	57	57	41	55	55	374
14	47	65	58	53	78	69	47	417
15	54	76	68	51	61	81	60	451
16	63	62	41	56	57	71	64	414
17	50	61	56	59	76	67	61	430
18	45	50	65	49	62	68	67	406
19	51	85	58	34	51	54	52	385
20	39	53	46	38	46	51	59	332
21	34	29	39	34	46	48	45	275
22	35	40	33	34	33	37	44	256
23	29	20	26	24	32	21	29	181
Total	878	1,001	938	886	1,031	1,024	982	6,740



Figure 33: Demand (5yr) by Department.

Demand by department references the incident's location as responded to by the county fire departments. Sanford stations 1, 2 and 3 are represented here as area the county departments responded. The blanks are thought to be areas outside the county where mutual and auto aid were given and CAD had no station beat information for these incidents.

Figure 34: Demand by Nature Code (top 10)

Nature Code, or the type of event dispatched, shows the "Assist Fire" used more than any other. More than 50% of these records were linked to an EMS event. Only the top 10, by event county, are shown above.



County – Wide Performance

RESPONSE TIMES:

Response Time is defined as the elapsed time from the fire department dispatch of the incident to the arrival of the first fire department unit, response time represents the total amount of time fire departments have direct control: turnout time and travel time of fire apparatus. While each of the two can be evaluated individually, the response time will be shown below.

Evaluating only emergency response events for the entire county yields 6,740 incidents. The response time is represented in decimal format at the 80th percentile. Overall, the **Lee County Fire Departments have demonstrated their ability to provide a response time of 10 minutes 44 seconds or less, on 80% of emergency incidents.**

The National Fire Protection Association 1720 Standard for Rural and Suburban zones are based population density per square mile of land area. The allowed response time (turn out and travel) is different for each.

Suburban Zone – 500-1000 density – 10-minute response time.

Rural Zone - <500 density – 14-minute response time.

In the graph below, the percentages of compliance are shown for both density zones.

Figure 35: Response Time Calendar Year

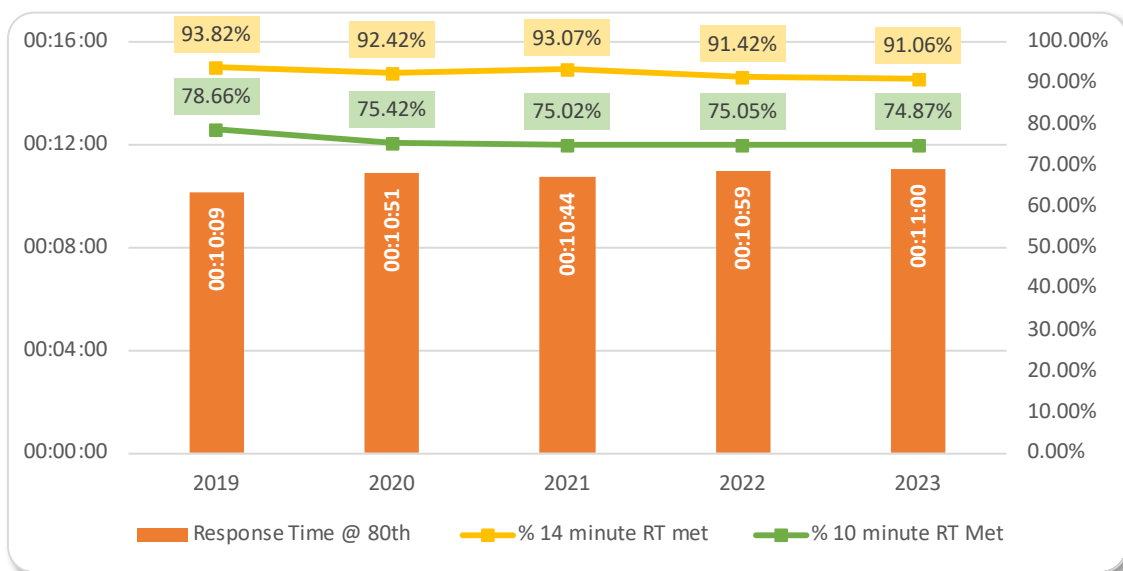
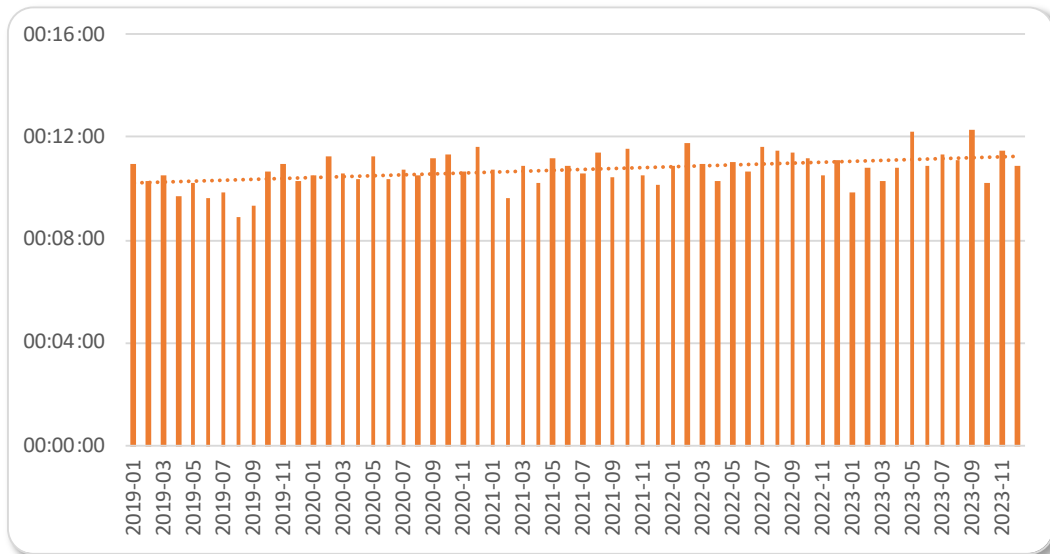


Figure 36: Response Time by Year Month



Overall, response times are increasing over the 5-year period. Response time is the combination of turnout and travel time. When looking at each individually, turnout time over the 5-year period has remained steady between 5:00 minutes and 5:28 minutes but travel time takes an annual increase ranging from 10:09 in 2019 to 11:00 in 2023 at 80th percentile.

Figure 37: Response Time Heat Grid

RT@80th														
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Grand Total	
2019	00:10:57	00:10:18	00:10:33	00:09:41	00:10:15	00:09:37	00:09:51	00:08:53	00:09:21	00:10:41	00:10:57	00:10:18	00:10:09	
2020	00:10:32	00:11:15	00:10:35	00:10:23	00:11:17	00:10:21	00:10:43	00:10:30	00:11:10	00:11:19	00:10:40	00:11:39	00:10:51	
2021	00:10:45	00:09:39	00:10:52	00:10:13	00:11:13	00:10:51	00:10:34	00:11:22	00:10:27	00:11:35	00:10:33	00:10:10	00:10:44	
2022	00:10:54	00:11:47	00:10:57	00:10:17	00:11:01	00:10:39	00:11:39	00:11:29	00:11:23	00:11:13	00:10:29	00:11:05	00:10:59	
2023	00:09:49	00:10:48	00:10:19	00:10:48	00:12:12	00:10:54	00:11:18	00:11:06	00:12:17	00:10:13	00:11:28	00:10:53	00:11:00	
Grand Total	00:10:42	00:11:08	00:10:38	00:10:13	00:11:10	00:10:31	00:10:46	00:10:49	00:10:44	00:11:01	00:10:49	00:10:34	00:10:44	

Figure 38: Response Time by Alarm Hour

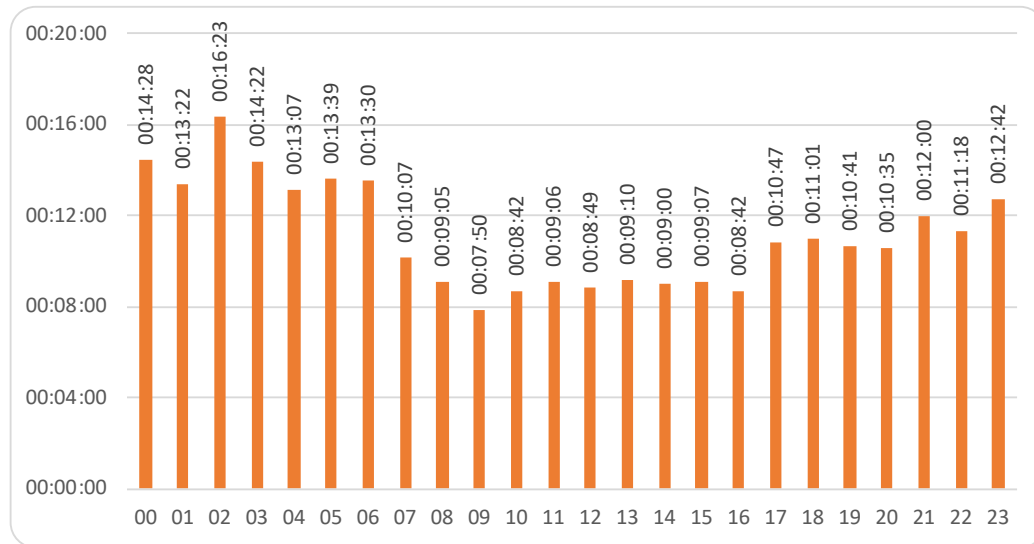
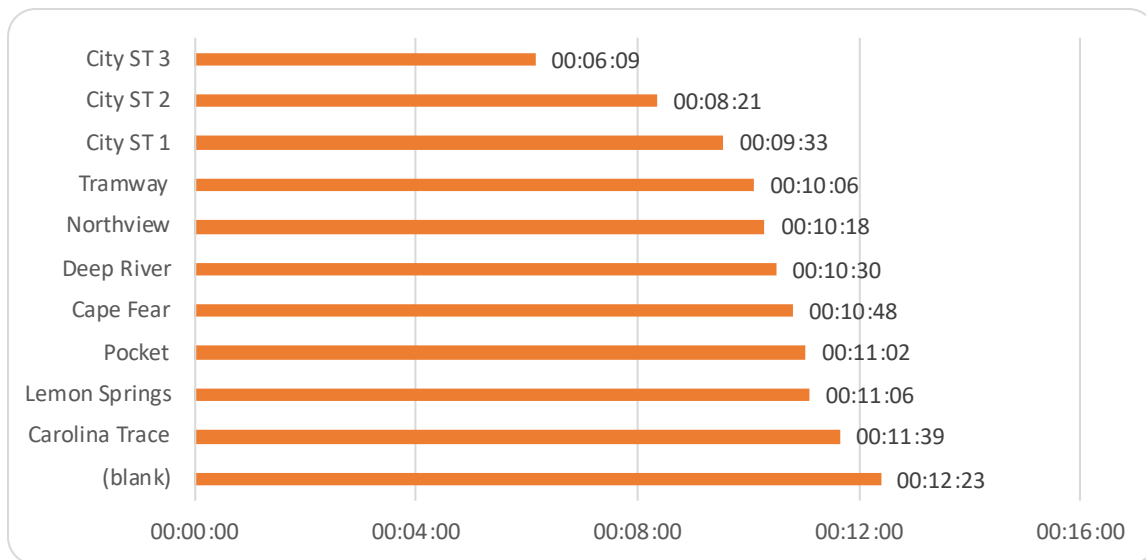


Figure 39: Response Time by Department



Each of the time segments in the cascade of events can have a significant impact on the total response time. Departments can only manage their turn out and travel times, leaving the third segment, called call processing time, to the 911 center. The turnout and travel, measured at the 80th percentile over the 5-year period, are shown below for each department's records.

Department ▼	Count	%	TO@80th	Trv@80th	RT@80th
(blank)	505	7.49%	00:03:30	00:09:17	00:12:23
800	1	0.01%	00:00:35		
Cape Fear	919	13.64%	00:03:48	00:07:29	00:10:48
Carolina Trace	810	12.02%	00:03:07	00:09:09	00:11:39
City ST 1	59	0.88%	00:02:34	00:07:42	00:09:33
City ST 2	60	0.89%	00:02:26	00:05:41	00:08:21
City ST 3	19	0.28%	00:01:45	00:03:59	00:06:09
Deep River	769	11.41%	00:04:19	00:07:21	00:10:30
Lemon Springs	1,208	17.92%	00:04:24	00:07:41	00:11:06
Northview	706	10.47%	00:02:58	00:07:34	00:10:18
Pocket	453	6.72%	00:03:52	00:07:48	00:11:02
Tramway	1,231	18.26%	00:04:04	00:06:34	00:10:06
Grand Total	6,740	100.00%	00:03:44	00:07:40	00:10:44

Important Note Regarding Any Response Time Analysis:

The response time data discussion reflects the NFPA 1720 consensus standard of a 10 minute response time for suburban density areas. However, the standard is seeking that 10 minute response time with the addition of at least 10 firefighting personnel. NCFCC does not have the data available to determine how many firefighters arrived on scene of incidents within 10 minutes. Presenting only the first unit arrival response time makes it appear the Lee County contracting fire departments are doing quite well in comparison to the consensus standard. The compliance is only based upon first due reporting data.

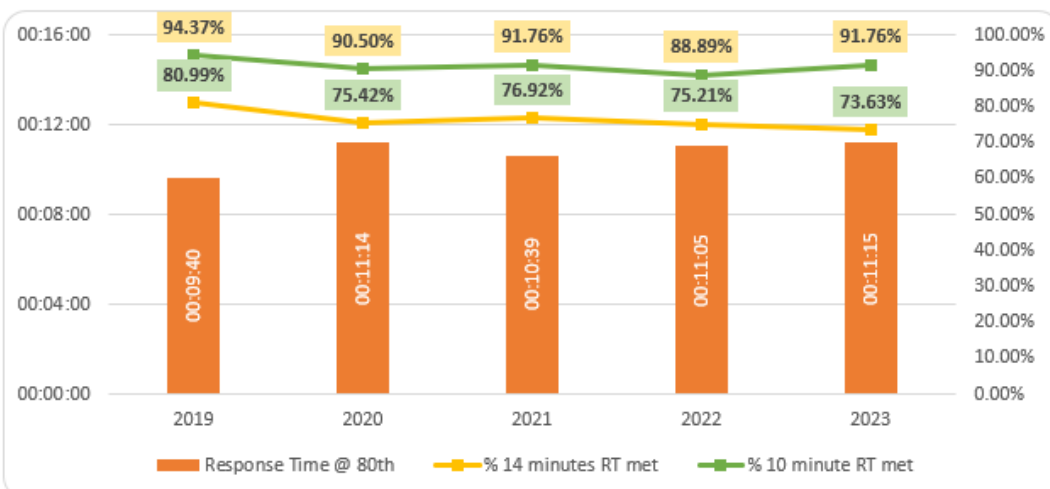
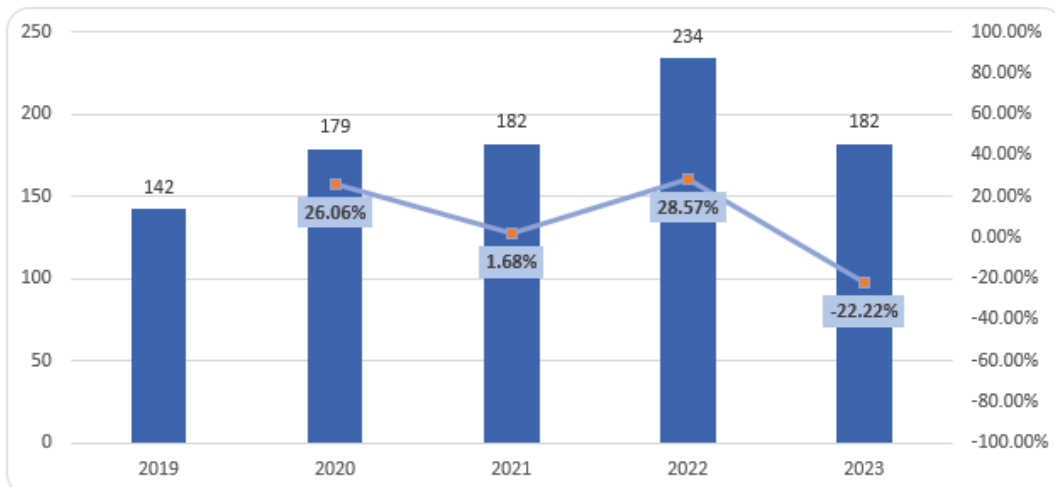
If the responding fire department(s) are only arriving with one or two people at the 10 minute mark, then they are not meeting the intent of the NFPA 1720 standard. They also need to be able to commence operations within two minutes of the arrival of an effective firefighting force.



Cape Fear Fire Department (Demand and Performance)

The Cape Fear Fire Department has a 5-year average of **3.53 incidents weekly** and demand of service has increased since 2019. The department has established a **baseline of response time performance of 10 minutes and 48 seconds or less**, measured at the 80th percentile. Over the 5-year period, **response times have remained steady**.

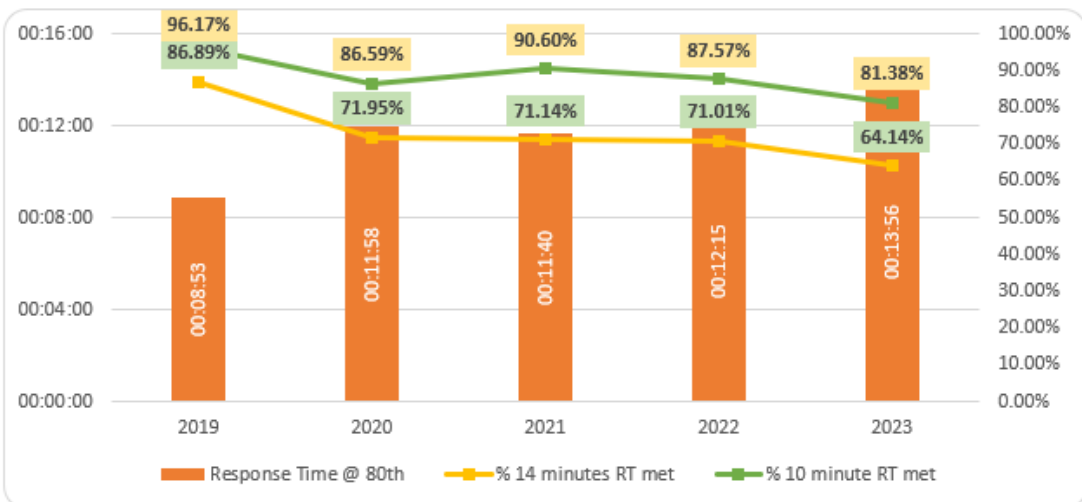
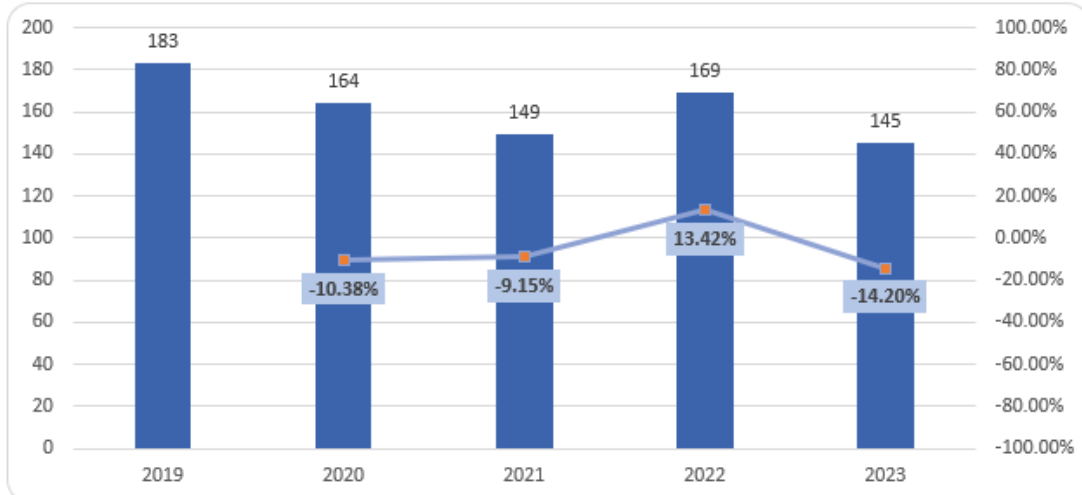
Demand Count	Response Time @ 90th	Response Time @ 80th	% Rural (14 minute) RT Met	% Suburban (10 minute) RT Met
919	00:13:30	00:10:48	91.19%	76.17%



Carolina Trace Fire Department (Demand and Performance)

The Carolina Trace Fire Department has a 5-year average of **3.11 incidents weekly** and demand of services has decreased since 2019. The department has established a **baseline of response time performance of 11 minutes and 39 seconds or less**, measured at the 80th percentile. Over the 5-year period, **response times have increased** (performance is worsening).

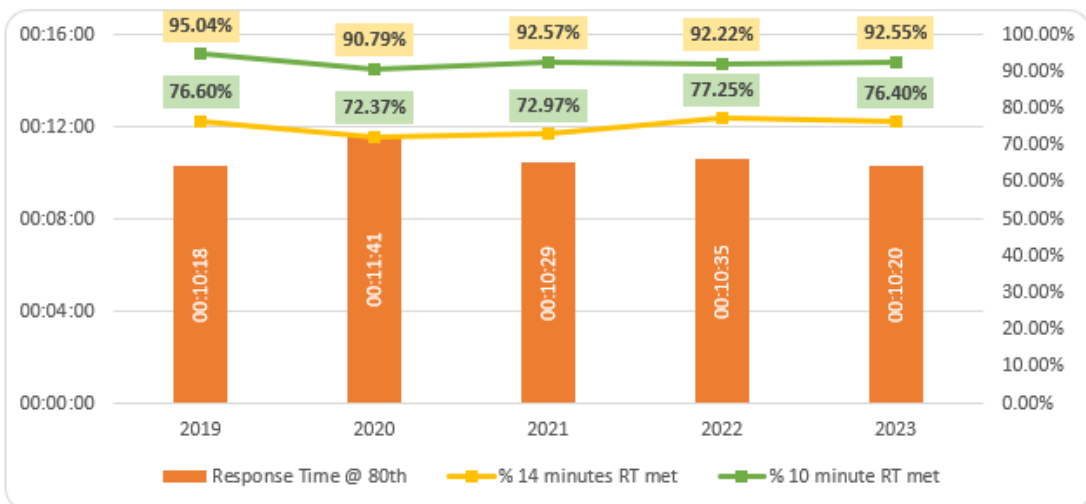
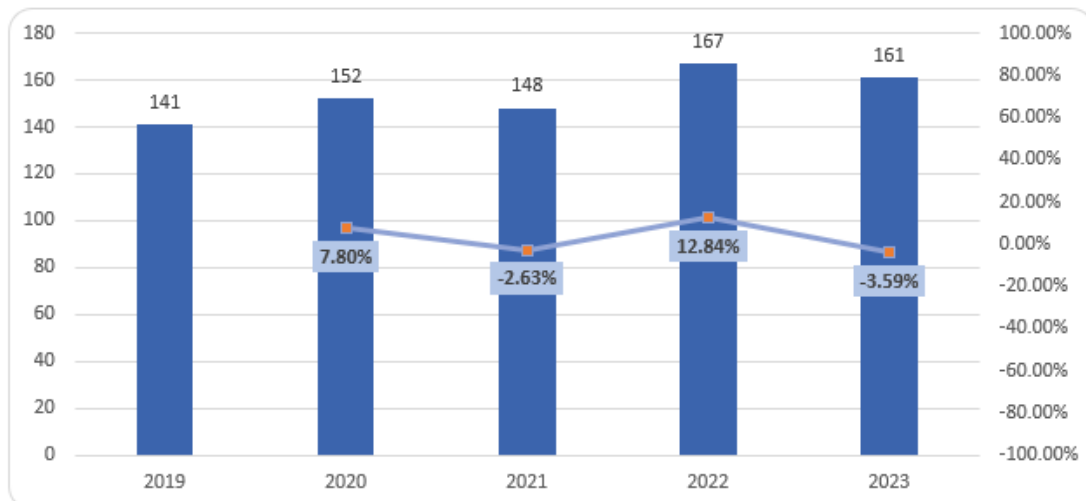
Demand Count	Response Time @ 90th	Response Time @ 80th	% Rural (14 minute) RT Met	% Suburban (10 minute) RT Met
810	00:14:35	00:11:39	88.77%	73.58%



Deep River Fire Department (Demand and Performance)

The Deep River Fire Department has a 5-year average of **2.95 incidents weekly** and demand of services has increased since 2019. The department has established a **baseline of response time performance of 10 minutes and 30 seconds or less**, measured at the 80th percentile. Over the 5-year period, **response times have decreased** (performance has improved).

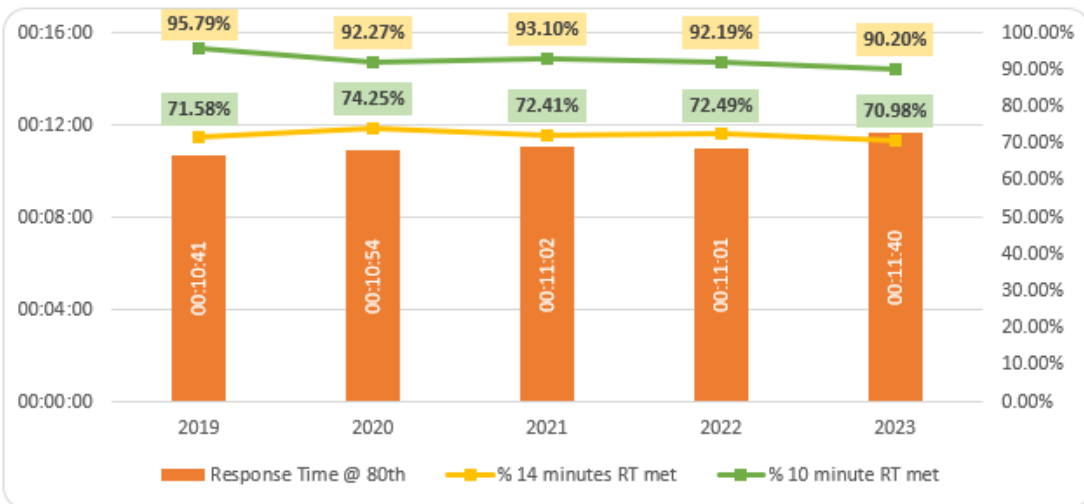
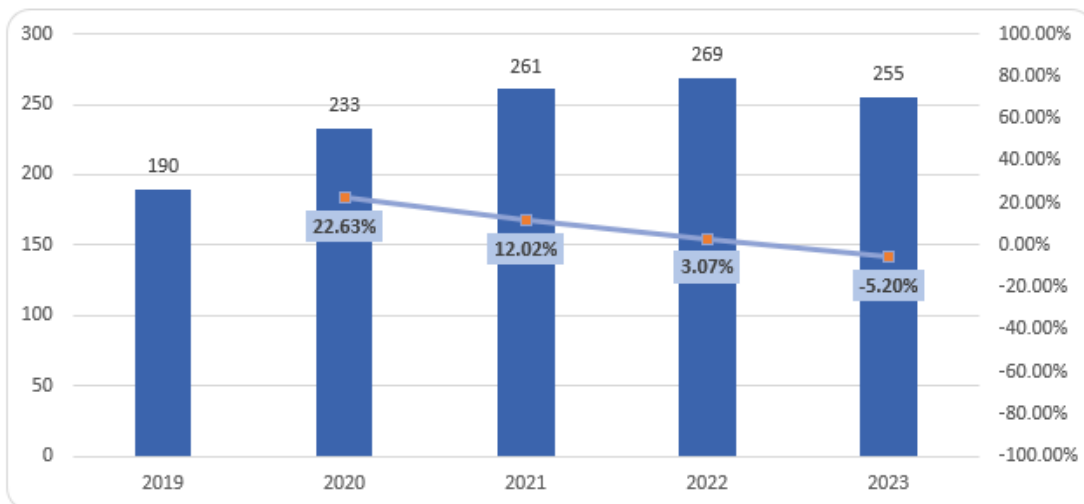
Demand Count	Response Time @ 90th	Response Time @ 80th	% Rural (14 minute) RT Met	% Suburban (10 minute) RT Met
769	00:12:53	00:10:30	92.59%	75.16%



Lemon Springs Fire Department (Demand and Performance)

The Lemon Springs Fire Department has a 5-year average of **4.64 incidents weekly** and demand of services has increased since 2019. The department has established a **baseline of response time performance of 11 minutes and 06 seconds or less**, measured at the 80th percentile. Over the 5-year period, **response times have increased** (performance is worsening).

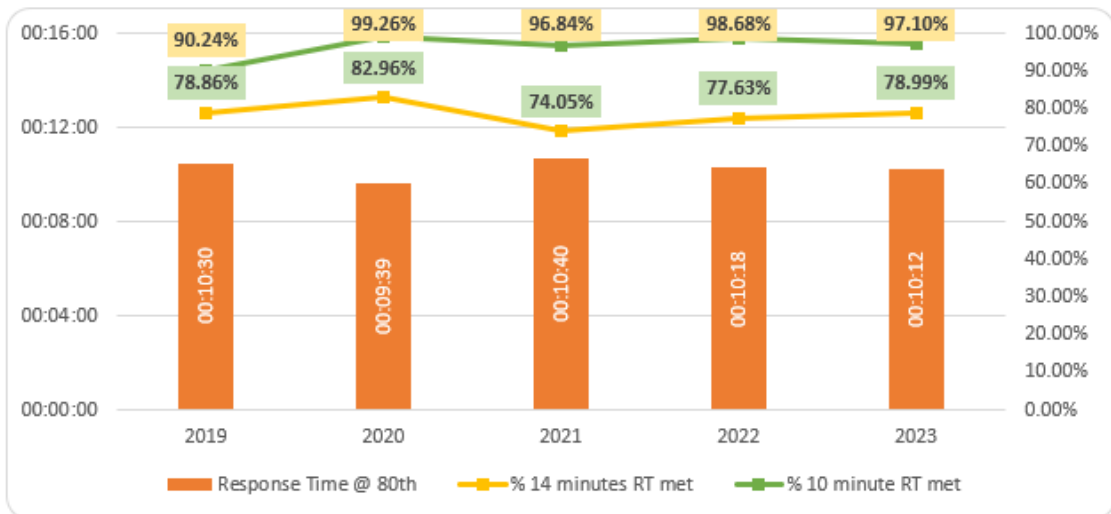
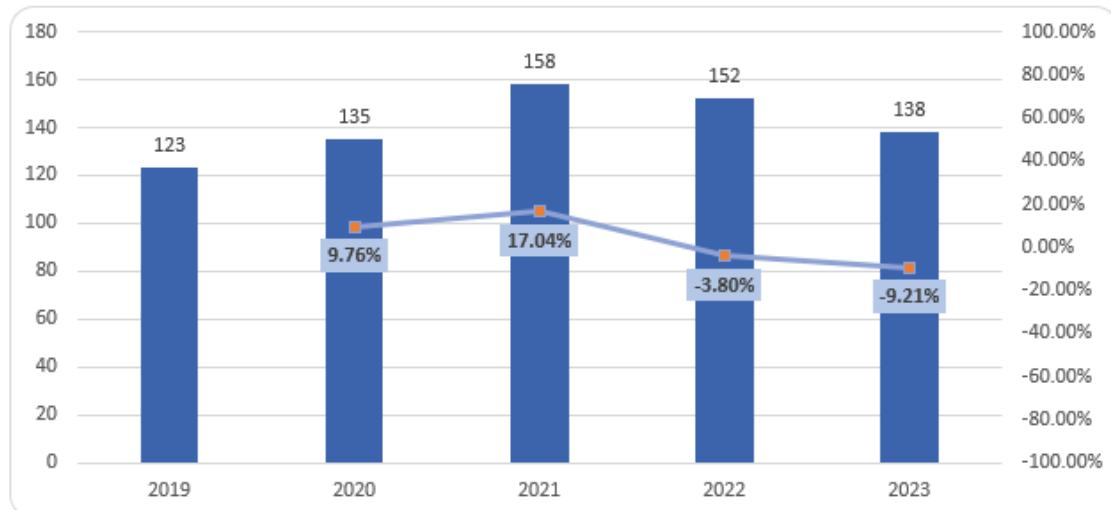
Demand Count	Response Time @ 90th	Response Time @ 80th	% Rural (14 minute) RT Met	% Suburban (10 minute) RT Met
1,208	00:13:06	00:11:06	92.55%	72.35%



Northview Fire Department (Demand and Performance)

The Northview Fire Department has a 5-year average of **2.71 incidents weekly** and demand of services has increased since 2019. The department has established a **baseline of response time performance of 10 minutes and 18 seconds or less**, measured at the 80th percentile. Over the 5-year period, **response times have decreased** (performance has improved).

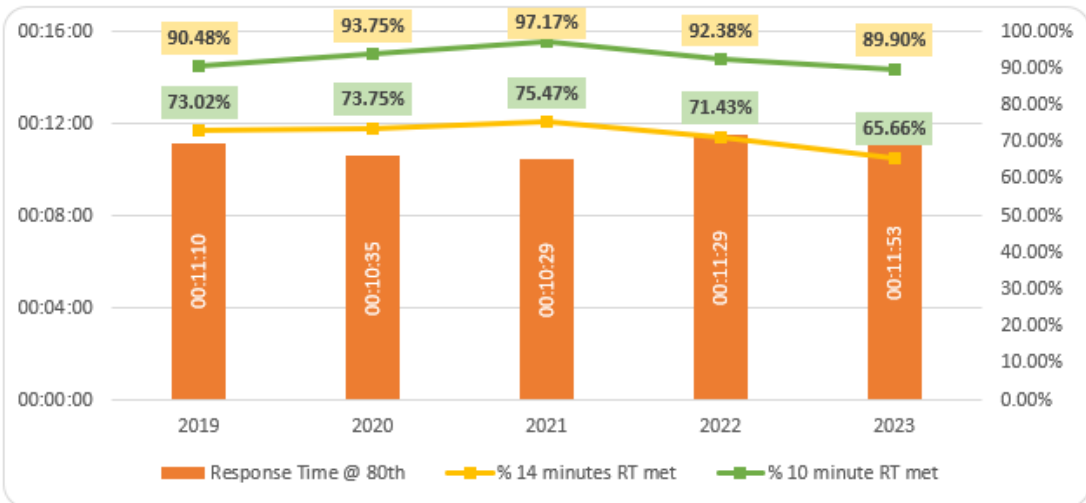
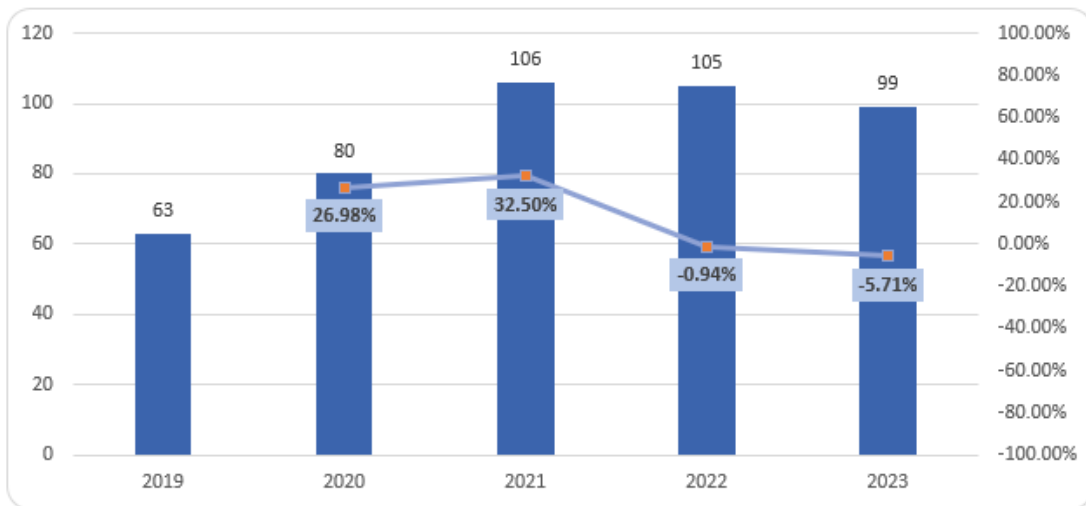
Demand Count	Response Time @ 90th	Response Time @ 80th	% Rural (14 minute) RT Met	% Suburban (10 minute) RT Met
706	00:12:07	00:10:18	96.60%	78.33%



Pocket Fire Department (Demand and Performance)

The Pocket Fire Department has a 5-year average of **1.74 incidents weekly** and demand of services has increased since 2019. The department has established a **baseline of response time performance of 11 minutes and 02 seconds or less**, measured at the 80th percentile. Over the 5-year period, **response times have increased** (performance is worsening).

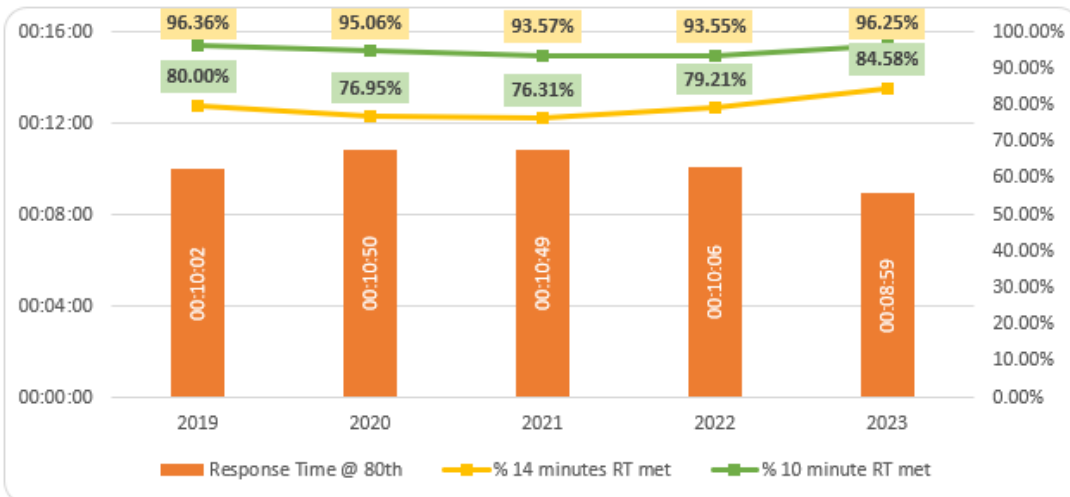
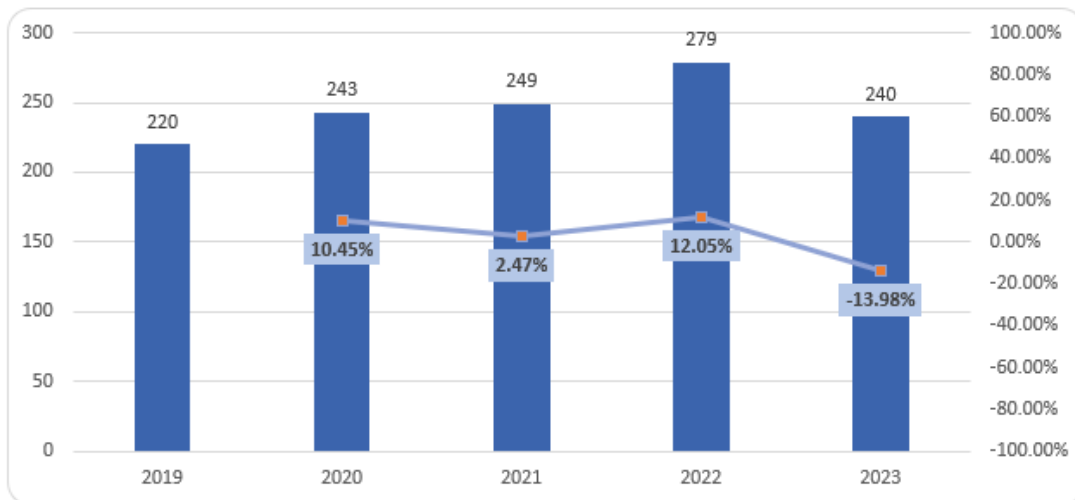
Demand Count	Response Time @ 90th	Response Time @ 80th	% Rural (14 minute) RT Met	% Suburban (10 minute) RT Met
453	00:12:55	00:11:02	92.94%	71.74%



Tramway Fire Department (Demand and Performance)

The Tramway Fire Department has a 5-year average of **4.73 incidents weekly** and demand of services has increased since 2019. The department has established a **baseline of response time performance of 10 minutes and 06 seconds or less**, measured at the 80th percentile. Over the 5-year period, **response times have improved** (performance has improved).

Demand Count	Response Time @ 90th	Response Time @ 80th	% Rural (14 minute) RT Met	% Suburban (10 minute) RT Met
1,231	00:12:26	00:10:06	94.88%	79.37%



Nature Code Evaluation

Evaluating the nature code provides an understanding of the types of incidents departments are responding to. The top 5 nature codes are listed below with assist fire as the event dispatched more than any other for each department.

Figure 40: Top 5 Nature Codes by Department.

Nature Code	Count	RT@80th
Cape Fear		
ASFIRE	443	00:11:33
ACCPIC	126	00:09:34
FIRALR	93	00:12:04
ACCPI	60	00:10:33
STRRES	48	00:08:21
Carolina Trace		
ASFIRE	480	00:10:54
ACCPIC	77	00:09:55
FIRALR	72	00:15:56
ACCPI	37	00:09:46
FIRALC	28	00:12:48
Deep River		
ASFIRE	344	00:11:02
ACCPIC	120	00:11:57
FIRALR	72	00:10:35
ACCPI	43	00:10:24
FIRALC	39	00:09:49
Lemon Springs		
ASFIRE	584	00:11:06
ACCPIC	183	00:10:31
FIRALR	93	00:12:08
STRRES	67	00:11:36
ACCPI	59	00:10:32
Northview		
ASFIRE	185	00:11:11
FIRALC	160	00:09:39
ACCPIC	116	00:09:56
ACCPI	55	00:08:42
FIRALR	42	00:12:49
Pocket		
ASFIRE	227	00:10:30
FIRALR	73	00:11:53
ACCPIC	48	00:10:35
STRRES	26	00:11:38
ACCPI	15	00:12:19
Tramway		
ASFIRE	448	00:09:55
ACCPIC	231	00:09:47
FIRALR	128	00:10:33
ACCPI	111	00:09:24
FIRALC	62	00:08:42



Call Processing Time and Central Square One Solution CAD

Call processing time is defined as the time from the receipt of the emergency incident in the 911 center to the alerting and dispatching of the emergency responders. In Central Square's One Solution CAD system, the collection of this time can be a daunting task because the earliest timestamps representing the time the call was received in the 911 center does not always accompany new, spawned records for other services like Fire, EMS or Police. When an initial EMS incident requires a fire department response, a new record is created in the CAD system and the earliest timestamp for this new record is the time the record was created. This requires joining the records together to find the actual time the incident was received in the 911 center until the fire department was dispatched.

This process can allow unwanted records in the evaluation. For example, an EMS event not initially requiring the fire department, now requires fire department assistance after EMS arrives on the scene some 20 minutes into the incident. The call processing time for this event would be elongated and not a real evaluation of the 911 center's ability to process EMS related incidents and dispatch the fire department from the beginning.

The table to the right shows the fire department nature code, the incident count and the call processing time (Fire CP Time Only) when evaluating the fire department record's earliest timestamp (record creation) is subtracted from the dispatch time.

The last column is the total call processing time @ the 90th percentile, when adding the EMS time from call receipt to spawning of the fire department record.

Notice that fire related nature codes like FIRALR have little differences between the two columns as there is no EMS processing time to add to the overall time.

The ASFIRE nature code appears to be used for fire when assisting EMS for medical related events.

Nature Code	Count	Fire CP Time Only	With EMS CP Time
ASFIRE	3,102	00:02:18	00:18:38
ACCPIC	918	00:02:13	00:03:56
FIRALR	595	00:02:21	00:02:22
ACCPIC	403	00:01:46	00:03:47
FIRALC	348	00:02:20	00:02:20
STRRES	331	00:02:33	00:02:33
AIRSTAND	222	00:02:36	00:11:16
VEH FIRE	195	00:02:23	00:02:23
WOOD	155	00:03:00	00:03:00
HAZMAT	119	00:03:09	00:03:27
ILLBURN	75	00:03:33	00:03:33
SMOKE	66	00:02:40	00:02:40
EQUIPFIR	56	00:02:47	00:02:47
CARBON	47	00:02:00	00:02:00
STRFIRC	38	00:03:11	00:03:11
ACCPED	18	00:02:24	00:03:39
ACCATV	17	00:01:12	00:11:41
WAT INCI	11	00:05:59	00:05:59
ACCFIC	7	00:01:46	00:04:16
DROWN	6	00:02:46	00:03:32
BOMB THR	4	00:02:18	00:02:18
TRA CON	3	00:01:28	00:01:28
STRUC	1		
LOST	1	00:00:35	00:00:35
ACCFAT	1	00:02:11	00:03:40
EXP	1	00:03:04	00:03:04
Grand Total	6,740	00:02:22	00:08:20



By looking at the EMS records linked to the fire ASFIRE nature code, we can determine the EMS nature code used. Each EMS nature code has the ProQA response level and count of those responses. By these numbers, it appears the department is responding to more Delta responses than any other.

The table to the right shows some of the higher acuity incidents and the amount of time to dispatch fire. For example, the fire department responded to 22 delta level CARDIAC incidents with a call processing time of 16:51 at the 90th percentile. This is an extreme amount of time to dispatch first responders on a cardiac event and warrants a deeper understanding of the underlying reasons.

In addition, the extended call processing time for Delta level breathing difficulty and choking calls should be evaluated.

The ASFIRE nature code for the fire department, with 3,108 responses (46% of total responses), has a call processing time of 18 minutes 38 seconds at the 90th percentile. When this gets added to the response time of the fire department, the total response time for the ASFIRE nature code is now 27 minutes 44 seconds at the 90th percentile.

Nature Code	Count	Fire CP Time Only	With EMS CP Time
ASFIRE			
OVERDOSE			
Charlie	31	00:01:23	00:12:50
Delta	116	00:01:07	00:08:39
Echo	35	00:00:59	00:04:42
None	27	00:02:07	00:04:14
DIF BRE			
Alpha	1	00:01:11	00:11:01
Charlie	8	00:01:14	00:33:13
Delta	142	00:01:09	00:21:42
Echo	15	00:01:14	00:05:07
CARDIAC			
Bravo	6	00:01:00	01:23:54
Charlie	4	00:01:28	00:13:35
Delta	22	00:01:27	00:16:51
Echo	48	00:01:12	00:04:24
None	26	00:02:07	00:04:59
CHESTPAI			
Alpha	1	00:00:24	00:04:19
Charlie	8	00:02:48	00:28:35
Delta	35	00:01:02	00:26:41
Echo	2	00:02:36	00:03:59
None	3	00:02:10	00:05:06
DIABETIC			
Alpha	3	00:00:25	00:39:51
Charlie	10	00:01:45	00:34:29
Delta	7	00:01:12	00:21:08
Echo	3	00:01:44	00:06:48
CHOK VIC			
Delta	8	00:01:12	00:16:46
Echo	1	00:00:41	00:03:18
None	7	00:02:12	00:02:48
HEMORRHA			
Bravo	9	00:00:51	00:38:56
Delta	6	00:00:29	00:44:41
Grand Total	584	00:01:17	00:18:04



City of Sanford 9-1-1 Emergency Communications Center Review

Overview:

As part of the extended Scope of Work for the county manager and county fire chiefs, an onsite observation by Todd Tuttle (NC Fire Chiefs Consulting) and Melanie Jones (Guilford County Metro 911 Director) was conducted on 3-1-24 to gather information about the 911 center and monitor processes during the call taking and dispatching of incidents. The purpose was to find opportunities to streamline tasks, increase efficiencies and reduce possible errors, both human and technical. The desired outcome is to assist in making processes more effective while reducing overall call processing time and deliver accurate, up to date information to the responders. Appropriately three hours were spent observing the operations of dispatchers as they received and processed incidents. Although there were only three incidents during that time, the combination of our discussions and the incidents we witnessed were beneficial in meeting the objectives of this visit.

Note that the observations and recommendations in this report are not reflective of any opinions or feedback provided by the Sanford Police Department, Lee County, or Lee County rural fire departments. Further information may be needed to understand feasibility and effectiveness of the recommendations provided.

911 Center Description

The county wide 911 center is managed by the City of Sanford Police Department by way of contract with Lee County. The center is considered the Public Safety Answering Point (PSAP) for all 911 calls in the county and municipalities within. The center dispatches incidents for all fire departments (city and county), EMS and Sanford Police. The Lee County Sheriff's Department hosts their own dispatch center in another location, with different software. 911 telephone calls for the Sheriff's Departments are answered at the PSAP and then transferred (phone based) to the Sheriff's Department where the caller is connected to a Sheriff's Department dispatcher. A CAD-to-CAD interface does not exist.

The 911 center has sixteen (16) full time equivalent (FTE) dispatcher positions plus one supervisor position. Currently, there is one position vacant. Dispatchers work 12-hr shifts, 4 days ON with 4 days OFF, shift change at 6am and 6pm. There are four squads. The minimum staffing is three dispatchers on any shift, although assigned four. The supervisor works an 8hr day/ 40hr week schedule.

The 911 center layout is four individual pods/consols in a circle configuration, 1 for Fire, EMS, and PD and 1 for a call take position. Each console has the ability to dispatch any agency. The center utilizes Central Square One Solution Computer



Aided Dispatch (One Solution) software, a Motorola 5500 paging/alerting console, and a 911 phone system. These three systems are utilized across four, side-by-side monitors at each dispatch console. Currently, there appears to be adequate space within the room for all four consoles, staff, and equipment, but space is maximized.

The One Solution software is an up-to-date release and exists on all four consoles. One Solution contains many local map layers, including address points but may be out of date in respect to new neighborhoods, building footprints, and streets in those areas, according to dispatchers. It appeared that all units, for all agencies, were represented in the system including some mutual aid units. In One Solution, the Sanford Fire agency is configured to recommend units. However, in One Solution the county fire agency recommends stations and then units are added to CAD when the units check enroute. According to the supervisor, each fire department can have their own response plans for their area and not be tied to a common, county-wide response plan for an incident type.

The 911 center dispatches across three different radio talk groups/frequencies, one each for EMS, Fire, and Police. Fire and EMS utilize a conventional VHF band repeated system utilizing one tower for the entire county. The police department utilizes a conventional UHF band, repeated system on one tower. There is a backup tower for each but only one is used as primary at any given time. Four tactical talk groups are available and utilized for fireground operations if the fire department needs them. Dispatchers can monitor those talk groups from their consoles. The NC VIPER system is not currently being utilized in Lee County. We were told the county departments have radios with VIPER talk groups/channels in them and used those when giving or receiving mutual aid outside the county. Dispatchers do not have the ability to monitor those VIPER talk groups from their console. During our visit, we witnessed the 5500 paging consoles with buttons indicating VIPER talk groups for dispatch and fire ground operations. It is unclear as to why these are marked as such if there is no VIPER infrastructure in the center. Audible radio traffic heard while in the 911 center was less than understandable with interference, background noise and other incomprehensible sounds over the channel. Dispatchers were constantly asking units to repeat their traffic to be heard correctly. This is a daily occurrence according to the dispatchers.

Station alerting for city and county fire, and EMS, utilizes a Motorola 5500 console producing conventional, audible two-tone encode across the VHF radio system. Fire stations, EMS units and staff are using radios and pagers to decode those tones for alerting. The 5500 is not integrated with CAD and requires the dispatcher to move to a separate monitor, mouse/keyboard, then manually select station(s) or districts to alert before speaking (dispatching) the incident.

Mobile Computer Terminals (MCT), using One Solution MCT software, are used by the Sanford Police and Sanford Fire but not county fire. The handheld mobile application



called Freedom, is coming soon for EMS. Neither the MCT nor Freedom are utilizing automatic vehicle location (AVL) to allow their presence to be known. Because of this, fire incidents are dispatched based on the pre-determined fire station locations and not closest unit.

Although the center takes 911 telephone calls for all types of emergencies, only EMS incidents follow a question protocol by the Priority Dispatch, Emergency Medical Dispatch (EMD) system. Fire incidents use a "home grown" or in-house made questioning, and police incidents have no question protocol in place. They simply require all personnel to remember the appropriate questions from their training. When asked about EMD Quality Assurance (QA) reports, it appears there are reports generated but not shared with the employee (dispatcher) and not reported outside the 911 center (county manager or fire department). These QA reports are currently tasked to someone within the EMS Health Care system. There are no periodic reports defining time-based performance or compliance objectives with NFPA 1710 or 1720. The center is not accredited through Priority Dispatch or any other accredited body.

There are no formal defined user groups that have regular and consistent opportunities for the Fire Chiefs to provide feedback related to 911 communications. Best practices utilize defined user groups for the agency(s) to provide regular feedback and share needs to the 911 center.

Alarm Processing Performance, Related to Time:

Because the county fire department dispatched by the 911 center are considered volunteer, or predominantly volunteer, they fall under the National Fire Protection Association (NFPA) 1720 standard for response time. This standard does not specifically address alarm processing time like its predecessor for career fire departments which utilize the NFPA 1710 standard. NC Fire Chief Consulting collected data from the 911 center for 5 full calendar years of county fire incidents from January 2019 through December 2023. Alarm processing time, defined as the elapsed time from the answer of the 911 caller in the 911 center to the first dispatch of the department/responders, was evaluated for fire related incidents (no EMS assist) and measured in hh:mm:ss at the 90th percentile. These parameters generated 3,635 fire related incidents with an alarm processing time of 00:02:50 at the 90th percentile. This means that 90% of these incidents took 2 minutes 50 seconds or less, to collect the caller's information, process and then dispatch the fire department(s). The other 10% were greater than 2 minutes 50 seconds. Compared to the 2016 version of NFPA 1710 stating alarm processing time should be 00:01:04 or less on 90% of incidents, this leaves a gap of 00:01:46. **This information establishes a Benchmark of 01:04 @ 90th and a Baseline of 02:50 @ 90th with the gap of 01:46.** Many of the following observations and recommendations are to assist the 911 center in reducing overall alarm processing time thereby narrowing the gap and becoming more compliant with the standard. Most importantly, the reduction of the alarm processing



time notifies responders faster, allowing faster on-scene times and increasing the outcomes (i.e. reducing loss of life and property).

Observations / Recommendations

Observation 1

When a 911 call was received, we witnessed the dispatcher keying in the address in CAD rather than importing that information from the ANI ALI system via the E911 button on the Call Taker window (CAD Function) and populating CAD. In one event, we witnessed the call taker writing the information on paper before keying into CAD. In this scenario, the event was not created in CAD until the dispatcher had written all the information on the paper. This created lost time which cannot be evaluated when analyzing timestamp data from the CAD system. In addition, like the first scenario, the time taken to key in the information in CAD is far greater than using the E911 button to import the ANI ALI information into CAD. Analysis of the 5 years of data suggest that only 3.33% of the 3,635 fire related incidents for the county fire departments used this button to auto-import ANI ALI data directly into CAD.

Recommendation 1

Consider utilizing the E911 button from CAD to import ANI ALI data into CAD and then confirm the information for accuracy. Eliminate the process of writing caller information on paper before entering into the CAD application.

Observation 2

Just prior to alerting/toning the stations for an event, the dispatcher will move to the Motorola alerting console and verbally announce or “pre-alert” the address and nature of the call. This is heard only by units/staff listening to the talk group in the field. The next action is to alert or encode all pagers and fire stations associated with the call and then verbally repeat the address, nature of call, units and/or stations to respond and more detailed information. For those receiving the page, this may be the first time they have heard the call. If true, the preceding time spent pre-alerting delayed the responder's notification.

Recommendation 2

Consider eliminating the pre-alert and go directly to alerting/encoding the station and then verbalizing the call. This provides consistent notification to all units/staff at the same time, reduces notification time to those relying on pagers/station alerting for notification, and reduces overall alarm processing time.

Observation 3

Following the “pre-alert”, the actual alerting process of those stations and pagers is completed on the separate alerting console. The dispatch is required to remember which stations are to be alerted, manually key those in the system and activate the encoding/alerting procedure. Once complete, the dispatcher will key up the



dispatch talk group and verbally speak the call for service. Because there is no integration between the Motorola toning console and One Solution CAD, it opens opportunities for human error in choosing the wrong station(s) to alert or forgetting to alert one. It creates an increased amount of time to move from one console to another, increasing the overall call processing time to notify responders.

Recommendation 3

Consider technical integration between the CAD application and the paging application to eliminate the dispatcher movement from one console to another. This will reduce alerting time and reduce/eliminate possible human error when trying to determine which station(s) to alert.

Observation 4

In the Central Square One Solution CAD application, the trigger that ends alarm processing time and begins the turnout time is the “dispatch” button on the recommend screen. Because there is no integration between CAD and the paging console, the dispatcher must remember to press this button. This can lead to different dispatcher interpretations of “when” this should be done. In addition, other applications like One Solution MCT do not receive incident data until this button is pressed. Other third-party applications like Active 911 may not be triggered until this button is pressed.

Recommendation 4

Consider training with staff to define a consistent point in time when this “dispatch” button should be pressed. This “need” may be eliminated if integration between CAD and paging is done since the “dispatch” button will be the send point to pass CAD data about who needs to be paged to the integrated paging console.

Observation 5

The fire departments are using a VHF radio system which demonstrated unclear radio transmissions during our visit. This forces the dispatcher to request field units, repeat their traffic more than once, taking time away from the dispatcher and field units. The State of North Carolina provides a statewide Interoperable communications system called VIPER. It is unclear why Lee County is not utilizing this low-cost or possible no-cost asset as it may eliminate radio clarity issues witnessed in the 911 center.

Recommendation 5

Consider a feasibility study to determine if an 800 MHz communication system or the NC VIPER system would be a good fit in Lee County based on terrain, tower availability and cost.



Observation 6

During our research, we learned Sanford Fire Department has a new fire station under construction complete with modern Internet Protocol (IP) based Fire Station Alerting (FSA) system. This requires hardware components in the 911 center to transfer data to the FSA without alerting by conventional radio with two-tone paging. It appears there is no current movement from the 911 center for this hardware acquisition. The acquisition of the needed hardware in the 911 center for Sanford Fire Department's fire station alerting could also provide automated and integrated alerting to the entire county and address some of the integration recommendations above.

Recommendation 6

Consider a meeting between Sanford PD 911, Sanford Fire and Lee County to determine the needs for their FSA and how these same needs may benefit the 911 center county wide and for multiple agencies. Based on NC Fire Chief's knowledge of this FSA vendor, financial assistance from the NC 911 board may also be available.

Observation 7

There is rapid growth in Lee County and with growth comes new streets and new addresses. Based on the map data we saw against dispatcher comments, there appeared to be missing streets and address points in the current map layers on the CAD system. This could lead to non-geo-verified addresses in the CAD system which will prevent accurate response plan unit/station recommendations during an emergency.

Recommendation 7

Consider, no less than monthly meetings between the 911 center and Lee County GIS division to insure all CAD maps are updated.

Observation 8

There appears to be no time-based performance goals or measures as it relates to alarm processing time for fire department responses. To determine if any change has led to increased efficiencies, increased effectiveness, and overall improvements, a baseline of performance must be established. Using a standard like NFPA for alarm processing time is preferred in the fire service.

Recommendation 8

Consider adopting a time-based performance measure using NFPA 1710 or 1225 as a goal, known as a Benchmark. Establish periodic evaluations to determine the 911 center's demonstrated performance, known as the Baseline and compare. Continue to monitor these to determine if changes in processes are leading to better performance and narrowing the gap between benchmark and baseline.



Observation 9

Fire departments in Lee County give and receive mutual aid to surrounding counties. Currently, passing this information for the mutual aid request is conducted through a phone call between dispatchers in their respective county 911 centers. This can create delays in request, take time away from the dispatcher and opens opportunity for human misunderstanding of the request (address, nature, etc.).

Recommendation 9

Consider technical CAD-to-CAD integration between the Lee County PSAP and surrounding county's PSAP centers. This would allow passing these requests for service electronically to the PSAP in surrounding counties, reducing time and human errors.

Note – NCFCC researched adjoining county's CAD systems. Harnett County utilizes Central Square. Moore County and Chatham County both use Southern Software. Chatham County's CAD-to-CAD solution is called "Unify" and it is a Central Square product.

Observation 10

Despite the 911 center's participation in Priority Dispatch's EMD process, there seems to be little quality control results being disseminated. Dispatchers are not receiving their result of the EMD compliance to assist in determining performance improvements needed. It appears that these reports are not given to any governing body (city/county manager, fire, police, or EMS agency) for review.

Recommendation 10

Establish EMD Quality Control program that involves the employee and reports to a higher authority like the county manager and/or agencies served on a regular basis.

Observation 11

There were no user groups established for allowing for a formal request between agencies and the 911 center. Small user groups allow for the collaboration between the agencies and the 911 center for needs and understanding, opportunities and limitations on both sides.

Recommendation 11

Consider creating user three groups (Fire, EMS, and Law) consisting of the responder and 911 staff to better understand the needs of the responder and allow the responder to better understand the possibilities and limitations of the 911 center and CAD application to help meet their needs. If three user groups is not feasible, it is recommended that at least one user group be established.



Section 5: Capital Resources Analysis



Fire Apparatus Analysis

Apparatus Summary

NC Fire Chief Consulting (NCFCC) conducted an on-site vehicle assessment on January 29 and January 30, 2024 at the Lee County Fire Departments. The assessments were based on mechanical attributes, roadworthiness, and safety-related issues of each emergency response apparatus (available on the dates of assessment) in each department. The assessments were performed by emergency apparatus subject matter experts who together have over 75 years of combined experience in the emergency services fleet industry.

Goal of Assessment

The goal of the vehicle assessment was to verify and validate the worthiness of the Lee County Fire Department's fleet in consideration of current value and long-term serviceability. The fleet was divided into multiple sections: fire engines/tankers; aerial apparatus; brush trucks, rescue vehicles, and other support/service vehicles. The report includes a fleet overview of each category, details for each unit, and a recommendations section for the overall improvement and safety of the fleet.

Rating

The National Fire Protection Association (NFPA) total life expectancy of a fire apparatus is twenty-five years, preferably fifteen as a frontline apparatus and five to ten years as a reserve unit, depending on its condition and situation. The assessment grades assigned to each apparatus were one of the following: excellent, good, fair, or poor.

Fleet Overview

NCFCC representatives visited (12) Twelve facilities and identified/assessed (48) Forty-eight vehicles in the following categories:

- Engine/Tanker 28
- Aerial/Ladder 1
- Brush 9
- Rescue 4
- Equip/Other 6

Lee County consists of (7) fire departments. Some of the stations also have sub-stations to meet the geographical response needs.

- Cape Fear Fire Department (2 stations)
- Carolina Trace Fire Department (1 station)
- Deep River Fire Department (2 stations)
- Lemon Springs Fire Department (2 stations)
- Northview Fire Department (2 stations)



- Pocket Fire Department (2 stations)
- Tramway Fire Department (1 station)

Each department has an array of vehicles to respond to fires, rescue, medical, and other hazardous events in their assigned communities. Multiple departments are dispatched on structure fires and there are collaborative agreements (automatic aid) county-wide for other requests for service. There are not any formal agreements with the City of Sanford for fire response. The existing vehicles range in years from 1989 To 2022 (two new engine/pumpers are in the ordering process). The County does not have a vehicle replacement schedule in place, with the exception of Carolina Trace Fire Department. Routine maintenance beyond what is conducted in-house is contracted to various mechanic shops in the region. The following were identified:

- Angus Smith
- American Testing Services
- Atlantic Emergency Solutions
- C.W. Williams Fire Equipment
- Leo's Lifting Services
- Kellam Services

The attached vehicle spreadsheet identifies the individual age, life expectancy, make/model, pump capacity, water tank size, road mileage, engine/pump hours, and specific repairs/maintenance needed.



Cape Fear Fire Department – Station 5

The fleet of apparatus includes five (5) engines/tankers, one (1) rescue/service truck, and one (1) brush truck. All apparatus were identified as “Good/Excellent” per the NFPA guidelines. Engine 55 was unable to be evaluated due to it being out for maintenance. The tires on Tanker 59 were out of NFPA compliance but appear to be on a schedule to be changed in the current year. Chief Josh Billings provided apparatus details on site.

Cape Fear Fire Department												
Unit	Condition As Current E, G, F, P	Year	Age	Projected Remaining Use	Make	Model	Body Manufacturer	Pump Capacity	Tank Gallons	Road Mileage	Engine Hours	Pump Hours
ENGINE/TANKER												
E57	G	1998	26	-1	Eone			1250	1000	32,586	2047	N/A
	Comments: Odometer not functioning											
E56	G	2013	11	14	International	Rosenbauer		1500	1000	18,489	1452	N/A
	Comments: Rear tires nearing end of compliance (2018)											
E55												
	Comments: Not available for evaluation											
T58	E	2021	3	22	Kenworth	Rosenbauer		500	3000	4,516	243	18
	Comments: No issues											
T59	G	2011	13	12	Kenworth		Fouts Brothers	500	3000	10,700	1021	141
	Comments: Tires out of NFPA compliance (2017)											
RESCUE												
512	G	2016	8	17	International	Rosenbauer		N/A	N/A	11,725	770	N/A
	Comments:											
BRUSH												
511	G	1997	27	-2	Ford	F550		N/A	N/A	55,087	N/A	N/A
	Comments: Unable to determine date on tires											
LADDER												
	Comments:											
OTHER												
	Comments:											



Carolina Trace Fire Department – Station 8

The fleet of apparatus includes three (3) engines/tankers, one (1) brush truck, one (1) rescue truck, and one (1) utility truck. All apparatus were identified as “Good” per the NFPA guidelines. Issues identified included oil leaks, tires out of NFPA compliance, steering box leak, and insecure wiring. Chief Chris Myers provided apparatus details on site.

Carolina Trace Fire Department												
Unit	Current E, G, F,	Year	Age	Remaining	Make	Model	Manufacturer	Capacity	Gallons	Mileage	Hours	Hours
ENGINE/TANKER												
E85	G	2018	6	19	KME			1500	1000	10,526	N/A	N/A
	Comments: Rear tires nearing end of complinace (2018), Class 1 oil leak											
E86	G	2010	14	11	Pierce	TAK4		1500	1000	33,054	N/A	N/A
	Comments: Class 2 oil leak near the oil pan											
E84	G	2000	24	1	HME	Ferrera		1250	1000	N/A	2487	N/A
	Comments: Tires out of NFPA compliance (2017), Steeringn box leak											
	Comments:											
	Comments:											
RESCUE												
812	G	1999	25	0	Pierce			N/A	N/A	34,901	2864	N/A
	Comments: Unable to determine tire date, Class 2 oil leak, note: recently replaced brake drums											
BRUSH												
811	G	2005	19	6	Ford	F550		250	300	26,302	N/A	N/A
	Comments: Class 2 oil leak, need to secure wiring under front, front seat torn, note: recently replaced transmission											
LADDER												
	Comments:											
OTHER												
	Comments:											



Deep River Fire Department – Station 4

The fleet of apparatus includes five (5) engines/tankers, two (2) brush trucks, one (1) Service/rescue truck, one (1) UTV (not evaluated), and one (1) foam trailer (not evaluated). All apparatus were identified as “Good” per the NFPA guidelines. Issues identified included oil leaks, water tank leaking, transmission leaks, improperly secured pump discharge port, water tank misalignment, rust in the bottom of compartments, steering leak, ground ladders due to be tested, and tires out of NFPA compliance. Chief Jacob Newton provided apparatus details on site.

Deep River Fire Department												
Unit	Condition As Current E, G, F,	Year	Age	Projected Remaining	Make	Model	Body Manufacturer	Pump Capacity	Tank Gallons	Road Mileage	Engine Hours	Pump Hours
ENGINE/TANKER												
E45	G	1993	31	-6	Pierce			1500	1000	33,783	2748	422
	Comments: Class 2 oil leak, sump at bottom of water tank leaking, front seat torn, note: recent front end repair											
T48	G	1991	33	-8	Grunman	International	Fire Cat	1250	1250	39,698	N/A	N/A
	Comments: Class 1 Transmission leak, left side frame rust where tank is mounted to substructure (note: replaced water tank with poly tank, 8 year Front seat torn											
T47	F	1987	37	-12	EEI		Chevrolet	250	1500	21,387	N/A	N/A
	Comments: Class 2 oil leak, steering assist leaking, rust in bottom of compartments											
E44	G	1998	26	-1	KME			1250	1000	33,703	2589	429
	Comments: Class 1 oil and transmission leaks, seats torn, tire out of NFPA compliance, Note: vehicle being replaced in June, 2024											
T46	G	2021	4	21	Pierce			1500	1500	1,738	N/A	N/A
	Comments:											
RESCUE												
412	G	2004	20	5	Pierce			N/A	N/A	20,716	N/A	N/A
	Comments: Rear tires scheduled to be replaced in June, 2024											
BRUSH												
410	G	1994	30	-5	Dodge			N/A	150	63,809	N/A	N/A
	Comments: Class 2 oil leak											
411	G	2015	9	16	Ford	F450		N/A	200	45,566	N/A	N/A
	Comments: No issues											
LADDER												
	Comments:											
OTHER												
	Comments: Ground ladders on all apparatus are scheduled for testing in 2024											



Lemon Springs Fire Department – Station 7

The fleet of apparatus includes five (5) engines/tankers, two (2) brush trucks, and one (1) equipment truck. A new pumper is ordered and is scheduled to arrive in August 2024. Apparatus were identified as “Good” (except for Engine 75 received a rating of “Poor”) per the NFPA guidelines. Issues identified included rear-end leaks, insecure tool tubes, tires nearing or beyond end of NFPA compliance, bumper and frame rust, brake pad replacement needed, and coolant leaks. Chief Curtis Evan and Firefighter Stephen Cox provided apparatus details on site.

Lemon Springs Fire Department												
Unit	Condition As Current E, G, F,	Year	Age	Projected Remaining	Make	Model	Body Manufacturer	Pump Capacity	Tank Gallons	Road Mileage	Engine Hours	Pump Hours
ENGINE/TANKER												
E74	G	2009	15	10	Pierce		Kenworth	1250	1000	17,037	2494	N/A
E75	P	1995	29	-4	KME	Freightliner		1250	1000	29,692	N/A	N/A
	Comments:	Rear end has Class 2 leak, tool tubes need to be secured in rear compartment, tires nearing end of compliance (2018)										
	Comments:	Tires out of NFPA compliance, Bolt missing from drive line to pump transmission, fire extinguisher out of test date compliance, Class 2 leak, front brakes wearing on anchor side, need to better secure traffic cones on rear bumper										
E76	G	2001	23	2	Pierce		Kenworth	1250	1000	43,439	3431	N/A
	Comments:	Tires nearing end of NFPA compliance (2018), Class 1 oil leak										
E77	G	2016	8	17	Toyne	Custom		1250	1000	17,977	1550	136
	Comments:	Class 1 coolant leak around heater valve, Class 2 oil leaks, some rust on frame rails, note; replaced tires in 2022										
	Comments:											
RESCUE												
412	G	2004	20	5	Pierce			N/A	N/A	20,716	N/A	N/A
	Comments:	Rear tires scheduled to be replaced in June, 2024										
BRUSH												
711	G	2012	12	13	Ford	F550	SD	250	250	24,231	N/A	N/A
	Comments:	Rear bumper rust										
712	G	2014	10	15	Ford	F550		250	250	24,963	N/A	N/A
	Comments:	Tires nearing end of NFPA compliance (2018)										



Northview Fire Department – Station 6

The fleet of apparatus includes five (5) engines/tankers, one (1) ladder truck, one (1) squad truck, and two (2) equipment trucks. All apparatus were identified as “Good/Excellent” per the NFPA guidelines. Issues identified include tire nearing end or beyond NFPA compliance, missing exhaust bracket/bolts, oil leaks, generator leak, rust under vehicle, pump mounting bolts missing, and seats torn. Fire Chief Steve Seagroves and Firefighter Ben Seagroves provided apparatus details on site.

Northview Fire Department												
Unit	Current E, G, F, P	Year	Age	Remaining Use	Make	Model	Body Manufacturer	Pump Capacity	Tank Gallons	Road Mileage	Engine Hours	Pump Hours
ENGINE/TANKER												
E64	E	2022	2	23	Pierce	Enforcer	Tak4	1500	1000	3,601	210	27
	Comments:	No issues										
E65	G	2019	5	20	Pierce	Enforcer	Tak4	1500	1000	11,353	647	318
	Comments:	Tires nearing end of NFPA compliance (2018), Class 1 oil leak at seal, exhaust bracket missing bolt (should have 2)										
T64	G	2004	20	5	Pierce	Dash	Tak4	1500	1000	30299	2655	313
	Comments:	Tires nearing end of NFPA compliance (2018), Class 1 oil leak										
T67	G	1988	36	-11	Pierce	Dash		1250	1000	2689	2650	511
	Comments:	Rust in bottom of box, front seat torn, transmission has Class 2 leak										
T68	F	2016	8	17	Pierce		Perterbilt	1250	3000	10,858	743	109
	Comments:	3 of 4 bolts broken mounting pump to frame causing rear discharge port flange to bend and also left side port bent, pump transmission Class 2										
LADDER												
T6	E	2020	4	21	Pierce		Tak4	1750	300	5,733	532	N/A
	Comments:	Generator leaking in read (Class 2)										
EQUIPMENT												
612	G	2004	20	5	Pierce	Sabre		N/A	N/A	17067	1860	N/A
	Comments:	Class 2 oil leak										
614	G	1999	25	0	Hackney	Freightliner		N/A	N/A	16,565	2042	N/A
	Comments:	Rear tires out of NFPA compliance, Note: reburished in 2015										
Other												
Truck 611	G	2007	18	7	Ford	F550	SD	N/A	300	28,764	N/A	1536
	Comments:	Class 2 oil leaks, missing lug cover on front left wheel										



Pocket Fire Department – Station 9

The fleet of apparatus includes five (5) engines/tankers, two (2) brush trucks, one (1) equipment truck, one (1) utility truck (not evaluated), one (1) UTV (not evaluated), and one (1) light tower. A new pumper is ordered and is scheduled to arrive in 2024. Apparatus were identified as “Good/Excellent” (except for Tanker 98 received a “Fair” rating and Equipment 912 received a “Poor” rating) per the NFPA guidelines. Issues identified included an exhaust pipe loose, pump transmission leak, oil leaks, battery cable loose, bolt missing from intake/frame, and seats torn. Fire Chief David Nance and Captain Trey Whitaker provided apparatus details on site.

Pocket Fire Department													
Unit	Current E, G, F,	Year	Age	Remaining	Make	Model	Manufacturer	Capacity	Gallons	Mileage	Hours	Hours	
ENGINE/TANKER													
E94	G	1989	35	-10	EEI	International		1000	1000	20,900	N/A	N/A	
	Comments:	Tires nearing end of NFPA compliance, seats torn, ground ladder halyard line frayed, exhaust pipe coming out of muffler, exhaust hanger rusted											
E95	G	2008	16	9	Crimson	Spartan		1000	1500	32,363	N/A	N/A	
	Comments:	No issues											
E97	G	1995	29	-4	KME		Freightliner	1250	1500	22,562	1584	N/A	
	Comments:	Class 2 pump transmission leak											
T98	F	1998	26	-1	Eone		F-Series	500	2000	20,316	1534	190	
	Comments:	Bolt missing out of intake to frame mount											
T99	E	2022	2	23	Tonyo		Freightliner	1000	2000	3,390	19	N/A	
	Comments:	No issues											
RESCUE													
9	E	2019	5	20	Ford	F550		250	300	10,807	N/A	1351	
	Comments:	No issues											
BRUSH													
910	G	2016	8	17	Ford	F550	SD	250	300	14,496	N/A	N/A	
	Comments:	No issues											
EQUIPMENT													
912	P	1996	28	-3	Hackney	International	4700	N/A	N/A	19,930	2132	N/A	
	Comments:	Tires out of NFPA compliance this year (2017), Class 1 oil leak, Battery cable disconnected, hydraulic brakes are poor due to brake st											



Tramway Fire Department – Station 2

The fleet of apparatus includes four (4) engines/tankers, two (2) brush trucks, one (1) air trailer (not evaluated). All apparatus were identified as “Good” per the NFPA guidelines. Issues identified included oil leaks, brake pads needing replacement, steering leaks, and seats torn. Fire Chief Chad Deal and Assistant Chief Greg Spivey provided apparatus details on site.

Tramway Fire Department													
Unit	Current E, G, F,	Year	Age	Remaining	Make	Model	Manufacturer	Capacity	Gallons	Mileage	Hours	Hours	
ENGINE/TANKER													
E24	G	2014	10	15	Eone			1500	1000	20,560	1690	181	
	Comments:	No issues											
E25	G	2005	19	6	Smeal			1250	1000	36,621	3666	N/A	
	Comments:	Class 2 oil leak, front brake pads are close to end of life											
E26	G	1993	31	-6	KME	Kodiak	Cat	1250	1000	30,969	2500	N/A	
	Comments:	No issues											
E27	G	1997	27	-2	Farra		4900	1250	1500	25,563	2278	N/a	
	Comments:	Class 3 rear end leak, front seat torn on driver side											
RESCUE													
BRUSH													
210	G	2006	18	7	Ford	F550	SD/XL	N/A	N/A	62,796	N/A	N/A	
	Comments:	armrest torn on drivers side											
211	G	1994	30	-5	Ford	F350	Custom	N/A	N/A	32,100	N/A	N/A	
	Comments:	Class 2 steering leak											



Summary of Recommendations

There was time given for any questions from each department's representative at the conclusion of the apparatus evaluation. Consultants reiterated to the department that findings from the apparatus evaluation would be included in the NC Fire Chief Consulting report to the Lee County administration.

The Lee County fleet was overall evaluated as "Good" per the NFPA guidelines. Several mechanical issues were identified and noted in detail on the Data Collection sheets (attached). The County should work toward implementing a vehicle replacement schedule to become more compliant with NFPA 1911 (Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Emergency Vehicles). Many of the departments had tires on emergency vehicles that were near or out of compliance with NFPA 1911 (maximum 7 years). Additionally, NFPA 1901 (Standard for Automotive Fire Apparatus) recommends body chevron reflective striping to cover fifty percent of the rear-facing vertical surfaces (this consensus recommendation was implemented in 2009 and is current in 2024).



Fire Station Facility Analysis:

Scope

North Carolina Fire Chief Consulting (NCFCC) evaluated twelve (12) fire facilities within the jurisdictional boundaries of Lee County, North Carolina (NC) to provide the authority having jurisdiction (AHJ) an assessment of their suitability regarding functionality and operational capacity in support of personnel and equipment assets. In January 2024, all accessible areas were assessed and photographed as required.

Cape Fear Rural Fire Department

The Cape Fear Rural Fire Department owns and operates two (2) fire stations known as Station 5 and Sub Station 5. Station 5 is located at 100 Johnson Street, Broadway, NC 27505, and Sub Station 5 is located at 5713 Buckhorn Road, Broadway, NC 27330. The facility evaluation was conducted on January 30, 2024.

Station 5

In 1974, the building was constructed as a pre-engineered steel type structure, the total square footage of the building is 6,400 square feet. The apparatus bay floor area is approximately 2,800 square feet, with seven (7) apparatus bay doors, four (4) are in front of the facility and three (3) are on the west side, each door has safety sensors. A portion of the bay area is used to store fire department equipment and supplies. Additional storage includes lawn equipment, refrigerator, ice machine, Self-Contained Breathing Apparatus (SCBA), air refill station, air compressor, and laundry equipment. The heater for the area is a ceiling mounted heater. There are two (2) restrooms in the facility, they are not gender specific. A shower unit is located between the restrooms with a storage cabinet, each restroom has a toilet, sink, and appears to meet Americans with Disabilities (ADA) standards. The kitchen area is small (less than ninety square feet) for the facility, and all appliances were equipped with proper electrical connections. The facility has a suitable office area, training/meeting area, and exercise area and equipment. The facility has numerous portable fire extinguishers, all were properly tagged and inspected. The lighting is suitable for the facility, there were some power strips in use, all electrical plates were installed, and electrical panels were labeled. The facility has a backup power capability, the generator runs off diesel fuel, which is stored in a proprietary tank. According to Lee County Tax Records, the facility is situated on .53 acres. The exterior is in good condition, and there are no external storage buildings. Chief Billings stated that there is sufficient space to expand the current facility and there are plans to expand the facility with new offices, sleeping quarters, and classrooms.



Assessment & Rating

The facility did not have the listed safety features and it is highly recommended to provide these items as soon as feasible:

- Apparatus exhaust/ventilation system.
- Emergency eyewash station.
- Firefighting Personal Protective Equipment (PPE) storage units that provide protection against Ultraviolet (UV) lighting.
- Install an exit sign at the side exit door, near the firefighting PPE.
- Smoke and Carbon Monoxide detectors.
- Proper storage for SCBA units and bottles.

The following items are recommended:

- Provide an outside storage building.
- Relocate the excessive storage on the bay floor (equipment, gas grill) to the outside storage building.
- Repair bay floor paneling (noticeable hole).
- Label restrooms with appropriate gender signs.
- Provide an exhaust/ventilation hood over the stove/oven.
- Replace missing ceiling tiles (gym area).
- Replace Heating Ventilation Air Conditioning (HVAC) unit burner cover.
- Re- paint exterior walls and doors (paint discoloration).

This facility does not possess the necessary personnel accommodation capability (sleeping quarters, lockers) for continuous personnel manning. The overall condition of this facility is satisfactory.

Subjective Rating: Fair

Sub Station 5

This facility was constructed in 2009, and is a pre-engineered steel structure, it has a total of 4,200 square feet. There are three (3) bay doors located in the front, with sufficient parking spaces including a designated handicap space. The total area of the apparatus bay is approximately 3,800 square feet, all exits were marked and illuminated, each bay door was equipped with safety sensors. The bay floor had two (2) ceiling mounted heaters, and the storage on the bay floor was light. This facility has two (2) restrooms, each unit has a toilet, sink and shower. They are appropriately gender-specific and meet ADA standards. The facility had unfurnished rooms assumed to be designated as office, training, physical fitness, kitchen areas. There are sufficient portable fire extinguishers for the facility, all are properly tagged and inspected. The facility also provides smoke detectors and a fire alarm system. The lighting is suitable for the facility, all electrical plates are installed, and electrical



panels were labeled, there is backup power capability, the generator runs off a stationary Liquefied Petroleum Gas (LPG) tank. Lee County Tax Records stated that the facility is situated on one (1) acre and per the chief, the facility has no capacity for future expansion. There are no separate storage facilities, the exterior is in excellent condition.

Assessment & Rating

The facility did not have the listed safety features and it is highly recommended to provide these items as soon as feasible:

- Apparatus exhaust/ventilation system.
- Emergency eyewash station.
- Firefighting PPE storage units that provide protection against UV lighting.

The following items are recommended:

- Provide an outside storage building for excessive storage (equipment, lawnmower).
- Provide restroom storage cabinets.
- Furnished facility for office, training, kitchen, and physical fitness functionality.

This facility does not possess the necessary personnel accommodation capability (sleeping quarters, lockers) for continuous personnel manning. The overall condition of this facility is excellent.

Subjective Rating: Fair



Carolina Trace Volunteer Fire Department

The Carolina Trace Volunteer Fire Department operates one (1) fire facility known as Station 8 located at 37A Indian Trace, Sanford, NC 27332. The facility evaluation was conducted on January 30, 2024.

Station 8

The original facility was constructed in 1981, the building is a wood frame/joist/beam type structure with a total of 4,120 square feet. In 2023, a connected storage building (eight hundred square feet) was added to the original building. In 2012, an apparatus bay area, kitchen and offices were added, this addition is a pre-engineered steel type, with an area of 5,308 square feet. The total square footage for the entire facility is 10,228 square feet.

Original Facility - The total square footage is approximately 3,200 square feet. There are eight apparatus bay doors (4-front and 4-rear), and each door has safety sensors. There is an exhaust/ventilation system, a designated laundry area, and firefighter PPE storage units. All exits were visible and illuminated; the area is heated with ceiling mounted heating units, and a SCBA breathing air refill station is situated in the bay area. The general appearance and equipment storage conditions were satisfactory.

Additional Apparatus Bay - The total square footage is approximately 1,720 square feet. There are four apparatus bay doors (2-front and 2-rear), and each door has safety sensors. There is an exhaust/ventilation system, firefighter PPE storage units. All exits were visible and illuminated; the area is heated with ceiling mounted heating units. The general appearance and equipment storage conditions were satisfactory.

There is a small restroom off the original apparatus bay with a toilet, sink, and cabinet, it does not appear to meet ADA standards. The newer addition has adequate restroom facilities, each unit has a shower, toilet, sink, and cabinet and appears to meet ADA standards. The facility has a modern kitchen area of approximately 150 square feet and is suitable for the facility, all appliances were clean and functioning with adequate electrical connections. The facility has a modern office space and training/meeting area. A designated exercise area is located off the original apparatus bay, there is ample equipment for fitness. The facility has numerous portable fire extinguishers, all were properly tagged and inspected.

The lighting is suitable for the facility, there were some power strips in use, all electrical plates were installed, and electrical panels were labeled. The facility is equipped with backup power, the generator is powered by Liquefied Petroleum Gas (LPG),



and the tank is stored underground. According to Lee County Tax Records, the facility is situated on .85 acres. The exterior and grounds are well-maintained. Parking is available at the front and rear of the facility. To park in the rear of the facility, fire personnel must pull out an apparatus for vehicles to move through the apparatus bay floor. To access the facility parking area off Indian Trail, firefighters and visitors would need to enter the main entrance to the Carolina Trace Community/Country Club approximately one (1) mile away. Chief Meyers stated that there is no room to expand the current facility. Additionally, he stated that smoke detectors, a sprinkler system and a fire alarm system are proposed, but the actual installation date/year was not available.

Assessment & Rating

The facility did not have the listed safety features and it is highly recommended to provide these items as soon as feasible:

- Emergency eyewash station.
- Firefighting PPE storage units that provide protection against UV lighting.
- Smoke and Carbon Monoxide detectors.
- Proper storage for SCBA units and bottles.

The following items are recommended:

- Relocate the excessive storage on the bay floor (equipment, chairs, tables, gas grill) to the storage building.
- Repair the rips on the ceiling insulation.

This facility does not possess the necessary personnel accommodation capability (sleeping quarters, lockers) for continuous personnel manning. The overall condition of this facility is excellent.

Subjective Rating: Fair



Deep River Rural Fire Department

The Deep River Rural Fire Department operates two (2) fire stations designated as Station 4 and Sub Station 4. Station 4 is located at 5107 Deep River Road, Sanford, NC 27330. Sub Station 4 is located 3316 Lower Moncure Road, Sanford, NC 27330. Each facility was assessed on January 29, 2024.

Station 4

The building is a pre-engineered steel structure built in 1980 and has a total floor area of 6,018 square feet. The apparatus bay area is approximately 3,420 square feet and has eight (8) apparatus bay doors (4-front & 4-rear). All exits are marked and illuminated, the laundry area and clothes washer are suitable for firefighting PPE. The HVAC/Mechanical units/area and functional areas were satisfactory. There is considerable loose storage on the apparatus bay floor, including SCBA units/bottles, and lawn & garden equipment. This facility has two (2) restrooms, each has a shower, toilet, sink, and cabinet and appears to meet ADA standards. The kitchen area is approximately 120 square feet and is suitable for the facility, all appliances were clean with proper electrical connections, all were functioning, except the exhaust fan. The facility has sufficient office space, a training/meeting area is connected to the kitchen area and is suitable for the facility. There are portable fire extinguishers available for the facility, all were properly tagged and checked. The lighting is adequate for the facility, there were some power strips utilized, all electrical plates were installed, and electrical panels were labeled. The facility does have backup power capability, the generator runs off a stationary LPG tank. Lee County Tax Records asserts that the facility is located on 4.42 acres. There are no separate storage buildings, but there is an intermodal container located on the property, it is used for firefighter smoke training. Chief Newton stated that the apparatus bay, storage, and office areas were recently remodeled. The facility has a capacity for future expansion; however, the department is uncertain if this facility/location will be necessary due to the possibility of future annexation plans by the City of Sanford. Until a final annexation decision is made, the fire department will wait for any additional renovations.

Assessment & Rating

The facility did not have the listed safety features and it is highly recommended to provide these items as soon as feasible:

- Apparatus exhaust/ventilation system.
- Emergency eyewash station.
- Firefighting PPE storage units that provide protection against UV lighting.



- Not all apparatus bay doors have door sensors, the only doors with sensors were the front door (rescue unit) and rear door (air compressor).
- Smoke and Carbon Monoxide detectors.

The following items are recommended:

- Provide a portable fire extinguisher rated for 3A-40 BC for the kitchen area.
- Provide physical fitness equipment/area.
- Provide an outside storage building, the size of the facility is not suitable for the accumulated materials/equipment currently situated on the apparatus bay floor.
- Repair the roof gutters (leaking).

This facility does not possess the necessary personnel accommodation capability (sleeping quarters, lockers) for continuous personnel manning. The overall condition of this facility is satisfactory.

Subjective Rating: Fair

Sub Station 4

The building is a pre-engineered steel structure that was built in 2010 and has a total area of 4,256 square feet. The apparatus bay is approximately 3,654 square feet and has a total of four bay doors (2-front and 2-rear). All apparatus bay doors have sensors, and exits are marked and illuminated. HVAC/Mechanical and general storage areas were particularly good. This facility has two (2) restrooms, each with a shower, toilet, sink, and cabinet, and appears to meet ADA standards. The kitchen area is less than one-hundred square feet and is suitable for the facility, all appliances were clean with proper electrical connections. This facility has a small office, the training room area is connected to the kitchen area and is acceptable for the facility. The facility has a fire alarm system with smoke detectors, and there are sufficient fire extinguishers available in the facility. They are properly tagged and examined, except the unit located in the upstairs storage area, it had not been inspected since 2016. The lighting is suitable for the facility, there were some power strips utilized, all electrical plates were installed, and electrical panels were labeled. The facility does have backup power capability, the generator runs off a stationary LPG tank. Lee County Tax Records stated that the facility is located on two (2) acres and per the chief, the facility has access to future expansion. There are no separate storage buildings, and no lawn & garden equipment observed. The exterior is in particularly good condition.



Assessment & Rating

The facility did not have the listed safety features and it is highly recommended to provide these items as soon as feasible:

- Apparatus exhaust/ventilation system.
- Emergency eyewash station.
- Firefighting PPE storage units that provide protection against UV lighting.
- Carbon Monoxide detectors.

The following items are recommended:

- Provide laundry area and washer suitable for cleaning firefighting PPE.
- Provide portable fire extinguisher rated for 3A-40 BC for the kitchen area.
- Provide physical fitness equipment/area.

This facility does not possess the necessary personnel accommodation capability (sleeping quarters, lockers) for continuous personnel manning. The overall condition of this facility is satisfactory.

Subjective Rating: Fair



Lemon Springs Volunteer Fire Department

The Lemon Springs Volunteer Fire Department owns and operates two (2) fire facilities known as Station 7 and Sub Station 7. Station 7 is located at 1138 Greenwood Road, Sanford, NC 27330. Sub Station 7 is located at 2160 Pine Forest Road, Sanford, NC 27330. This evaluation occurred on January 30, 2024.

Station 7

This facility was constructed in 1980 and is pre-engineered steel construction. The total square footage of the building is 5,648 square feet, the total square footage of the apparatus bay floor area is approximately 3,424 square feet. There are a total of eight (8) apparatus bay doors (4-front & 4-rear). Exit doors were marked, and bay doors had safety sensors. The mezzanine area where the HVAC system is located has moderately packed storage. The apparatus bay has a ceiling mounted heater unit. There are two (2) restrooms with a shower, toilet, sink, and cabinet and appear to be compatible with the ADA regulations. The kitchen area is small, less than one hundred square feet. The appliances were clean and operational with proper electrical connections. The facility has a satisfactory office area and training/meeting area. The exercise equipment was located on the apparatus bay floor. The facility has portable fire extinguishers, all of which were properly tagged and inspected. The lighting is adequate for the facility, there were some power strips in use, all electrical plates are in place, and electrical panels were labeled. The facility does have backup power capability, the generator runs off a stationary LPG tank located in the rear of the property. According to Lee County Tax Records, the facility is located on 1.37 acres. The exterior is in fair condition. The original fire station is situated in the rear of the property, it is used for general storage and a 1948 Mack Fire Truck is stored there. The building is in poor condition. Chief Ashley stated that there is no room to expand the current facility due to the location of the septic system on the property. *Special Note: The property is deeded to the Lemon Springs VFD by the Lee County School System, and if the Lemon Springs VFD relocates, the building/property will be returned to the school system.*

Assessment & Rating

The facility did not have the listed safety features and it is highly recommended to provide these items as soon as feasible:

- Apparatus exhaust/ventilation system.
- Emergency eyewash station.
- Firefighting PPE storage units that provide protection against UV lighting.
- Flammable liquid storage cabinet, to store flammable/combustible liquids.
- Smoke and Carbon Monoxide detectors.



The following items are recommended:

- Replace the clothes washer and the sink/faucet located in the laundry area.
- Relocate the front-loading washer from the women's restroom to the designated laundry area.
- Remodel both restrooms (floor cracks, wall covering is discolored, privacy walls are rusted).
- Provide a portable fire extinguisher rated for 3A-40 BC for the kitchen area.
- Repair water damage, there was observation of water leakage and water damage in the office area ceiling and window frame.
- Repair the exterior of the building (signs of fading paint, cracks in the apron, and most of the bay doors show signs of damage).

This facility does not possess the necessary personnel accommodation capability (sleeping quarters, lockers) for continuous personnel manning. The overall condition of this facility is minimal.

Subjective Rating: Fair

Sub Station 7

This facility was built in 2008 and is a pre-engineered steel structure. The total area of the facility is 4,200 square feet. The apparatus bay floor is approximately 3,360 square feet. There are a total of five (5) bay doors, two (2) in the front and three (3) in the rear. The overall condition was exceptionally good, all apparatus bay doors have sensors, and exits are marked and illuminated. There were no issues with HVAC/Mechanical, general storage, or laundry areas. This facility has two (2) restrooms that are gender-friendly, and both units have a toilet, sink, cabinet, and tub/shower. Both meet ADA standards. The kitchen area is small, less than one hundred square feet, the appliances were clean and functioning with proper electrical connections. The facility has adequate offices, the training room area is connected to the kitchen area and is suitable for the facility. The facility has smoke detectors and portable fire extinguishers, all of which are properly tagged and inspected. The lighting is suitable for the facility, all electrical plates are in place, and electrical panels were labeled. The facility has backup power capability, and the generator operates off a stationary LPG tank. According to Lee County Tax Records, the facility is located on 1.28 acres. There are no separate storage facilities, the exterior is in excellent condition. Chief Ashley stated that there is no room to expand the current facility.



Assessment & Rating

The facility did not have the listed safety features and it is highly recommended to provide these items as soon as feasible:

- Apparatus exhaust/ventilation system.
- Emergency eyewash station.
- Firefighting PPE storage units that provide protection against UV lighting.
- Flammable liquid storage cabinet, to store flammable/combustible liquids.
- Carbon Monoxide detectors.

The following items are recommended:

- Provide an outside storage building.
- Provide a portable fire extinguisher rated for 3A-40 BC for the kitchen area.
- Relocate the lawn mower from the bay to an outside storage area/unit.
- Physical fitness equipment/area.

This facility does not possess the necessary personnel accommodation capability (sleeping quarters, lockers) for continuous personnel manning. The overall condition of this facility is exceptionally good.

Subjective Rating: Fair



Northview Fire Department, Inc

The Northview Fire Department owns and operates two (2) fire facilities known as Station 6 and Sub Station 6. Station 6 is located at 102 Perkinson Road, Sanford, NC 27330. Sub Station 6 is located at 804 Cumnock Road, Sanford, NC 27330. This facility evaluation was conducted on January 29, 2024.

Station 6

The building is a wood frame/joist/beam structure that was originally constructed in 1960. The facility has been undergoing numerous renovations and upgrades since 1960, and the most recent upgrade (2023) included an office, training room, kitchen, personnel accommodations, sprinkler system, smoke detectors, and fire alarm system. This facility has a total area of 9,772 square feet. The total area of the apparatus bay is approximately 5,952 square feet and there are eight (8) apparatus bay doors. The fire department uses approximately 4,952 square feet and six of the bay doors. EMS employs approximately 1,000 square feet and two of the bay doors, this area was not evaluated. The general condition is exceptionally good, there is an apparatus exhaust and ventilation system, bay door sensors, firefighting PPE storage units, and all exits are marked and illuminated. The laundry area was clean and suitable for proper cleaning of firefighting PPE, the HVAC/Mechanical areas and general storage conditions were particularly favorable. The sleeping area is composed of individual rooms (approximately 122 square feet), and each room has lockers and a smoke detector. Restrooms are marked and have a shower, toilet, sink, and cabinet and appears to meet ADA standards. The kitchen area is approximately 165 square feet and is adequate; all appliances were functioning and clean with proper electrical connections. The facility has sufficient offices and training/meeting areas. There were sufficient fire extinguishers in the facility, all were properly tagged and inspected. The facility has a fire alarm system that monitors smoke detectors and the sprinkler system. The lighting is suitable for the facility, there were some power strips observed, all electrical plates were installed, and electrical panels were clear and labeled, the facility does have backup power capability, the generator runs off natural gas. According to Lee County Tax Records, the facility is situated on 2.68 acres. There are no separate storage buildings, the exterior, the apron, and parking area are particularly well-maintained. Chief Campbell stated that the facility has a capacity for future expansion, and there are future projects planned for 2024. The apron will be redone with concrete, the wood paneling near the original building will be replaced with metal covering, and a SCBA refill station will be added to the station.



Assessment & Rating

The facility did not have the listed safety features and it is highly recommended to provide these items as soon as feasible:

- Emergency eyewash station.
- Firefighting PPE storage units that provide protection against UV lighting.
- Carbon Monoxide detectors.

The following items are recommended:

- Provide a portable fire extinguisher rated for 3A-40 BC for the kitchen area.
- Physical fitness equipment/area.
- Provide an outside storage building, the size of the facility is not suitable for the accumulated materials/equipment currently situated on the apparatus bay floor (LPG Grill)

This facility has the necessary personnel accommodation capacity (sleeping quarters, lockers) for continuous manning. *Special Note: Measurement of the travel distance from the furthest individual room to the apparatus bay personnel door was recorded at approximately ninety-five (95) feet, which would be a factor to excessive turnout and response time for responding units.* The overall condition of this facility is excellent.

Subjective Rating: Very Good

Sub Station 6

The building is a pre-engineered steel structure built in 1987 and has a total floor area of 5,000 square feet. The apparatus bay is approximately 3,744 square feet and has eight (8) bay doors (4-front & 4-rear). There is an exhaust and ventilation system, firefighting PPE storage, and all exits are marked. The HVAC/Mechanical areas were satisfactory. This facility has two (2) restrooms that are not gender-specific, each unit has a shower, toilet, sink, and cabinet and appears to be compatible with ADA standards. This facility has no kitchen, there is a refrigerator in the first-floor storage room. This facility has a small office and training room. The facility has sufficient portable fire extinguishers; all were properly tagged and inspected. The lighting is suitable for the facility, all electrical plates are in place, and electrical panels were labeled. The facility has a backup power capability, and the generator runs off a stationary LPG tank. Lee County Tax Records stated that the facility is located on 2.68 acres. An intermodal container located on the property is used for smoke training. A refueling station with an above ground storage tank (Diesel) is located at the rear of the facility. The condition of the exterior is in excellent condition, and per the chief, the facility has ample space for future expansion.



Assessment & Rating

The facility did not have the listed safety features and it is highly recommended to provide these items as soon as feasible:

- Apparatus bay door safety sensors.
- Emergency eyewash station.
- Firefighting PPE storage units that provide protection against UV lighting.
- Smoke and Carbon Monoxide detectors.
- There is a considerable amount of storage on the bay floor near Engine 64 & EQ614 creating narrow walking access.

The following items are recommended:

- Provide a kitchen area and equipment.
- Provide a laundry area and washer suitable for cleaning firefighting PPE.
- Provide physical fitness equipment/area.
- Provide an outside storage building, the size of the facility is not suitable for the accumulated materials/equipment currently situated on the apparatus bay floor.

This facility does not possess the necessary personnel accommodation capability (sleeping quarters, lockers) for continuous personnel manning. The overall condition of this facility is satisfactory.

Subjective Rating: Fair



Pocket Volunteer Fire Department

The Pocket Volunteer Fire Department owns and operates two (2) fire facilities known as Station 9 and Sub Station 9. Station 9 is located at 60 Pickard Road, Sanford, NC 27330. Sub Station 9 is located at 478 Blackstone Road, Sanford, NC 27330. This facility assessment was conducted on January 29, 2024.

Station 9

In 1984, the building was constructed as a wood frame/joist/beam type structure, an additional apparatus bay and storage room was added in 2008, this addition is pre-engineered steel construction, the entire square footage of the building is 5,390 square feet. The total square footage of the apparatus bay floor area is approximately 4,502 square feet, and there are seven (7) apparatus bay doors, six (6) doors are in front of the facility, and one (1) bay door located at the rear of the facility. All equipment must be backed into their position on the bay floor, except for Engine 94. The general appearance was satisfactory, there were firefighting PPE storage units, all exits were marked, the laundry area was clean, and the washing machine is suitable for firefighting PPE. This facility has one (1) restroom with a shower, toilet, sink, and cabinet and appears to be compatible with ADA standards. The kitchen area is approximately 350 square feet and is suitable for the facility, all appliances were clean and functioning with proper electrical connections. The facility has a satisfactory office area and training/meeting area. The facility has numerous portable fire extinguishers, all of which were inspected. The facility has heat detectors on the bay floors and smoke detectors in the office/meeting areas. The lighting is suitable for the facility, there were some power strips utilized, all electrical plates were installed, and electrical panels were labeled. The facility has backup power capability, the generator runs off a stationary LPG tank. According to Lee County Tax Records, the facility is situated on .97 acres. The exterior is in good condition. There are no outside storage buildings, and the LPG tank is located at the rear of the property. Parking is limited for the facility, there is room behind the building, however the area is not paved or marked. Chief Nance stated that there is no room to expand the current facility.

Assessment & Rating

The facility did not have the listed safety features and it is highly recommended to provide these items as soon as feasible:

- Apparatus exhaust/ventilation system.
- Emergency eyewash station.
- Firefighting PPE storage units that provide protection against UV lighting.
- Carbon Monoxide detectors.



The following items are recommended:

- Heaters for the apparatus bay area.
- Repair the multiple cracks in the bay floor and apron, peeling paint on the exterior of the building.
- Provide physical fitness equipment/area.
- Provide a paved parking area at the rear of the facility to reduce congestion when backing fire apparatus into their position on the bay floors.

This facility does not possess the necessary personnel accommodation capability (sleeping quarters, lockers) for continuous personnel manning. The overall condition of this facility is satisfactory.

Subjective Rating: Fair

Sub Station 9

This facility has two (2) buildings on the property, a residential building, and an apparatus/equipment structure. The residential building (office, kitchen, restrooms) has a total floor area of 1,288 square feet, it was constructed in 1990 and is a wood frame/joist/beam construction. The apparatus/equipment building was constructed in 2000, it is a pre-engineered steel structure and has a total area of 3,950 square feet. There are three (3) bay doors located in the front and a small overhead door at the rear of the facility, all apparatus must backup into their position on the bay floor. The overall condition was satisfactory, all apparatus bay doors are equipped with sensors, exits are marked and illuminated, and firefighting PPE storage units are available. This facility has two (2) restrooms that are gender-appropriate, one (1) unit has a toilet, sink, and cabinet, and one (1) unit has a toilet, sink, cabinet, and tub/shower, both comply with ADA standards. The kitchen area is suitable, all appliances were clean with proper electrical connections. The facility has adequate offices, the training room area is connected to the kitchen area and is suitable for the facility. The facility has heat detectors, there are suitable portable fire extinguishers for the facility, and all are properly tagged and inspected. The lighting is suitable for the facility, there were some power strips in use, all electrical plates were installed, and electrical panels were labeled. The facility does have backup power capability, the generator runs off a stationary LPG tank. According to Lee County Tax Records, the facility is situated on 1.81 acres and per the chief, it has access to future expansion. There are no separate storage buildings, the exterior of both structures is in good condition.



Assessment & Rating

The facility did not have the listed safety features and it is highly recommended to provide these items as soon as feasible:

- Apparatus exhaust/ventilation system.
- Emergency eyewash station.
- Firefighting PPE storage units that provide protection against UV lighting.
- Smoke and Carbon Monoxide detectors.

The following items are recommended:

- Provide physical fitness equipment/area.
- Repair the siding at the rear of the residential house, there was peeling paint or discoloration.
- Provide additional parking for personal vehicles.

This facility does not possess the necessary personnel accommodation capability (sleeping quarters, lockers) for continuous personnel manning. The overall condition of this facility is satisfactory.

Subjective Rating: Fair



Tramway Rural Fire Department

The Tramway Rural Fire Department owns and operates Station 2, the address is 5900 McDaniel Drive, Sanford, NC 27330. This facility evaluation was conducted on January 29, 2024.

Station 2

There are two (2) separate buildings that make up this facility. The original building was constructed in 1979, and it is a pre-engineered steel type structure, with a total floor area of 5,600 square feet. A supplementary apparatus bay facility was constructed in 2005, which is a pre-engineered steel structure.

Original Facility - The apparatus bay area is approximately 2,800 square feet, with a total of four (4) apparatus bay doors (2-front and 2-rear), each door has safety sensors. All exits are marked, the laundry area was clean, and the washing machine looks to be suitable for firefighting PPE. The HVAC system is a central unit, the apparatus bay has a ceiling mounted heater unit. The general appearance and storage conditions were satisfactory.

Supplemental Apparatus -The apparatus bay has a total area of 4,500 square feet, with four (4) apparatus bay doors located on the front of the facility, each door has safety sensors. With no rear bay doors, each unit must backup into their position. All exits are visible and illuminated, there is an eyewash station, and the bay area has ceiling mounted heater units. The overall quality of the storage and overall appearance was excellent. This facility has two (2) restrooms with a shower, toilet, sink and cabinet. The kitchen area is approximately 250 square feet and is suitable for the facility, all appliances were clean and functioning with proper electrical connections. The facility has a satisfactory office area, and training/board meeting rooms. The designated exercise area and equipment were located on the supplementary apparatus bay floor. The facility has smoke detectors and numerous portable fire extinguishers, all of which were properly tagged and inspected. The lighting is suitable for the facility, there were some power strips in use, all electrical plates were installed, and electrical panels were labeled. The facility has backup power capability, the generator operates off natural gas. According to Lee County Tax Records, the facility is situated on 1.31 acres. There is an outside storage facility, a smoke training prop, a trash dumpster, and an abandoned vehicle located at the rear of the property. The exterior is exceptionally well-maintained.

Chief Deal stated that the original building's roof and gutter was replaced in 2023, and the facility/property does not have any additional space to expand.



Assessment & Rating

The facility did not have the listed safety features and it is highly recommended to provide these items as soon as feasible:

- Apparatus exhaust/ventilation system (both buildings)
- Emergency eyewash station (original bay floor only).
- Firefighting PPE storage units that provide protection against UV lighting.
- Exit sign for the rear exit door on the original bay floor.
- Smoke and Carbon Monoxide detectors.
- Proper storage for SCBA units and bottles (supplemental bay floor)

The following items are recommended:

- Repair rips and damage in the wall insulation (both buildings).
- Relocate the LPG Grill to the outside storage unit.
- Relocate the riding lawn mower to the outside storage unit.
- Repair the peeling bay floor covering (supplemental bay floor).
- Update restrooms to the ADA standard.

This facility does not possess the necessary personnel accommodation capability (sleeping quarters, lockers) for continuous personnel manning. The overall condition of this facility is satisfactory.

Subjective Rating: Fair



Overall Summary

From an operational and personal protection perspective, the following basic facility standards were recorded and evaluated for twelve (12) facilities.

Personnel Safety Components

- Apparatus Exhaust/Ventilation Systems
 - Three (3) facilities (20%)
- Apparatus Bay Door Safety Sensors²
 - Eleven (11) facilities (92%)
- Emergency Eyewash Stations
 - One (1) facility (8%)
- Exits Marked/Illuminated³
 - Ten (10) facilities (83%)
- Firefighting PPE storage units that provide protection against UV lighting.⁴
 - None (0%)
- Carbon Monoxide Detectors
 - None (0%)

Fire Protection Systems

- All facilities had adequate portable fire extinguishers.⁵
- Smoke Detectors
 - Eight (8) facilities (75%)
- Fire Alarm System
 - Five (5) facilities (42%)
- Sprinkler System
 - One (1) facility (8%)

Electrical

- No significant equipment / components issues noted to reported.

Facility Expansion Capability

- Six (6) facilities (50%)

Personnel Accommodation/Resources

- Restrooms/Shower⁶
 - All facilities (100%)
- Sleeping Rooms/Area

² Some facilities did have partial equipment installed, not fully equipped.

³ Some facilities did not have all exit doors marked or illuminated.

⁴ Most facilities had storage units, but none provided protection from UV lighting.

⁵ Some facilities need additional units for proper protection.

⁶ Some facilities require upgrades.



- One (1) facility (8%)
- Locker Units/Area
 - One (1) facility (8%)
- Physical Fitness Room/Area & Equipment
 - Four (4) facilities (33%)
- Laundry Area/Equipment
 - Nine (9) facilities (75%)
- Office/Training Room/Supplementary Area
 - Eleven (11) facilities (92%)
- Kitchen
 - Ten (10) facilities (83%)

The overall condition of all facilities was highly satisfactory to the current operational standard and capability. However, most facilities do not possess essential safety components or have the capability to accommodate response personnel for continuous manning or shift work. Due to these factors, the overall rating of Lee County, NC fire facilities is "Fair".



Facilities Rating Guide

Excellent

Relatively new and above average in construction, maintenance, and functionality.

Very Good

In excellent condition with more than 10 years of service.

Good

Useful and meets needs, is well maintained and is functional.

Fair

Meets needs but has deficiencies that need attention.

Poor

Old, needs maintenance, Not useful as a fire station in the current condition.



Facility Detailed Observations and Recommendations:

From an operational and personal protection perspective, we assessed the basic facility standards for twelve (12) facilities. When it comes to fire department facilities, it's essential to consider various components to ensure functionality, safety, and efficiency. We strongly recommend that fire department facilities lacking the safety features listed promptly address these items.

I. Personnel Safety Components

1. Apparatus Exhaust/Ventilation Systems

Three (3) facilities, representing 20% of the total, were equipped with this safety feature.

- a. Install an exhaust system for apparatus bays to remove harmful exhaust fumes from fire trucks and other vehicles. Proper ventilation helps maintain air quality and protects firefighters' health. To effectively remove harmful exhaust fumes from fire trucks and other vehicles in apparatus bays, there are several recommended approaches.
 - i. Exhaust Capture Systems: These systems are specifically designed to capture and remove exhaust emissions directly from the vehicle tailpipe. They are commonly used in fire stations and other facilities where vehicles are parked indoors.
 - ii. Back-In Systems: Ideal for single back-in apparatus bays.
 - iii. Drive-Through Systems: Suitable for bays with up to four vehicles parked in tandem.
 - iv. Vertical Stack Rail System: Designed for vehicles with vertical exhaust pipes that need to move in or through an apparatus bay.
 - v. Engine Exhaust Filters: Engine exhaust filters can be installed on the vehicles themselves. These filters trap particulate matter and other pollutants before they are released into the air. Regular maintenance and replacement of these filters are essential for optimal performance.
 - vi. Dilution Ventilation: Dilution ventilation involves introducing fresh outdoor air into the apparatus bay to dilute the concentration of exhaust fumes.



vii. Monitoring Systems: Implement systems to actively monitor carbon monoxide (CO) and nitrogen dioxide (NO₂) levels in the apparatus bay. Regular monitoring helps detect any elevated levels of harmful gases and allows for timely corrective actions.

viii. Building Ventilation: Provide building ventilation exhaust systems in the apparatus bay areas. These systems help maintain overall air quality and reduce exposure to exhaust emissions.

- References: NFPA 101® Life Safety Code, National Institute for Occupational Safety and Health (NIOSH), NFPA 1500

2. Apparatus Bay Door Safety Sensors⁷

- Eleven (11) facilities, representing 92% of the total, were equipped with this safety feature.
- Ensuring safety in fire department apparatus bays is crucial for both personnel and equipment. While there isn't a specific standard that mandates safety sensors for bay doors, integrating these practices can significantly enhance safety in fire department facilities. Always consult local building codes and regulations to ensure compliance with safety requirements.

3. Emergency Eyewash Stations

One (1) facility representing 8% of the total, was equipped with this safety feature.

- Set up an emergency eyewash station in a visible and accessible location. This station is crucial for flushing eyes exposed to hazardous materials or chemicals. Ensure that the eyewash station complies with ANSI Z358.1 standards, which specify requirements for flow rate, water temperature, and accessibility.
- According to the ANSI/ISEA Z358.1-2014, there are two types of eyewash stations that comply with the standards:

⁷ Some facilities did have partial equipment installed, not fully equipped.



- i. Plumbed Eyewashes: These stations are connected to a potable water source. They provide a continuous flow of flushing fluid and are typically installed in fixed locations.
 - ii. Self-Contained, Gravity-Fed Portable Eyewashes: These stations have their own flushing fluid reservoir. They are portable and can be moved to different locations as needed.
- c. To be compliant with the ANSI standards, both types of eyewash stations must meet the following requirements:
 - i. Discharge water at a rate of 0.4 gallons per minute at a pressure of 30 PSI for at least 15 minutes.
 - ii. Be capable of being activated in under one second via a hands-free, stay-open valve.
 - iii. Flush and irrigate both eyes simultaneously.

4. Exits Marked/Illuminated⁸

Ten (10) facilities representing 83%, were equipped with this safety feature.

- a. Properly illuminated exit signs and emergency lighting are essential. These systems help guide occupants safely out of the building during emergencies, especially when visibility is reduced due to smoke or darkness.
- b. Place an illuminated exit sign near the side exit door where firefighting PPE is stored. This ensures that firefighters can quickly locate the exit during emergencies, even if visibility is reduced due to smoke or darkness.
- c. Remember to consult local fire safety professionals or authorities to ensure compliance with specific North Carolina regulations. Properly functioning exit signs and emergency lighting contribute significantly to personnel safety.

5. Firefighting PPE storage units that provide protection against UV lighting.⁹

⁸ Some facilities did not have all exit doors marked or illuminated.

⁹ Most facilities had storage units, but none provided protection from UV lighting.



No facilities were equipped this this safety feature.

- a. Protecting PPE from UV exposure is essential for maintaining its integrity and ensuring the safety of firefighters. Storage units should protect PPE from Ultraviolet (UV) light exposure, which can degrade materials over time. Use UV-resistant materials or keep the storage area away from direct sunlight. Retrofitting existing storage units to protect Personal Protective Equipment (PPE) from UV exposure involves a few key steps.
- b. Identify areas where UV exposure is most likely to occur (e.g., near windows or under direct sunlight). Choose UV-resistant materials for retrofitting. Look for materials that block or absorb UV radiation.
- c. Options include:
 - i. UV-resistant coatings: Apply these coatings to existing surfaces.
 - ii. UV-blocking films: These adhesive films can be applied to windows or transparent panels.
 - iii. UV-resistant plastics: Replace any plastic components with UV-resistant alternatives.
 - iv. Cover Windows and Transparent Panels: If the storage area has windows or transparent panels, cover them with UV-blocking films. These films allow visible light to pass through while blocking harmful UV rays.
 - v. Seal Gaps and Cracks: Inspect the storage units for gaps, cracks, or openings. Seal any openings to prevent UV light from entering. Use weatherstripping, caulk, or other appropriate materials. Position PPE Away from Direct Sunlight: Rearrange the storage layout to minimize direct sunlight exposure. Place PPE away from windows or any other sources of UV light.
 - vi. Install UV-Blocking Curtains or Blinds: If the storage area has windows, consider installing curtains or blinds made from UV-blocking fabric. These can be drawn closed during peak sunlight hours. Regular Maintenance: Regularly inspect the retrofitted storage units. Replace any damaged or worn-out UV-resistant materials promptly.

6. Carbon Monoxide Detectors

No facilities were equipped this this safety feature.



- a. Carbon monoxide detectors protect against exposure to this odorless gas, which can be life-threatening. Carbon monoxide detection is necessary dwelling units, sleeping units, and classrooms that contain a fuel-burning appliance, forced air furnace and fuel-burning fireplaces.
- b. Selecting the right carbon monoxide (CO) detector for your building is crucial for safety. Here are some guidelines to help you choose the most suitable one:
 - i. Battery-Powered: These detectors are easy to install and work even during power outages. Hardwired with Battery Backup: These detectors are connected to your building's electrical system and have a backup battery.
 - ii. Plug-In: These plug directly into an electrical outlet. They are convenient but may not be suitable for all locations.
- c. Sensor Technology:
 - i. Electrochemical Sensors: These are the most common and reliable type. They detect CO levels accurately and respond quickly.
 - ii. Metal Oxide Semiconductor (MOS) Sensors: These are less expensive but may have a shorter lifespan and less accuracy.
 - iii. Biometric Sensors: These are newer and offer long-term stability but are less common.
- d. Features:
 - i. Digital Display: A display shows real-time CO levels, allowing you to monitor changes.
 - ii. Peak Level Memory: Records the highest CO level detected.
 - iii. Interconnectivity: If one alarm detects CO, interconnected alarms throughout the building will also sound.
 - iv. End-of-Life Indicator: Alerts you when the detector needs replacement.
 - v. Voice Alerts: Provides clear voice warnings in addition to alarms.



- e. Follow manufacturer guidelines for optimal placement and meets recognized standards, such as UL 2034.
- f. Replace the entire unit every 5-7 years (check manufacturer recommendations).
- g. Alternative Option
 - i. Combination Smoke and Carbon Monoxide Detectors: Combination smoke and carbon monoxide detectors are permitted to be installed in fire alarm systems in lieu of standalone smoke detectors. These combination detectors must be listed in accordance with UL 268 and UL 2075.
- h. Remember to verify these requirements with local authorities or the North Carolina State Fire Marshal's Office to ensure compliance with the most up-to-date regulations.
 - Reference Section 915.2 of the 2018 NC Fire Code.

II. Fire Protection Systems

In North Carolina, the occupancy type for a fire station falls under the Group F-2 category. Group F-2 occupancies include buildings or structures used for the storage and maintenance of motor vehicles that are fueled by flammable or combustible liquids. Fire stations typically house firefighting equipment, vehicles, and related facilities, making them fall into this classification. It's essential to ensure that the required fire detection, alarm, and suppression systems have been tested and approved. In North Carolina, fire protection requirements are governed by the 2018 North Carolina State Building Code: Fire Prevention Code, Chapter 9.

1. *Portable Fire Extinguishers*

All facilities had adequate portable fire extinguishers.¹⁰

- a. It is recommended, for optimal fire safety, consider the following guidelines for fire extinguisher placement in a fire station:
 - i. General Areas: 2A10BC fire extinguishers are recommended for most areas within the fire station. These

¹⁰ Some facilities need additional units for proper protection.



extinguishers cover Class A (ordinary combustibles), Class B (flammable liquids), and Class C (energized electrical equipment) fires. Ensure that the maximum travel distance to reach an extinguisher is within acceptable limits.

- ii. High-Risk Areas (Kitchen and Garage): 3A40BC fire extinguishers are specifically recommended for the kitchen and garage areas. These extinguishers provide higher capacity for Class A and Class B fires.

- b. Verify these requirements with local authorities or the North Carolina State Fire Marshal's Office.

2. *Smoke Detectors*

Eight (8) facilities representing 75% of the total, were equipped with this fire protection feature.

- a. It is highly recommended to install smoke detectors throughout each facility, especially in sleeping quarters, common areas, and hallways.
- b. The applicable guidelines for smoke detectors options in an F-2 occupancy:
 - i. Combination Smoke and Carbon Monoxide Detectors: These detectors can be used in lieu of standalone smoke detectors. Listed in accordance with UL 268 and UL 2075.
 - ii. Household Fire Warning System: A combination of smoke detectors and audible notification devices is needed. The system should be monitored by an approved supervising station and maintained according to NFPA 72 standards.
 - iii. Duct Smoke Detectors: If required by the North Carolina Fire and Mechanical Codes, duct smoke detectors should be installed.
- c. Local fire officials or building code authorities should be consulted to ensure compliance with specific requirements for your fire station. Remember to verify these requirements with local authorities or the North Carolina State Fire Marshal's Office to ensure compliance with the most up-to-date regulations.



3. Fire Alarm System

Five (5) facilities representing 42% of the total, were equipped with this fire protection feature.

- a. Fire stations should be equipped with a fire alarm system that complies with the NC Building Code, NFPA 70 (National Electrical Code), and NFPA 72 (National Fire Alarm and Signaling Code). These codes provide guidelines for the design, installation, and maintenance of fire alarm systems to ensure early detection and notification in case of fire.
- b. Components:
 - i. Fire Alarm Pull Stations: Fire alarm pull stations (also known as manual fire alarm boxes) should be located between 42 to 48 inches from the floor level to the actuating handle of the fire alarm box.
 - ii. Fire and Heat Detectors
 - iii. Fire Alarm Control Panel (FACP) : Should be conveniently accessible, and when not located in a public or normally occupied area, a Remote Annunciator (FAA) with audible-visible trouble indication is required.
 - iv. Fire Protection Systems: Required fire protection systems should be extended, altered, or augmented as necessary to maintain protection when the building undergoes alterations, remodeling, or additions. Nonrequired fire protection systems may be furnished for partial or complete protection if they meet applicable requirements.
 - v. Fire Areas: If the fire station is divided into fire areas (to avoid exceeding limits that require a fire protection system), these fire areas should be separated by fire barriers or horizontal assemblies with appropriate fire-resistance ratings.

4. Sprinkler System

One (1) facility representing 8% of the total, was equipped with this fire protection feature.

- a. Although fire department facilities are typically exempt from the requirement of having an automatic sprinkler system, fire



department facilities should install sprinkler systems to enhance fire safety and protect lives and property.

III. Electrical

No significant equipment / components issues noted to reported.

IV. Facility Expansion Capability

Six (6) facilities representing 50% of the total, have the capability for facility expansion.

1. Expansion should be in accordance with the 2018 North Carolina State Building Code: Fire Prevention Code, and local authorities for precise details related to fire facility expansion. Safety and compliance are paramount in ensuring effective fire protection.

V. Personnel Accommodation/Resources

1. Restrooms/showers¹¹

All facilities had a restroom, some with bathing capabilities.

- a. The requirements for restrooms and bathing facilities are outlined in the 2018 North Carolina State Building Code. Requirements included general plumbing, sewage disposal systems, the minimum number of fixtures required, the number of required fixtures for either male or female occupants. Additional requirements are included in the ADA (Americans with Disabilities Act) Accessibility Guidelines (ADAAG).

2. Sleeping Rooms/Area

One (1) facility representing 8% of the total, has this capability.

- a. The requirements for a sleeping room or area in a fire station occupancy can vary based on factors such as the specific building code edition adopted by the local jurisdiction.
- b. Factors include:

¹¹ Some facilities require upgrades.



- i. Occupancy Classification & Type
- ii. Emergency Escape and Rescue Openings
- iii. Smoke Detectors and CO Detectors
- iv. Sprinkler System

3. *Locker Units/Area*

One (1) facility representing 8% of the total, has this capability.

4. *Physical Fitness Room/Area & Equipment*

Four (4) facilities representing 33% of the total, have this capability.

- a. A Physical Fitness Room/Area in a fire station is essential for maintaining the health, strength, and overall well-being of firefighters. Here are some considerations and equipment recommendations:

- i. Cardio
- ii. Strength
- iii. Functional
- iv. Stretching

5. *Laundry Area/Equipment*

Nine (9) facilities representing 75% of the total, have this capability.

- a. This equipment and capability are crucial for maintaining the safety and health of firefighters.
- b. Essential equipment options for fire stations:
 - i. Commercial washer-extractors.
 - ii. Commercial dryers.
 - iii. Firefighters' turnout gear (coats, pants, hoods) should be cleaned using specialized gear extractors or washer-extractors designed to meet NFPA 1851 standards.
 - iv. PPE drying cabinets are essential for drying turnout gear quickly and safely.
 - v. There should be an organized record keeping system in place to monitor structural firefighting PPE.



6. *Office/Training Room/Supplementary Area*

Eleven (11) facilities, representing 92% of the total, have this capability.

- a. Fire stations possess dual roles and should possess the ability to fulfill internal operational requirements and those of the community.

7. *Kitchen*

Ten (10) facilities representing 83% of the total, have this capability.

- a. The day room/kitchen serves as a common area for relaxation, meals, and downtime.

The overall condition of all facilities was highly satisfactory to the current operational standard and capability. However, most facilities do not possess essential safety components or have the capability to accommodate response personnel for continuous manning or shift work. Due to these factors, the overall rating of Lee County, NC fire facilities is "Fair".



Section 6: Financial Analysis



Analysis and Methodology

FINANCIAL

The financial analysis began with a request to all seven participating fire departments to provide a completed informational survey form, developed by NCFCC, company audit reports and a copy of their latest Federal Form 990 Return. The financial records of each contracting fire department were reviewed to determine current capital funding/debt service obligations and current total annual operating costs. The funding of the contracted departments was analyzed by reviewing the total dollars/percentage of funding received through municipal funding, county funding, tax district funding, fundraising, grants, or other identified funding sources. The total dollars/percentage designated to personnel and benefits compared to total budget was also analyzed. Finally, the department fund balances were analyzed by both restricted and unrestricted funds.

CAPITAL ASSETS

Fire Chiefs were requested to provide information and listings of their stations, large apparatus, and loose capital equipment. Utilizing the data provided by the departments, NCFCC constructed a projected apparatus capital replacement plan based upon best practices in North Carolina with projections for life expectancy for apparatus. A projection of costs for the next five (5) fiscal years for apparatus capital replacement was developed. Recommendations for loose capital equipment were also provided.

DEPARTMENT STAFFING LEVELS

Fire chiefs were asked to provide a staffing matrix for each of their stations. These matrixes identified work shift schedules and the personnel working during those schedules. Personnel were further identified as either full-time, part-time, stipend, volunteer, or live-in. Ranking levels were also identified, such as driver, firefighter, lieutenant, captain, etc.

MUNICIPAL MODELING

For the Cape Fear Fire Department, which serves both a municipality and unincorporated fire district, a basic comparison model was developed to illustrate a conceptual cost-share city-county model for the department using five data elements:

1. Population
2. Property Square Footage
3. 9-1-1 dispatches (Calls for Service)
4. Square Mileage
5. Property Valuation



Findings:

OVERVIEW

The seven separate rural fire departments within Lee County operate on budgets that are supported by taxes levied within their identified coverage areas. The differences among these fire departments are many and varied:

- The taxes levied in these areas vary from \$0.08 to \$0.145 per hundred-dollar valuation.
- The property valuation within the department districts range from a low of \$354 million to a high of \$778 million.
- The coverage areas for these fire departments range from 28.8 to approximately 52.5 square miles.
- The populations protected range in size from 1,722 to 9,778 residents.
- While all fire departments within Lee County respond to fires and have varying levels of staffing; all of the departments rely on volunteer firefighters to provide the bulk of their response forces.
- The administrative and financial burdens associated with fire departments have increased due to more complex regulations and training requirements.
- As with the fire service in the United States, the volunteer fire departments within Lee County have faced challenges in maintaining membership.

The following are the current fire district tax rates:

Fire District	FY2022-2023
	Rate
Cape Fear	\$0.121
Carolina Trace	\$0.115
Deep River	\$0.115
Lemon Springs	\$0.096
Northview	\$0.080
Pocket	\$0.145
Tramway	\$0.096



FINANCIAL

The information received was compiled to provide a broad overview of the financial status of the seven departments. All Departments utilize a July 1st fiscal year.

Budgetary Controls:

All fire departments indicated that they had payment controls in place, with many departments either requiring two signatures for the issuance of a department check or limiting purchases to small monetary amounts. Other policies, such as, limiting credit cards to select members, i.e. department chiefs or board presidents and/or requiring large purchase approval by respective board of directors were reported. Most departments reported that they did not utilize cash in any fashion for their operations.

Purchasing

None of the departments reported utilizing a central supply/logistics type purchasing arrangement; however, one department reported having participated in the past in joint purchases with others, albeit with limited success.

Inventory Control

Five of the departments reported that they tracked departmental assets. Some of the departments utilize their fire reporting systems, i.e. ImageTrend, to track their assets, while others reported that they physically mark the asset and then enter the serial number of the asset into a dedicated data base.

Funding

Total income received by the seven departments, as recorded on their fiscal year 2023 federal 990 forms averaged five-hundred ninety-six thousand, four-hundred twenty-seven dollars (\$596,427), with a high income reported of one-million one-hundred fifty-one thousand one-hundred seventeen dollars (\$1,151,117) and a low reported of three-hundred ninety-two thousand nine-hundred sixty-six dollars (\$392,966).



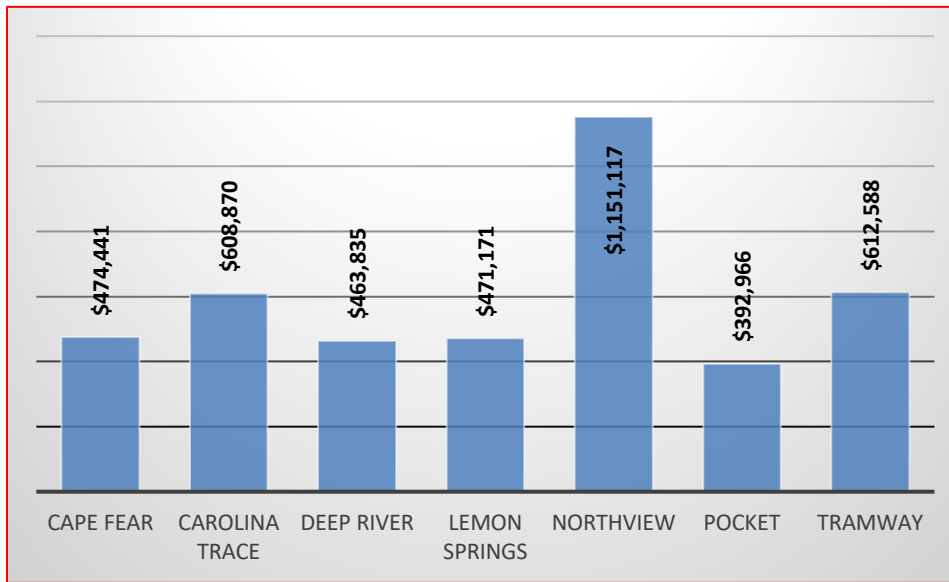


Figure 41: Total Revenue Received (Federal 990)

The following charts show each department's annual revenue source breakdown as indicated on their federal 990 form submission.

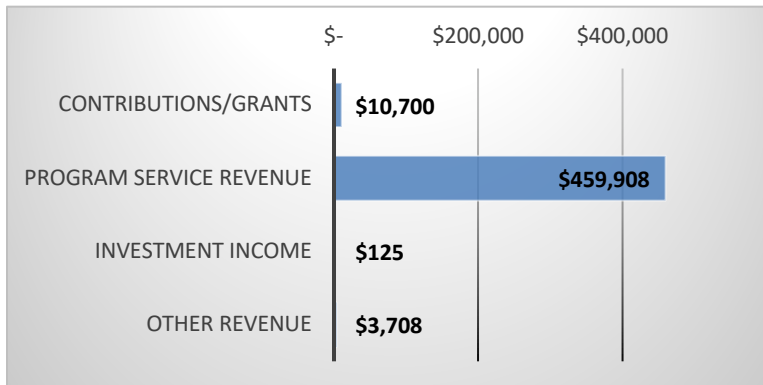


Figure 42: Cape Fear Fire Department

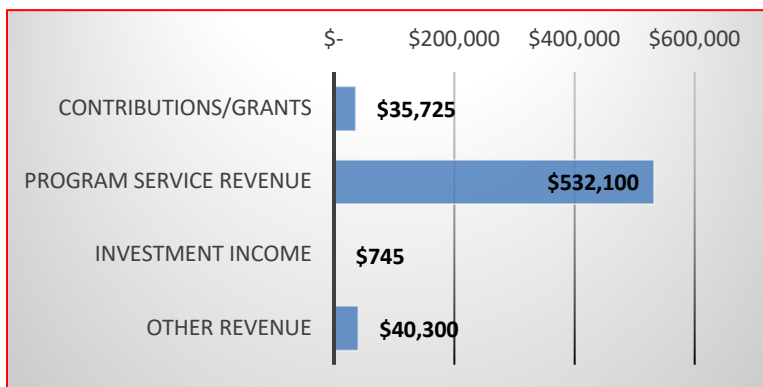


Figure 43: Carolina Trace Fire Department

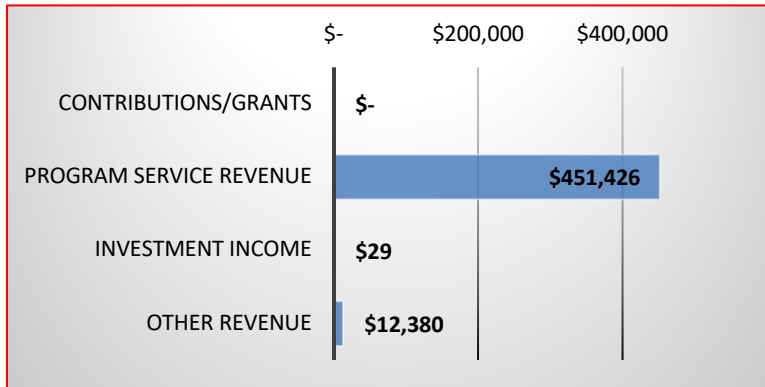


Figure 44: Deep River Fire Department

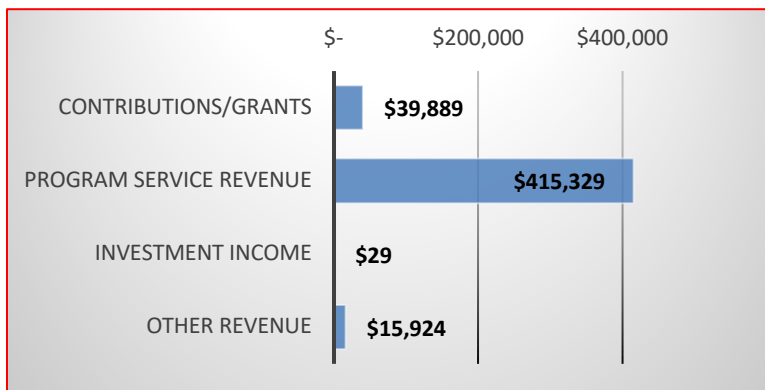


Figure 45: Lemon Springs Fire Department

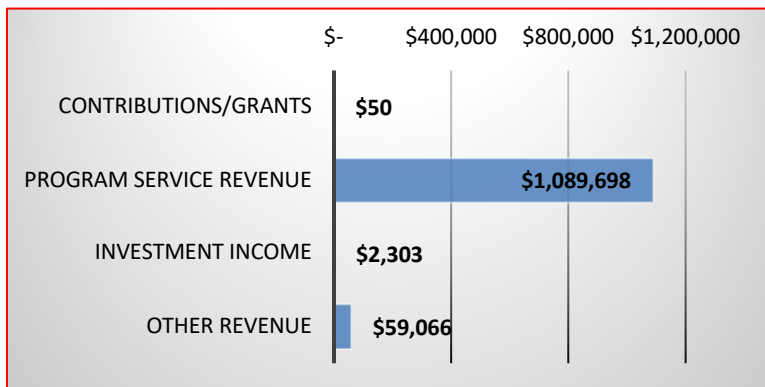


Figure 46: Northview Fire Department

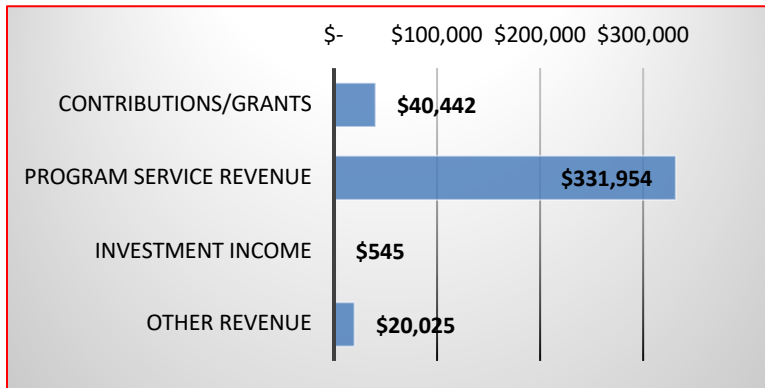


Figure 47: Pocket Fire Department

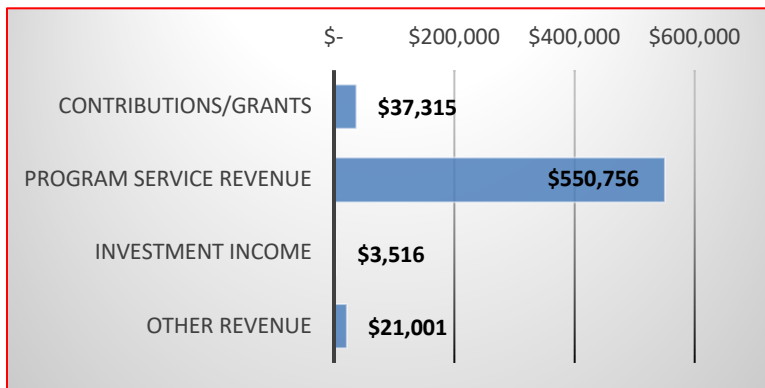


Figure 48: Tramway Fire Department

The Department's FY 2023 financial audits were also utilized to breakdown their revenue received. The following seven charts illustrate each respective department's revenue.

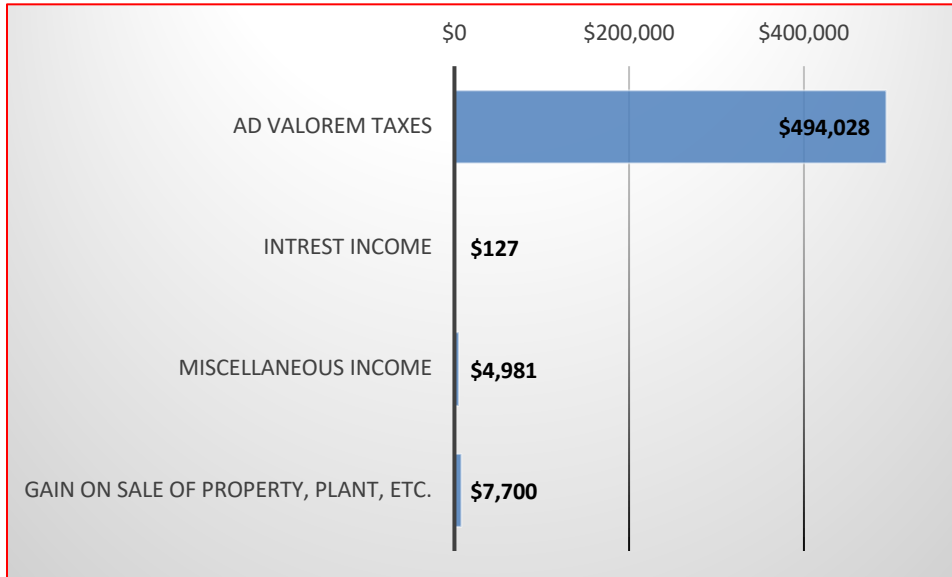


Figure 49: Cape Fear Revenue Report

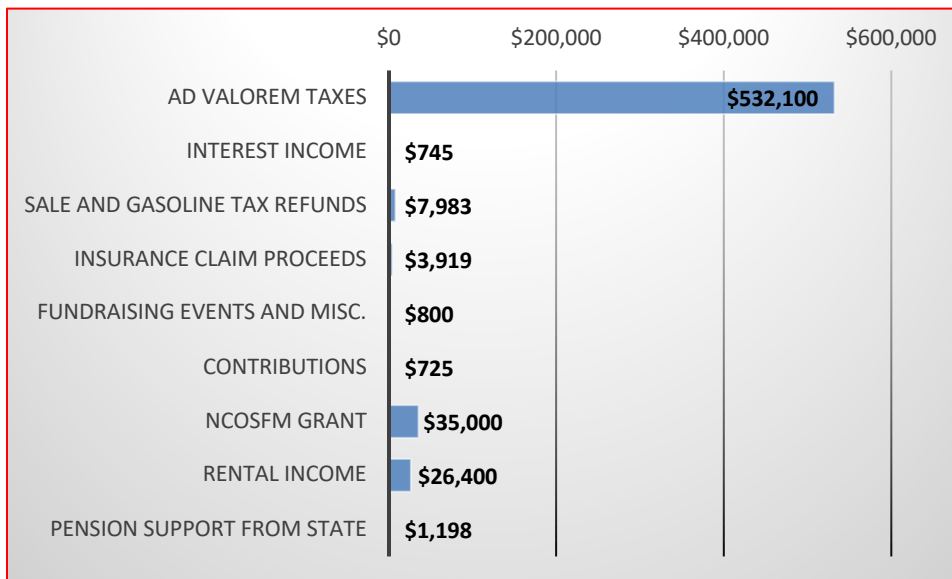


Figure 50: Carolina Trace Revenue Report

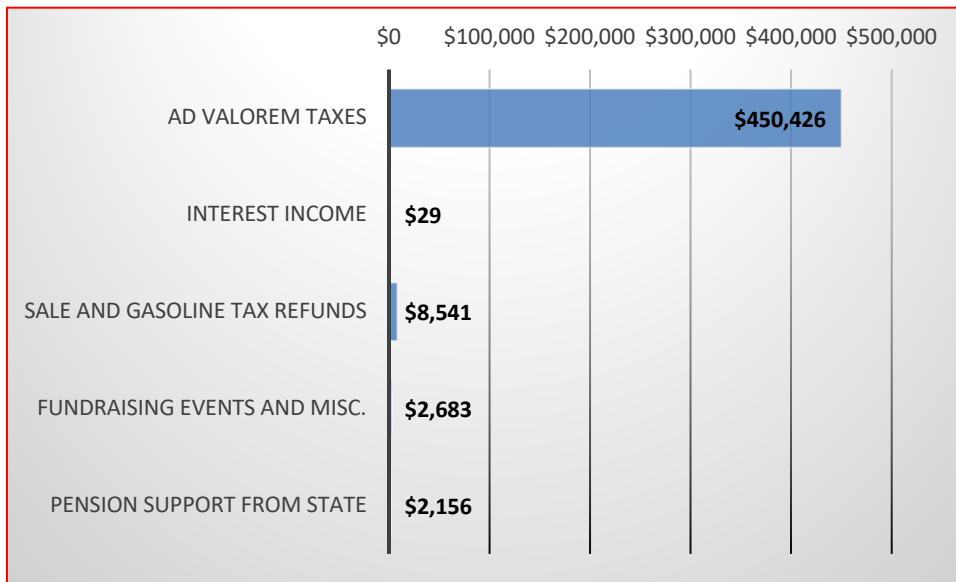


Figure 51: Deep River Revenue Report

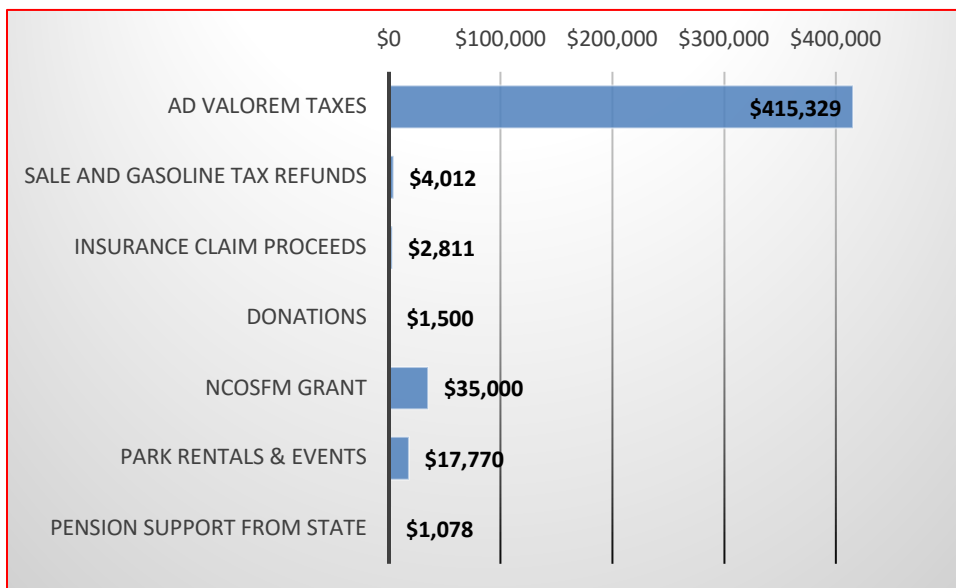


Figure 52: Lemon Springs Revenue Report

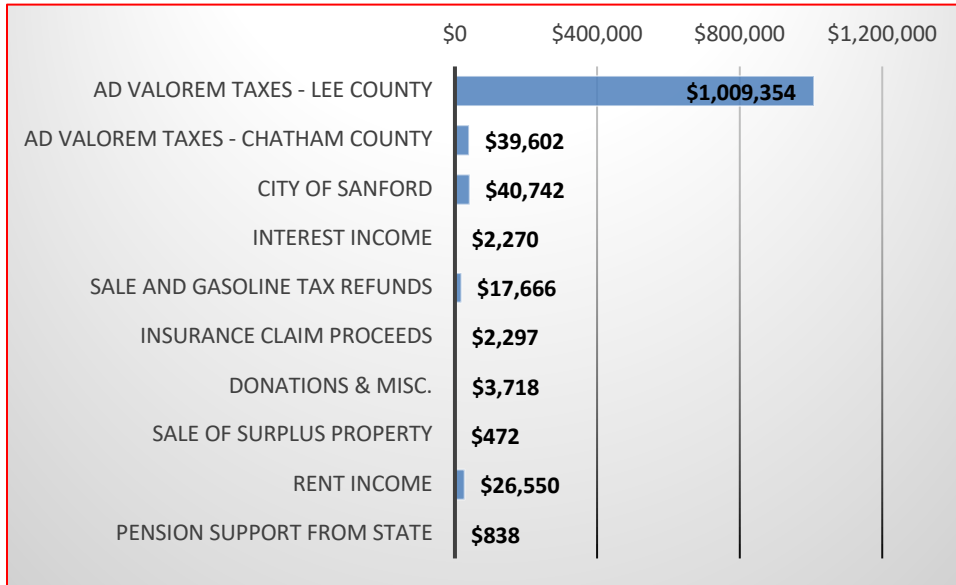


Figure 53: Northview Revenue Report

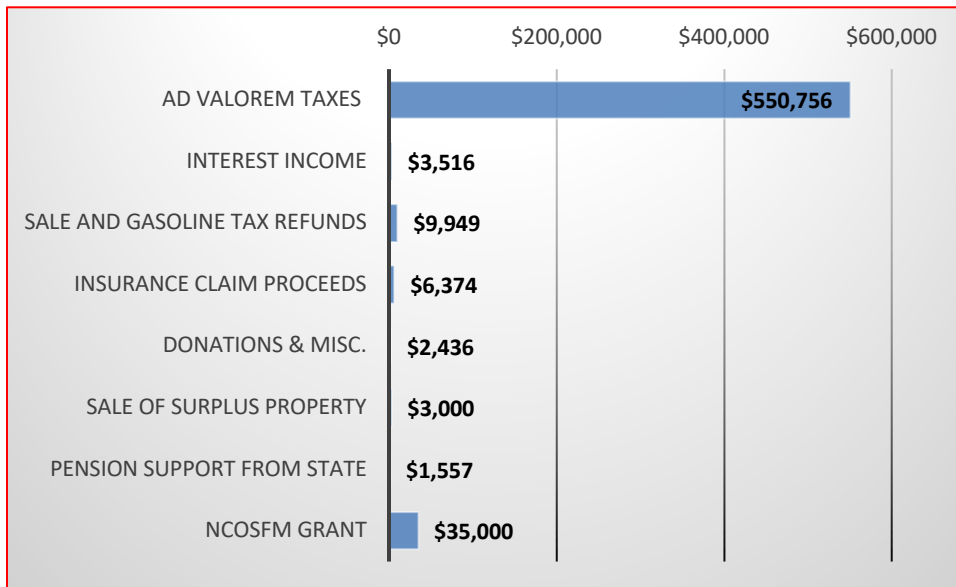


Figure 54: Pocket Revenue Report

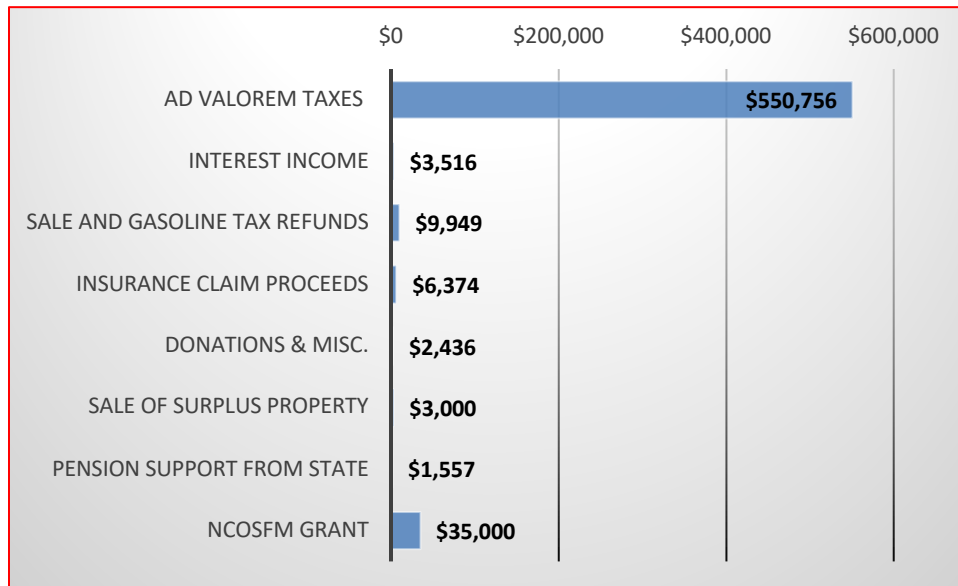


Figure 55: Tramway Revenue Report

Debt

Looking at department debt, all departments maintain an active debt service, totaling slightly over five million dollars (\$5,026,926), with an average department debt of approximately seven-hundred eighteen thousand dollars (\$718,132).

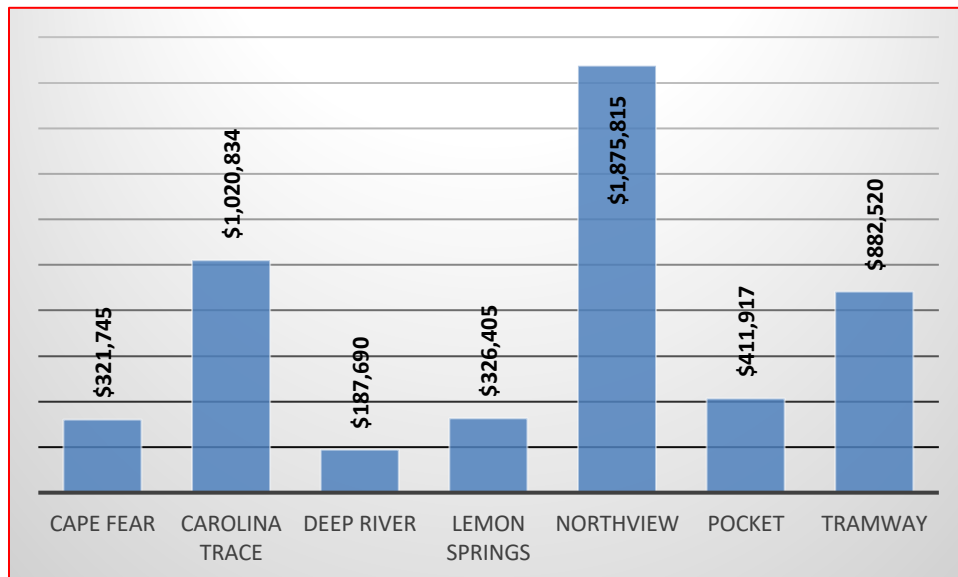


Figure 56: Department Total Debt

The average annual debt payment for the departments was approximately ninety thousand one-hundred sixty-five dollars (\$90,165). The following chart illustrates each department's annual debt payment to revenue ratio.

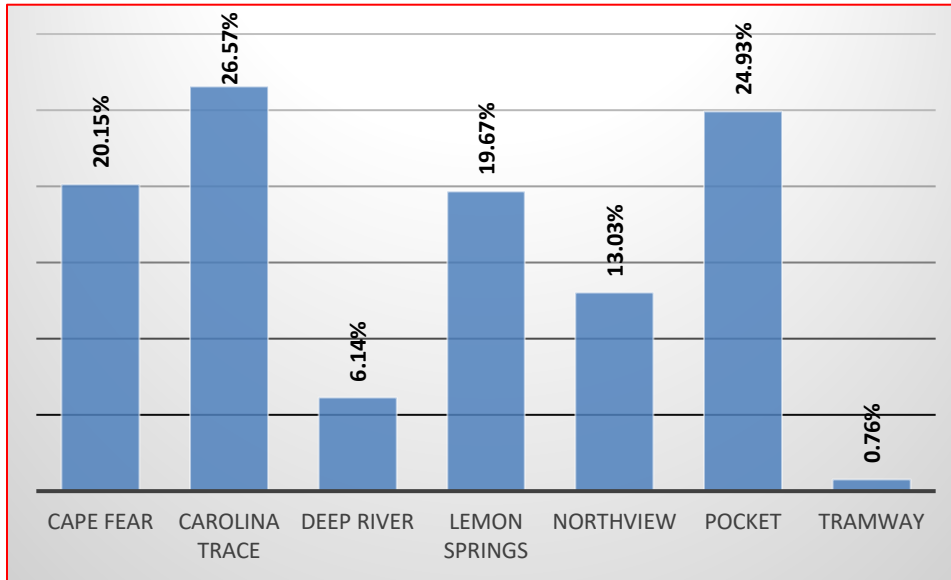


Figure 57: Annual Dept Payment to Revenue Ratio

Budget Analysis

The annual operating budgets for the seven departments ranged from a high of over one million dollars (\$1,024,350) to a low of two-hundred thousand dollars (\$203,370).

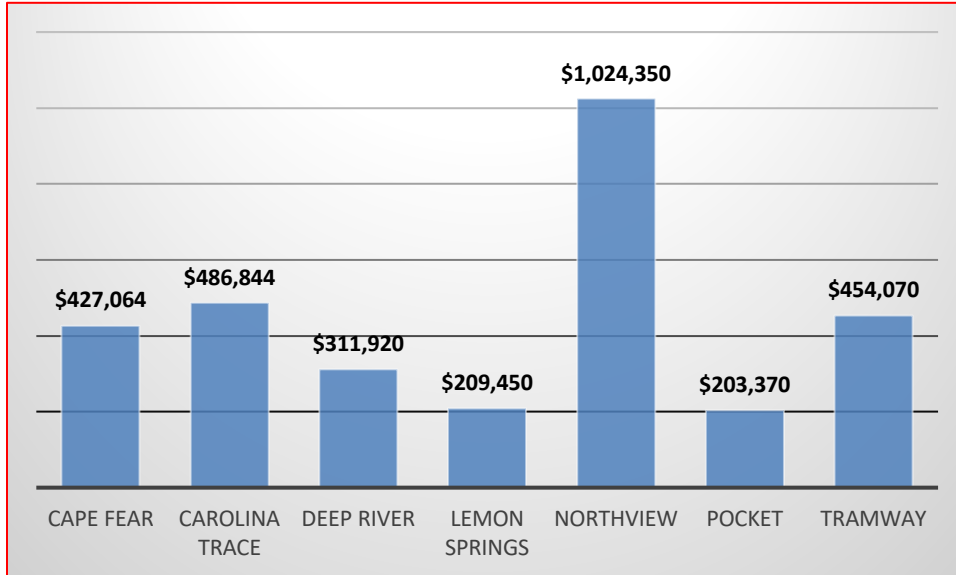


Figure 58: Annual Operating Budgets

An analysis of the total budget dollars and percentage of total operating budget allocated to personnel costs was performed. The Pocket Fire Department had the lowest personnel to budget ratio of the seven fire departments at thirty-two percent (32%) with the Northview Fire Department devoting seventy-one percent (71%) of their operating budget to personnel. The following three charts show the total paid versus volunteer staffing, the percentage of total budget allocated to personnel costs, and the annual dollars spent on personnel costs versus total budget dollars.

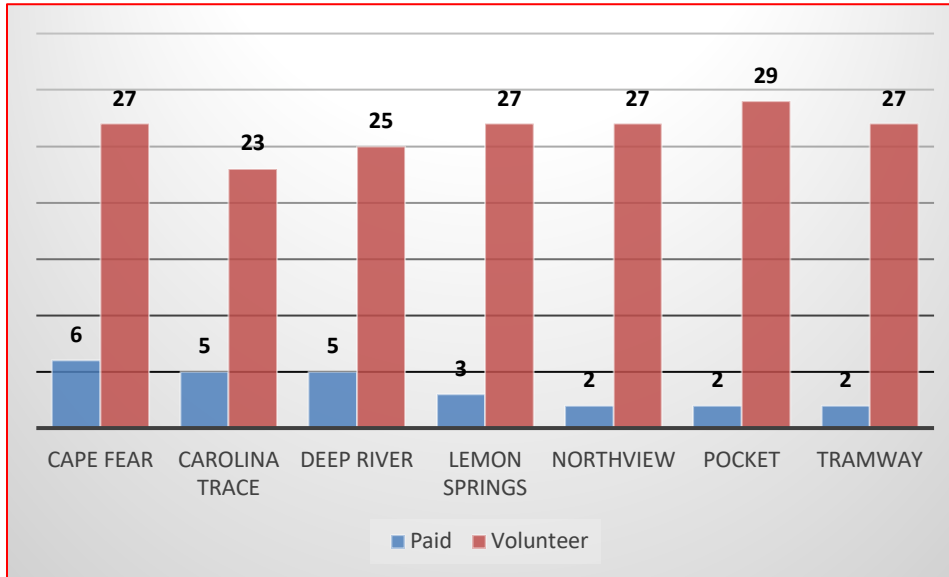


Figure 59: Paid Versus Volunteer

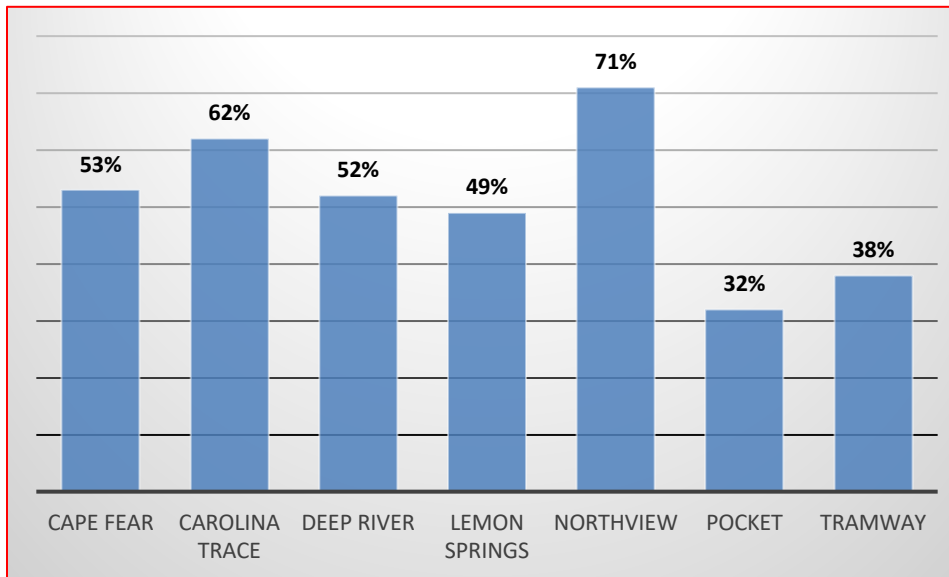


Figure 60: Percentage of Total Budget Allocated to Personnel Costs

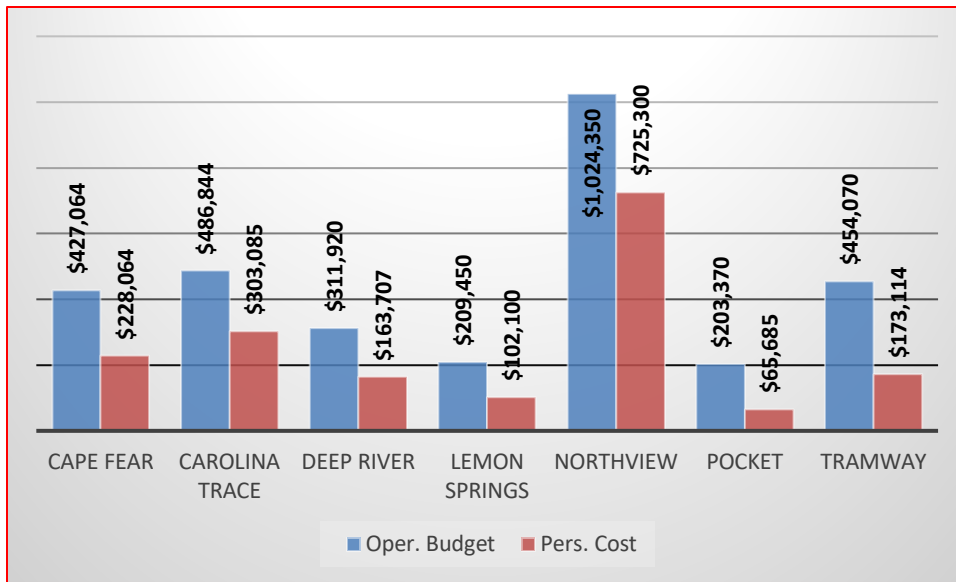


Figure 61: Personnel Costs Versus Total Budget Dollars

The following charts show the percentage dollar amounts spent annually on “Personnel, Safety and Health”, “Administrative”, “PPE, Equipment and Training”, “Vehicles”, “Facilities, Utilities and Insurance”, and “Miscellaneous” costs for each of the study departments.

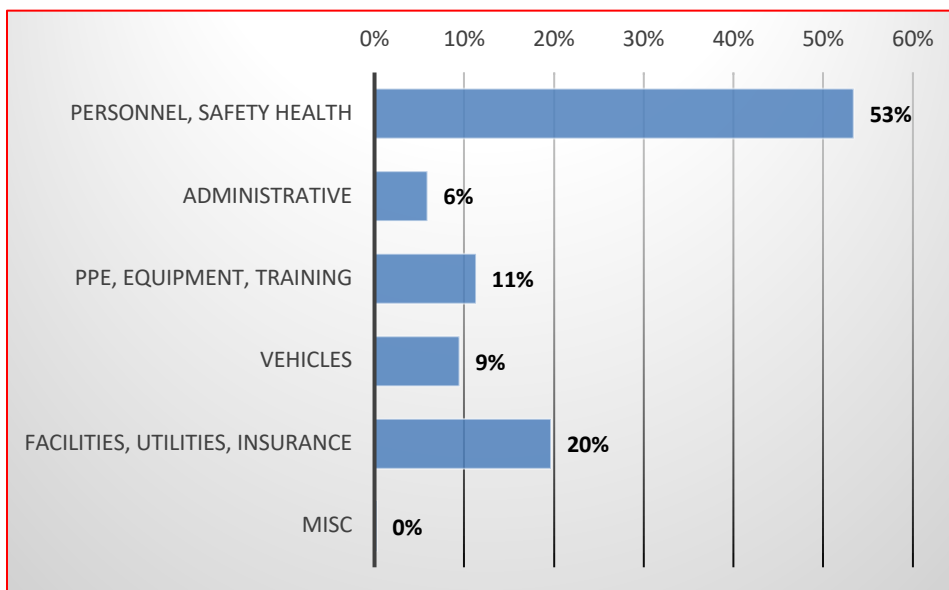


Figure 62: Cape Fear Fire Department

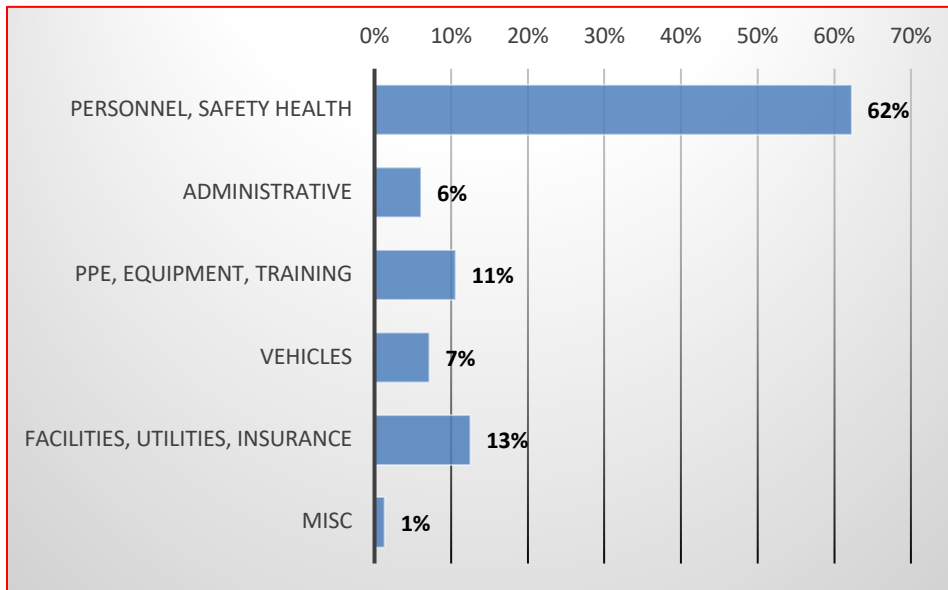


Figure 63: Carolina Trace Fire Department

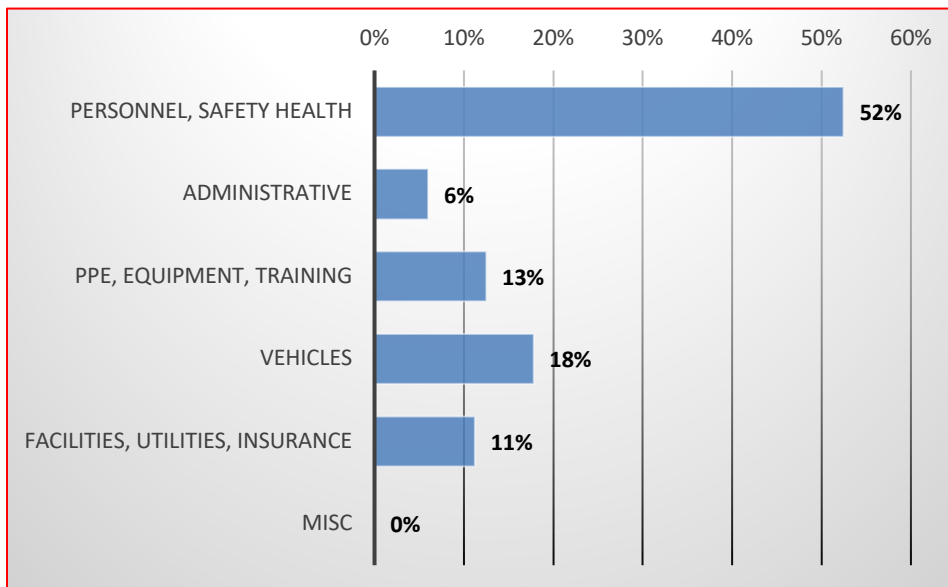


Figure 64: Deep River Fire Department

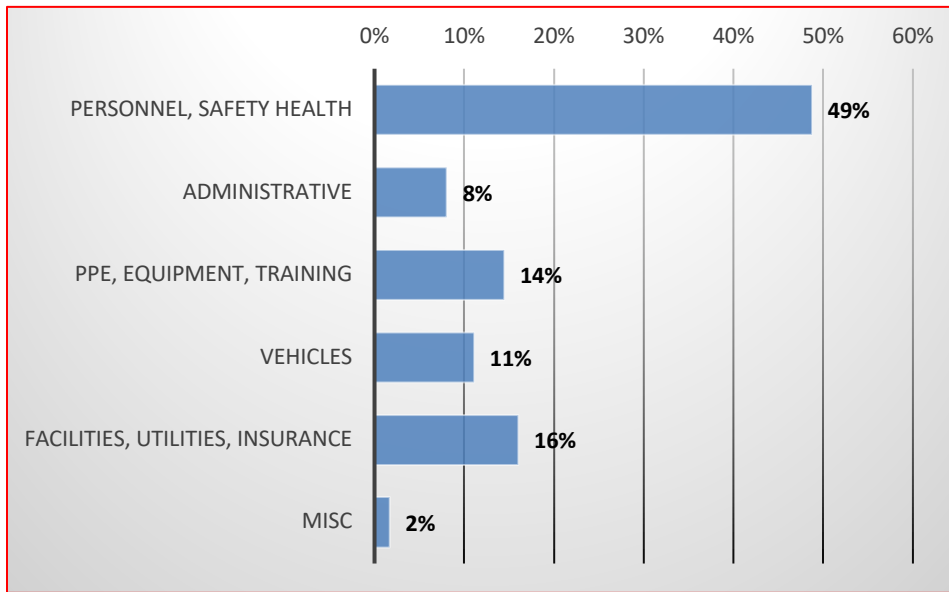


Figure 65: Lemon Springs Fire Department

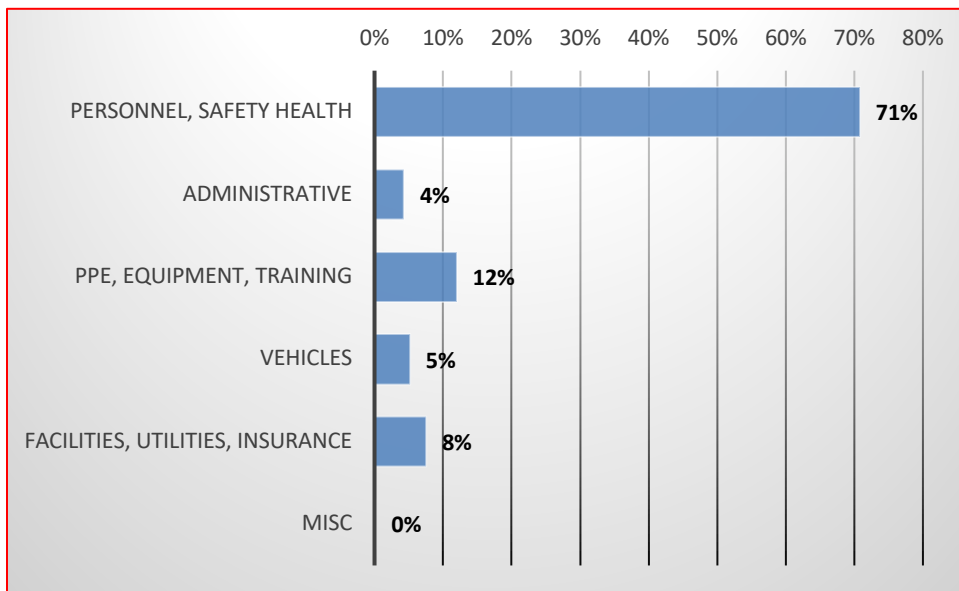


Figure 66: Northview Fire Department

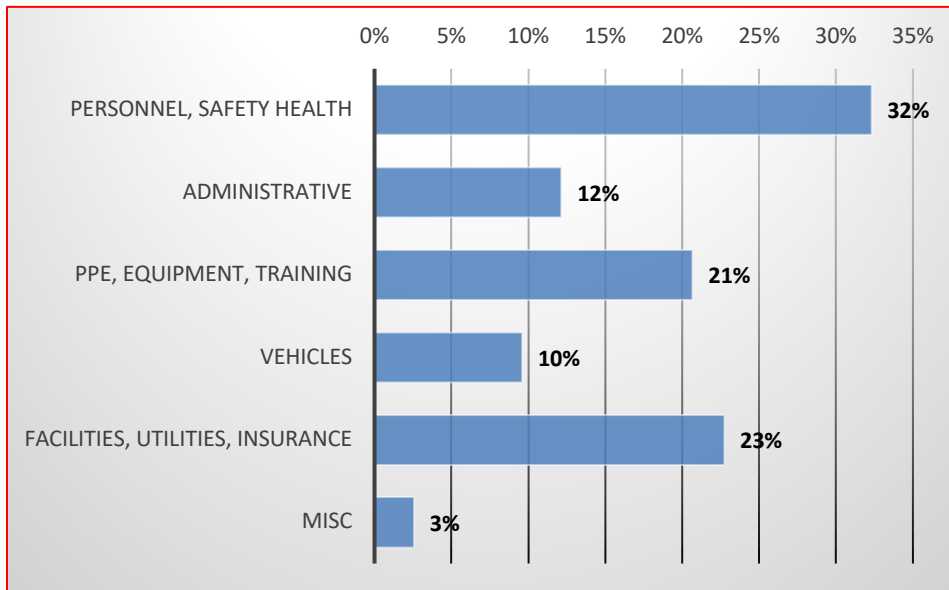


Figure 67: Pocket Fire Department

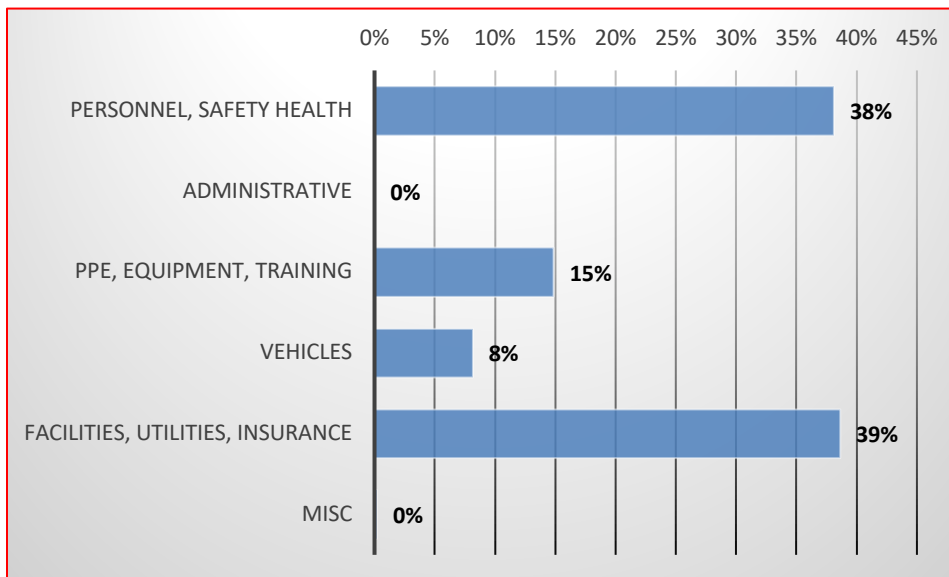


Figure 68: Tramway Fire Department

Utilizing the provided 990 revenues received from each department and the department's calls for service for the same period, a county "cost per call" comparison was developed. The following chart illustrates these costs.

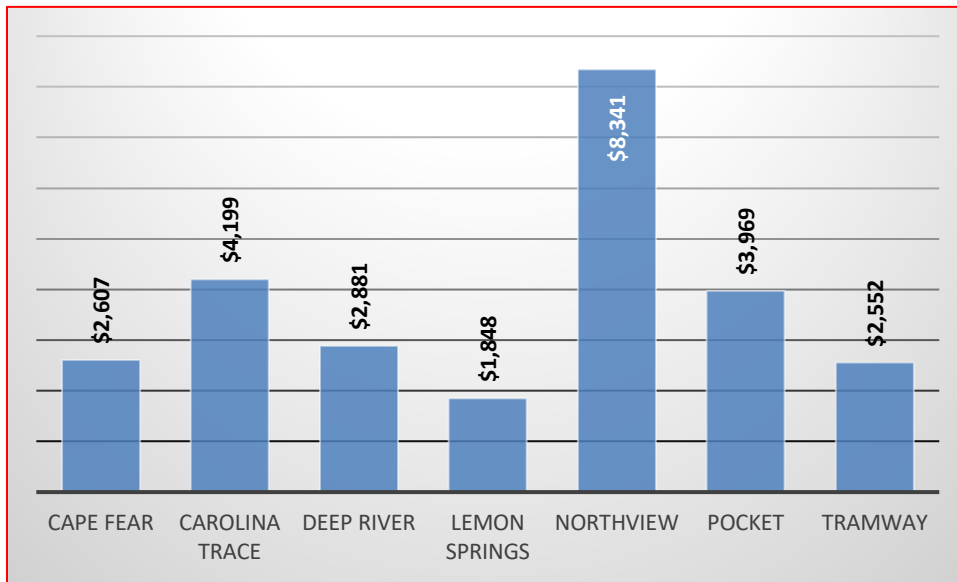


Figure 69: Department Illustrative "Cost per Call"

The liquidity of each of the non-profit departments were obtained by their submitted financial report as of June 30, 2023. These cash or cash equivalent amounts are those funds available for use by the department for any purpose the Board of Directors approve and are not subject to donor or other contractual restrictions. Restricted fund amounts are those with legally binding restrictions on the use of the funds. For the seven departments, the restricted amounts were from their respective firefighter relief funds. These funds were established by the corporations under North Carolina General Statute 118-1 through 118-17. These funds are controlled and administered by a local relief fund board and can only be used for specific purposes as identified in the General Statutes.

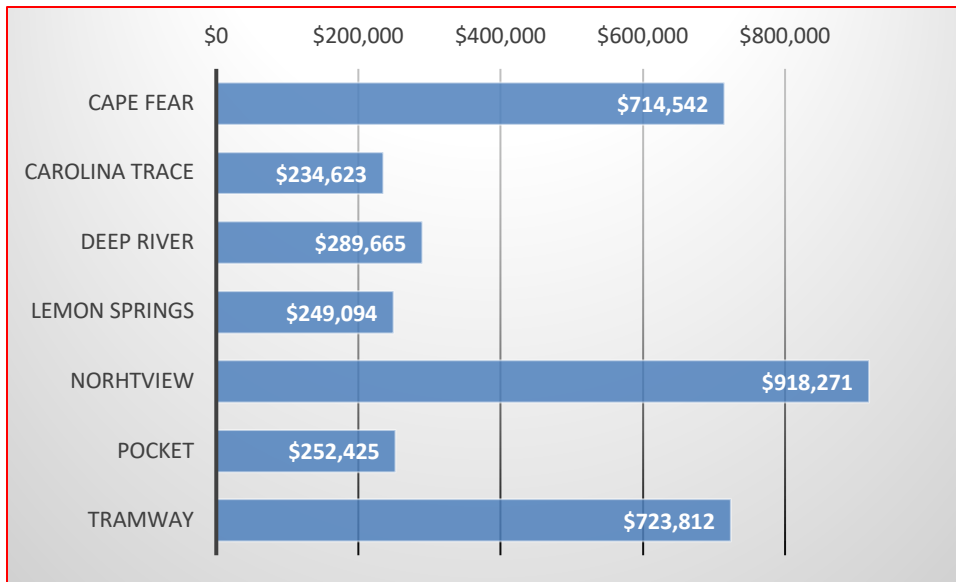


Figure 70: Department Cash and Cash Equivalents

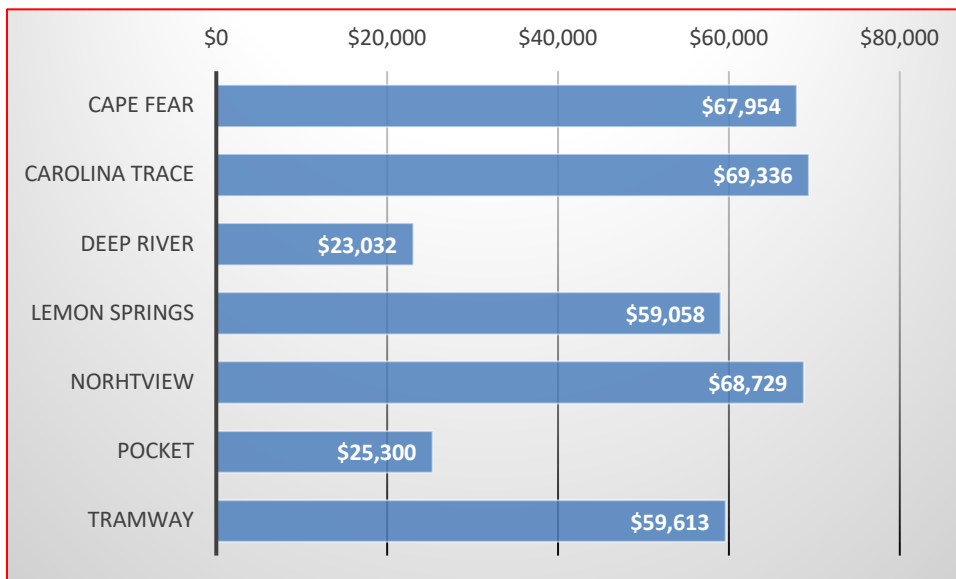


Figure 71: Department Restricted Funds

Capital Assets

STATIONS



The **Cape Fear Fire Department** utilizes two stations, Station 1 and Station 2. Station 1 is a 6,400 square foot facility with 7 apparatus bays and was built in 1978. The building sits upon a nearly one-acre lot (.97) and is currently appraised at \$429,200. The station is staffed Monday through Friday from 7:00 AM until 5:00 PM by two full-time and two part-time members.

Station 2 is a fifteen-year-old structure with an overall size of 4,200 square feet. It has three apparatus bays and sits on a .77-acre lot. It is currently appraised at \$517,900. This station is staffed on Tuesday, Thursday, and Friday by one part-time member between the hours of 7:00 AM through 5:00 PM.





The **Carolina Trace Fire Department** operates out of one station. This facility (Station 8) was built in 1981 with the last addition to the building occurring in 2023. This building is 9,744 square feet, has seven apparatus bays and is currently appraised at \$1,261,600. It sits on an .81-acre lot. Staffing at this station is accomplished with two full-time members who work Monday through Friday on a staggered shift with one working from 7:00 AM to 3:00 PM and the other working from 9:00 AM until 5:00 PM. Additional staffing is provided through the use of part-time personnel Monday through Sunday, with one member working 9:00 AM to 5:00 PM and the other working 9:00 AM through 7:00 PM. The two part-time personnel working Saturday and Sunday both work from 9:00 AM until 5:00 PM.



The **Deep River Fire Department** operates out of two stations. Their Station 4 is a forty-year-old building of 6,000 Square feet and has four apparatus bays. The lot size is 4.42 acres in size, and it is currently appraised at \$657,800. Station staffing¹² at this station consists of one part-time firefighter scheduled from Monday through Friday between the hours of 7:00 AM through 5:00 PM.



Substation 4 is a 4,256 square foot facility with two and a half apparatus bays. This twelve-year old building is on a 2.13-acre site and is currently appraised at \$754,500. The staffing at this station consists of a single full-time member working Monday through Friday from 7:00 AM through 5:00 PM.

¹² A full-time Fire Chief works Monday through Friday at this station.





The **Lemon Springs Fire Department's** main station is a thirty-eight year old building of 6,300 square feet with four drive through apparatus bays. The building's current appraisal is \$558,600 and the lot size is 1.37 acres. Staffing at this station is a single part-time member working from Monday through Friday between the hours of 7:00 AM until 5:00 PM.



Their second station is a fifteen-year-old structure consisting of 4,200 square feet and three apparatus bays, two of which are drive through. The lot size is 1.28 acres and the appraisal of this building is \$562,000. As with their main station, this station is staffed with a single part-time member working Monday through Friday between the hours of 7:00 AM until 5:00 PM.



The **Northview Fire Department** provides service with two fire stations. Their main station, originally constructed in 1963, is currently appraised at \$1,499,500. Improvements and additions were made to this building through 2022. The station's lot size is 2.66 acres and the building is 10,849 square feet and has six apparatus bays. Staffing¹³ at this station consists of three part-time firefighters working from 8:00 AM until 5:00 PM, Monday through Friday. Two stipended chief officers work four hours daily Monday through Friday.



Northview Station 2 is a four bay 6,000 square foot building constructed in 1987. It sits on a 2.68 acre lot and is appraised at \$336,100. The staffing at this station consists of two part-time firefighters who work Monday through Friday from 8:00 AM through 5:00 PM.

¹³ A Chief and Assistant Chief work at this station 20 hours per position.





The Pocket Fire Department has two fire stations. The Pickard Street station (Station 9) is approximately 5,400 square feet and has six apparatus bays. It was originally constructed in 1984, with additions added in 1986, 1995, and 2008. The property size is 1 acre and current appraisal is \$507,600. Station staffing consists of one full-time firefighter working Monday through Friday from 8:00 AM through 4:00 PM.



The Blackstone station is comprised of two structures, the apparatus building (4,00 Sq. ft.) and the personnel building (1,200 Sq. ft.). The structure was originally built in 1989 and added onto in 2016. The lot size is 1.88 acres and the current appraisal is \$523,400. Staffing at this station consists of one part-time firefighter working Monday through Friday from 8:00 AM until 4:00 PM.

The **Tramway Fire Department's** district is served by one fire station (Station 2) location with two separate buildings. One building is approximately 5,600 square feet and the second is 4,500 square feet. The two buildings have a total of nine apparatus bays, and were built in 1979 and 2005. The total current valuation for these structures is \$1,255,700. The staffing for the department at this station consists of two full-time firefighters Monday through Friday from 8:00 AM until 5:00 PM. Saturday and Sunday coverage is provided by one part-time firefighter from 8:00 AM until 5:00 PM.



APPARATUS

The seven study departments provided a listing of thirty-eight large apparatus capital assets. These vehicles included engines (pumpers), an aerial (ladder truck), tankers, and combination vehicles (pumper/tankers, engine/rescues, etc.) The number of vehicles aged between 1 and five years was seven, with eight vehicles ranging six to fourteen years old. There were six vehicles aged fifteen years through twenty years old and seventeen vehicles older than twenty years old. Nineteen of the apparatus were engines, with nine additional vehicles being a combination engine/rescue (1) or engine/tanker (8). Tanker vehicles comprised five of the listed apparatus. There was one aerial vehicle listed by Northview Fire Department. There were four rescue-type vehicles reported. Replacement cost for **all** department large apparatus would conservatively be over **thirty-four million dollars** (\$34.3 million).

The following chart illustrates the reported vehicle maintenance and fuel costs against the average age and number of the departments large apparatus.

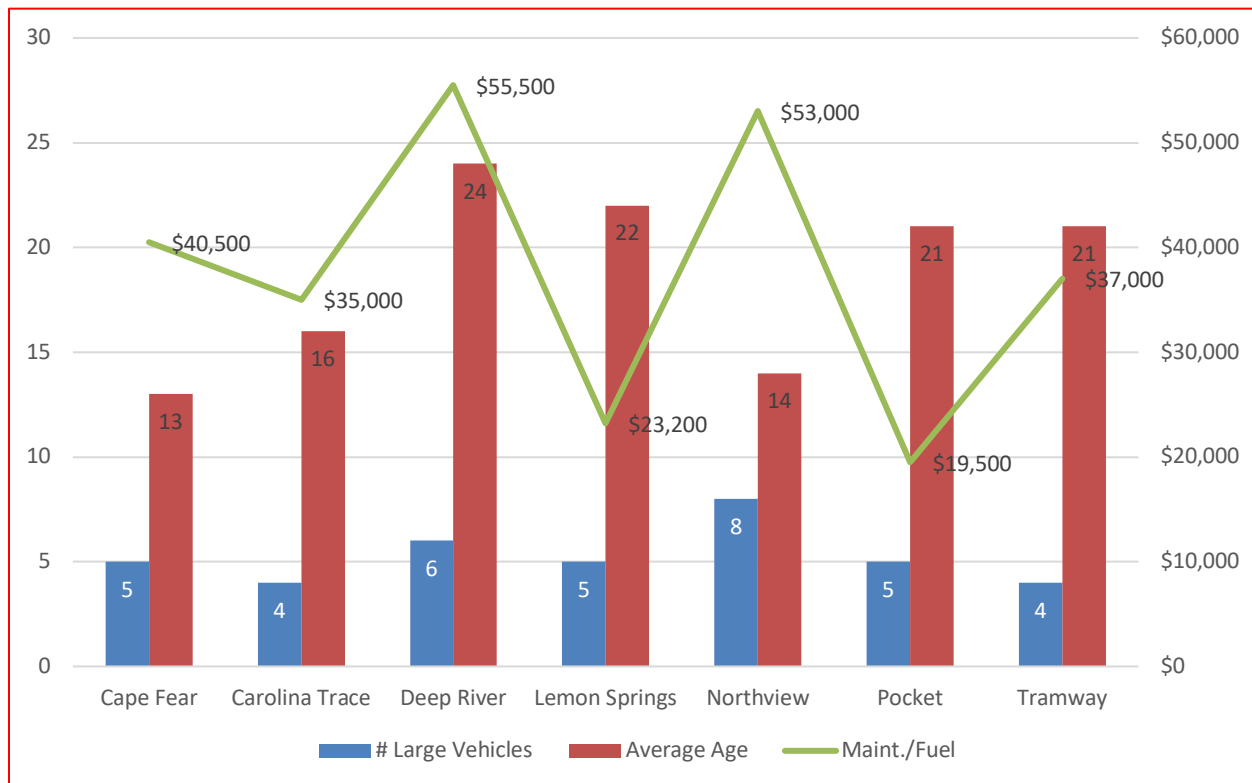


Figure 72: Department # Large Vehicles/Average Age/Maintenance & Fuel Costs

There are multiple considerations which go into determining when to replace fire department apparatus. The condition of the apparatus, ongoing maintenance/repair costs and the apparatus' continued ability to meet the department's needs are among those considerations. In the absence of these determining factors, this study has relied on a recognized national standard for suggested apparatus replacement scheduling. NFPA Standard 1901, *Standard for Motorized Fire Apparatus*, recommends replacement of fire apparatus when reaching an age of twenty-five years and movement of a vehicle into the reserve fleet at the fifteen-year mark. Whenever fifteen- to twenty-four-year-old vehicles are moved into the reserve fleet according to NFPA recommendations, there would need to be a front-line replacement apparatus purchased.

For the purposes of this study, vehicles ten-years old or older were considered for replacement, to establish a generalized cost figure for a potential capital replacement five-year plan. There were eleven vehicles less than ten-years old and twenty-seven vehicles ten-years or older, of which, five vehicles were listed as reserve apparatus and were not considered for replacement. The replacement cost for large apparatus, turning fifteen-years old within the next five years, is over nineteen and three quarter million dollars (\$19.7 million). A sample five-year replacement program for the submitted inventory of department large apparatus inventory is shown below¹⁴.

5-Year Replacement	
Year 1	\$3,450,000
Year 2	\$4,350,000
Year 3	\$3,800,000
Year 4	\$4,700,000
Year 5	\$3,450,000

Figure 41: Five-Year Apparatus Replacement Plan

As refurbishment of apparatus can be a very cost-effective method to prolong equipment life, it is recommended that apparatus refurbishment be considered as a part of the county's long range capital replacement program. NFPA Standard 1901 should be used as a guide to any refurbishment program. Cooperative purchase programs, such as the HGACBuy¹⁵ Cooperative Purchasing Program, can also provide significant savings when purchasing new fire apparatus. Also, purchasing "demo" or demonstrator apparatus could potentially produce some cost savings and reduce the manufacturing time.

¹⁴ Replacement and refurbishment costs shown are estimates only. Actual costs can vary greatly.

¹⁵ Helping Governments Across the County Buy [Home | HGACBuy](#)



2024 Fire and Rescue Service Delivery System Analysis for Lee County, NC

Type	Department	Year	Age	Action	Cost	Refurbis	Replace
Engine	Northview	2022	1	No Action	\$0	\$585,000	\$900,000
Tanker	Pocket	2022	1	No Action	\$0	\$487,000	\$750,000
Tanker	Cape Fear	2021	2	No Action	\$0	\$487,000	\$750,000
Engine/Tanker	Deep River	2021	2	No Action	\$0	\$585,000	\$900,000
Quint	Northview	2020	3	No Action	\$0	\$900,000	\$1,400,000
Engine	Northview	2019	4	No Action	\$0	\$585,000	\$900,000
Engine	Carolina Trace	2018	5	No Action	\$0	\$585,000	\$900,000
Engine/Rescue	Cape Fear	2016	7	No Action	\$0	\$585,000	\$900,000
Engine/Tanker	Lemon Springs	2016	7	No Action	\$0	\$585,000	\$900,000
Engine/Tanker	Northview	2015	8	No Action	\$0	\$585,000	\$900,000
Engine	Tramway	2014	9	No Action	\$0	\$585,000	\$900,000
Engine	Cape Fear	2013	10	Replace	\$900,000	\$585,000	\$900,000
Tanker	Cape Fear	2011	12	Replace	\$750,000	\$487,000	\$750,000
Engine	Carolina Trace	2010	13	Replace	\$900,000	\$585,000	\$900,000
Engine/Tanker	Lemon Springs	2009	14	Replace	\$900,000	\$585,000	\$900,000
Engine	Pocket	2008	15	Replace	\$900,000	\$585,000	\$900,000
Engine	Tramway	2005	18	Replace	\$900,000	\$585,000	\$900,000
Rescue	Deep River	2004	19	Replace	\$1,000,000	\$800,000	\$1,000,000
Engine	Northview	2004	19	No Action	\$0	\$585,000	\$900,000
Rescue	Northview	2004	19	Replace	\$1,000,000	\$800,000	\$1,000,000
Engine	Cape Fear	2003	20	Replace	\$900,000	\$585,000	\$900,000
Engine/Tanker	Lemon Springs	2001	22	Replace	\$900,000	\$585,000	\$900,000
Engine	Carolina Trace	2000	23	Replace	\$900,000	\$585,000	\$900,000
Rescue	Carolina Trace	1999	24	Replace	\$1,000,000	\$800,000	\$1,000,000
Rescue	Northview	1999	24	Replace	\$1,000,000	\$800,000	\$1,000,000
Engine	Cape Fear	1998	25	Replace	\$900,000	\$585,000	\$900,000
Engine	Deep River	1998	25	Replace	\$900,000	\$585,000	\$900,000
Tanker	Pocket	1998	25	Replace	\$750,000	\$487,000	\$750,000
Engine	Tramway	1997	26	Replace	\$900,000	\$585,000	\$900,000
Engine	Lemon Springs	1995	28	Replace	\$900,000	\$585,000	\$900,000
Engine	Pocket	1995	28	Replace	\$900,000	\$585,000	\$900,000
Engine	Deep River	1993	30	Replace	\$900,000	\$585,000	\$900,000
Engine	Tramway	1993	30	No Action	\$0	\$585,000	\$900,000
Engine/Tanker	Deep River	1991	32	No Action	\$0	\$585,000	\$900,000
Engine	Pocket	1989	34	No Action	\$0	\$585,000	\$900,000
Engine/Tanker	Northview	1988	35	Replace	\$900,000	\$585,000	\$900,000
Tanker	Deep River	1987	36	Replace	\$750,000	\$487,000	\$750,000
Engine/Tanker	Lemon Springs	1983	40	No Action	\$0	\$585,000	\$900,000



DEPARTMENT LOOSE CAPITAL EQUIPMENT

All seven departments provided lists of their loose capital equipment for this study. The departments were requested to provide basic information about their higher value capital equipment. The report form broke the equipment down into the following categories:

- Generators
- Thermal Imagers
- SCBA and associated equipment
- AEDs
- Extrication equipment
- Pagers
- Radio
- Turnout Gear (Personal Protective Equipment)

There were eighteen generator units listed between the seven departments. The average size of the generators was 17 Kw. The average age of the units was 15 years old with the unit being 34 years and the newest unit being 1 year old. This equipment has an estimated total value of **\$115,750**¹⁶. The listing of these items can be found in the Appendix (Figure 37).

The inventory equipment list included thermal imaging cameras. All seven reporting departments listed having such equipment. There were a total of twenty-eight cameras among the departments, with all departments, with the exception of Lemon Springs, having at least three such devices. Lemon Springs reported owning two cameras. The average age of the cameras was 6 years, with the newest unit listed at 1 year old and three units were listed as being ten years old or older. The estimated value of this equipment was listed as nearly **\$63,000**. The complete inventory of cameras can be found in the Appendix (Figure 38).

The SCBA category broke down the equipment into three subcategories; SCBA fill stations, SCBA, and RITT packs. All departments listed SCBA fill stations as equipment their department owned, and each department listed at least one fill station.

Carolina Trace and Northview Fire Departments listed two fill station units each. Of the eight fill stations listed, four units were listed as being over 20 years old. One unit was listed as being one and a half years old, with the remaining units being eleven years or older. Five units were listed at 6,000 PSI, one each at 5,500, 5,000, and 4,500 PSI. Tramway's mobile air trailer did not have its pressure capability listed. Tramway's unit and Deep River's unit were listed as being truck/trailer mounted portable units. All fill station equipment was estimated to be valued at **\$253,500**.

¹⁶ As valued by respective fire chief estimates in their submitted NCFCC survey form.



The manufacture and use of self-contained breathing apparatus (SCBA) for the fire service is covered under NFPA 1981 *Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services*. The seven departments provided a listing of their SCBA inventories, which totaled 201 air packs and was valued at approximately **\$685,500**. They were as follows:

Cape Fear.....	Survivair Panther.....	26 Units	2,216 PSI
Cape Fear.....	Honeywell	26Units	2,216 PSI
Carolina Trace	MSA G1	30 Units	4,500 PSI
Deep River.....	MSA G1	28 Units	4,500 PSI
Lemon Springs.....	MSA G1	23 Units	4,500 PSI
Northview	MSA G1	26Units	4,500 PSI
Pocket.....	MSA G1	24 Units	4,500 PSI
Tramway.....	Scott 4.5	28 Units	4,500 PSI

Industry standards recommends that self-contained breathing apparatus should be examined for replacement when units are more than two NFPA editions old. This is less a function of equipment condition as it is the evolution of air pack safety features, such as integrated PASS alarms, low air alarms, face piece improvements and emergency breathing safety systems, which were required by successive NFPA standards. SCBA manufacture is currently covered under the 2019 edition. The previous edition was released in 2013. There is one department utilizing SCBAs manufactured before the 2013 NFPA edition. Cape Fear has twenty-six units manufactured under the 2002 edition. New SCBA, which meet the current edition of current NFPA 1981, can be priced at upwards of \$8,000 or more per unit. A conservative cost estimate for replacement of the twenty-six older air packs could approach or exceed **\$208,000**. It is recommended that when Cape Fear replaces their SCBA, they purchase equipment similar to the other departments for interoperability purposes.

The last breathing air related equipment inventoried was Rapid Intervention Team (RIT) packs. All departments providing inventories of their equipment indicated having this equipment. Five departments, Cape Fear, Carolina Trace, Lemon Springs, Northview, and Pocket listed having two packs with Deep River and Tramway having one. The average age of the twelve units is six years, with the oldest units being 20 years old and the newest units being one year old. The RIT packs were valued at **\$61,000**. The complete listing of breathing air equipment, which was estimated to be valued at nearly **\$969,732** can be found in the Appendix (Figures 39, 40 and 41).

Included in the capital equipment inventory form was automated cardiac defibrillators (AED). All departments reported owning at least three or more units. There were a total of thirty AEDs listed with an average age of 7 years, with fourteen units being ten years old or older. The chiefs estimated their equipment at a total of **\$102,580**. The listing of this equipment can be found in the Appendix (Figure 42).



The equipment inventory form requested information on department pagers. All departments indicated that they owned pagers for alerting their members. The total number of pagers were listed at two-hundred eighty-nine and valued at nearly **\$104,000**. The age of pagers ranged from one to fifteen years. A complete listing of the pager inventory can be found in the Appendix (Figure 43).

Radio communication equipment inventory was requested. The departments were requested to list information about their department's portable radios (handheld), mobile radios (installed in vehicles) and base station radios (utilized in a fixed location, such as a fire station). This equipment was listed with a total estimated value of **\$223,051**. The complete listing of this equipment can be found in the Appendix (Figures 44, 45, and 46).

Extrication equipment was the next category of inventory, which for the seven departments was very extensive and valued over **\$800,000**. The average age of the equipment is approximately thirteen years, with some equipment listed as being over forty years old (8 units) and some as new as one year. There were thirty-one pieces of extrication equipment listed as being twenty years old or older. A full listing of this inventory has been included in the Appendix (Figure 47).

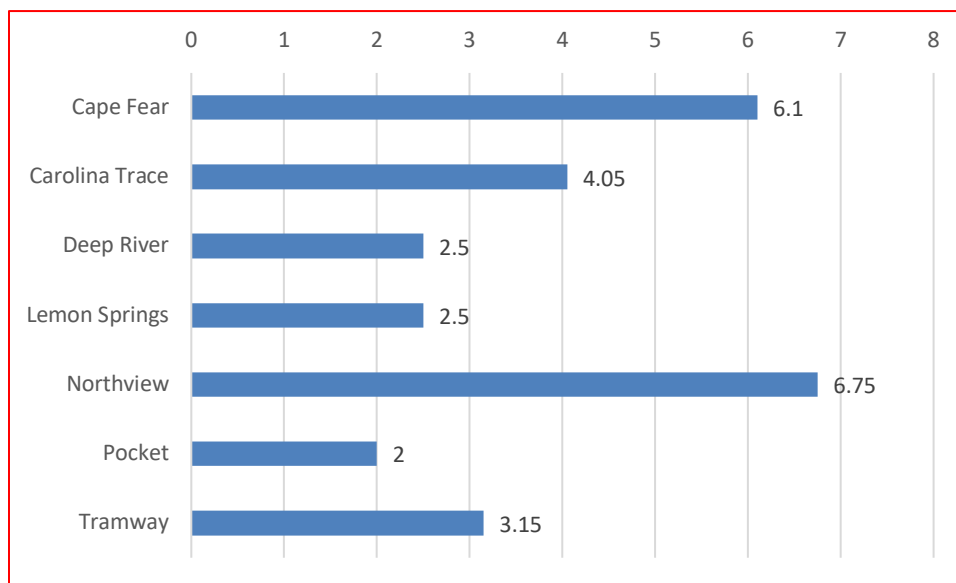
The final item included in the loose capital equipment inventory was firefighter turn-out equipment or personnel protective equipment (PPE). The seven departments listed over 350 items of PPE. When adjusted for PPE sets, consisting of a pair of trousers and jacket, the PPE inventory totals approximately two-hundred and fifty-seven sets. The approximate value of the PPE inventory, as estimated by the departments, is **\$768,200**. The average age of the PPE varies from five years or less (~147 sets) to five to ten years (~ 61 sets), with approximately 23 sets over ten years of age. *The Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting*, NFPA 1851, provides guidance on the lifetime usage of turn out gear. Among the consensus standard recommendations is the retirement of structural turnout gear no more than ten years from manufacture (NFPA 1851 Section 10.1.2). Formal replacement programs for PPE should be included in department long range capital replacement plans. The listing of department PPE inventory is shown in the Appendix (Figure 48).



Department Staffing Levels:

According to the submitted survey forms/NCSFA rosters, all of the seven study departments utilize volunteer firefighters as the majority of their response force. All departments also indicated that they utilized paid firefighters (primarily part-time) to staff their stations, with five departments indicating their use of some full-time personnel in station manning. Of these seven departments, one department did have a full-time paid fire chief, and one department had two part-time (20 hour/week) chief officers to attend to administrative duties.

The departments utilized similar shift schedules and employed both full-time and part-time staffing. To simplify the staffing comparisons, each department's staffing hours were converted to 40-hour full-time equivalents (FTEs). As an example, a department scheduling a firefighter for eight hours five days a week would equal 1 FTE (40 hours /40 hours), while a department scheduling a firefighter for 24 hours seven days a week would equal 4.2 FTEs (168 hours/40 hours). FTE equivalency does not differentiate between full or part-time positions. As such, a part-time position scheduled for 60 hours per week would equal 1.5 FTEs. The following chart illustrates the **full-time equivalency** of the study departments utilizing paid staffing.



Again, note that the chart above reflects full time equivalent positions, not direct numbers of people.

The following charts compares the county emergency demand (day of week, hour of day)¹⁷ to the overall county FTE assignments during the same time periods.

	Demand Heat Map						
	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
00	32	12	18	24	23	21	24
01	23	19	14	12	21	16	30
02	22	9	16	17	15	14	14
03	15	11	12	12	12	13	13
04	17	13	16	11	19	19	18
05	20	18	15	17	22	21	14
06	24	35	29	28	30	34	27
07	25	47	47	32	50	41	34
08	43	39	39	48	41	36	39
09	40	46	53	48	43	46	24
10	30	48	41	42	52	41	45
11	36	45	50	48	56	45	62
12	47	66	41	58	64	55	55
13	57	52	57	57	41	55	55
14	47	65	58	53	78	69	47
15	54	76	68	51	61	81	60
16	63	62	41	56	57	71	64
17	50	61	56	59	76	67	61
18	45	50	65	49	62	68	67
19	51	85	58	34	51	54	52
20	39	53	46	38	46	51	59
21	34	29	39	34	46	48	45
22	35	40	33	34	33	37	44
23	29	20	26	24	32	21	29

Figure 74: County demand by Day of Week, Hour of Day

	Staffing Heat Map						
	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
00	0	0	0	0	0	0	0
01	0	0	0	0	0	0	0
02	0	0	0	0	0	0	0
03	0	0	0	0	0	0	0
04	0	0	0	0	0	0	0
05	0	0	0	0	0	0	0
06	0	0	0	0	0	0	0
07	0	9	10	9	10	10	0
08	1	13	14	13	14	14	1
09	3	15	16	15	16	16	3
10	3	15	16	15	16	16	3
11	3	15	16	15	16	16	3
12	3	15	16	15	16	16	3
13	3	15	16	15	16	16	3
14	3	15	16	15	16	16	3
15	3	15	16	15	16	16	3
16	3	14	15	14	15	15	3
17	3	14	15	14	15	15	3
18	0	3	3	3	3	3	0
19	0	1	1	1	1	1	0
20	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0

Figure 75: County FTE Assignment by Day of Week, Hour of Day

¹⁷ Fire Department Responses and Demonstrated Performance, NCFCC, February 2023, Page 8



Volunteerism

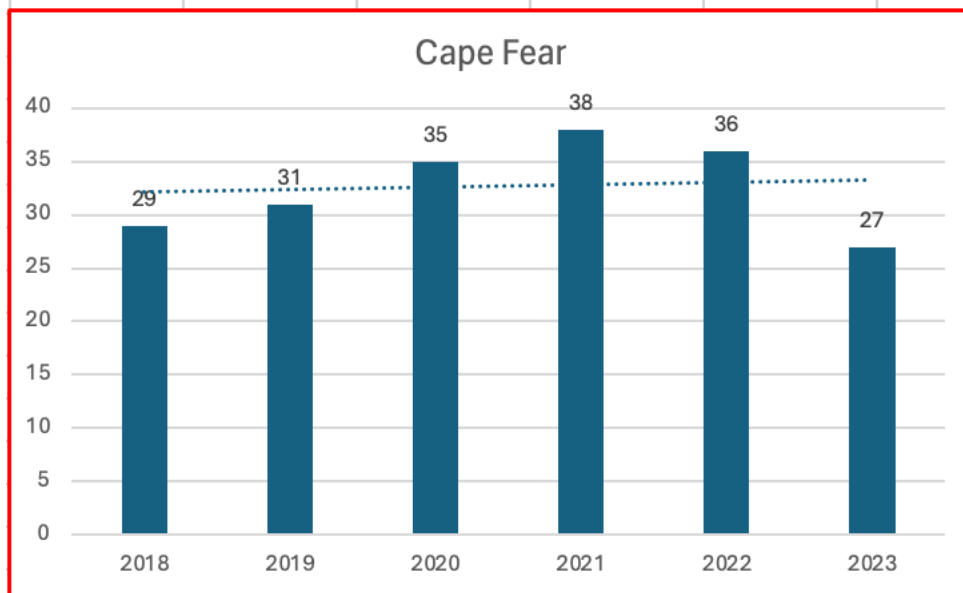
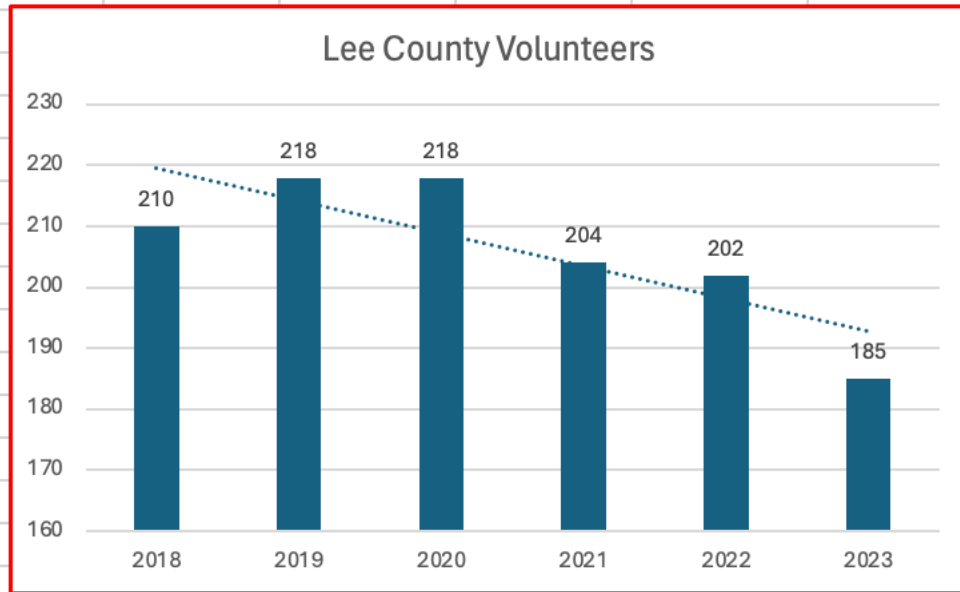
Volunteer staffing levels within Lee County fire departments are diminishing. Data indicates that Lee County has a net loss of volunteers at about 2.5% per year. While this is less than the statewide trend with a net loss of 3.5% per year, it should still be concerning for policy and decision makers. Since 2018, Lee County has a net loss of approximately 25 firefighters according to records filed with the NC State Firefighters Association.

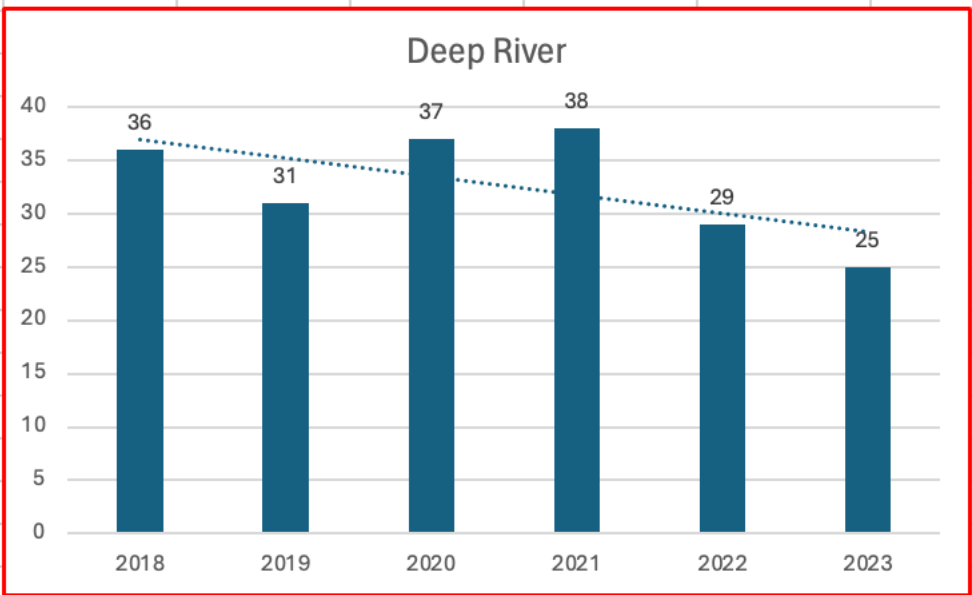
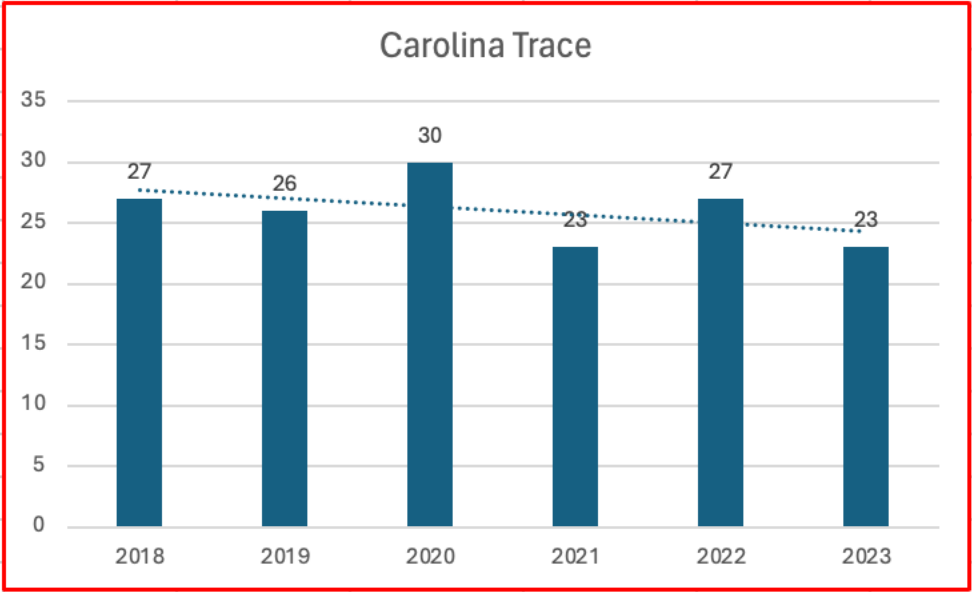
Reviewing statewide data from across North Carolina over the past five years demonstrates that **volunteer firefighter numbers have a NET decrease of approximately 3.5% on average per year**. In the next five-year period for Lee County, this data indicator could potentially mean the loss of 18% of Lee County's approximate 185 volunteer firefighters – or a net loss of 33 firefighters. Beyond the state data, NCFCC specifically evaluated the data from Lee County firefighter rosters. Between 2018 and 2023 – a six year period – Lee County has had a net loss of almost 12% of volunteer firefighters – or about 2.5% per year, totaling 25 firefighters. Proactively pushing back on the volunteerism trends through specific and determined retention and recruitment efforts and targeted investments could reduce that potential loss for Lee County and **help to better sustain the primarily volunteer service delivery system**.

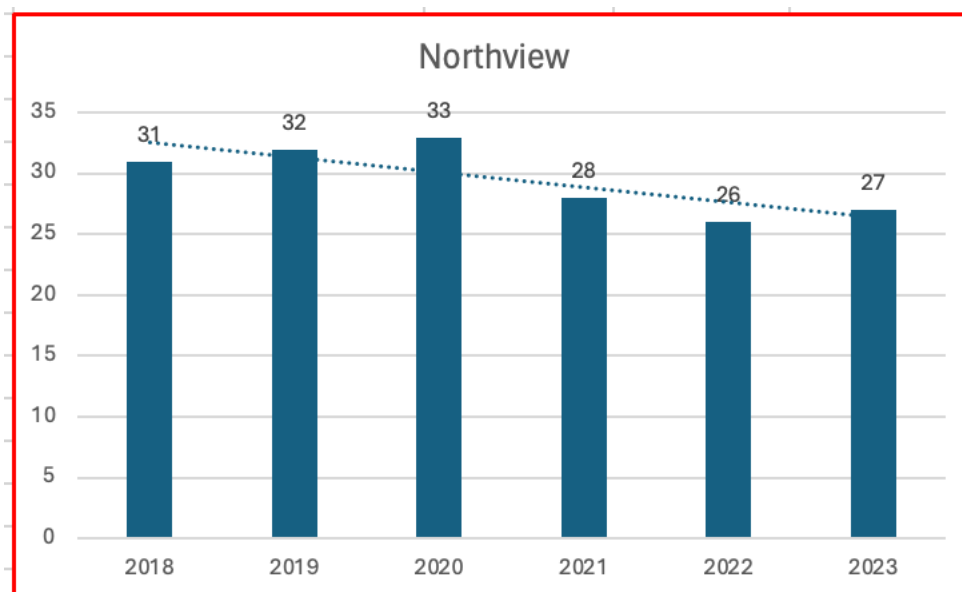
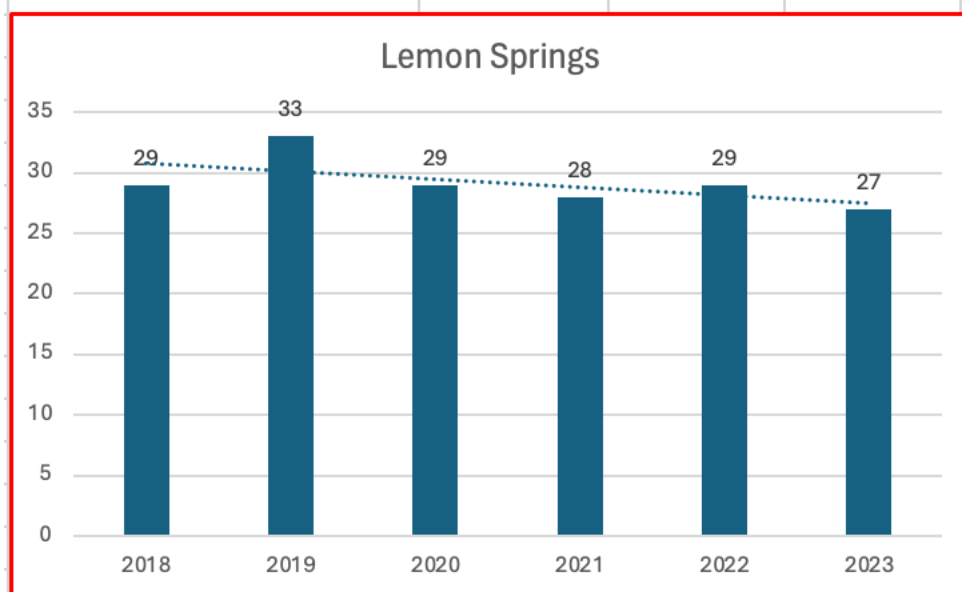
Data below illustrates visually the changing volunteerism dynamics. The data chart from the state and the total trend line charts are presented first, followed by data from each individual contracting fire department.

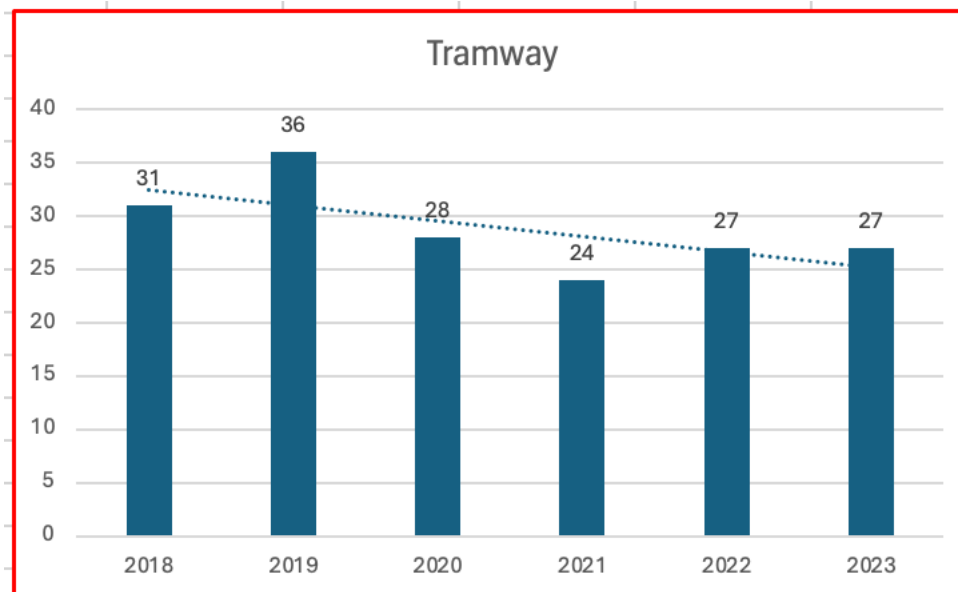
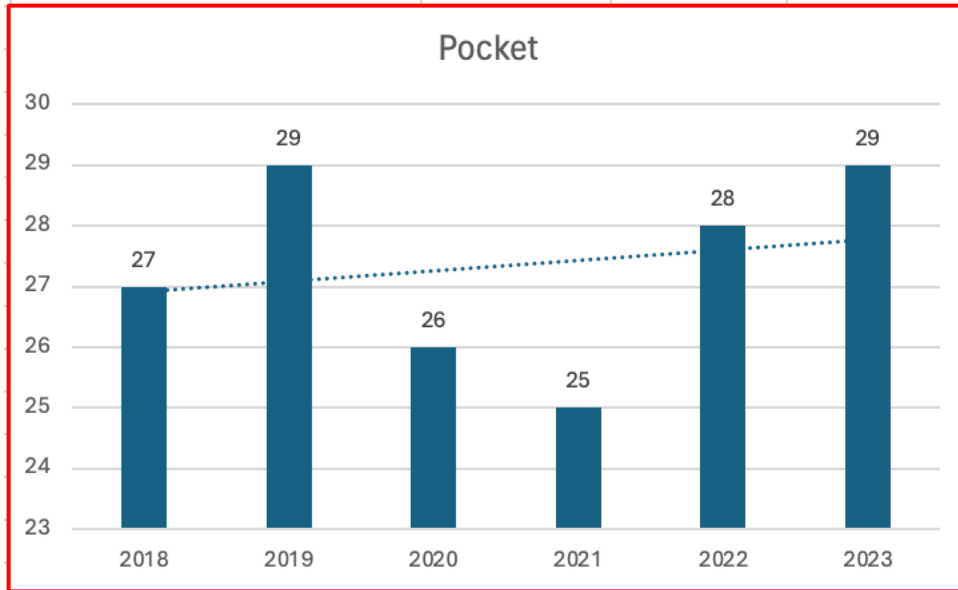
As of 5-15-24							
	Volunteers	Volunteers	Volunteers	Volunteers	Volunteers	Volunteers	Trends at
	on Roster	on Roster	on Roster	on Roster	on Roster	on Roster	a Glance
Name of Department	2018	2019	2020	2021	2022	2023	FDID
Cape Fear	29	31	35	38	36	27	5301
Carolina Trace	27	26	30	23	27	23	5307
Deep River	36	31	37	38	29	25	5302
Lemon Springs	29	33	29	28	29	27	5308
Northview	31	32	33	28	26	27	5303
Pocket	27	29	26	25	28	29	5309
Tramway	31	36	28	24	27	27	5305
Lee County	210	218	218	204	202	185	
Annual percentage change		3.81%	0.00%	-6.42%	-0.98%	-8.42%	







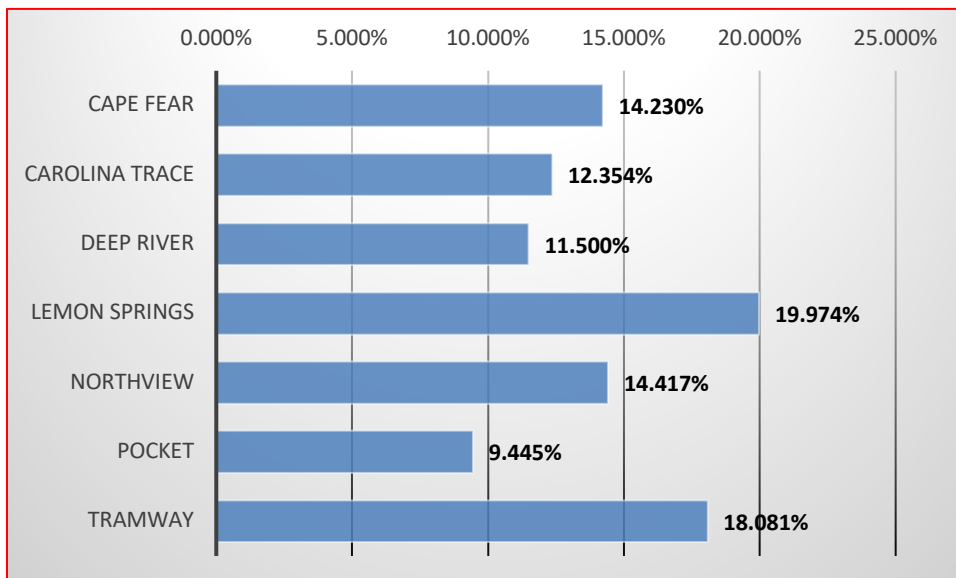




Municipal Modeling

There is one department, Cape Fear, which serves both a municipal district and unincorporated county district area. A conceptual cost-share city-county model for this department was developed. In order to identify the relative workload between the Broadway municipal and Lee County responses, data was collected for the department's municipal response area and the department's county response area. The data was broken down into five elements, population served in each of the two areas, the geographic area (in square miles) of the areas, the total square footage of buildings within those areas, the property tax valuation of the areas, and the number of responses made by the department into the areas (three-year average). As an example, the following chart illustrates the "comparative" valuation of those five data elements when applied to all of the fire department's county response areas. If one were to add up all of the departments' "work share", they would equal 100% of the total county.

This principle was applied to the Cape Fear Fire Department so as to develop a relative "work share" within the municipality and the associated unincorporated district. As there are five data elements being used, **each element was weighted equally at 20%**. The following are the specific category ratios and the "work share" breakdown for the department:



CAPE FEAR FIRE DEPARTMENT

	City		
	%	Wgt.	Result
CF.S.	1.41%	20.00%	0.28%
Area	2.83%	20.00%	0.57%
Pop.	26.44%	20.00%	5.29%
Valuation	25.09%	20.00%	5.02%
Bld. Sq '	25.85%	20.00%	5.17%
			16.32%

C.F.S. = Calls for Service

	District		
	%	Wgt.	Result
C.F.S.	98.59%	20.00%	19.72%
Area	97.17%	20.00%	19.43%
Pop.	73.56%	20.00%	14.71%
Valuation	74.91%	20.00%	14.98%
Bld. Sq '	74.15%	20.00%	14.83%
			83.68%

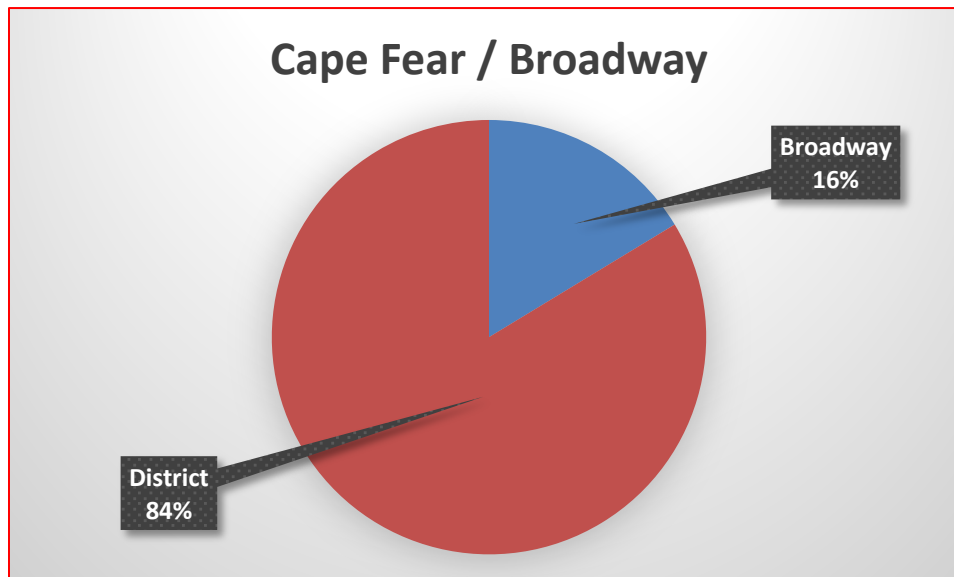


Figure 76: Cape Fear FD – Town/County Ratio

Service Contract Review:

NCFCC was provided with a service contract document from 2003 and asked for recommendations to be considered to enhance the service contract utilizing North Carolina best practices. The following are items for initial consideration:

- Item 4: Any services that Lee County provides the contracting fire department, such as dispatching services, fire training, fire investigation, etc. is recommended to be outlined in the service agreement.
- Item 5: How funds are paid to the fire department is recommended to be detailed in the service agreement – monthly, quarterly, annually, etc.
- Item 7: Often, counties in North Carolina require a periodic reporting of a balance sheet, statement of income and expenses and a general ledger detail for the reporting period so that the county has an elevated awareness of the fiscal condition of the contracting fire department. It is recommended that this additional step be considered.
- Item 9: It is recommended that Lee County outline how the service contract will be modified if the fire department merges with another fire department or another entity.
- Item 12: It is recommended that Lee County advise the contracting fire department what the implications will be if the fire department falls below the current ISO rating. Also, it is recommended that an improvement plan be required from the fire department, demonstrating how they will correct deficiencies and improve their ISO score.
- Item 17: We would suggest language that the ___X___ Fire Department and response district of Lee County have boundaries defined by the most current description on file as maintained by the Lee County Geographical Information Services (GIS) Office as illustrated by a map that would be provided in an appendix to the service agreement.

Beyond the recommendations on the individual items noted above from the current service contract, it would be our recommendation that the following items also be considered to be in alignment with best practice for additional service contract considerations. These are outlined as 1) Core Contract Language, 2) Fiscal Issues, 3) Insurance and Indemnification, 4) Fire Department Performance Standards, 5) Personnel and Compensation, and 6) Board of Directors. These are posed generally as questions to best determine how Lee County would want to proceed.



1. Core Contract Language

- a. Notification to the county of changes in the Board of directors, changes in key personnel, modifications to the use of funds provided through the contract, fines or judgements associated with adverse finding against the department by any municipal, state, or federal agency.
- b. Non-compliance by the fire department: Describe the ramifications of the department's failure to abide by the contract. Will county funding be withheld? Will there be a notice of non-compliance sent to the department (60, 90 120 days)?
- c. Relationship of parties: Describe each party's relationship to the other. i.e. Fire department employees, nor their agents shall be deemed an officer or agent of the County.
- d. Termination: How and under what conditions can the contract be terminated. What is the notice period for termination?
- e. Reservation of rights: example: "Lee County reserves the right to provide the highest level of fire protection and emergency services possible, subject to the availability of funding"
- f. Amendments: Describe how any amendments to the contract are to be made, if proposed, during the life of the contract.
- g. No third-party beneficiaries: The contract benefits only the county and fire department. There are no other rights or obligations conferred to any other party.
- h. Entire agreement: The contract contains all agreed conditions between the county and fire department. No oral or written communications between the parties supersede the contract.
- i. Notices: How are notices between the county and fire department handled? Who are they delivered to, by what means (i.e. certified mail, hand delivered, etc.)
- j. Governing law: Acknowledgement that North Carolina law shall govern the agreement.
- k. Severability: If any one part of the contract is determined by court to be unenforceable, that determination will not affect the other provision of the contract.



- I. Counterparts: There may be multiple copies of the contract made, each carrying the validity of the original.
- m. No waiver of sovereign immunity: The county does not waive any of its sovereign or governmental immunity.
- n. Appendix: Is there an appendix which contains documents the department is required to provide to the county prior to approval of the contract? Such as (not all may apply):
 - i. GIS map of Fire Insurance and Response District
 - ii. Any non-county service agreements
 - iii. Information for annual audit
 - iv. Board of Directors meeting notification
 - v. Organization by-laws
 - vi. County procurement policy
 - vii. Mutual aid agreements
 - viii. Auto aid agreements
 - ix. First responder agreement
 - x. Extrication services
 - xi. Water rescue services
 - xii. Specialized rescue services
 - xiii. Specialized fire equipment services
 - xiv. Technician level hazardous materials services
 - xv. FEMA disaster services
 - xvi. Contract amendments
 - xvii. Other report forms as required by contract

2. Fiscal Issues

- a. Fiscal mismanagement by fire department: Describe the steps taken by the fire department/county if the department's financial records are determined to be un-auditable or a recent audit reveals evidence of reckless or willful financial mismanagement practices or intentional or criminal wrongdoing.
- b. Are there requirements for the fire department to follow county procurement guidelines?
- c. Depreciation: Are depreciation schedules required for all capital equipment over a set dollar value?
- d. Fire station construction/renovations: Are there requirements to receive



county approval for any new station construction or major renovation? Does the county have guidelines or requirements for the construction features of new facilities?

- e. Fund balance requirements: Are departments required to maintain a minimum percentage of non-donor restricted funds (NDRF) in relation to their budget (i.e. 5%, 7% or 10%)? When NDRFs exceed the required amounts, are there restrictions in how those excess funds are utilized (i.e. pay down current debt, one-time purchases of specific capital equipment)?
- f. Fixed assets: Are there requirements to maintain accurate inventories of all loose capital equipment over a set dollar value?
- g. Disposing of equipment: When equipment purchased through county funds have reached end-of-life are there restrictions on the disposal of such equipment?
- h. Grants: Is the department required to receive county approval prior to the department applying for a state or federal grant which may commit the department to matching funds? Are there requirements to ensure any equipment purchased through the use of grants are compatible with legacy county-wide fire departments' equipment.

3. Insurance and Indemnification

- a. Are there requirements to acquire and maintain set insurance coverage for items such as:
 - i. General Liability, including medical malpractice/Errors and omissions
 - ii. Commercial auto liability
 - iii. Auto physical damage coverage
 - iv. Blanket portable equipment coverage
 - v. Umbrella or excess liability
 - vi. Fidelity/employee dishonesty coverage
 - vii. Business auto policy
- b. Is the county included as additional insured on policies where the county has funds at risk?
- c. Is there an indemnification statement in the contract holding the county harmless from any and all liability and expenses (attorney and court fees) caused by negligence or willful misconduct of the fire department or its agents?



4. Fire Department Performance Standards

- a. Are there standards of performance the fire department must strive to maintain? Such as:
 - i. Response times
 - ii. Staffing on scene
 - iii. Automatic aid agreements
 - iv. Mutual aid agreements

We would highly suggest that Lee County tie the expected performance of the fire departments to the appropriate national consensus standard – such as the most current edition NFPA 1720 (which is designed for primarily volunteer fire departments). Fire departments should report their demonstrated performance against the current standard at specified periods, such as annually, to Lee County.

- b. Training requirements: Does the contract require minimum training requirements for fire department personnel and/or does the training to meet state or local requirements (i.e. hazardous materials, blood borne pathogens, incident command or NCOSFM requirements)?
- c. Volunteers: Are the requirements for the fire department to track and report their volunteer recruitment and retention activities, periodic volunteer numbers, volunteer opportunity outreach activities?
- d. Public fire education: Are there requirements for the fire department to have plans for providing public fire education outreach programs for schools, businesses and/or homes within their fire district?
- e. Pre-fire incident surveys: Are there requirements for the fire department to become familiar with and develop written pre-fire plans for any business or high-hazard occupancy within their fire district.
- f. Fire investigations: Does the contract spell out the fire investigation requirements of the department's company officers and the conditions where county or state resources are notified for assistance?
- g. Post incident review: Are there parameters under which a formal fire department post incident review are to be conducted (i.e. fire loss exceeding a set dollar amount, civilian injury, or death, etc.)?
- h. Fire hydrants: Are there requirements for fire hydrant testing and/or maintenance?



- i. Medical first responder: Does the county have a formal medical first responder program and if so, are there requirements outlined in the contract for program compliance? Are there any EMTs employed and operating in the department? If so, how does the fire department operate under county medical control?

5. Personnel and Compensation

- a. Personnel: Are there requirements that the fire department complies with all FLSA regulations and other local, state, and federal laws?
- b. Employment: Are background checks required for new employees of the fire department? Are there disqualifying offenses listed, which will prohibit the hire of an individual?
- c. Driver's license checks: Does the contract require driver's license checks for all apparatus drivers to ensure the appropriate level and validity of the license?
- d. Compensation guidelines: Does the county utilize standardized compensation guidelines for the payment levels and benefits of fire personnel by rank and years of service? If so, does the contract require adherence to those guidelines?
- e. Verification of employee work authorization: Does the contract require compliance of the fire department with the E-Verify requirements of the North Carolina General Statutes?

6. Board of Directors

- a. Board Make-up: Does the contract describe the parameters for the make-up of the board of directors. (i.e. Can the fire chief serve on the board? Can compensated employees serve on the board? Can family members of the fire chief serve on the board?)
- b. Citizen representation: Is there a requirement for a percentage of community citizens to be board members (10, 15 20%)? Are the organization's by-laws required to be submitted with the contract?
- c. Meetings: Does the contract require the department to abide by NC open meeting laws? Are minutes of the meeting posted and/or available to the public for viewing? Are meeting dates available to the public on the department or county's web site calendar?



Within the appendix, there is a section related to illustrative contracts for review and reference.



Detailed Fiscal Supporting Material:

Manufacturer	Age (Yrs)	Watts	Quantity	Department
Generators				
Kohler	16	40,000	1	Cape Fear
	12	15,000	1	Cape Fear
Onan	24	35,000	1	Carolina Trace
Onan	23	8,000	1	Carolina Trace
Harrison	13	10,000	1	Carolina Trace
General Electric	12	55,000	1	Carolina Trace
Generac	10	20,000	1	Deep River
Siemens	10	15,000	1	Deep River
Power-Boss	20	5,500	1	Lemon Springs
GE / Briggs&Stratton (NG)	10	35,000	1	Northview
Briggs & Stratton (LPG)	14	20,000	1	Northview
Generac - Stand By	1	24,000	1	Pocket
Sentry-Pro Stand By	17	12,000	1	Pocket
Generac	27	3,500	1	Pocket
Generac	4	2,200	1	Pocket
Honda	15	5,000	1	Pocket
Honda	34	2,200	1	Pocket
Preditor	5	4,375	1	Tramway
Total			18	

Figure 42: Department Generator Inventory

Manufacturer	Age (Yrs)	Quantity	Department
Thermal Imaging Cameras			
Bullard QXT	1	3	Cape Fear
Scott V320	4	4	Carolina Trace
Scott	14	1	Carolina Trace
Flir	3	2	Deep River
Seek	1	2	Deep River
ISG	10	1	Lemon Springs
Bullard	7	1	Lemon Springs
MSA Evolution 6000+	4	3	Northview
Bullard Eclipse - LSX	3	2	Pocket
ISG Elite XR 3704-XR	7	1	Pocket
Flier Thermal	1	1	Tramway
Seek Reveal Fire Pro	6	5	Tramway
Scott Safety	14	1	Tramway
Bullard	9	1	Tramway
Total		28	

Figure 78: Department Thermal Imaging Camera Inventory



Manufacturer	Age (Yrs)	PSI (SCBA)	Quantity	Department
SCBA Fill Stations				
Mako BAM06H	18	4,500	1	Cape Fear
Eagle (812)	23	6,000	1	Carolina Trace
Bauer (Station)	11	6,000	1	Carolina Trace
Cascade/Equipment Truck	20	5,500	1	Deep River
4 Cylinder Cascade System	15	6,000	1	Lemon Springs
Eagle Air / Cascade Sys / MDL:100A	20	6,000	1	Northview
Bauer Compressor / K14-12 E3	25	5,000	1	Northview
Mako/Spacesaver	1.5	6,000	1	Pocket
Scott Mobile Air Trailer			1	Tramway
Total			9	

Figure 43: Department SCBA Fill Station Inventory

Manufacturer	Age (Yrs)	NFPA edition	PSI (SCBA)	Quantity	Department
SCBA					
Survivair Panther	20	2002	2,216	26	Cape Fear
MSA G1	7	2013	4,500	8	Carolina Trace
MSA G1	8	2013	4,500	12	Carolina Trace
MSA G1	1	2019	4,500	28	Deep River
MSA G1	2	2018	4,500	23	Lemon Springs
MSA G1	4	2018	4,500	26	Northview
MSA G1	1	2019	4,500	24	Pocket
Scott 4.5 4500psi	3	2020	4,500	28	Tramway
Total				175	

Figure 44: Department Breathing Apparatus Inventory ¹⁸

Manufacturer	Age (Yrs)	NFPA edition	PSI (SCBA)	Quantity	Department
RIT Packs					
Survivair RIT KIT	20			1	Cape Fear
Survivair RIT KIT	20			1	Cape Fear
MSA	3	2019	4500	1	Carolina Trace
MSA	3	2019	4500	1	Carolina Trace
MSA	10	Unknown	4500	1	Deep River
MSA RIT Pack	2			1	Lemon Springs
MSA RIT Pack	2			1	Lemon Springs
MSA	4			1	Northview
MSA	4			1	Northview
MSA	1		4,500	1	Pocket
MSA	1		4,500	1	Pocket
Scott 4.5 4500	3	2020	4500	1	Tramway
Total				12	

Figure 45: Department RIT Pack Inventory

¹⁸ The red highlighted cells indicate Self-contained Breathing Apparatus units older than 2 NFPA 1981 editions.


Manufacturer	Age (Yrs)	Quantity	Department
AEDs			
Phillips Heartstart FRX	2	1	Cape Fear
Phillips Heartstart FRX	2	1	Cape Fear
Phillips Heartstart FRX	4	1	Cape Fear
Phillips FRx	13	1	Carolina Trace
Phillips FRx	13	1	Carolina Trace
Phillips FRx	12	1	Carolina Trace
Phillips FRx	10	1	Carolina Trace
Phillips FRx	8	1	Carolina Trace
LifePack	3	1	Deep River
LifePack	3	1	Deep River
HeartStart	10	1	Deep River
HeartStart	10	1	Deep River
LifePack	12	1	Deep River
Lifepack	1	1	Lemon Springs
LifePack	1	1	Lemon Springs
Phillips	14	1	Lemon Springs
Phillips	14	1	Lemon Springs
Phillips	14	1	Lemon Springs
Phillips	14	1	Lemon Springs
Physio Control / Life Pack - 1000	3	1	Northview
Physio Control / Life Pack - 1000	3	1	Northview
Physio Control / Life Pack - 1000	3	1	Northview
Physio Control / Life Pack - 1000	3	1	Northview
Phillips - Heartsmart FRX	12	1	Pocket
Phillips - Heartsmart FRX	12	1	Pocket
Phillips - Heartsmart FRX	12	1	Pocket
Physio Control Life Pak	4	1	Tramway
Physio Control Life Pak	4	1	Tramway
Physio Control Life Pak	4	1	Tramway
Physio Control Life Pak	4	1	Tramway
Total		30	

Figure 82: Department AED Inventory



2024 Fire and Rescue Service Delivery System Analysis for Lee County, NC

Manufacturer	Age (Yrs)	Radio Band(s)	Quantity	Department
Pagers				
Unication	10	VHF	10	Cape Fear
Unication	8	VHF	7	Cape Fear
Unication	5	VHF	7	Cape Fear
Motorola VI	2	VHF	7	Cape Fear
Motorola VI	1	VHF	5	Cape Fear
Unication G1	0	VHF	5	Carolina Trace
Unication G1	5	VHF	11	Carolina Trace
Unication G1	8	VHF	11	Carolina Trace
Unication G1	9	VHF	5	Carolina Trace
Unication G1	11	VHF	9	Carolina Trace
Motorola Mintor 6	2	VHF	32	Deep River
Motorola Mintor 5	10	VHF	5	Deep River
Unication	7	VHF	43	Lemon Springs
Motorola Minitor VI		VHF	20	Northview
Unication G5	0	VHF/7/800	11	Northview
Motorolla Minitor 6	3	VHF	15	Pocket
Motorolla Minitor 6	2	VHF	12	Pocket
Motorolla Minitor 6	1	VHF	6	Pocket
Motorolla Minitor 5	15	VHF	15	Pocket
Unication	10	VHF	10	Pocket
Motorola V	1		13	Tramway
Unication	1		30	Tramway
Total			289	

Figure 46: Department Pager Inventory

Manufacturer	Age (Yrs)	Radio Band(s)	Quantity	Department
Portable Radios				
Kenwood NX-200	7	VHF	16	Cape Fear
Kenwood NX-5200	4	VHF	6	Cape Fear
Kenwood VP5430	1	800	3	Cape Fear
Kenwood	5	VHF	4	Carolina Trace
Kenwood TK-5430	5	UHF	4	Carolina Trace
Kenwood	9	VHF	20	Carolina Trace
Kenwood	10	UHF	2	Carolina Trace
Kenwood NX 210	10	VHF	24	Deep River
Kenwood - Digital	13		20	Lemon Springs
Kenwood - Tri Band	1		2	Lemon Springs
Kenwood NX200	14	VHF	25	Northview
Kenwood NX5200-K2	5	VHF	2	Northview
Motorola APX-600XE (Chat Co)	2	7/800	15	Northview
Kenwood Nexedge - NX200-K	14	VHF	25	Pocket
Kenwood Nexedge - NX210-K2	14	VHF	4	Pocket
KENWOOD VP-5430-F2	1	Viper 800	3	Pocket
Kenwood VP8000	1	7/800 MHx, VHF, UHF	4	Tramway
Kenwood VP6000	2	7/800 MHx	3	Tramway
Kenwood NX 5200	6	VHF Digital	8	Tramway
Kenwood NX 220	10	VHF Digital	14	Tramway
Total			204	

Figure 47: Department Portable Radio Inventory



Manufacturer	Age (Yrs)	Radio Band(s)	Quantity	Department
Mobile Radios				
Kenwood NX-700	10	VHF	7	Cape Fear
Kenwood	9	VHF	10	Carolina Trace
Kenwood	10	VHF	12	Deep River
Kenwood	10		11	Lemon Springs
Kenwood	14		12	North View
Motorola APX-6500	2		9	North View
Kenwood Nexedge - NX-700K	14	VHF	15	Pocket
Kenwood Nexedge - NX-720HGK	1	VHF	1	Pocket
Kenwood NX5700	2	800/VHF	2	Tramway
Kenwood NX 720	10	VHF Digital	7	Tramway
Total			86	

Figure 85: Department Mobile Radio Inventory

Manufacturer	Age (Yrs)	Radio Band(s)	Quantity	Department
Kenwood NX-700	10	VHF	1	Cape Fear
				Carolina Trace
Kenwood	10	VHF	2	Deep River
Kenwood	10		2	Lemon Springs
Kenwood	2	VHF	2	Northview
Motorola APX-6500	1	7/800	1	Northview
Kenwood Nexedge - NX-700K	14	VHF	2	Pocket
Kenwood NX 720	10	VHF Digital	1	Tramway
Total			11	

Figure 86: Department Base Station Radio Inventory

2024 Fire and Rescue Service Delivery System Analysis for Lee County, NC

Manufacturer	Age (Yrs)	Quantity	Department
Extrication Equipment			
Amkus AMK-30CX Spreaders	20	1	Cape Fear
Amkus AMK-25E Cutters	20	1	Cape Fear
Amkus AMK-20R Ram	20	1	Cape Fear
Amkus AMK-30R Ram	20	1	Cape Fear
Amkus AMK-C15 Combi-Tool	15	1	Cape Fear
EForce SLi - SC240 Cutters	1	1	Cape Fear
EForce SLi - S49 Spreaders	1	1	Cape Fear
Holmatro (85)	20	1	Carolina Trace
Holmatro (85)	20	1	Carolina Trace
Holmatro (85)	20	1	Carolina Trace
Hurst (86)	5	1	Carolina Trace
Hurst (84)	1	1	Carolina Trace
Hurst (84)	1	1	Carolina Trace
Hurst (84)	1	1	Carolina Trace
Hurst (812)	13	1	Carolina Trace
Hurst (812)	13	1	Carolina Trace
Hurst (812)	13	1	Carolina Trace
Hurst (812)	13	1	Carolina Trace
Hurst (812)	13	1	Carolina Trace
Amkus CombiTool Edraulic	2	1	Deep River
Amkus CombiTool Edraulic	2	1	Deep River
Holmatro CombiTool Hydraulic	12	1	Deep River
Holmatro CombiTool Hydraulic	12	1	Deep River
Holmatro Spreader Hydraulic	15	1	Deep River
Holmatro Cutter Hydraulic	15	1	Deep River
Holmatro Combi-Tool	20	1	Lemon Springs
Holmatro Cutter	10	1	Lemon Springs
Holmatro Cutter	10	1	Lemon Springs
Holmatro Cutter	10	1	Lemon Springs
Holmatro Spreader	20	1	Lemon Springs
Holmatro Ram	15	1	Lemon Springs
Holmatro Ram	15	1	Lemon Springs
Holmatro Ram	15	1	Lemon Springs
Holmatro Ram	15	1	Lemon Springs
Holmatro Ram	15	1	Lemon Springs
Holmatro Ram	15	1	Lemon Springs
Holmatro Pedal Cutters	9	1	Lemon Springs
Holmatro Pedal Cutters	9	1	Lemon Springs
Holmatro Pump & Hoses	15	1	Lemon Springs
Holmatro Pump & Hoses	15	1	Lemon Springs
Holmatro Pump & Hoses	20	1	Lemon Springs



Amkus Combi Tool	3	1	Northview
Amkus Combi Tool	3	1	Northview
Amkus O Cutter	3	1	Northview
Amkus Spreader	3	1	Northview
Holmatro Combi	20	1	Northview
Holmatro Combi	20	1	Northview
Holmatro O Cutter	20	1	Northview
Holmatro Spreader	20	1	Northview
Holmatro Ram	20	1	Northview
Holmatro Ram	20	1	Northview
Holmatro Ram	20	1	Northview
Holmatro Portable Pump (25' Hose)	20	1	Northview
Holmatro Portable Pump (25' Hose)	20	1	Northview
Holmatro Simo Pump (2-100' Hose Ree	20	1	Northview
Holmatro - Combi Tool 3150	20	1	Pocket
Holmatro - Ram	20	1	Pocket
Holmatro - Mini Cutter	17	1	Pocket
Holmatro - Spreader - SP3240	27	1	Pocket
Holmatro - O Cutter - CU-3020	27	1	Pocket
Holmatro Ram - TR3360	20	1	Pocket
Holmatro Pump - SR10PC	6	1	Pocket
Holmatro Pump - SR-20	10	1	Pocket
Genesis - RAM - 22"-54" -18 v	1	1	Pocket
Genesis - Spreader - S49-SLI-18v	1	1	Pocket
Genesis - O-Cutter - SC240-SLI- 18v	1	1	Pocket
Holmatro Lady bug pump	20	1	Tramway
Holmatro simo pump (Tri went bad)	5	1	Tramway
Holmatro Big Spreader	20	1	Tramway
Holmatro Big Cutter	20	1	Tramway
Holmatro Ram	20	1	Tramway
Holmatro Ram	20	1	Tramway
Holmatro Combi	20	1	Tramway
Amakus E-Draulic Spreader	3	1	Tramway
Amakus E-Draulic Spreader	3	1	Tramway
Amakus E-Draulic Cutter	3	1	Tramway
Amakus E-Draulic Cutter	3	1	Tramway
Amakus E-Draulic Ram	3	1	Tramway
Amakus E-Draulic Ram	3	1	Tramway
Total		79	

Figure 48: Department Extrication Equipment Inventory



Manufacturer	Age (Yrs)	Quantity	Department
Turn Out Gear (Coats/Trousers)			
Globe G-XCEL	1	5	Cape Fear
Globe G-XCEL	2	5	Cape Fear
Globe G-XCEL	3	7	Cape Fear
Globe G-XCEL	5 +	15	Cape Fear
Fire Dex	7 +	3	Cape Fear
	10	7	Carolina Trace
	9	6	Carolina Trace
	6	3	Carolina Trace
	5	3	Carolina Trace
	3	5	Carolina Trace
	2	5	Carolina Trace
	1	5	Carolina Trace
Lion	7	15	Deep River
Inotec	5	5	Deep River
Globe	1 to 3	13	Deep River
Fire Dex	10 Plus	10	Deep River
Lion	1	6	Lemon Springs
Morning Pride	5	8	Lemon Springs
Globe GXCEL Trousers	10 or >	3	Northview
Globe GXCEL Trousers	< 10 Yrs	35	Northview
Globe GXCEL Jackets	10 or >	5	Northview
Globe GXCEL Jackets	<10	35	Northview
Lion Complete Set	0.5	5	Pocket
InnoTex Complete Set	1	1	Pocket
InnoTex Complete Set	1	4	Pocket
InnoTex Complete Set	2	6	Pocket
Complete Set	5	3	Pocket
Complete Set	7	5	Pocket
Complete Set	10	4	Pocket
Complete Set	11	5	Pocket
Globe Structural Coat	5 sets/year	60	Tramway
Globe Structural Pant	5 sets/year	60	Tramway
Total sets		~257	

Figure 48: Department Personal Protective Equipment Inventory



Lee County Asset Recommendations

1. It is recommended that standardization specifications be established across all departments for the purchase of specialized equipment such as extrication equipment, cardiac defibrillators, and thermal imaging cameras. The benefits of standardization will be potentially increased purchasing power through larger quantity reduced pricing and, more importantly, increased fireground safety through improved interoperability and familiarization of equipment.
2. The Cape Fear Fire Department is in need of Self-Contained Breathing Apparatus (SCBA) replacement (26 units). It is recommended that the department explore the purchase of MSA G1-type apparatus. There are five departments currently utilizing this brand of SCBA. This will serve an ultimate goal of standardization of all department's SCBA inventories. This standardization will provide for more competitive pricing through larger quantity purchases, standardized inventories of replacement/disposable parts, and improved interoperability across all departments at emergency scenes. It is recommended that Cape Fear apply to the FEMA Assistance to Firefighters grant program for funding assistance with the replacement. They will have improved award possibility due to the age of their current SCBA and, if the previous recommendation is followed, improved interoperability within the county. Although many years out, when ready to replace their SCBAs, the Tramway Fire Department should also explore becoming standardized with the other departments.
3. NFPA 1851, *The Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting* recommends retiring personal protective equipment (PPE) no more than ten years from date of manufacture. This is effectively a ten percent (10%) replacement of inventory each year. There are a total of approximately 257 sets of turnout clothing (trousers and jackets) across the seven departments. The county/fire departments should explore cooperative purchasing of PPE each year to achieve a more competitive pricing schedule. As most departments purchase only two to four sets of PPE individually each year, collective purchasing of 26 sets per year will yield potential cost savings. This will require the departments developing common specifications for PPE when writing the annual request for proposals.



Potential Overlay District Financials

When modeling financial information for a potential overlay district in Lee County, a calculation table was developed with each of the fire service tax districts and the municipality (Broadway) that may or may not want to join the countywide service district that would be to support staffing countywide.

FY 23-24 tax valuation amounts were received from the Lee County Finance Office, assuming that tax valuation is included in the existing total tax valuation for each of the current service districts. Data was also collected through GIS data on the total building square footage in each service district, the population of each service district, the number of address points, the total road miles, the total district area, fire responses in the five year study period, along with calls for service by district.

The City of Sanford provided the current mid point salary and benefit cost for a full-time fire engineer position. This **illustrative** methodology was selected because 1) it is immediately local to the area, and 2) the base amount can adjust over time as the Sanford Fire Engineer position is adjusted to the market and as local government benefit costs change, making this a measurable and dynamic gage of cost. Currently, the mid point salary and benefits for a fire engineer is \$73,067. To provide 7 fire engineers with one at each fire department in Lee County would cost an approximate total of \$511,469.

1 penny yields	\$471,066	
Contemplated tax rate	\$0.0110	Enter contemplated tax rate here
Collection rate	98.850%	Enter estimated collection rate here
Revenue Yield	\$512,214	This is the estimated revenue generated

Again, with the assumption that Broadway chooses to join the new overlay service district, at a 98.85% collection rate (Lee County's current rate), it would require an approximate \$.011 per \$100 valuation to support this initiative. Should Broadway not join the new overlay service district or should the scope of services and funding initiatives of the new service district change, the tax rate needed to support this endeavor would increase.

If an overlay district was only to provide one person at each contracting fire department was selected to supplement fire department staffing, providing just one additional peak time fire engineer at each of the seven (7) contracting fire departments, the total annual cost to the new overlay service district will be \$511,649. This would require approximately \$.011 per \$100 valuation. The rate could be adjusted to \$.0125 to help cover needed gear and equipment for these personnel.



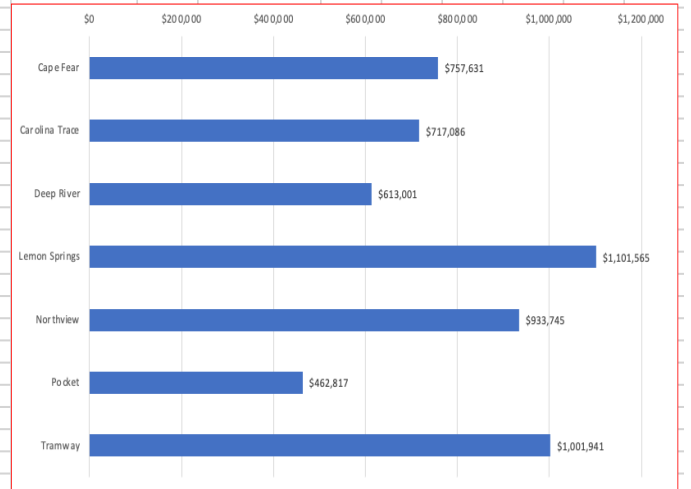
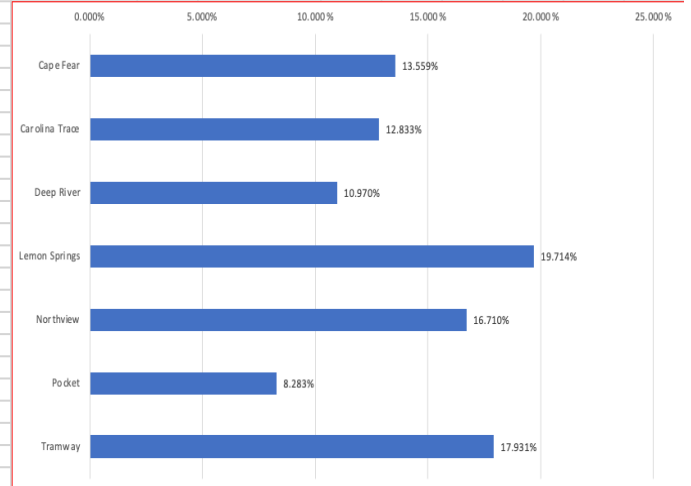
Please note that in this illustrative model, we have applied a **\$.12 cent** tax across the entire fire and rescue service district. Also, we have not taken the baseline \$250K for each fire department. Hence, this would be projected total funding. Fortunately, all departments in this model exceed an allocation of \$250K. The amounts would vary between \$462,817 (Pocket) to \$1,101,565 (Lemon Springs)

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2024 Fire and Rescue Service Delivery System Analysis for Lee County, NC

				Available Revenue	\$5,587,787
				Potential Funding	
Cape Fear					
Funding Element	%	Weights	Result		
Valuation	12.57%	25.000%	3.143%		
Square Footage	13.29%	25.000%	3.322%		
Population	11.54%	25.000%	2.884%		
Area/Square Miles	18.13%	12.500%	2.267%		
Calls for Service	15.54%	12.500%	1.943%		
	100.000%		13.559%		\$757,631
Carolina Trace					
Funding Element	%	Weights	Result		
Valuation	14.28%	25.000%	3.569%		
Square Footage	15.38%	25.000%	3.846%		
Population	13.55%	25.000%	3.387%		
Area/Square Miles	4.21%	12.500%	0.527%		
Calls for Service	12.03%	12.500%	1.504%		
	100.000%		12.833%		\$717,086
Deep River					
Funding Element	%	Weights	Result		
Valuation	11.39%	25.000%	2.849%		
Square Footage	8.94%	25.000%	2.234%		
Population	10.08%	25.000%	2.519%		
Area/Square Miles	14.58%	12.500%	1.822%		
Calls for Service	12.37%	12.500%	1.546%		
	100.000%		10.970%		\$613,001
Lemon Springs					
Funding Element	%	Weights	Result		
Valuation	13.28%	25.000%	3.321%		
Square Footage	15.50%	25.000%	3.875%		
Population	31.72%	25.000%	7.931%		
Area/Square Miles	16.29%	12.500%	2.037%		
Calls for Service	20.40%	12.500%	2.550%		
	100.000%		19.714%		\$1,101,565
Northview					
Funding Element	%	Weights	Result		
Valuation	24.61%	25.000%	6.153%		
Square Footage	20.64%	25.000%	5.160%		
Population	5.59%	25.000%	1.397%		
Area/Square Miles	20.37%	12.500%	2.546%		
Calls for Service	11.64%	12.500%	1.455%		
	100.000%		16.710%		\$933,745
Pocket					
Funding Element	%	Weights	Result		
Valuation	6.76%	25.000%	1.690%		
Square Footage	6.67%	25.000%	1.667%		
Population	8.06%	25.000%	2.014%		
Area/Square Miles	15.24%	12.500%	1.905%		
Calls for Service	8.06%	12.500%	1.007%		
	100.000%		8.283%		\$462,817
Tramway					
Funding Element	%	Weights	Result		
Valuation	17.10%	25.000%	4.276%		
Square Footage	19.59%	25.000%	4.896%		
Population	19.47%	25.000%	4.867%		
Area/Square Miles	11.17%	12.500%	1.397%		
Calls for Service	19.96%	12.500%	2.495%		
	100.000%		17.931%		\$1,001,941
				Ch	\$5,587,787

Element ratio and funding		
Cape Fear	13.559%	\$757,631
Carolina Trace	12.833%	\$717,086
Deep River	10.970%	\$613,001
Lemon Springs	19.714%	\$1,101,565
Northview	16.710%	\$933,745
Pocket	8.283%	\$462,817
Tramway	17.931%	\$1,001,941
	100.000%	\$5,587,787



2024 Fire and Rescue Service Delivery System Analysis for Lee County, NC



Obviously, many other variables exist in designing a viable funding structure/system for Lee County. However, these are presented for illustrative purposes. Regardless of what is used, we would strongly encourage Lee County to:

1. If for an overlay service district, determine the specific use of the funding such as staffing, capital or a combination of needs, or
2. If for a countywide service district develop a three year rolling data model so that the distribution of funding is made based upon credible and reliable data. We also highly suggest a baseline amount for each department.



Section 7: Service Delivery System Considerations Moving Forward



Funding Needs

Fire and Rescue Service Delivery System Considerations Moving Forward

Operational Funding Needs:

Lee County is experiencing many of the stressors that most North Carolina counties are experiencing with providing fire and rescue services, including significant changing dynamics with **volunteerism**, the pronounced need for more focused work with **volunteer retention and recruitment efforts** and the implementation of additional volunteer incentives and programs. The demanding need for adding part-time or paid personnel to provide for **minimum staffing**, especially during weekday hours is also highlighted for many fire departments. Costs of providing protective clothing, gear, self-contained breathing equipment, radios and other **essential firefighting equipment** also tops challenges of most volunteer and combination fire departments. From every perspective of the fire chiefs across Lee County, **operational funding** is of paramount importance and concern to sustaining fire and rescue services. Simply stated, **several fire chiefs believe there is currently not enough funding** to sustain current operations in Lee County, especially related to personnel.

Looking forward, the greatest projected increase in operational funding will be **personnel**. Currently, an average of approximately **one-half (51%)** of the total budgeted system funding goes to personnel. Career fire departments operate with approximately 85%-90% of total funding dedicated to providing personnel. Therefore, Lee County should invest now where and when possible, to support and sustain the primary volunteer-based system if it is feasible. The assessment team constructed recommendations to aid Lee County with this effort by identifying five (5) short term (1-3 years) recommendations, twelve (12) more intermediate recommendations and three (3) longer-term (3-5 years) practices that could be considered. Most notably, the team recommends that Lee County establish a **retention and recruitment position** that will serve all 7 contracting fire departments in a unified way as a service delivery system in attracting volunteer firefighters and work with all the fire departments in developing meaningful ways to retain the valuable volunteers that are within the system now. Other counties have found this approach helpful, and the position may be able to be funded through a federal grant program (SAFER) in the future. Until conditions will allow, the team recommends that the retention and recruitment position be established at least on a part-time (less than 1,000 hours/year) basis.

Reviewing statewide data from across North Carolina over the past five years demonstrates that **volunteer firefighter numbers have a NET decrease of approximately 3.5% on average per year**. In the next five-year period for Lee County, this data indicator could potentially mean the loss of 18% of Lee County's approximate 185 volunteer firefighters – or a net loss of 33 firefighters. Beyond the



state data, NCFCC specifically evaluated the data from Lee County firefighter rosters. Between 2018 and 2023 – a six year period – Lee County has had a net loss of almost 12% of volunteer firefighters – or about 2% per year, totaling 25 firefighters. Proactively pushing back on the volunteerism trends through specific and determined retention and recruitment efforts and targeted investments could reduce that potential loss for Lee County and **help to better sustain the primarily volunteer service delivery system.**

Principal Capital Funding Needs:

In the observation of the assessment team, a distinguishing and concerning capital cost for Lee County will be **replacing fire apparatus**. Replacing fire apparatus may be one significant looming cost that all key stakeholders will need to address in the more immediate future by developing a CIP and funding plan for fire apparatus.

Post-pandemic, fire engines are often in the **\$700K+ range** and most often on a **two-year plus delivery timeline**. Used fire apparatus is also at a premium cost due to the high demand for used fire apparatus across the United States due to the high costs and significant production delays of new apparatus. With 17 of the total 48 fire apparatus in Lee County (35%) currently 20 years old or older, **capital replacement of fire apparatus is an important issue for Lee County to prioritize. A few fire departments have the most older apparatus with two or more aged apparatus – Deep River, Pocket, and Tramway.**

Fortunately, the **mechanical assessment** NCFCC conducted of all fire apparatus within Lee County revealed, only two (2) of the older apparatus were in the “fair” condition status (Deep River and Pocket) and only one (1) was in the “poor” condition status (Lemon Springs). It is recommended that all fire departments with older apparatus evaluate the necessity of replacing that apparatus and develop capital improvement plans for apparatus replacement.

It is recommended that **fire station facilities** be considered for capital funding. This is especially important where facilities are not properly equipped to accommodate 24/7 firefighters with dorm facilities. Expansions are possible with several of the current fire station facilities, such as Cape Fear Station 5, Deep River Station 4 and SubStation 4, Northview SubStation 6, Pocket SubStation 9. Only one station (Northview) currently has firefighter dorm rooms.

Future Funding Models to Consider:

With the significant operating costs to consider in coming years coupled with the pending capital needs of fire apparatus and fire station facilities, **it will be necessary to re-evaluate the funding models that Lee County will use moving forward** to help



achieve the necessary level of funding to support the delivery of fire and rescue services to the people of Lee County.

NCFCC developed four key considerations for Lee County to consider. Each consideration has pros and cons that will need further evaluation at the county level. The four identified options that were developed for consideration at this time include:

Keep Funding Structures Status Quo. (Current Lee County model.)

Keep using the 7 service district structures that Lee County is currently using (plus the Clearwater service district), and continuing to escalate the fire tax rates within those fire protection service districts upward to fund the credible needs presented and approved by the Board of Commissioners, up to the \$.15 per \$100 valuation maximum rate for fire protection per NCGS 153A. Note that the \$.15 per \$100 valuation restriction may not be applicable in Lee County.

Establish One Single Fire Protection Service District in All Unincorporated Areas of Lee County and in Municipalities (Broadway) that Elect to Participate in the Single Fire Protection Service District for Funding All Fire and Rescue Services. (Model used by Bertie, Scotland, Bladen, Moore, Wake, Vance, Gaston, Iredell, Stokes, Person, Caswell, Cleveland, and Avery Counties.)

Shifting the funding model to be fully dependent upon a single, uniform service district tax rate across most of the entire county, with all funds dedicated to delivery of fire and rescue services within the defined service district.

Establish A Fire Protection Service District in All Unincorporated Areas of Lee County and in Municipalities that Elect to Participate in A Single Fire Protection Service District for Funding Fire Service Staffing, or "Overlay Service District". (Forsyth County model).

This type district is principally considered due to the firefighter staffing needs that are a primary need in Lee County. An overlay service district is similar to option #2, but keeps all seven current service districts (plus Clearwater) in place and adds an additional funding layer specifically dedicated for firefighter staffing (or other designated purposes). This model supports the operational funding needs of each department paired with an additional service district with a single tax rate across most of the county, most commonly known as an overlay service district, that may be dedicated to providing enhanced firefighter staffing at all contracting fire departments initially focusing on peak call volumes.

Fire protection service districts, as enabled by NCGS 153A-301(a)(2) primarily follow the model of 1) an overall countywide single fire protection service district with some area(s) excluded, such as some municipalities, or 2) an



“overlay” district which is in addition to existing individual service districts. The overlay service district simply is an additional layer on top of the other district(s) that are or may be in place.

Generally, overlay service districts are implemented to address needs that are necessary or beneficial for the entire service delivery system when it is desired for each geographic or regional area to keep the local service district. The process to establish an overlay service district is identical to the process required to establish a countywide single fire protection service district, with some area(s) excluded.

The “good for all” purposes that counties in North Carolina utilize overlay service districts to support fire protection vary. Some counties have a single, more focused purpose, such as to support staffing units within the county that aid and support contracting fire departments with supplemental firefighters on emergency scenes. In other counties, the overlay districts provide a variety of services and support functions for the contracting fire departments to help lessen burdens on their individual districts where the economies of scale or size make purchases more efficient, or management of processes more streamlined and fill system needs or voids.

As with any service district in North Carolina, the funds collected from the service district must only be used within that service district and must be used for the purposes of fire and rescue services, or however the service district structure is established. In the situation with Lee County, the principal need could be for dedicated peak time firefighter staffing for all contracting fire departments.

Utilize the Lee County General Fund to Provide Some Supplemental Firefighter Operational Funding for Contracting Fire Departments. (Guilford, Cabarrus County Model.)

Because of the unique nature of most of the municipalities in Lee County, except for Sanford, currently already being in the current fire service districts, Lee County could transition a portion of the County’s General Fund to provide supplemental firefighters operating as a “flying squad” of firefighters to respond to significant incidents throughout Lee County.

As an initial step to strengthen fire protection services throughout the County, Lee County could consider establishing at least one regional crew of four full-time career firefighters that would be regular County employees. Some jurisdictions that use this model refer to this model as a “flying squad” or a “task force” approach. This crew would be comprised of a Fire Captain, a Fire Engineer and two Firefighters who were highly trained in all aspects of fire



service delivery. This initial crew would work under the direction of the County Fire Marshal on a weekday basis when volunteers are least available. They would be available countywide and could be based at a location that was statistically determined to be most optimal to have a positive impact on the structure fire responses in the County. If this resource were funded through the General Fund, the crew would respond into municipalities as well when requested or programmed.

With a total of 258 square miles in Lee County, one crew centrally positioned in the county would have limitations of effectiveness. However, it would enhance staffing beyond the current model and would provide a reasonable infrastructure to support all of the contracting fire departments countywide. Annual staffing expense for one crew is estimated at a minimum of \$300,000, including a necessary staffing buffer to manage leave. In addition, a response vehicle as determined appropriate by the County would need to be purchased and maintained. It is recommended that a service truck, or similar be utilized in this model. In addition, there are also potentially costs for a facility either through partnership, agreement, lease, or eventually construction of a facility.

Although the county could consider contracting service for such regional crews with the City of Sanford, there would be certain advantages to consider in these personnel being county employees. In addition to response duties, this crew could assist all of the contracting fire departments in the County with maintenance type duties such as hose testing, ladder testing, training and other essential support functions, as would be requested by the contracting fire departments. They could also perform some fire code enforcement and prevention services under the direction of the County Fire Marshal if necessary.

It is critical to note that this model should only be considered as a supplement to the excellent services provided by the dedicated volunteer firefighters in the county during the most challenging time for staffing. It is NOT recommended to replace volunteer personnel in any way whatsoever.

As this pilot program operates over time, a more thorough analysis could be completed to determine if expansion of the program was appropriate and if so, how and where it would be most effective and most beneficial. Although this initial one roving County crew will only make up a small contingent of the firefighters necessary on a fire scene, it would be a progressive effort towards strengthening service levels when volunteerism is at the weakest point – weekdays. Other NC Counties use similar models. An outline of the similar Guilford County model is found in the appendix. This program has operated successfully for many years and expanded in 2015.



Due to the significant amount of funds that are going to be necessary in the coming years to provide for personnel plus replacement of fire apparatus in Lee County coupled with the additional funds that are projected to support fire service operational needs, **the NCFCC team recommends that at a minimum Lee County consider Option #3 (Overlay Service District)** as a starting point to move the overall service delivery system funding progressively forward. Options #1 (keep the current system but increase the rates), #2 (create a single countywide service district) or #4 (use the county General Fund to support a county funded supplemental response unit) are all viable considerations as well. However, any of the options will require additional funding within the foreseeable future to adequately fund the needs identified for providing fire and rescue services in Lee County.

The projected cost of providing salary and benefits funding to seven (7) separate fire departments with the enhancement of adding one engineer level full-time equivalent is estimated to be \$525,000 for FY 25-26. This annual amount is indexed, associated with and based upon the City of Sanford's fire engineer salary mid-point and standard benefits percentage. NCFCC recommends indexing the cost so that it can remain current with market in the immediate Lee County area. Based upon projected revenue, this enhancement alone would require approximately \$.015 per \$100 valuation on an unincorporated overlay district.



Strengthening Retention and Recruitment of Volunteers

Lee County is experiencing many of the stressors that most North Carolina counties are experiencing with providing fire and rescue services, including significant changing dynamics with volunteerism and the need for more work with volunteer recruitment and retention efforts and the implementation of additional volunteer incentives and programs. Costs of providing protective clothing, gear, self-contained breathing equipment and other firefighting equipment also tops challenges of most fire departments.

From every perspective of the fire chiefs across Lee County, the need for **additional operational funding** is of paramount importance and concern to sustaining fire and rescue services and is the first focal area of interest. The greatest emerging operational funding need will most likely be related to providing **personnel**. Based upon fire service trends looking forward, more funding will be needed for personnel in some form – volunteer incentives, part-time paid personnel or career personnel. Continued concentrated efforts are needed for volunteerism recruitment and retention to preserve the current delivery system as long as possible.

The Volunteer Recruitment and Retention Peer Review team, consisting of regional subject matter experts in the areas of recruitment and retention of volunteer firefighters, was tasked with providing tactics that can be implemented in Lee County to make the volunteer element stronger and more sustainable.

General Observations

1. The seven different contracting fire departments in Lee County have not yet embraced a single, unified recruitment and retention plan and have different levels of engagement and agreement within the system on identified weaknesses. All departments have a different culture and will need modified methods in the plan to apply in their geographic areas.
2. Recruitment and retention expectations need to be redefined and perhaps more focus placed on retention. The personal ask (one-on-one) is still considered to be one of the best recruitment tools and has a unifying effect.
3. The changing dynamics of volunteerism is recognized and there is a perceived fear that the current method of operation with all volunteers, or mostly volunteer combination fire departments may not be sustained in the long-term future.



4. The challenges and weaknesses in the system must be openly acknowledged by all departments and members to make improvements.
5. It is recommended that Lee County join other NC counties in participating in North Carolina's Volunteer Workforce Solutions program through the NC Association of Fire Chiefs. This grant funded program can provide resources to help Lee County attract new persons to the fire service.
6. It is recommended that Lee County collaborate with the Lee County School System to implement a high school fire program in Lee County to provide a meaningful avenue for interested persons to acquire training and skills to enable them to volunteer in their home communities. This approach has been very successful in other North Carolina communities and it should be in Lee County as well.
7. Incentives for volunteers are currently determined at the department level and may include pay-per call and others decided on an individual department level.
8. A higher level of importance for recruitment and retention buy-in, collaboration, and communication is needed across the board, including communication with the Lee County Board of County Commissioners.
9. As an overall system, volunteer departments are not consistently tracking recruitment contacts, onboarding, or retention of volunteer members. This information is vital to service delivery and appropriating reliable funding to support the combination system.
10. Research through the International Association of Fire Chiefs (IAFC) has shown that only 24% of people are willing to volunteer for some worthwhile cause and only 1% are willing to volunteer with Fire and Rescue agencies. That result is a very small number, so recruitment efforts must be very focused and intentional. People who want to volunteer have many choices for areas other than fire and rescue services in Lee County.



Recommendations

Short Term 1 – 3 Years – More Immediate

1. Recommend all recruitment efforts have a centralized point of delivery to be most consistent and successful. Establish an identified countywide fire service volunteer recruiter/coordinator. This could be a part-time position initially. However, establishing a central person to uniformly work with all seven fire departments to recruit volunteers and focus energy and attention on volunteer retention in the fire departments and rescue squad will be valuable. Seek to participate in the next available Volunteer Workforce Solutions grant program and apply in the next SAFER grant program cycle to fund this as a full-time position through the SAFER (Federal Staffing for Adequate Fire and Emergency Response) grant.
2. Establish a system-wide method to track volunteers – entering the system, activity while in the system, and conducting an exit interview when leaving the system.
3. Identify barriers and potential solutions to recruitment and retention of a diverse group of volunteers in Lee County.
4. Conduct a system-wide volunteer needs assessment – fire fighters, and leadership positions.
5. Work with the Lee County school system to develop and implement a high school fire program in Lee County. This has been one of the most successful volunteerism models in North Carolina.
6. Develop, for Board of Commissioner approval, a new volunteer incentive program that is tied to a member's activity.

Intermediate Steps

1. Recommend strengthening a cooperative relationship with each volunteer department one at the time to identify volunteer recruitment and retention common goals and get buy-in. This method will take longer to accomplish but will be more successful because of gained trust and influence.



2. Recommend focusing on strategies to improve and gain trust to find common ground (i.e., Lee County fire departments working together and collaborating at community events for recruitment). Also, training together also builds trust.
3. Recommend engaging the Lee County Fire Chiefs to identify common concerns and agree upon goals and mission together with the County Manager.
4. Recommend widening the recruitment scope to include support personnel along with interior firefighters. Not all volunteers need to be interior firefighters. Seeking persons who can perform administrative functions for fire departments is also valuable as a best practice.
5. A lot of effort, time, and money goes into getting firefighters on board, trained, and ready to deliver service. Recommend a stronger focus on retention efforts to keep trained and certified volunteers in the system and engaged.
6. Recommend researching and investing in all avenues of social media for recruitment campaigns. There are many successful campaigns in use around the country and these programs can be used in Lee County.
7. Recommend volunteer departments institute a training night approximately each month for new members to build buy in and morale among all members. It can be simple and one-hour max drill to keep everyone practicing the basics. It will build confidence and consistency throughout the system.
8. Recommend volunteer departments participate in local events and/or host events at the fire stations for members and community outreach.
9. Recommend installing sign boards in front of fire stations (where they do not exist) to advertise the need for volunteers.
10. Recommend joining the National Recruitment Coordinator Network (no cost) and participate in bi-monthly roundtable discussions about recruitment and retention.
11. Recommend developing interest cards and flyers with department specific information to give to people interested in volunteering.



12. Consider a “county wide ride-a-long program” for interested volunteers.

Recommendations
Long Term 3 – 5 Years

1. Data is very important and objective. Collection of data is needed to measure performance and improve service delivery throughout the county. Recommend that the Fire Chiefs and Lee County staff create data points to track and frame it around successes not failures. Objective data will speak for itself and allow all to make more informed decisions.
2. Recommend the implementation of a tracking system for recruitment, retention, and trends for all Lee County Fire Departments. The system should produce a standardized monthly and quarterly report from each fire department that tracks all recruitment contacts, new members, resignations, ideas, and goals. The report would go to a coordinator over all recruitment & retention and be shared with the Fire Chiefs and County Manager. Volunteer Workforce Solutions specializes in such data collection methods and can aid Lee County with this work. The National Volunteer Fire Council (NVFC) has a portal program as well that can be beneficial to solicit interest in becoming a volunteer. This would be a great program for the county's fire volunteer coordinator to work with.
3. Recommend the development of a new volunteer orientation program to include subjects such as: Human Resource policies, Expectations, Standards of Cover, etc. Loudon County, Virginia uses such a program, and it has proven beneficial to retention of members.

Additional Volunteerism Enhancement Information:

Additional information on volunteerism is found within the Appendix section of this report.



Service Delivery System Funding Options to Consider

Future Funding Models to Consider:

With the significant operating costs to consider in coming years coupled with the pending capital needs of fire apparatus and fire station facilities, **it will be necessary to re-evaluate the funding models that Lee County will use moving forward** to help achieve the necessary level of funding to support the delivery of fire and rescue services to the people of Lee County.

NCFCC developed four key considerations for Lee County to consider. Each consideration has pros and cons that will need further evaluation at the county level. The four identified options that were developed for consideration at this time include:

Keep Funding Structures Status Quo. (Current Lee County model.)

Keep using the 7 service district structures that Lee County is currently using (plus the Clearwater service district), and continuing to escalate the fire tax rates within those fire protection service districts upward to fund the credible needs presented and approved by the Board of Commissioners, up to the \$.15 per \$100 valuation maximum rate for fire protection per NCGS 153A. Note that the \$.15 per \$100 valuation restriction may not be applicable in Lee County.

Establish One Single Fire Protection Service District in All Unincorporated Areas of Lee County and in Municipalities (Broadway) that Elect to Participate in the Single Fire Protection Service District for Funding All Fire and Rescue Services. (Model used by Bertie, Scotland, Bladen, Moore, Wake, Vance, Gaston, Iredell, Stokes, Person, Caswell, Cleveland, and Avery Counties.)

Shifting the funding model to be fully dependent upon a single, uniform service district tax rate across most of the entire county, with all funds dedicated to delivery of fire and rescue services within the defined service district.

Establish A Fire Protection Service District in All Unincorporated Areas of Lee County and in Municipalities that Elect to Participate in A Single Fire Protection Service District for Funding Fire Service Staffing, or "Overlay Service District". (Forsyth County model).

This type district is principally considered due to the firefighter staffing needs that are a primary need in Lee County. An overlay service district is similar to option #2, but keeps all seven current service districts (plus Clearwater) in place and adds an additional funding layer specifically dedicated for firefighter staffing (or other designated purposes). This model supports the operational funding needs of each department paired with an additional service district with a single tax rate across most of the county, most commonly



known as an overlay service district, that may be dedicated to providing enhanced firefighter staffing at all contracting fire departments initially focusing on peak call volumes.

Fire protection service districts, as enabled by NCGS 153A-301(a)(2) primarily follow the model of 1) an overall countywide single fire protection service district with some area(s) excluded, such as some municipalities, or 2) an "overlay" district which is in addition to existing individual service districts. The overlay service district simply is an additional layer on top of the other district(s) that are or may be in place.

Generally, overlay service districts are implemented to address needs that are necessary or beneficial for the entire service delivery system when it is desired for each geographic or regional area to keep the local service district. The process to establish an overlay service district is identical to the process required to establish a countywide single fire protection service district, with some area(s) excluded.

The "good for all" purposes that counties in North Carolina utilize overlay service districts to support fire protection vary. Some counties have a single, more focused purpose, such as to support staffing units within the county that aid and support contracting fire departments with supplemental firefighters on emergency scenes. In other counties, the overlay districts provide a variety of services and support functions for the contracting fire departments to help lessen burdens on their individual districts where the economies of scale or size make purchases more efficient, or management of processes more streamlined and fill system needs or voids.

As with any service district in North Carolina, the funds collected from the service district must only be used within that service district and must be used for the purposes of fire and rescue services, or however the service district structure is established. In the situation with Lee County, the principal need could be for dedicated peak time firefighter staffing for all contracting fire departments.

Utilize the Lee County General Fund to Provide Some Supplemental Firefighter Operational Funding for Contracting Fire Departments. (Guilford, Cabarrus County Model.)

Because of the unique nature of most of the municipalities in Lee County, except for Sanford, currently already being in the current fire service districts, Lee County could transition a portion of the County's General Fund to provide supplemental firefighters operating as a "flying squad" of firefighters to respond to significant incidents throughout Lee County.



As an initial step to strengthen fire protection services throughout the County, Lee County could consider establishing at least one regional crew of four full-time career firefighters that would be regular County employees. Some jurisdictions that use this model refer to this model as a “flying squad” or a “task force” approach. This crew would be comprised of a Fire Captain, a Fire Engineer and two Firefighters who were highly trained in all aspects of fire service delivery. This initial crew would work under the direction of the County Fire Marshal on a weekday basis when volunteers are least available. They would be available countywide and could be based at a location that was statistically determined to be most optimal to have a positive impact on the structure fire responses in the County. If this resource were funded through the General Fund, the crew would respond into municipalities as well when requested or programmed.

With a total of 258 square miles in Lee County, one crew centrally positioned in the county would have limitations of effectiveness. However, it would enhance staffing beyond the current model and would provide a reasonable infrastructure to support all of the contracting fire departments countywide. Annual staffing expense for one crew is estimated at a minimum of \$300,000, including a necessary staffing buffer to manage leave. In addition, a response vehicle as determined appropriate by the County would need to be purchased and maintained. It is recommended that a service truck, or similar be utilized in this model. In addition, there are also potentially costs for facility either through partnership, agreement, lease, or eventually construction of a facility.

Although the county could consider contracting service for such regional crews with the City of Sanford, there would be certain advantages to consider in these personnel being county employees. In addition to response duties, this crew could assist all of the contracting fire departments in the County with maintenance type duties such as hose testing, ladder testing, training and other essential support functions, as would be requested by the contracting fire departments. They could also perform some fire code enforcement and prevention services under the direction of the County Fire Marshal if necessary.

It is critical to note that this model should only be considered as a supplement to the excellent services provided by the dedicated volunteer firefighters in the county during the most challenging time for staffing. It is NOT recommended to replace volunteer personnel in any way whatsoever.

As this pilot program operates over time, a more thorough analysis could be completed to determine if expansion of the program was appropriate and if so, how and where it would be most effective and most beneficial. Although



this initial one roving County crew will only make up a small contingent of the firefighters necessary on a fire scene, it would be a progressive effort towards strengthening service levels when volunteerism is at the weakest point – weekdays. Other NC Counties use similar models. An outline of the similar Guilford County model is found in the appendix. This program has operated successfully for many years and expanded in 2015.

Due to the significant amount of funds that are going to be necessary in the coming years to provide for personnel plus replacement of fire apparatus in Lee County coupled with the additional funds that are projected to support fire service operational needs, **the NCFCC team recommends that at a minimum Lee County consider Option #3 (Overlay Service District)** as a starting point to move the overall service delivery system funding progressively forward. Options #1 (keep the current system but increase the rates), #2 (create a single countywide service district) or #4 (use the county General Fund to support a county funded supplemental response unit) are all viable considerations as well. However, any of the options will require additional funding within the foreseeable future to adequately fund the needs identified for providing fire and rescue services in Lee County.

The projected cost of providing salary and benefits funding to seven (7) separate fire departments with the enhancement of adding one engineer level full-time equivalent is estimated to be \$525,000 for FY 25-26. This annual amount is indexed, associated with and based upon the City of Sanford's fire engineer salary mid-point and standard benefits percentage. NCFCC recommends indexing the cost so that it can remain current with market in the immediate Lee County area. Based upon projected revenue, this enhancement alone would require approximately \$.015 per \$100 valuation on an unincorporated overlay district.



Section 8: Appendix Documents



Appendix A – Abbreviated Report Executive Summary:

The provided information outlines the evaluation of the Lee County Fire and Rescue Service Delivery System, conducted by NC Fire Chief Consulting (NCFCC) in response to changing dynamics in the North Carolina fire service. Here's a detailed summary:

Overview:

- Lee County has witnessed significant shifts in volunteerism and increased costs in fire apparatus, equipment, and facilities post-pandemic.
- To address these challenges, Lee County engaged NCFCC to evaluate its Fire and Rescue Service Delivery System, aiming to understand current needs and potential long-term impacts.

Methodology:

- NCFCC utilized a comprehensive approach, gathering feedback from fire service leadership through one-on-one sessions and conducting community feedback surveys, interviews with key leaders, and hazard/risk analyses.
- Geographic Information System (GIS) analysis, response data evaluation, financial analysis, and capital asset assessment were also conducted to provide a holistic understanding.

Findings:

- Strengths of Lee County's fire service include equipment quality, strong relationships, and dedicated volunteers. However, challenges such as declining volunteerism and concerns about the 9-1-1 Emergency Communications Center were highlighted.
- Fire chiefs emphasized the need for competitive pay, improved emergency communications, and funding for additional personnel. Firefighters identified barriers including communication system inadequacies and staffing shortages.

Recommendations:

- Suggestions for sustaining the volunteer-based system include establishing high school fire programs and providing volunteer incentives.
- Key recommendations include improving emergency communication systems, addressing staffing shortages, and exploring funding models such as a flat tax system.

Conclusion:

- The report provides valuable insights into Lee County's fire service and offers recommendations for addressing present challenges and preparing for future needs.
- Collaboration between stakeholders, proactive measures to support volunteerism, and investment in infrastructure are highlighted as crucial for maintaining effective fire services amidst evolving dynamics.



The document provides a comprehensive analysis of various aspects related to the Lee County Fire and Rescue Service Delivery System, covering community risk analysis, GIS analysis, response data analysis, review of emergency communications systems, capital resource analysis, financial analysis, staffing levels, and municipal cost-share modeling. Here's a detailed summary of each section:

Community Risk Analysis:

- Lee County's population has increased by nearly 16% since 2010.
- Demographic analysis indicates slightly higher percentages of residents aged 65+ and populations with disabilities compared to state averages.
- Approximately 11% of Lee County's population lives in poverty, lower than the state average.
- Lee County has higher percentages of high school graduates and individuals with associate degrees, but lower percentages of bachelor's and graduate degree holders compared to state averages.
- Lee County has a higher percentage of owner-occupied properties and a lower percentage of renter-occupied homes compared to state averages.
- The document emphasizes the importance of understanding these demographic factors in prioritizing community risk reduction programs.

GIS Analysis:

- GIS analysis provides insights into fire station coverage, travel times, population density, land use, and zoning.
- Most fire incidents occur within a 5–10-minute travel time from existing fire stations.
- A risk analysis based on land use and zoning identifies major risks near transportation corridors.
- The analysis also includes projections for new developments and their impact on emergency responses.

Response Data Analysis:

- Analysis of response data over five years indicates an increase in demand for services.
- Overall, Lee County Fire Departments currently have a response time of 10:44 minutes for 80% of emergency incidents.
- The busiest hours for emergency responses are between noon and 8 pm, with the busiest 12-hour period from 9 am to 9 pm.

9-1-1 Emergency Communications PSAP and Radio System Review:

- An overview of the City of Sanford's 9-1-1 PSAP identifies improvement opportunities.
- Recommendations include technical integrations, training programs, feasibility studies for communication systems, and user groups for structured input.



Capital Resource Analysis:

- Evaluation of fire apparatus and station facilities indicates overall satisfactory conditions but highlights the need for vehicle replacement schedules and safety upgrades.
- Recommendations include implementing replacement schedules and upgrading safety components.

Financial Analysis:

- The analysis compares budgets, tax levies, property valuation, and personnel costs across seven rural fire departments in Lee County.
- It highlights variations in tax levies, property valuation, population, staffing levels, and operational budgets among the departments.
- Recommendations include establishing vehicle replacement plans, addressing personnel costs, and improving financial transparency.

Staffing Levels:

- Lee County fire departments rely primarily on volunteer firefighters, but there is a diminishing trend in volunteer staffing.
- The document provides insights into staffing schedules, full-time equivalents, and net loss of volunteers over recent years.

Municipal Cost-Share Modeling:

- A conceptual cost-share model determines equitable cost shares between municipalities and unincorporated areas based on key indicators.
- Recommendations include aligning percentages between municipalities and the county and considering various factors like calls for service and population.

The document concludes with observations and recommendations for improving service contracts, mutual aid agreements, and addressing core contract language, fiscal issues, insurance, personnel, and performance standards.

The considerations outlined for Lee County's Fire and Rescue Service Delivery System moving forward are comprehensive and address both operational and capital funding needs, as well as future funding models. Here's a breakdown of the key points and recommendations:

1. Operational Funding Needs:

- Lee County is facing challenges with volunteerism, recruitment, and retention, leading to a decrease in the number of volunteer firefighters.
- The operational funding, particularly for personnel, is of paramount concern for sustaining fire and rescue services.
- Recommendations include establishing a retention and recruitment position to attract and retain volunteer firefighters, potentially funded through federal grant programs like SAFER.



- Proactive measures are suggested to mitigate the potential loss of volunteer firefighters and sustain the volunteer-based system.
- 2. **Principal Capital Funding Needs:**
 - The need to replace aging fire apparatus is highlighted, with a significant cost associated with procuring new apparatus.
 - Recommendations include developing a Capital Improvement Plan (CIP) and funding plan for fire apparatus replacement.
 - Fire station facilities should also be considered for capital funding, especially those lacking dorm facilities for 24/7 staffing.
- 3. **Future Funding Models to Consider:**
 - Four funding model options are presented for consideration, each with its pros and cons:
 - Status Quo: Maintain current funding structures.
 - Single Fire Protection Service District: Implement a uniform tax rate across the county.
 - Overlay Service District: Add an additional funding layer for firefighter staffing.
 - Utilize Lee County General Fund: Provide supplemental funding for firefighter operational needs.
 - Option #3 (Overlay Service District) is recommended as a starting point, with other options also viable but requiring additional funding.
- 4. **Next Steps:**
 - Lee County is advised to review the data and recommendations and decide on a funding model change by late 2024 to implement by July 2025.
 - Implementation of a volunteer fire retention and recruitment officer is encouraged as soon as feasible.
 - Regular reviews of the analysis and data are recommended to ensure decisions are based on current information.

Overall, the recommendations aim to address the immediate operational needs while also planning for long-term sustainability through appropriate funding models and investments in personnel and equipment.

Note - This illustrative summary is a shortened by Artificial Intelligence from the full version of the report.



Appendix B – Lee County Baseline Strategic Planning Document:

Introduction

The Lee County Fire Departments provide fire suppression, emergency medical care, technical rescues, hazardous materials mitigation, fire and life safety education, and fire investigation to the residents, businesses, and visitors to Lee County through the efforts of seven distinct community fire districts.

As a fire service organization that strives to maintain the highest level of professionalism and efficiency, the departments within Lee County utilized the SWOT model of strategic planning to document the county's different fire department's path into the future. The following baseline strategic plan was written after the fire department members, and community residents provided input during facilitated feedback sessions and online surveys. It is intended to provide the Lee County Fire Departments and Lee County Government a beginning point for the enhancements and changes that will occur as the county grows.

The recent review process challenged the organization's members to critically examine paradigms, values, philosophies, and beliefs, and challenged individuals to work in the best interest of the "team." This provided the members of the county fire departments with an opportunity to participate in the development of its long-term direction and focus.

S.W.O.T. Analysis

The Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis is designed to allow an organization candidly to identify its positive and less-than-desirable attributes. Stakeholders from all Lee County fire departments and leadership from within Lee County Government participated in this activity to record their strengths and weaknesses, as well as opportunities and potential threats to the organization.

Critical Issues and Service Gaps

Upon compiling the information from the SWOT sessions, a work group of fire service professionals reviewed the themes found within the data collected by the department. This work group then provided several Peer Review Recommendations related to critical issues and service gaps that were identified in the stakeholder processes.

Strategic Initiatives

The input of the Peer Review Recommendations was then grouped into the following strategic initiatives as the foundation for the development of goals and objectives moving forward.



Lee County Fire Service Strategic Initiatives	
Infrastructure Needs	External Engagement
Recruitment and Retention	Strategic Partnerships
Current Program Service Delivery	Internal Engagement

This strategic plan document utilizes the Center for Public Safety Excellence (CPSE) as a best practice model for the fire service. Many fire departments across North Carolina utilize the CPSE format for their strategic plans for simplicity and effectiveness.

Goals and Objectives

To continuously achieve the mission of the seven Lee County Fire Departments, realistic goals and objectives with timelines for completion must be established to enhance strengths, address weaknesses, provide a clear path forward, and address the expectations of the community. These should become a focus of the county's efforts, as they will direct the organization to its desired future state. It should also help reduce and predict obstacles that will occur along the way. Leadership established work groups should meet and manage progress toward accomplishing these goals and objectives and adjust timelines as needs and the environment change. Regular reports of progress and changes should be shared with the Lee County government, department and community leaders, and all fire department members.

Goal 1:	Develop an ongoing Capital Expenditure Plan that maintains current capabilities and provides for capabilities expansion in the future.
Objective 1A:	Ongoing analysis of current infrastructure to include fixed facilities, apparatus, equipment, personal protective equipment, and all supporting resources, to identify shortfalls and opportunities to increase efficiency and improve service delivery.
Timeframe:	Annually ongoing
Critical Tasks:	Document all the current capabilities of fire departments within Lee County. Upon completion, use that list as the baseline service level in which to maintain and then build upon.
Objective 1B:	Review the current level of support and revenue needed to maintain existing infrastructure and identify the levels needed to maintain and support proposed infrastructure changes or improvements, including but not limited to addressing areas of previously identified extended total response times.
Timeframe:	1 year – ongoing
Critical Tasks:	Identify support gaps between expectations and current support levels.



	Ensure that changes to infrastructure are shared with all relevant stakeholders within Lee County and that an appropriate level of support is in place to facilitate these changes.
Objective 1C:	Conduct a yearly review of current capital assets and ensure current plans address emerging needs of community
Timeframe:	Annually ongoing
Critical Tasks:	Executive team review of individual department needs assessment during annual budget process. Ensure that each review is in keeping with the individual department's desired growth in capability direction.
Objective 1D:	Identify additional funding streams that can address the capital expenditure needs of Lee County fire departments.
Timeframe:	Annually – ongoing
Critical Tasks:	<p>Annual strategic planning meeting of Lee County Fire Chiefs and Lee County Management for grant application approvals and department management of grants.</p> <p>Management and tracking of all grants awarded to Lee County Fire Departments for efficiency and transparency.</p> <p>Evaluate alternative funding models such as a single, unified fire protection service district or an overlay district, as options provided by the North Carolina Legislature.</p> <p>Develop an implementation plan to move to or enhance the funding streams best for Lee County to generate the revenue necessary to best support the fire and rescue service needs.</p>

Goal 2:	Increase the number of outreach and engagement opportunities to external stakeholders and continue to align efforts with the community's expectations.
Objective 2A:	Evaluate current initiative and programs related to community risk reduction and community preparedness.
Timeframe:	6 months
Critical Tasks:	<p>Identify current programs and methods used for community outreach.</p> <p>Analyze effectiveness of current programs.</p>
Objective 2B:	Develop and improve emergency management processes and relationships that allow the Lee County Fire Departments to plan for, prevent, respond to, and recover from both manmade and natural disasters for a more resilient community.
Timeframe:	1 year – ongoing
Critical Tasks:	Research industry best practices for programs not currently provided.



	Establish relationship with community partners to collaborate and leverage abilities.
Objective 2C:	Evaluate the flow of communications to the appropriate external stakeholders.
Timeframe:	Ongoing
Critical Tasks:	Identify community groups and organizations. Identify information that external stakeholders desire to receive. Evaluate response trends in affected areas. Identify opportunities for collaboration with other agencies.
Objective 2D:	Develop a communication delivery process for disseminating information to external customers to provide transparency and support.
Timeframe:	1 year.
Critical Tasks:	Develop a workgroup representing all departments and Lee County government to create a standardized way to deliver information to external stakeholders. Develop communication timelines and frequencies based upon prioritization of external stakeholders. Create an external stakeholder focus group to test system processes and gather feedback on effectiveness.

Goal 3:	Maintain and grow the culture of volunteerism within the Lee County Fire Departments
Objective 3A:	Review current strategies for recruitment and retention to identify areas for improvement.
Timeframe:	1 Year
Critical Tasks:	Assess current recruiting venues for effectiveness. Examine current practices and compare to other fire departments within the region. Evaluate accessibility of volunteer application process.
Objective 3B:	Develop and implement strategies and processes to remedy identified gaps in recruitment and retention of members.
Timeframe:	2 Years
Critical Tasks:	Seek input from stakeholders. Establish and staff a dedicated Recruitment and Retention position within Lee County. Establish multi-departmental workgroups to conduct research on industry best practices related to retention and recruitment. Determine methodologies to provide additional benefits to volunteer members throughout all Lee County fire departments. Implement an "exit interview" program for volunteers that leave the service within the county.



Objective 3C:	Develop a focus on retention for fire department members based on clearly defined expectation of job qualifications, opportunities for personal development, and demonstrated performance.
Timeframe:	1 Year-ongoing
Critical Tasks:	Assessment promotional process for each department. Develop support roles and responsibilities for volunteers not involved in emergency service delivery. Develop additional methods for personal development of member. Determine additional processes to display professionalism of all Lee County fire department members.

Goal 4:	Build, repair, and strengthen strategic partnerships within Lee County Emergency Services.
Objective 4A:	Establish and maintain collaborative partnership that capitalize on strengths and resources to enhance emergency response capabilities within Lee County.
Timeframe:	12 Months
Critical Tasks:	Determine representative from Fire, EMS, and Law to work with Lee County 911 Center user group. Develop methods to provide information to all relevant stakeholders. Convene user group and other key stakeholders to analyze the current status of Lee County 911 Center.
Objective 4B:	Determine the technology needs for all emergency services within Lee County.
Timeframe:	1-2 Years
Critical Tasks:	Evaluate current communications equipment including emergency radio system, 911 Center equipment, and all CAD update processes. Perform feasibility study on benefits of 800 MHz or NC VIPER radio system for Lee County. Incorporate Lee County GIS updates to CAD system regularly to ensure responders have current information. Ensure the communications center is utilizing technologies that are available to them, such as station alerting equipment and develop a plan to harness those technologies that are not being used.
Objective 4C:	Enhance and improve current programs to address deficiencies.
Timeframe:	2-3 Years
Critical Tasks:	Address gaps identified in Objective 4B. Identify necessary resources (funding, locations, and staff).
Objective 4D:	Strengthen operational relationships within Lee County Emergency Services.



Timeframe:	1-2 Years
Critical Tasks:	Engage with neighboring departments to review all automatic and mutual aid agreements. Conduct regular organization and joint training exercises to build relationships and coordinate response strategies between agencies. Establish performance measures for Lee County 911 Center and Fire Department response.

Goal 5:	Provide the highest quality of service in the most efficient manner in all fire and rescue programs and enhance capabilities for the future needs of Lee County.
Objective 5A:	Review all current services/programs provided to community to ensure alignment with community expectations.
Timeframe:	1 Year – ongoing
Critical Tasks:	Review outcomes of current services to determine if comprehensive and modern. Create list of needed adjustments of the services which will be provided. Identify current funding gaps within established programs.
Objective 5B:	Determine the future service needs of the community.
Timeframe:	18 Months – Annually there after
Critical Tasks:	Review and analyze community and industry trends. Review new and current legislation impacting service delivery. Develop methodology for ongoing/annual stakeholder input into Lee County emergency services and seek opportunities for collaboration.
Objective 5C:	Perform an analysis of current program outcomes being measured to ensure accuracy, need, and appropriateness.
Timeframe:	1 Year
Critical Tasks:	Identify what is currently being measured. Analyze methods to improve understanding and access to performance measures. Determine other performance measures to be added to inventory.
Objective 5D:	Implement or modify services provided to meet the needs of the community.
Timeframe:	2-3 Years
Critical Tasks:	Develop implementation plan. Ensure an adequate funding stream has been identified. Ensure implementation is created in accordance with all federal, state, and local regulations. Education personnel and community.



Objective 5E:	Reassess service deliver model to ensure it meets needs of the community
Timeframe:	Ongoing
Critical Tasks:	Perfrom continuous analysis to assess impact of our actions. Share results of analysis with internal and external stakeholders. Perfrom modicationas to programs as needed.

Goal 6:	Develop a culture of internal engagement within the Lee County Fire and Rescue Services that promotes empowerment, trust, and open communication.
Objective 6A:	Improve internal communication within all individual fire departments to maximize effective messaging in a safe and open environment.
Timeframe:	1 Year
Critical Tasks:	Identify and evaluate the effectiveness of current methods of internal communication. If needed, implement changes to existing systems. Train personnel on how to determine which method of communication is most appropriate for the subject matter and audience. Develop additional communications training and skills for entire department.
Objective 6B:	Identify methods to enhance collaboration among individual fire departments and within each department.
Timeframe:	1 Year
Critical Tasks:	Provide opportunities for personal development in project management and/or work teams or committees.
Objective 6C:	Explore differing approaches to communication, motivation, and training with newer/younger members.
Timeframe:	2 Years
Critical Tasks:	Research industry practices for emerging technologies and best practices for generations entering the workplace related to communications. Research emerging practices related to adult learning techniques. Convene younger volunteers/employees to provide better understanding of generational values.
Objective 6D:	Perform continued analysis of the internal engagement within Lee County's individual fire departments to assess effectiveness.
Timeframe:	Ongoing
Critical Tasks:	Establish a method for regular ongoing feedback from members. Determine intersest in formalized surveys of membership biannually. Modifiy plan as needed.



Vision

The process of strategic planning would be incomplete if at the conclusion of the process there was not a shared vision. Lee County Government has now been presented with a group of strategic initiatives and measurable objectives. The team now is being asked to develop a vision statement that articulates where the departments within Lee County will be when the plan is completed. This is not to override an individual fire department's overall strategic plan or vision, but to confirm to its members that the goals established through this process are part of the future each of the fire departments in Lee County.

(Potential prompts for writing a vision statement)

Lee County Fire Service Vision 2027

What will we be if?

We deliver services even better?

We focus on our people?

We focus on the community?

We receive the resources to continue delivering services?

How will be best steward our resources?



Appendix C – ISO Apparatus Need From an ISO Perspective for Future Capital Planning:

Below is an analysis of fire apparatus from the study fire departments in Lee County. By department, this analysis captures the current ISO classification or class, the base fire flow, number of fire stations and ISO recommended fire apparatus including engines, tankers, ladders in order for an optimum ISO rating. This data is specific to each department and does not factor automatic or mutual aid, because each fire department should be able to stand on their own in this dynamic.

Each fire department should have the minimum capability of producing their base fire flow with their apparatus. The data in this appendix should be used to determine if large apparatus is necessary to be placed into the capital improvement plan for replacement apparatus. For many reasons, there are those cases where fire departments may keep more apparatus than is necessary. This may be because of historical value, unusual areas that are served that require that type specialty apparatus and others. However, in designing a capital improvement plan, decisions need to be made about what front line fire apparatus is essential and placed on the CIP as opposed to historic or specialty fire apparatus.

A listing of the apparatus is also included on each sheet carried over from the apparatus review that was conducted as part of this initiative. This data will be helpful as a planning tool for capital in the future.



Cape Fear Rural Fire Department, Inc.

ISO Public Protection Classification	Class 3/9E
Base Fire Flow	2000 GPM
# Fire Stations	2
<u>Required Apparatus:</u>	
Engines	2
Tankers	2
Ladders	1
Notes: Truck 512 (rescue truck) was counted as a service truck.	

Call Sign	Type	Manufacturer	Year	Age	Projected Life	Condition
E57	Engine	E-One	1998	26	-1	Good
E56	Engine	International/Rosenbauer	2013	11	14	Good
E55	Engine	International/E-One	2004		See note	
T58	Tanker	Kenworth/Rosenbauer	2021	3	22	Good
T59	Tanker	Kenworth/Fouts Brothers	2011	13	12	Good
512	Rescue	International/Rosenbauer	2016	8	17	Good
511	Brush	Ford F550	1997	27	-2	Good

Note: Engine 55 was not available for inspection



The Carolina Trace Volunteer Fire Department

ISO Public Protection Classification **Class 4/9E**
 Base Fire Flow **2000 GPM**
 # Fire Stations **1**
Required Apparatus:
 Engines **2**
 Tankers **1**
 Service Company **1**
 Notes: One of the three engines can fill the tanker role. Rescue 812 could be used as a service vehicle.

Call Sign	Type	Manufacturer	Year	Age	Projected Life	Condition
E85	Engine	KME	2018	6	19	Good
E86	Engine	Pierce/TAK4	2010	14	11	Good
E84	Engine	HME/Ferrera	2000	24	1	Good
812	Rescue	Pierce	1999	25	0	Good
811	Brush	Ford F550	2005	19	6	Good



Deep River Rural Fire Department, Inc.

ISO Public Protection Classification	Class 4/9E
Base Fire Flow	2250 GPM
# Fire Stations	2
<u>Required Apparatus:</u>	
Engines	2
Tankers	2
Service Companies	1
Notes: Rescue 412 can serve as a service vehicle.	

Call Sign	Type	Manufacturer	Year	Age	Projected Life	Condition
E45	Engine	Pierce	1993	31	-6	Good
T48	Tanker	Gruman/International	1991	33	-8	Good
T47	Tanker	EEL/Chevrolet	1987	37	-12	Fair
E44	Engine	KME	1998	26	-1	Good
T46	Tanker	Pierce	2021	4	21	Good
412	Rescue	Pierce	2004	20	5	Good
410	Brush	Dodge	1994	30	-5	Good
411	Brush	Ford/F450	2015	9	16	Good



Lemon Springs Volunteer Fire Department

ISO Public Protection Classification **Class 4/9E**
 Base Fire Flow **1750 GPM**
 # Fire Stations **2**
Required Apparatus:
 Engines **2**
 Tankers **2**
 Service Companies **1**
 Notes: Of the four engines, two would be used to count as the two tankers

Call Sign	Type	Manufacturer	Year	Age	Projected Life	Condition
E74	Engine	Pierce/Kenworth	2009	15	10	Good
E75	Engine	KME/Freightliner	1995	29	-4	Poor
E76	Engine	Pierce/Kenworth	2001	23	2	Good
E77	Engine	Toyne/Custom	2016	8	17	Good
714	Equipment	Freightliner	2005	19	6	Good
711	Brush	Ford/F550	2012	12	13	Good
712	Brush	Ford/F550	2014	10	15	Good



Northview Fire Department, Inc.

ISO Public Protection Classification **Class 4/9E**
 Base Fire Flow **2000 GPM**
 # Fire Stations **2**
Required Apparatus:
 Engines **2**
 Tankers **2**
 Service Company **2**
 Notes: Truck 6 and Equipment truck 612 can be used as service vehicles

Call Sign	Type	Manufacturer	Year	Age	Projected Life	Condition
E64	Engine	Pierce/Enforcer	2020	3	23	Excellent
E65	Engine	Pierce/Enforcer	2019	5	20	Good
T64	Tanker	Pierce/Dash	2004	20	5	Good
T67	Tanker	Pierce/Dash	1988	36	-11	Good
T68	Tanker	Pierce/Peterbilt	2016	8	17	Fair
T6	Ladder	Pierce/TAK4	2020	4	21	Good
612	Equipment	Pierce/Sabre	2004	20	5	Good
614	Equipment	Hackney/Freightliner	1999	25	0	Good
610	Equipment	Ford/F450	2011	13	12	
Truck 611	Other	Ford/F550	2007	18	7	Good



The Pocket Volunteer Fire Department, Inc.

ISO Public Protection Classification **Class 5/9E**
 Base Fire Flow **1750 GPM**
 # Fire Stations **2**
Required Apparatus:
 Engines **2**
 Tankers **2**
 Service Company **1**
 Notes: Rescue 9 or Equipment truck 912 can fill the service vehicle requirement.

Call Sign	Type	Manufacturer	Year	Age	Projected Life	Condition
E94	Engine	International	1989	35	-10	Good
E95	Engine	Crimson/Sparten	2008	16	9	Good
E97	Engine	KME/Freightliner	1995	29	-4	Good
T98	Tanker	E-One/F Series	1998	26	-1	Fair
T99	Tanker	Tonyo/Freightliner	2022	2	23	Excellent
9	Rescue	Ford/F550	2019	5	20	Excellent
910	Brush	Ford/F550	2016	8	17	Good
912	Equipment	Hackney/International	1996	28	-3	Poor



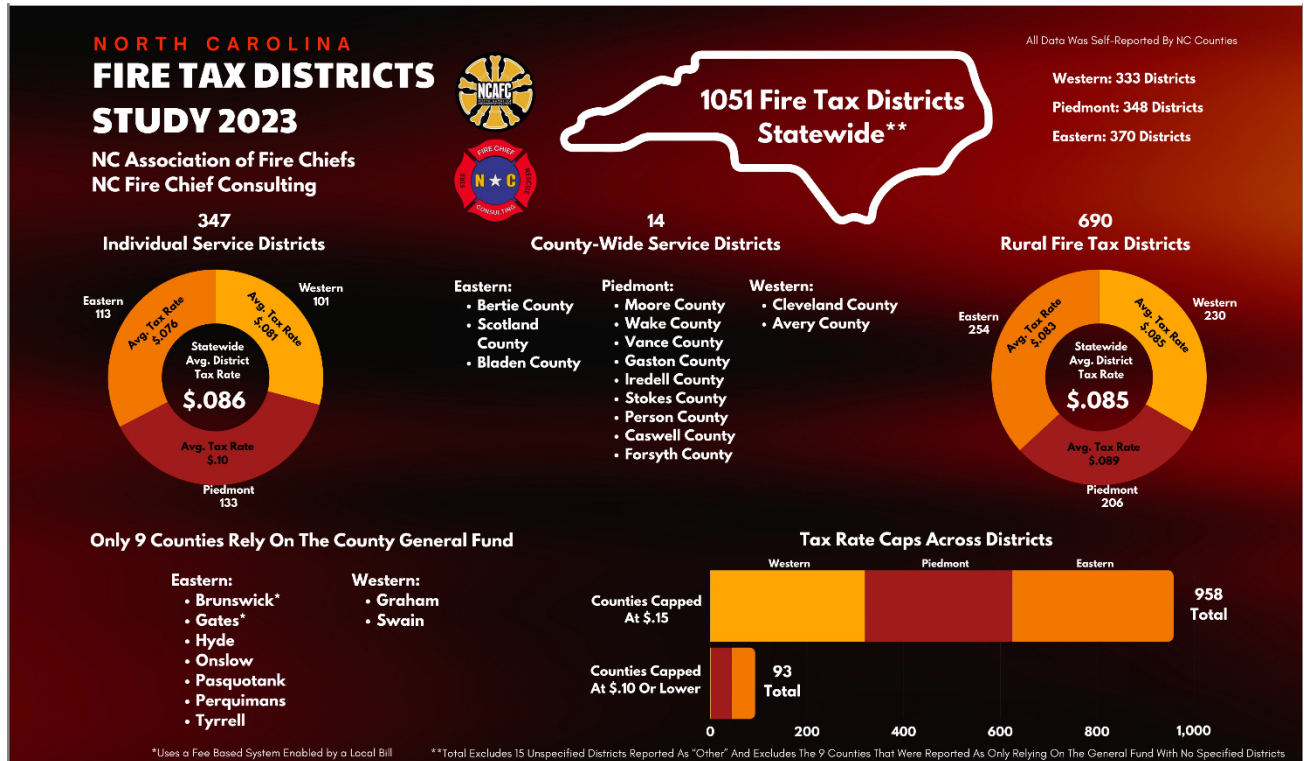
The Tramway Rural Fire Department, Inc.

ISO Public Protection Classification	Class 4/9E
Base Fire Flow	2250 GPM
# Fire Stations	1
<u>Required Apparatus:</u>	
Engines	2
Tankers	1
Service Company	1
Notes: Engine 24, 25 or 27 can fill the tanker role.	

Call Sign	Type	Manufacturer	Year	Age	Projected Life	Condition
E24	Engine	E-One	2014	10	15	Good
E25	Engine	Smeal	2005	19	6	Good
E26	Engine	KME/Kodiak	1993	31	-6	Good
E27	Engine	Farra	1997	27	-2	Good
210	Brush	Ford/F550	2006	18	7	Good
211	Brush	Ford/F350	1994	30	-5	Good



Appendix D – FY 23-24 Fire Service District and Rural Fire District Tax Rate Information for North Carolina:



Appendix E – Long-Term Fire Department Merger Considerations for Lee County Fire and Rescue Services:

Due to current geographic distributions of fire stations and historical demonstrated performance, recommendations within this report do not specifically recommend that any two fire departments immediately merge or consolidate. However, **we do recommend that fire service leaders continuously look for opportunities where merger would be beneficial.** As Lee County continues to grow, merger will be an important consideration, as it is for many fire departments throughout North Carolina in the future.

When dynamics change, such as the significant changes in volunteerism, the infrastructure and systems must enable and support essential functions. These “growing pains” are a natural progression of the maturity cycle of any local government unit and are not unique to Lee County.

Within this analysis for Lee County, some of the foundational work for potential future mergers has already been touched on. However, the situation should look even more in depth on the two fire departments deciding if merger is right for them. When the time is ripe for considering a potential fire department merger between two private, non-profit organizations, we would suggest the following steps be taken:

- Initiate a feasibility process to **provide indicating data that should be considered by the two fire departments to consider a potential merger/unification to best continue serving their two communities and Lee County into the future.**
- **Qualitative and quantitative data should be collected from stakeholders** who were willing to participate in discussions and surveys regarding a potential merger.
- A **response data analysis** of incident responses of the two fire departments should be analyzed to determine the levels of service of both fire departments as well as evaluate some service improvement alternatives. In addition, a **GIS analysis** is needed to analyze the coverage area and evaluate growth potential.
- In addition, a **human resource-based analysis** should be completed that focuses primarily on the potential employee benefits and compensation transition should the departments decide to pursue merging together.



- Capital assets of both department's **fire apparatus** must be evaluated for their current condition, mechanical attributes, and safety purposes. In addition, an **overall fiscal analysis is needed** for the departments to enable a clearer understanding of assets and liabilities.
- **Stakeholder engagement** is needed with firefighters and Boards from both fire departments. Typically, one-on-one interviews and surveys are collected from both groups. A consensus of concerns and problems is necessary to move forward. Greatest concerns and advantages of a potential merger is necessary to determine if there is organizational buy-in. Working with the two Boards of Directors, as decision makers and policy makers is essential to ensure that the respective boards are committed to the process.
- **County Government input is necessary as well.** It must be determined that a potential merger is agreeable and favorable to Lee County (or adjoining counties if there are fire departments coming together that cross county lines).
- A **response data analysis** is essential to establish a baseline performance for each fire department to determine compatibility and be able to measure performance in the future to determine if the merger improved service delivery for persons within the new district. Demand of services, response time performance and staffing are all essential in this element.
- A **Geographic Information System (GIS)** analysis is also important within merger considerations. Determining coverage and the efficiencies that can be achieved through merger is valuable. As an example, each individual fire department may not be able to support a Battalion Chief for their district. However, if two departments join or merge, that may now be feasible. Determining the travel distances and possibilities is yet another essential element. It is also important to assess future growth in the area to ensure that the new fire department can be supported financially into the foreseeable future.
- **An analysis of capital resources** is equally important. This would include fire apparatus (as was provided in this Lee County analysis) to determine any necessity of keeping apparatus or being able to consolidate that fire apparatus in the merger of two fire departments.
- A **human resource analysis** is also necessary. Gathering information regarding employee benefits, employee compensation, and any related internal policies is needed. Identifying similarities and differences in both fire departments provides the ability to chart the changes that are necessary. This may include staff sizes, retirement programs, pay periods, longevity and specialty pay, overtime pay, holiday pay, callback, work substitution, medical,



dental, life insurance, family coverage, shift differential pay, tuition assistance, Health Care Savings Accounts, etc.

- A **fiscal analysis** is also needed. Understanding and acknowledging the fiscal aspects of the two departments is critical. Debt service, funding sources, total income, annual operating budgets, grants, staffing review in the context of full-time equivalents, a capital asset analysis with a focus on large fire apparatus capital assets, evaluation of loose equipment and total asset analysis is needed.

Additional Considerations:

An independent, third-party assessment team can develop appropriate and relevant observations and recommendations for both fire department boards to consider in their deliberations, including developing a draft of the initial resolution that both fire departments agree upon before going into extensive detail utilizing an implementation team made up of personnel from both fire departments.

Fire Department **mergers most often succeed** when key stakeholders can retroactively look back and see 1) tangible enhancements in service delivery, 2) strengthened retention and recruitment of personnel, 3) improvements in efficiencies occur and 4) there is continuity of fire departments that may not be sustainable over the years, with changing community dynamics.

Also, **fire department mergers most often fail** when 1) there are not cost savings, 2) service delivery did not improve, 3) different organizational cultures were not able to combine and become stronger, 4) when the fear of change was too great for stakeholders, and 5) when animosity between subgroups occurs within the merger process and persons begin to blame others for the situation not going like they wanted it to go.

The fire departments involved in a merger must focus on **building strong working relationships** between the organizations in response and training. There must be positive engagement by stakeholders, especially within the fire department, to provide due consideration of the pros and cons of the potential merger.

However, **for the potential merger to be successful, there must be a strong relationship and trust built between both fire departments.** It takes a significant amount of work to move from the feasibility analysis to the binding legal agreement with an effective date. If all parties are not committed to the process, it is best to continue to work towards a merger long-term and not formally move forward until conditions are right to do so.



Appendix F - NFPA 1720 Consensus Standard Summary:

DEMAND ZONE	DEMOGRAPHICS	MIN. STAFF TO RESPOND	RESPONSE TIME (MIN.)	OBJECTIVE MET %
Urban zone	Greater than 1,000 people/sq.-mi.	15	9	90%
Suburban zone	500-1,000 people/sq.-mi	10	10	80%
Rural area	Fewer than 500 people/sq.-mi.	6	14	80%
Remote area	Travel distance greater than or equal to 8 mi.	4	Dependent on travel distance	90%
Special risks	Determined by AHJ	Determined by AHJ based on risk	Determined by AHJ	90%

Demand Zone	Demographics	Minimum Staff to Respond	Response Time (minutes)	Meets Objective
Urban Area	> 1,000 people/mi ²	15	9	90%
Suburban Area	500–1,000 people/mi ²	10	10	80%
Rural Area	< 500 people/mi ²	6	14	80%
Remote Area	Travel distance ≥ 8 mi	4	Directly dependent on travel distance	90%
Special Risks	Determined by AHJ	Determined by AHJ based on risk	Determined by AHJ	90%



Appendix G – Service Delivery Model Considerations

NORTH CAROLINA COUNTY MANAGER GENERAL GUIDANCE ON DEVELOPING FIRE AND RESCUE SERVICE DELIVERY LEVELS



Performance Modeling for Typical Residential Structure Fire Response Assistance to Local Jurisdictions in Establishing Their Desired Level of Service

BACKGROUND:

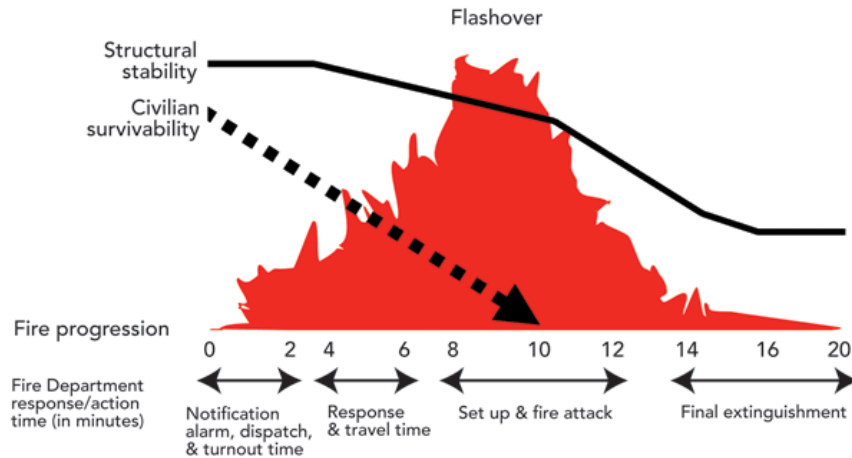
Inputs influence outcomes. Within the effective delivery of fire and rescue services, response time elements are directly proportional to expected outcomes. In recent years, significant scientific research has substantiated the correlation of response times and number of trained firefighters necessary on the scene of structure fires to produce positive outcomes. Each local jurisdiction is encouraged to identify what specific hazards and risks exist in their individual communities. Also, local jurisdictions can evaluate their fire and rescue level of service or standard of cover for each type of service that they provide. From this collective information, progressive jurisdictions can effectively set a positive course for continuous improvement.

To strengthen fire protection service delivery systems and to empower local jurisdictions to determine more clearly what the appropriate level of response may be for their individual community's level of risk and clearly stated desired outcomes, the following illustrative models are offered to establish some basic, **minimal** framework for response to typical residential structure fires within a North Carolina rated fire insurance district.

Using dynamic indicators, these illustrative models are presented with the optimum desired outcome of confining and containing a typical (<2,000 square feet), occupied, residential structure fire to the room or area of origin when fire hydrants are available. Aligning North Carolina's growth patterns with national consensus standards and fire service industry best practices provided the foundation for these models. Also, it is important to note that times identified recognize total response time, beginning when the citizen first dials 9-1-1. These models for typical residential structures are **only** guidelines for evaluation and solely designed as a tool for use by local jurisdictions. Models for fire response to properties with higher risks demand more thorough analysis, more robust resources, and stronger performance measures.

Graphic Source: Fire Engineering





TYPICAL CASCADE OF EVENTS FOR A STRUCTURE FIRE:

Pre-Response:

Recognition of fire
Notification call made to 9-1-1

Total Response Time (measurable):

Receipt of call and dispatch of fire department(s) = approx. 60-90 seconds (NFPA)
Firefighter acknowledgement and fire equipment rolling adds 80+ seconds (NFPA)
Travel time – adds approximately 141 seconds per road mile (ISO)
Arrival at the fire scene

Post-Response:

Accessing, locating the fire, and taking necessary mitigating actions

TYPICAL RESIDENTIAL MODEL - FIRST ARRIVING FIRE APPARATUS:

For 90% of all typical residential structure fire incidents, at least one initial arriving fire apparatus and assembling at least four (4) adequately trained firefighters should arrive within ____ **(determined locally)** ____ minutes total response time and be prepared to take immediate action in accordance with department protocols.

Approximate Range of Credible Response Time Within State Rated Fire Insurance Districts

Area	Density per Sq. Mile	Fire Station	Prevalent ISO Rating	Total Response Time
URBAN	>2,000 people	within 2 miles	1-3	5-8 minutes
NON-URBAN	500-1999 people	within 4 miles	4-6	7-12 minutes
RURAL	500 people	within 6 miles	6-9	12-17 minutes



TYPICAL RESIDENTIAL MODEL - ARRIVAL OF EFFECTIVE RESPONSE FORCE:

For 90% of all typical residential structure fire incidents, an effective force of at least seventeen (17) adequately trained firefighters (*including automatic aid responses*) should arrive within ____ **(determined locally)** ____ minutes total response time. The effective response force should be capable of establishing command, appointing a site safety officer, providing an uninterrupted water supply, advancing an attack line and back up line for fire control, complying with the OSHA requirements of two-in and two-out, completing forcible entry, searching, and rescuing at-risk victims, ventilating the structure, controlling utilities, and performing salvage and overhaul. These operations are done in accordance with department standard operating protocols while providing for the safety of responders and the general public.

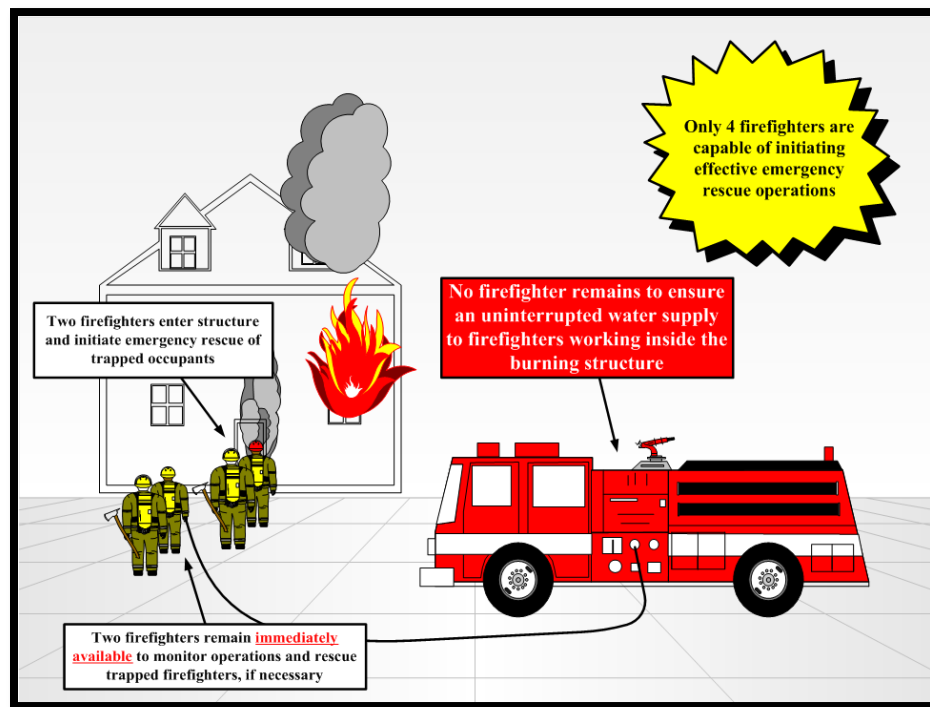
Approximate Range of Credible Response Time Within State Rated Fire Insurance Districts

<u>Area</u>	<u>Density per Sq. Mile</u>	<u>Fire Station</u>	<u>Prevalent ISO Rating</u>	<u>Total Response Time</u>
URBAN	>2,000 people	within 2 miles	1-3	5-10 minutes
NON-URBAN	500-1999 people	within 4 miles	4-5	9-19 minutes
RURAL	<500 people	within 6 miles	6-9	19-29 minutes



Appendix H – Two in – Two Out Firefighter Staffing Depiction

Regarding the number of firefighters, federal law mandates that before firefighters can make an interior attack on a structure fire, that there must be a rescue crew established in case something goes wrong with the entry crew. The entry crew is going into an environment that is immediately dangerous to life and health (known as IDLH). Only when there is a known rescue are firefighters permitted by law to enter a structure fire without a rescue crew. This law is typically known as “Two In – Two Out” and applies to all fire service operations.

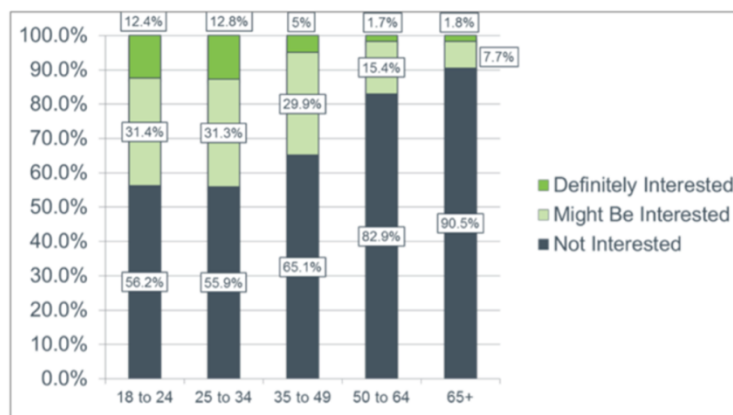


Appendix I – Firefighter Volunteerism Best Practices

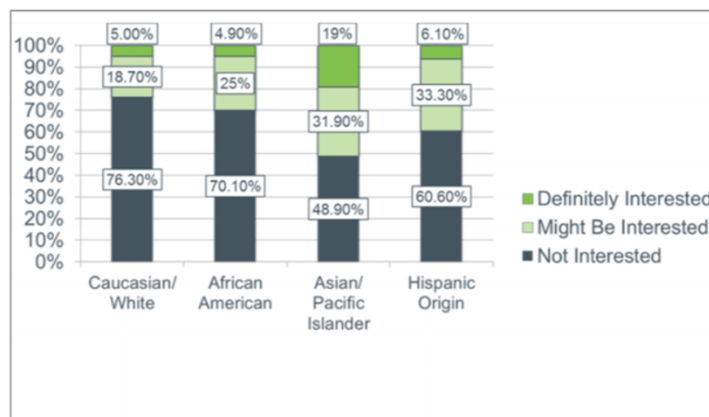
NVFC Guidance

The National Volunteer Fire Council (NVFC) provides many resources for volunteer fire departments related to recruiting and retaining volunteers. The following points are specifically selected for Lee County fire and rescue service leaders to review.

Age of Potential Volunteers



Ethnicity of Potential Volunteers



Women in the Fire Service

- 5.2% of women responded that they are definitely interested in volunteering as a first responder
- 21.6% of women responded that they might be interested in volunteering as a first responder
- Many women were also interested in volunteering to assist departments in non-operational roles



Helps new recruits commit to training or stay in training	Makes committing to training or completing it difficult
<ul style="list-style-type: none"> • Camaraderie and support from training with supportive peers. • Flexibility and convenience of online training and testing • Surveys of participants to generate ongoing improvements • Other innovations (boot camp, drill of the month, local biz tours, co-training with other depts., etc.) 	<ul style="list-style-type: none"> • Can be very time consuming • Can be boring

Focus on the Universal Themes That Minimize Fear and Anxiety!

Minimize

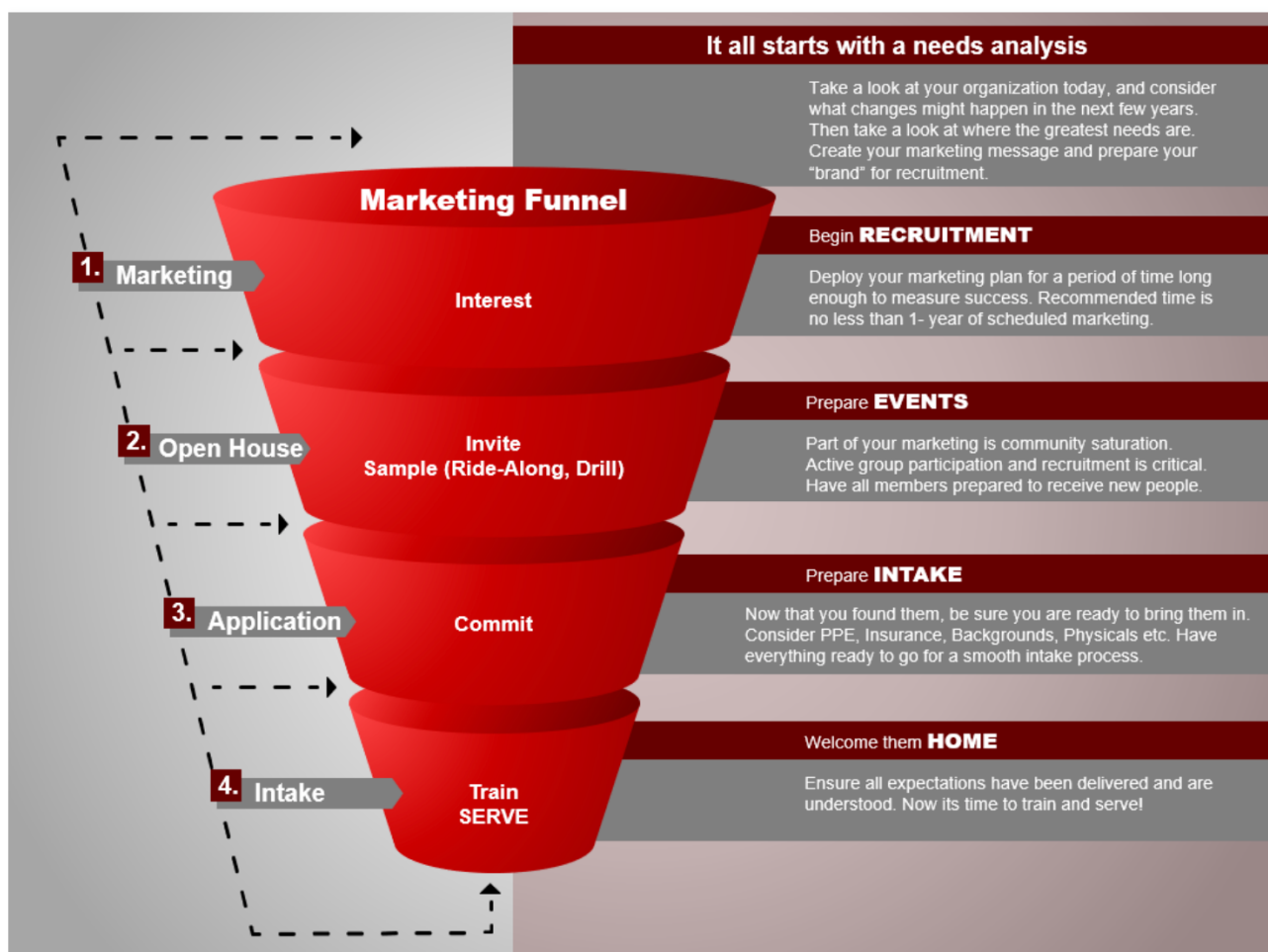
- Fear of safety
- Inadequacy (maybe I can't do this)
- Overwhelmed (this takes too much time)

Promote

- Camaraderie
- Meaning/relevance
- Accomplishment
- Pride

A Multistep Process

Finding and recruiting potential volunteers is a multistep process that requires dedication, follow-up, and follow through.



Concerns and Fears of Potential Volunteers

In general, those who are interested have not applied due to:

- Thinking they do not have the physical attributes of a volunteer firefighter
- Not able to be fully committed to the job
- Not having the right skill set
- Not having enough information about the job expectations and application process

Individuals' main fears included:

- Not being able to save a life
- Not being able to prevent destruction
- Not being able to perform under pressure
- Not knowing how they might react to trauma or violence
- Becoming sick or ill due to exposure (Cancer)
- Concerned they will respond to someone they know

How Can We Address the Concerns?

What makes it easier?	What makes it harder?
Family and friends within the department	Isolation
Mentorship through doubts, difficulties	Unmet expectations
Sense of belonging	Frustration with leadership
Flexibility in training schedule	Missing out on family and friend experiences
Personal commitment to others as part of a "new class"	Lack of support from family or employer
Consistent, fair, transparent leadership	
Respect from the community	

Common Reasons Community Members Do Not Volunteer:

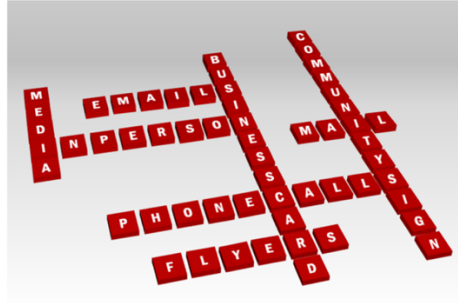
- Not enough time (juggling family, work, other volunteer activities)
- Poor leadership in the department
- They were not asked to volunteer
- Perceived work (either too challenging or not challenging enough)
- Too much cost associated with volunteering
- They were taken advantage of (guilt)
- Poor image of the organization
- Attitudes of existing personnel to newcomers (cliques)
- Fear of lawsuits



How to Invite Recruits

Invite new recruits through:

- Personal conversations
- Emails
- Phone calls
- Customized flyers or mail pieces
- Business cards
- Information packets
- Social media
- Community signs



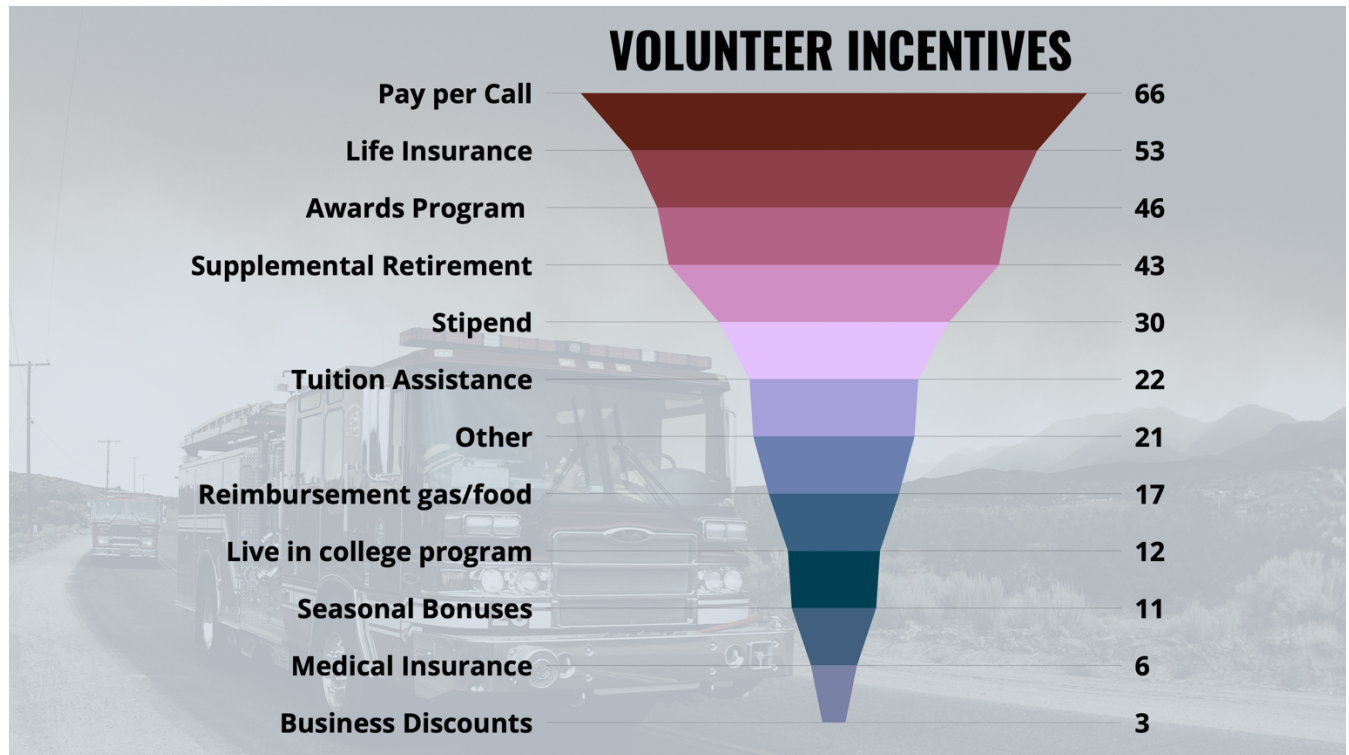
Follow Up!

- Application process
- Follow-up calls
- Tracking
- Introduction and integration

Potential recruits will appreciate a streamline application process and quick, professional follow-up



Volunteer Incentives Reported By North Carolina Fire Departments (NCAFC 2023)



The above volunteer incentives are administered in a variety of methods across North Carolina. In most cases, the individual fire department administers the program, but funding is provided by the local governments that are contracting for fire and rescue services. It is most effective when the programs are in alignment across the county and agreed to by the county fire chiefs association, or similar group. There is not a one size fits all. However, we would recommend that firefighter incentive programs across Lee County be as uniform in nature as possible.

Illustrative Volunteer Job Description Firefighter

West Barnstable Fire Department
Position Description

CALL/VOLUNTEER FIREFIGHTER

GENERAL PURPOSE

Protects life and property by performing firefighting, emergency medical services, hazardous materials mitigation, rescue, public education and fire prevention duties. Maintains fire, EMS and rescue equipment, apparatus and facilities.

Firefighters are hired through the established hiring process and must successfully complete an initial training period as a Firefighter - Trainee. These are paid on-call or volunteer positions. Firefighters have the responsibility for the protection of life and property from the hazards of fire, accident, illness, or other hazardous environments.

All department members holding this position shall be ranked as and known as "Firefighter".

SUPERVISION RECEIVED:

Works under the supervision of a Company Officer (Captain or Lieutenant), Senior Private, Group Leader or another firefighter in accordance with department procedures.

SUPERVISION EXERCISED:

None (generally), except that firefighters may be assigned as a task leader for specific projects or may have command responsibilities in accordance with the National Incident Management System (NIMS), the Barnstable County Mutual Aid System and department policies.

ESSENTIAL EMERGENCY RESPONSE DUTIES AND RESPONSIBILITIES:

Universal:

Be a team player, as firefighting and EMS is a team effort. Work smoothly and professionally with others.

Be ready (properly trained, properly equipped) to respond to and mitigate all types of emergency incidents.

Maintain a comprehensive working knowledge of West Barnstable including, but not limited to streets, geography, buildings, suppression systems and target hazards.



Handle stressful situations, and be able to function calmly, coolly and collectedly under all types of stressful emergencies. Maintain composure at all times.

Get along well with diverse personalities. Establish and maintain professional working relations with coworkers and personnel from partner agencies.

Communicate with patients, the public and others with empathy and respect.

Create and maintain a positive and cooperative working environment.

Exercise sound judgement.

Analyze and interpret difficult and complex patient care, fires, rescues, hazmat and other emergency situations that may arise.

Anticipate problems and take action to prevent or correct them.

Understand and follow federal law, state law, local law and department procedures. Follow orders and policies.

Remember and apply training, concepts, knowledge and principles.

Fire Suppression:

Performs firefighting activities including, laying hose, and performing fire combat, containment and extinguishment tasks.

Performs emergency medical services activities to his or her level of training and certification (EMT, Intermediate, Paramedic or First Responder).

Performs salvage operations such as throwing salvage covers, sweeping water, and removal of debris.

Responds to fire alarms and extinguishes and controls fires as a member of a team under the supervision of an officer.

Selects, drags, lifts and carries hose and nozzle depending on the type of fire, and correctly applies a stream of water or foam solution onto the fire.

Positions and climbs ladders to gain access to upper levels of buildings or assist individuals out of a burning structure.

Creates openings in buildings for ventilation or entrance using appropriate and available power tools.



Uses power tools (electrical, gasoline and hydraulic powered) to cut or force entry into vehicles and buildings.

Protects property from smoke and water damage using positive pressure ventilation, salvage covers, smoke ejectors.

Wears appropriate protective clothing and equipment, including self-contained breathing apparatus.

Able to communicate with two-way communications systems.

Coordinates response, resources, updates and status with the dispatcher in accordance with department policies, the Barnstable County Mutual Aid System, the Barnstable County CMED System and the policies of the Barnstable County Sheriff's Office Dispatch Center.

Drives and operates fire apparatus in a safe and professional manner in accordance with all department policies, federal law, state law and local law.

Emergency Medical Services:

Provides basic and advanced life support to their level of licensure/certification to patients in a pre-hospital setting in accordance with the Massachusetts Statewide Treatment Protocols, federal, state and local laws, regulations and standards.

Assesses the nature and extent of injury or illness to establish and prioritize medical procedures to be followed.

Rescuing and extricating patients/victims of accidents, sudden illness or entrapment using appropriate rescue and medical techniques and tools.

Treating patients at the scene of their injury or illness and en route to the hospital.

Communicating face-to-face, by radio, by telephone and in writing, with professional medical personnel and treatment facilities to obtain instructions regarding patient treatment, and to arrange reception and transfer of patients to the appropriate medical facility.

Completing patient care reports, insurance forms, evaluation forms and all other forms and reports in a competent, accurate and timely manner.

Maintains order at scenes including, but not limited to, restraint or family and friends.



Protects the privacy of all patient information in accordance with the department's privacy policy, federal law and state law, and in accordance with the general principles of professionalism as a health care provider.

Drives an ambulance or first response vehicle in a safe and professional manner in accordance with all department policies, federal law, state law and local law.

Maintains all EMS related licenses and certifications.

Hazmat:

Provides hazardous materials mitigation at the Hazmat Operations Level.

PERIPHERAL STAFF DUTIES:

Participates in fire drills, attends classes in firefighting, rescue, EMS, hazardous materials and related subjects.

Attends regular and assigned training sessions to maintain and upgrade firefighting, rescue and EMS skills.

Participates in the inspection of buildings, hydrants, static water sources, and other structures and systems in fire prevention programs. Participates in preplanning of buildings and hazards as assigned.

Maintains fire equipment, EMS equipment, rescue equipment, apparatus and facilities.

Performs minor repairs to departmental equipment.

Checking, restocking, inventorying and cleaning of apparatus.

Performs general maintenance work in the upkeep of fire & rescue facilities; cleans and washes walls and floors; cares for grounds around station; makes minor repairs, washes and dries fire hose; washes, cleans, polishes, maintains and tests apparatus and equipment.

Presents programs to the community of safety, first aid, accident & illness prevention and fire prevention.

Maintains basic working knowledge of a Windows computer, and be able to enter data into a computer and communicate with the department by email.



MINIMUM REQUIREMENTS:

Educations & Experience:

- A. Graduation from high school or GED equivalent with no specialized training.
- B. Successful completion of department training.
- C. Must possess and maintain a valid Massachusetts Driver's License without a record of suspension or revocation in any state.
- D. No felony convictions.
- E. No misdemeanor convictions within the past seven years.
- F. Ability to read and write the English language.
- G. Must live within a reasonable distance of the West Barnstable Fire Headquarters (5 road miles or closer is preferred).

Necessary Knowledge, Skills and Abilities:

- A. Working knowledge of emergency vehicle operation and defensive driving.
- B. Minimum EMS training to the First Responder Level (EMT-Basic or higher is preferred).
- C. Massachusetts or National Certification at the Firefighter II level.
- D. Ability to operate the department's tools and equipment; ability to apply standard firefighting, EMS, rescue and hazardous materials and fire prevention techniques; Ability to perform strenuous or peak physical effort during an emergency, training or station maintenance activities for prolonged periods of time under conditions of extreme heights, intense heat, cold or smoke; ability to act effectively in emergency and stressful situations; ability to follow verbal and written instructions; ability to communicate effectively orally and in writing; ability to establish and maintain effective working relationships with other fire department members, other agencies and the general public; ability to meet the special requirements listed below.

Special Requirements:



- A. Ability to maintain a minimum department drill and department meeting attendance record of at least 55%.
- B. Ability to participate in the Department Group/Company Coverage system as assigned by the Chief.
- C. Authorized to drive R-293 and P-290 to emergency incidents (Driving all of the department's apparatus is preferred).

TOOLS AND EQUIPMENT USED

Emergency medical equipment at his/her level of training and certification, fire apparatus, fire pumps, hoses and nozzles, generators, power saws and other standard power equipment, electric & hydraulic extrication tools, air compressors, self-contained breathing apparatus, ladders, radios, pagers, personal computer, telephone, and hand tools.

PHYSICAL DEMANDS

The physical demands described here are representative of those a firefighter encounters while performing the essential functions of this job. Reasonable accommodations will be made to enable individuals with disabilities to perform the essential functions. (It is the responsibility of the firefighter to inform the department of any disabilities that might require accommodations.)

Work is performed primarily in office, vehicle and outdoor settings, in all weather conditions, including temperature extremes, wet and humid conditions, during storms and during night and day. Work is often performed in emergency and stressful situations. Individual is exposed to hazards associated with fighting fires, rendering emergency medical assistance, high voltage, vibrations, and mitigation of hazardous materials, including smoke, noxious odors, fumes and airborne particles, toxic chemicals, biological hazards, contagious and infectious disease, solvents, oils, and maritime hazards.

While performing the duties of this job, the firefighter is frequently required to stand, walk, use hands to finger, handle or operate objects, tools or controls; and reach with hands and arms. The firefighter is occasionally required to sit, climb or balance; stoop, kneel, crouch or crawl; talk or hear; and taste or smell.

The firefighter must frequently lift and or move up to 20 pounds and occasionally lift and/or move 100 pounds or more. Specific vision abilities required by this job include close vision, distant vision, color vision, peripheral vision, depth perception and the ability to adjust focus.



The firefighter occasionally works near moving mechanical parts and in high, precarious places, as well as below grade. The firefighter occasionally works in confined spaces. The noise level in the work environment is usually quiet in office settings, and very loud at an emergency scene.

The firefighter must be able to maintain balance and strength in awkward positions.

The firefighter must be able to speak clearly and loudly in English.

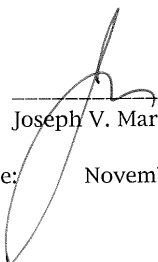
SELECTION GUIDELINES

Successful completion of department training and satisfactory performance review by the Chief are necessary to be promoted from Firefighter-Trainee to Firefighter.

The examples of duties are intended only as an illustration of the various types of work performed. The omission of specific statements of duties does not exclude them from the position if the work is similar, related or a logical assignment to the position.

This job description does not constitute an employment contract between the West Barnstable Fire District/West Barnstable Fire Department and the firefighter, and is subject to change by the department as the needs of the department and the requirements of the job change.

Approved:



Joseph V. Maruca, Fire Chief

Effective Date:

November 21, 2016



Illustrative Job Description – Louisa County, VA

Fire & EMS Recruitment and Retention Coordinator

Responsibilities

- This includes providing informational programs at community job fairs, service organization meetings, media outlets and through web-based sources and serving as point of contact for those interested in volunteer Fire & EMS positions.
- This position will be a direct point of contact for upcoming recruits and be responsible for Fire Class instruction at multiple levels.
- Work also involves tracking, analyzing, and presenting data on recruitment and retention trends and strategies used by organizations at the state and national level to enhance their recruitment and retention efforts.
- Reports to the Fire & EMS Chief.
- Provides informational programs and displays to various civic, business, church, school, and community groups explaining volunteer opportunities with the County's Fire & EMS agencies
- Serves as Fire and EMS Instructor/ mentor at various levels ranging from potential recruit, high school programs to include fire fighter 1 and EMT classes, to current volunteer and employee classes.
- Serves as the instructor or assists with the instruction of the Firefighter and EMT Highschool program.
- Prepares recruitment materials, brochures, etc. in coordination with the County's volunteer Fire and EMS agencies – Louisa, Mineral, Bumpass, Holly Grove, Locust Creek and Trevilians Volunteer Fire Departments and Louisa, Lake Anna and Holly Grove Volunteer Rescue Squads.
- Administers the recruitment and retention budget in coordination with the Management Oversight Group (MOG) appointed recruitment and retention committee and departmental staff
- Serves as a point of contact for individuals interested in volunteer opportunities with the volunteer agencies.
- Prescreens volunteer candidates as directed and conducts reference and background checks
- Works with the MOG recruitment and retention committee to develop and conduct volunteer orientation programs.
- Provides tracking data to the volunteer agencies and department staff to assess progress against staffing goals.
- Provides data management system updates to include the addition of new volunteer members and elimination of past members from the data base.
- Presents reports to the MOG on the status of the Department's volunteer recruitment efforts, current trends and recruiting budget related information.
- Researches and presents reports to the MOG regarding the latest strategies being used for volunteer recruitment and retention at the state and national level.



- Participates in regional and state meetings on recruiting and retention of volunteer Fire and EMS personnel.
- Develops contacts with the Virginia Department of Fire Programs and Virginia Department of Emergency Medical Services to obtain the latest data on volunteerism and program materials for recruitment and retention.
- Assists the volunteer agencies with County funded incentive program data, annual certification information and record keeping functions.
- Attends MOG and volunteer agency meetings as requested by the agencies.
- Provides County photo identification cards for volunteer personnel.
- Performs related tasks as required.

Job Description

Under general supervision, this full-time position performs administrative and technical work recruiting and retaining candidates for volunteer positions with the County's volunteer Fire and EMS agencies. This includes providing informational programs at community job fairs, service organization meetings, media outlets and through web-based sources and serving as point of contact for those interested in volunteer Fire & EMS positions. This position will be a direct point of contact for upcoming recruits and be responsible for Fire Class instruction at multiple levels. Work also involves tracking, analyzing, and presenting data on recruitment and retention trends and strategies used by organizations at the state and national level to enhance their recruitment and retention efforts. Reports to the Fire & EMS Chief.

Special Duties and Responsibilities

- Provides informational programs and displays to various civic, business, church, school, and community groups explaining volunteer opportunities with the County's Fire & EMS agencies.
- Serves as Fire and EMS Instructor/ mentor at various levels ranging from potential recruit, high school programs to include fire fighter 1 and EMT classes, to current volunteer and employee classes.
- Serves as the instructor or assists with the instruction of the Firefighter and EMT Highschool program.
- Prepares recruitment materials, brochures, etc. in coordination with the County's volunteer Fire and EMS agencies – Louisa, Mineral, Bumpass, Holly Grove, Locust Creek and Trevilians Volunteer Fire Departments and Louisa, Lake Anna and Holly Grove Volunteer Rescue Squads.
- Administers the recruitment and retention budget in coordination with the Management Oversight Group (MOG) appointed recruitment and retention committee and departmental staff.
- Serves as a point of contact for individuals interested in volunteer opportunities with the volunteer agencies.
- Prescreens volunteer candidates as directed and conducts reference and background checks.



- Works with the MOG recruitment and retention committee to develop and conduct volunteer orientation programs.
- Provides tracking data to the volunteer agencies and department staff to assess progress against staffing goals.
- Provides data management system updates to include the addition of new volunteer members and elimination of past members from the data base.
- Presents reports to the MOG on the status of the Department's volunteer recruitment efforts, current trends and recruiting budget related information.
- Researches and presents reports to the MOG regarding the latest strategies being used for volunteer recruitment and retention at the state and national level.
- Participates in regional and state meetings on recruiting and retention of volunteer Fire and EMS personnel.
- Develops contacts with the Virginia Department of Fire Programs and Virginia Department of Emergency Medical Services to obtain the latest data on volunteerism and program materials for recruitment and retention.
- Coordinates recruiting events with the volunteer agencies.
- Assists the volunteer agencies with County funded incentive program data, annual certification information and record keeping functions.
- Attends MOG and volunteer agency meetings as requested by the agencies.
- Provides County photo identification cards for volunteer personnel.
- Performs related tasks as required.

Minimum Training and Experience

Associate degree in management preferred with a minimum of two (2) years of experience in marketing and recruiting and retaining employees, or any equivalent combination of education, training and experience. Current or previous certification in Fire or EMS preferred. Education Coordinator Preferred. Fire Instructor 1 and 2 Preferred.



Appendix J – Guilford County Firefighter Support Program Illustrative Example for Consideration:

Guilford County Government operates a county owned and operated rescue company from a county owned fire station in Eastern Guilford County. This company is comprised of a minimum four person crew of firefighters, with one person at the rank of Fire Captain, one at the rank of Engineer and two at the rank of Firefighter. This crew operates on a 7/24/365 basis and responds to all structure fires that occur within the unincorporated areas of the County as well as into municipal areas when requested. The crew is trained in fire suppression, technical rescue, first responder, hazardous materials and other fire and rescue disciplines. In addition to emergency response, the crew assists contracting fire departments in the county with maintenance of specialized firefighting equipment such as ladders, air packs, etc. and provides training to firefighters throughout the County. The program is managed through the County Fire Marshal. This component of the County's operation requires 15 full time personnel and funding for part-time personnel to assist when needed to maintain minimum staffing. This team represents a county government core response on a 7/24/365 basis.

In addition, within the FY 2015-2016 budget, Guilford County implemented a second career crew on the western side of the county with the goal of supporting daytime operations when there are fewer volunteers available to serve. This crew operates with a minimum daily staffing of five persons working from 7am through 7pm seven days a week.

These two crews support the career, part-time and volunteer firefighters in the County, both from municipal fire departments and private non-profit fire departments.



Appendix K – Illustrative Service Contract Documents:

Two illustrative service contract documents are included. First is Yadkin County's most current version, representing a smaller NC county model. Second is Wake County's most current version, as a larger NC county model.

STATE OF NORTH CAROLINA

FIRE DEPARTMENT SERVICE AGREEMENT

YADKIN COUNTY

THIS AGREEMENT, is made and entered into this the ____ day of _____, 2023, by and between YADKIN COUNTY, hereinafter referred to as the "County," and _____, hereinafter referred to as the "Department." (Collectively, the "Parties" and individually as a "Party").

WITNESSETH:

WHEREAS, the Department in Yadkin County has a recognized history of dedicated service, having provided essential fire protection and other related emergency services to the citizens of Yadkin County for all of the years of its existence; and

WHEREAS, the County and Department desire to Contract with each other for the mutually-agreed and mutually-recognized goal of attempting to achieve the highest levels of protection to the persons who live, work and/or are otherwise present in the County; and

WHEREAS, **North Carolina General Statutes Section 69-25.5** states that counties may provide for fire and rescue protection in a designated district by contracting with any incorporated nonprofit volunteer or municipal fire department; and

WHEREAS, this Agreement is authorized by **North Carolina General Statutes Sections 153A-11 and 153A-13 and N.C.G.S. Chapter 153A, Article 11**; and

WHEREAS, the Department is incorporated as an independent non-profit corporation under Chapter 55A of the North Carolina General Statutes and is operating as a non-profit volunteer fire department within Yadkin County, North Carolina; and

WHEREAS, the fire districts of Yadkin County shall have boundaries defined by descriptions on file in the Yadkin County Fire Marshal's Office; and

WHEREAS, the Department has secured equipment, land and buildings for the operation of the Department; and



WHEREAS, the County assists in the funding of the herein-described services by levying and collecting a fire district tax.

NOW, THEREFORE, in consideration of the mutual benefits insuring to the parties hereto, and based upon the mutual covenants contained herein and the considerations stated therein, the parties do hereby covenant and agree as follows:

SECTION 1 – DEFINITIONS

1. Agreed-Upon Procedure: Is an engagement in which an auditor is engaged to carry out those procedures of an audit nature to which the auditor and the entity and any appropriate third parties have agreed and to report on factual findings pursuant to that agreed upon procedure attached hereto as Exhibit "B."
2. Agreement: This Fire and Rescue Services Agreement, together with Exhibits "A", "B" and "C", each of which is incorporated herein by reference as an integral part of this Agreement.
3. Applicable Law: All laws, rules, regulations, ordinances, codes, standards, orders, and actions of any and all governmental bodies, agencies, authorities, and courts that may now or hereafter be applicable to the performance of duties under this Agreement.
4. Board of Commissioners: The Yadkin County Board of Commissioners.
5. Board or "Board of Directors": The Department's Board of Directors is the group of natural persons vested by the corporation with the management of the Department's affairs whether or not the group is designated as directors in the articles of incorporation or bylaws, pursuant to N.C.G.S. § 55A-1-40.
6. Capital Expenditure: All expenditures for or purchases of buildings, building additions, alterations, repairs or improvements and all expenditures for or purchases of additional or replacement furniture, machinery, vehicles or equipment, hardware or software, where the cost of such expenditure or purchase is five thousand dollars (\$5,000.00) or more.
7. Capital Improvement Plan: (Program), or CIP, is a short-range plan, usually ten (10) years, which identifies capital projects and equipment purchases, provides a planning schedule and identifies options for financing the plan.
8. Capital Item: The actual property which was purchased or otherwise received by the Department as a Capital Expenditure.
9. CPA: Certified Public Accountant.
10. District: The designated area that the Department is contracted to serve, which for purposes of this Agreement is the _____ Response District, as further described on the Fire Districts Map.
11. Effective Date: The effective date is July 1, 2023.
12. EMS: Yadkin County Emergency Medical Services.
13. Existing Debt: Any legally enforceable secured or unsecured obligation to pay money.
14. Fire Chief: The Chief of the Fire Department.
15. Fire Districts Map: The most current version of the Yadkin County Fire Insurance Districts Map on file in the office of the Fire Marshal.
16. Fire Marshal: The Yadkin County Fire Marshal.
17. Fiscal Year: July 1st through June 30th.
18. GAAP: Generally accepted accounting principles.



19. GAAS: Generally accepted auditing standards.

20. Services: Fire protection, emergency rescue, medical first responder, and associated emergency-related services, and those activities undertaken by the Department in furtherance of fulfilling the above.

SECTION 2 – PURPOSE

The purpose of this Agreement is to establish the terms and conditions under which the County will furnish financial assistance to the Department, to establish the standards of the Department for providing firefighting and fire prevention services and other emergency services during emergencies and disasters, and to provide for efficient firefighting and emergency services to the persons who live, work and/or are otherwise present in the County.

SECTION 3 – THE DEPARTMENT AGREES TO THE FOLLOWING:

The Department agrees to provide its Services throughout the District and elsewhere in accordance with the standards and other requirements in a manner that complies with all Applicable Law, including by illustration, but not limited to, those applicable rules and regulations of the North Carolina Department of Insurance and the Insurance Services Office, Inc. The Department further agrees to provide the Services to all persons and property present in its assigned District throughout the District in accordance with the standards and other requirements set forth in this Agreement in a professional, efficient, and workmanlike manner.

The Department agrees to provide the following services upon request during times of emergencies:

- 1) Adhere to all applicable North Carolina General Statutes, especially those required for fire protection services, operating vehicles and non-profit organizations.
- 2) Furnish and provide continuing fire protection service and other emergency services to all residents of the Fire District, to all persons present in the Fire District, and to all real and personal property lying within the boundaries of the Fire District and other areas of the County on the basis of automatic/mutual aid agreements with other fire departments within the County for the benefit of the residents of Yadkin County and for the benefit of other persons present in Yadkin County;
- 3) Not respond to calls after consuming alcohol or narcotics.
- 4) Endeavor in good faith and with due diligence to dispatch upon the call of any person within the district the equipment necessary to answer the call and adequate personnel to operate such equipment in the judgment of the Chief of the Department or his/her designee;
- 5) Provide rescue services, including medical response if the Department holds a certification through the North Carolina Association of Rescue and Emergency Medical Services. Such services shall be performed inside the scope of practice of the certification(s) to the County and within the Fire District and other locations when called to provide those services by the County or other fire department(s) or rescue squad(s).



- 6) Provide lifesaving and property protection measures as necessary.
- 7) Provide search and rescue assistance as needed.
- 8) Perform evacuation assistance as needed.
- 9) Respond to motor vehicle accidents.
- 10) Perform annual hydrant flow and operational testing on the hydrants owned by the County and located within its fire district and the Department shall document any work to be done on the hydrants and turn the hydrant repair work orders into Yadkin County ORC and maintain the hydrants per standard schedule and to County standards.
- 11) Endeavor at all times and in good faith to respond to all emergency calls from the Communications Center, the Department Chief or his/her designee, or the County Fire Marshal when and where needed.
- 12) Provide Yadkin County EMS with monthly medical supplies inventory.
- 13) Provide support to the Fire Academy implemented by the Yadkin County Public Schools.
- 14) Provide current By-laws and Standard Operations Policies/Guides with this signed contract if not previously provided.
- 15) Provide Annual Board meeting minutes, amended Standard Operations Policies, amended By-Laws and amended Articles of Incorporation and IRS Form 990 annually as part of the budget process.
- 16) Utilize the Elite Reporting System provided by the County for all incident reporting.
- 17) Adhere to consistent county chief agreed upon helmet colors.
- 18) Adhere to consistent county chief agreed upon truck numbering system.

SECTION 4 - THE COUNTY AGREES TO THE FOLLOWING:

In accordance with this Agreement, and at the County's sole expense above and beyond those funds allocated to the Department pursuant to this Agreement, the County Agrees to furnish the following services to the Department:

- 1) 911 communications and dispatch.
- 2) Fire investigation services when requested by the incident commander after the preliminary investigation and in accordance with NCGS 58-79-1 and 906 Packet has been completed.
- 3) Emergency scene assistance services in support of the Department's efforts.
- 4) GIS determined 4-department dispatch per the closes 4 address points to improve communications to serve citizens.
- 5) Maintenance of the County radio system.
- 6) Assist the Department with fire prevention and community awareness programs within the Department district.
- 7) Provide a staffed EMS ambulance with certified Advance Life Support (ALS) personnel at structure fires or other emergency scenes that have extended time periods for the medical monitoring of the firefighters and other emergency workers on the scene. However, the ambulance may be dispatched to a medical emergency and will be replaced as soon as possible.



- 8) Provide a staffed EMS ambulance with certified Advance Life Support (ALS) personnel on scene of any live fire training within the fire district if requested, with the Department giving thirty (30) days' notice to the County of such live burn and if an ambulance is available. However, the ambulance may be dispatched to a medical emergency and will be replaced as soon as possible.
- 9) The County shall also provide inspections of public buildings as set forth in the North Carolina Building Code and the North Carolina General Statutes as well as investigations of fires, arsons, fire deaths, and fire injuries.
- 10) Provide National Fire Protection Association resource materials on fire prevention, instructional or fire service standards that shall be made available through the Fire Marshal's office.
- 11) Replace disposable medical supplies, equipment, and/or medications when required under the medical protocols of Yadkin County Emergency Medical Services (EMS), as long as the department submits monthly medical supply inventory. If the department fails to submit the inventory monthly, EMS is not under any obligation to provide supplies.
- 12) Notify fire departments of change in equipment, supplies or protocol within 45 days prior to the change when feasible.
- 13) Include fire departments in Request for Proposals for the purchase of equipment or supplies that will impact the equipment or requirements of the fire departments.
- 14) Shall repair within thirty (30) days of being notified in writing of all fire hydrants the Department reports to the Yadkin County ORC as not working or needs maintenance.
- 15) Provide annual hose testing and ladder testing to the departments through one service contract that has been bid (individual departments will be responsible for any repairs or replacements).
- 16) Provide the Elite (Image Trend) incident reporting and when applicable and necessary, software updates and annual software support, with the accompanying mutual understanding that any and all information and data entered into such software shall be the sole and exclusive property of the Department.
- 17) Provide access to EMD and EFD protocol app.
- 18) Provide turnout gear or dual-band radio and website maintenance reimbursement based upon the County's reimbursement policy in effect during the term of this Agreement.
- 19) Provide PSAware Access provided the following conditions are met:
 - a. Information from CAD or PSAware is NOT SHARED on any social media or in any capacity, and
 - b. Log-in credentials WILL NOT be shared with anyone, and
 - c. Unit numbers or truck numbers will be set by the Communications Director and
 - d. The Department shall submit annually to the Communications Director and the Fire Marshal a list of current Officers and within 48 hours of a



member voluntarily or involuntarily leaving the Department so they can be removed from the system and

e. Communications will develop a SOG for status updates and

20) The County further agrees to furnish the Department with such additional services and support as are reasonably needed and as are mutually agreed upon between the County and the Department as circumstances may dictate from time to time.

SECTION 5 - DEPARTMENTS NON-PROFIT CORPORATION STATUS

The Department agrees to maintain its nonprofit corporation status pursuant to Applicable Law, including without limitations the United States Internal Revenue Service (IRS) regulations and Chapter 55A of the North Carolina General Statutes at all times during the term of this Agreement. The Board of Directors is governed by NCGS 55A-8-01. In the event that the Department loses its non-profit corporation status, by and through the IRS or the State of North Carolina, upon notice to the Department of the loss of its non-profit status the Department shall have a minimum of five (5) days to report the loss of the non-profit status to the County. If the Department loses the non-profit status, the County may terminate this Agreement in accordance with Section 28.

SECTION 6 - INSURANCE SERVICES OFFICE RATING

The Department agrees to engage at all times in such efforts as to achieve, maintain, or improve a rating of 7 as of the Effective Date of this Agreement with the North Carolina Department of Insurance and the Insurance Services Office, Inc., ("ISO") throughout the term of this Agreement. The Department agrees that in no event will it have an ISO rating worse than a 7 within five (5) road miles of the main station or substation(s), and 9E outside five (5) road miles but within six (6) miles of the main station or substation(s). If the Department has any district that lies further than six (6) road miles from their main station or substation and is classified as a Class 10 rated area, the Department shall endeavor in good faith and with due diligence to work with the County to eliminate such areas. In the event that the Department's ISO rating is lost solely by the Department's inability to meet the required ISO standards the County may terminate this contract in its entirety. If the Department is placed in non-compliance by the North Carolina Department of Insurance, the Department agrees immediately to undertake and to implement such reasonable actions as are necessary to attempt in good faith to improve and/or increase its ISO rating to a level reasonably achievable under the circumstances as they exist at that time and to prepare and submit a plan to the County which sets forth how it plans to become compliant within a six (6) month period. This plan should include specific steps to be taken to attain the previous ISO rating, including, without limitation, a project timeline and costs associated, if any, and the Department will accept other recommendations from the County for corrective action. If the Department does not become compliant within the six (6) month period, the North Carolina Department of Insurance may place the Department on probation for an additional six (6) month



period. The Department agrees to implement this plan, subject to availability of funds appropriated by the County under this Agreement. If at any time during the non-compliance or probationary period, the Department fails to comply with the plan or its District becomes unprotected (Class 10), the County may terminate this contract within its entirety.

In the event the County is found to be at fault either in whole or in part for the Department's loss of its ISO rating, the County shall devise a mutually agreed upon plan with the Department to restore the rating as soon as possible. For example: If the County's Communication Center or the County's water system receives a reduction of points from the ISO inspection, the County shall work with the Department to quickly improve their possible score related to the ISO rating.

SECTION 7 – RESPONSE TIMES

The Department and the County mutually-agree that emergency response times are an essential component to providing an acceptable level of service to the community and in accordance with NFPA 1720. The County and the Department agree to collaboratively monitor response times and develop strategies to address any response time concerns. Response time will be measured beginning with dispatch time as reported in the Computer Aided Dispatch ("CAD") Event Report and ending with the On-Scene Time as reported in the CAD Event Report. Emergency Incident on scene times will be measured when the first appropriate fire apparatus arrives on scene. If the Department does not meet a goal response time mutually agreed upon by the County and Department, it will not be considered a breach of this Agreement or the performance standards required hereunder; however, the County and the Department agree to work jointly to develop strategies to assist the Department in attempting to meet its response time goals.

SECTION 8 - PROCESS FOR FIRE DEPARTMENT FUNDING

In order to establish the amount of the County's annual appropriation to the Department for the provision of Services, the Department agrees to conform to the County's budget calendar and to participate in the County's budget process for adoption of the Fiscal Year budget. The Department understands and agrees that this includes the Department's submittal of a budget request to the County Manager based on the Department's estimated costs for provision of the Services in the Response / ISO District for the upcoming Fiscal Year. The Department agrees to provide in its budget submittal sufficient information, in a form specified by the County indicating source(s) and estimated amounts of all revenues anticipated by the Department for the coming Fiscal Year.

The County shall provide the Department with a budget package on or before March 1st each year and the Department agrees to submit its budget request broken down into three (3) groups of expenditure categories: (i) personnel, (ii) operating, and (iii) capital to the County Manager's Office by March 31st of each year. The



County recommends a meeting with the Fire Chief and the Department's Board President prior to submission of the Department's budget to the County. The Department may also bring their Board Treasurer to the meeting if they like. The County and the Department agree that funds appropriated to the Department in these expenditure categories may only be spent within the designated expenditure category, provided, the Department may internally and in conformity with its fiduciary responsibilities as imposed by law, reallocate its funds from one category to another. Provided, that no such internal reallocation undertaken by a Department in a given Fiscal Year shall affect any budgetary allocation request in the next Fiscal Year. Also, as part of the budget process set forth herein, the Department agrees to submit to the County a Capital Improvement Plan, which shall include a projected replacement schedule for all Capital Items in excess of \$5,000, for example a Department apparatus.

In accordance with N.C.G.S. § 159-11, the County Manager, as the County's statutory budget officer, will make a budget recommendation to the Board of Commissioners. Pursuant to the budgetary authority set forth in N.C.G.S. § 159-13, the amount appropriated to the Department for Fiscal Year 2023-2024, and for any Fiscal Year thereafter that this Agreement remains in effect, is ultimately determined and adopted by the Board of Commissioners as deemed in the Board of Commissioners' discretion as sufficient and proper.

SECTION 9 - PAYMENT OF FUNDS TO THE FIRE DEPARTMENT

The County agrees to pay the Department \$_____ as appropriated by the Board of Commissioners for the Fiscal Year. The County will remit payments electronically to the Department in four (4) equal payments no later than the 15th day of the first month in each quarter. The County agrees to disburse such appropriations by direct deposit into an account designated by the Department.

SECTION 10 - BOOKS AND RECORDS

The Department, as a self-standing non-profit corporation, agrees to generate and maintain all required records and data and shall maintain such records and data in accordance with Generally Accepted Accounting Principles (GAAP). The Department agrees that the County will have reasonable access to all books, records, and audit reports. The Department agrees to provide adequate documentation of all of its receipts and disbursements, including without limitation, those related to the expenditure of any funds appropriated and disbursed to the Department under this Agreement.

The Department agrees to allow the County, or its authorized agent, at the County's sole expense to inspect and examine all records described above on a date and at a time mutually agreed upon between the County and the Department, but in no event, shall any such inspection and examination be undertaken on a date beyond thirty (30) days of the County's written request for such an inspection. The County, in



turn, agrees that any and all records, data, receipts and other documents examined by the County pursuant to this Section are and will remain in the sole possession and ownership of the Department. No such records, data, receipts and other documents, or any copy or duplication or summation thereof shall be removed from the premises of the Department.

Nothing other than the Department's last five (5) years' IRS Form 990s, its annual audit, and the auditor's accompanying memorandum shall be subject to The Public Records Act.

SECTION 11 - YADKIN COUNTY VOLUNTEER FIRE & RESCUE ASSOCIATION

The Department, if a member, shall endeavor to meet the following objectives of the Yadkin County Volunteer Fire & Rescue Association:

- i. To coordinate the efforts of the Fire Departments of Yadkin County
 - 1) To promote the exchange of information among all fire departments
 - 2) To assist in the training of all firefighters within Yadkin County
 - 3) To keep all fire departments informed of the quality and quantity of equipment being used among the fire departments in Yadkin County; and
 - 4) To keep all fire departments informed about new or existing equipment, standard operating guidelines (SOG's) and compliances that other organizations are using.
- ii. To maintain a liaison with Yadkin County, the Fire Marshal's Office, Yadkin County Law Enforcement Agencies, the Board of County Commissioners of Yadkin County, and all other governmental agencies, which may be willing or able to assist in the promotion of fire protection; and
- iii. To keep all fire departments within Yadkin County abreast of the benefits (local, state and federal) available for the benefit of the firefighters and their families in all Yadkin County Fire Departments.

SECTION 12 - INSURANCE REQUIREMENTS

The Department shall maintain insurance coverage as specified in Exhibit A. The Department may purchase such other coverages as it may deem appropriate for the protection of the Department, its employees, members, or personnel.

SECTION 13 - INDEPENDENT CONTRACTOR

The Department, including any board member, officer, employee, or agent of the Department, is an independent contractor of the County and none shall be considered employees of the County. The relationship between the parties shall be limited to the performance of this Agreement in accordance with its terms. The County and the Department agree that the Department shall operate and act as



an independent contractor in accordance with the standards set forth herein, and the County shall not be responsible for any of the Department's acts or omissions. No liability for benefits, including, without limitations, such benefits as pension rights, or other provisions shall arise out of or accrue to any party, its officers, agents, or employees as a result of this Agreement or performance thereof.

SECTION 14 - INDEMNIFICATION

The Fire Department agrees to protect, defend, indemnify and hold the County, its officers, employees and agents free and harmless from and against any and all losses, penalties, damages, settlements, costs, charges, professional fees or other expenses or liabilities of any kind and character arising out of or relating to any and all claims, liens, demands, obligations, actions, proceedings, or causes of action arising solely and singularly out of any act or act of omission giving rise to any of the above and attributable solely to the Fire Department in its capacity as a self-standing non-profit corporation, up to the limits of insurance as detailed herein.

SECTION 15 – FIRE, RESCUE AND MEDICAL REPORTS

The Department agrees to complete an incident report immediately, no later than 14 days following all fires and submit reports to the Office of State Fire Marshal within 120 days of the incident in compliance with 11 NCAC 05A.0910 and N.C.G.S. § 58-79-45.

The Fire Department also agrees to make medical reports available to the County's EMS provider. The disclosure of medical reports or other data pertaining to personally identifiable health information shall be made to the EMS provider in accordance with all Applicable Laws.

SECTION 16 - ANNUAL FINANCIAL AUDIT AND FINANCIAL INFORMATION

The Department may choose to perform and prepare an annual audit with an accompanying management letter by and through a CPA firm of the Departments choosing, so as it is not the same firm or person used by the Department in keeping the financial books and records of the Department, on or pursuant to that schedule attached hereto as Exhibit "B."

The Department agrees to provide the auditor with access to all records needed to prepare the audit and its accompanying management letter in accordance with the Agreed-Upon Procedures. The audit will be complete by December 31st of the then current Fiscal Year, and the Department may provide the County a copy of such annual audit and accompanying management letter within thirty (30) days of completion.

The County and the Department mutually recognize, acknowledge, and agree that all documents and data owned by the Department and entrusted to the auditors shall remain private and confidential between the auditors and the Department. Under no circumstance shall any documents and/or data owned by the Department



as a self-standing non-profit corporation and used in any way by the Department's auditors to prepare the audit and memorandum be made a matter of public record.

In the event that the auditor identifies any deficiencies during the course of the Agreed-Upon Procedure, the Department shall provide to the County an explanation for any such deficiencies as well as a plan of corrective action including timeframes for correction as is mutually agreed upon in writing by both the Department and County. Should the Department be unwilling or unable to correct the deficiencies identified within the required timeframes, the County may terminate this contract in accordance with Section 28.

SECTION 17 - PUBLIC MEETINGS, RECORDS AND INPUT

Because the Department relies extensively on public funds appropriated by the County, the Department acknowledges that the citizens of the Fire District have a strong continuing interest in the Department's decision-making processes as related to decisions concerning the expenditure of those public funds.

To ensure the ability of the public to review the Department's decision-making processes and expenditure of public funds, the Department agrees (i) to undertake all reasonable and prudent measures to notify the public in advance of all regularly-scheduled, non-closed meetings of its Board of Directors, (ii) to take minutes of all such regular, non-closed meetings that would enable a person not in attendance to have a reasonable understanding of the general topic(s) addressed therein , and (iii) to provide, when requested by the County, the ability to view regular non-closed meeting minutes after such meeting minutes have been adopted formally by the Department's Board of Directors. The Department agrees herein that it shall endeavor in good faith to conduct its meetings in an open and public fashion and on a regular basis, but shall reserve for itself, as a private, non-profit corporation, all of the rights conferred upon it as a private entity to conduct such other non-public meetings as are required in the best interests of the entity.

Additionally, the Department agrees that its bylaws have reasonable provisions enabling citizens of the district to participate in the affairs of the Department, as determined necessary by the Board of Directors.

SECTION 18 - DEPARTMENT TRAINING

The Department agrees to adopt guidelines, no later than ninety (90) days from the Effective Date of this Agreement, which address appropriate initial training and continuing education of firefighters of the Fire Department. These guidelines will ensure that such initial training and continuing education strive in good faith to meet or exceed all requirements of the State of North Carolina, including, without limitation, a minimum standard of thirty-six (36) hours of fire training per Department member annually.



The Department shall also maintain training records for each volunteer or employee on its roster. Training records shall indicate the following, including but not limited to the following: courses that have been completed, time spent in training for each course, the course dates, instructors, and the place course was held.

Appropriate information shall be entered into the Emergency Reporting Data Base on all training held by the Department or attended by its volunteers and employees. Emergency Medical Education shall be coordinated with the Yadkin County EMS Training Officers, in accordance with the Yadkin County System plan.

SECTION 19 - NEW FIRE STATIONS AND SUB-STATIONS and APPARATUS

The Department and the County shall collaborate all construction of new facilities and / or remodeling with the Fire Marshal and the Yadkin County Manager, so that it best meets the needs for fire service for all Yadkin County citizens.

All considerations for new construction and / or remodeling should include future expansion of services such as 24-hour coverage, EMS and / or rescue squad.

New fire stations, sub-stations and replacement apparatus are costly and provide a financial strain on Departments. To ease the financial burden to Departments, effective July 1, 2023, the County will fund, construct and own all new Fire Stations and Sub-stations. Existing facilities and any remodeling/improvements will be the responsibility of the Departments.

The County will also be financially responsible for replacing apparatus, while the Department will be responsible for maintaining the apparatus.

SECTION 20 - DISASTER PLANNING

The County and the Department shall cooperate in establishing disaster plans and in conducting exercises pursuant to disaster plans administered by the Yadkin County Department of Emergency Management.

SECTION 21 - FIRE INVESTIGATIONS

The Department agrees to ensure that its officer in charge at all fire scenes attempts to determine the origin and cause of every fire. Further, the Department agrees to ensure that when such officer in charge cannot effectively determine the origin and cause of a fire, or if the cause is suspected to be incendiary in nature, such Department officer in charge shall request a representative from the Fire Marshal's Office investigate and provide scene security (if needed). The Department shall also ask for a response from the Fire Marshal's Office for all situations that include places of worship, schools or injuries or deaths involving fires, explosions, or burns. Investigations are to be conducted in accordance with NCGS 58-79-1.

All suspicious or incendiary woods, grass, or brush fires exceeding 100 ft. from a structure shall be reported immediately to the Yadkin County Forest Ranger and the



fire scene secured until the arrival of the Forest Ranger. Any less than 100 ft. from the structure shall be reported to the Yadkin County Fire Marshal.

The Department agrees to provide whatever reasonable assistance is needed by the Fire Marshal's Office staff and/or Yadkin County Forest Ranger at the fire scene.

The County agrees, at the conclusion of the fire origin and cause determination, to complete the investigation module of the incident report in the County's records management system and to provide the Department with a copy of the County's incident report, in a timely manner for the Department's required entry into its fire reporting software.

SECTION 22 - NATIONAL INCIDENT MANAGEMENT SYSTEM (NIMS)

The National Incident Management System (NIMS) is a presidential directive that is a systematic, proactive approach to guide departments and agencies at all levels of government, nongovernmental organizations, and the private sector to work together seamlessly and manage incidents involving all threats and hazards—regardless of cause, size, location, or complexity—in order to reduce loss of life, property and harm to the environment. The Department shall use NIMS on all incidents.

SECTION 23 - FIRE DISTRICT

The Department has a primary Fire District and the property lying within the boundaries of the Fire District is identified in Exhibit C. The Department shall endeavor at all times and in good faith to respond to all emergency calls from the Communications Center, the Department Fire Chief or his/her designee, or the County Fire Marshal when and where needed, but the Fire District shall never be left unprotected.

SECTION 24 – AUTOMATIC / MUTUAL AID AGREEMENTS

N.C.G.S. § 58-83-1, authorize mutual aid assistance between fire departments whereby full authority may be exercised for fire departments to send firefighters and apparatus beyond the territorial limits which they normally serve.

The County by and through its Fire Marshal's Office shall be notified on all Automatic / Mutual Aid Agreements that the Department wishes to enact.

The Department agrees that the only involvement in the Mutual Aid Agreements is for the above reason and that the Mutual Aid Agreements will be between one (1) fire department and another as independent corporations and for this reason, the County shall be released from any liability coming from the Agreements between the two (2) independent departments.



SECTION 25 - GOVERNING LAW AND VENUE; MEDIATION

This Agreement shall be governed by and in accordance with the laws of the State of North Carolina without regard to its conflict of laws rules. All actions relating in any way to this Agreement shall be brought in the General Courts of Justice in Yadkin County, North Carolina.

The County and the Department recognize, acknowledge and agree that party's resort to formal legal proceedings shall constitute an endeavor of substantial expense to both parties. In recognition thereof, to the extent that either party fails to meet its contractual obligations as defined and described herein, the parties, prior to initiating any court action, mutually agreed to first engage in good faith negotiations through mediation, which, unless the parties mutually agree otherwise, shall be in accordance with the Rules Implementing Statewide Mediated Settlement Conferences in Superior Court Civil Actions adopted by the North Carolina Supreme Court and currently in effect. A request for mediation shall be filed in writing with the other party to this Agreement. The mediator must be certified by, and in good standing with, the North Carolina Dispute Resolution Commission. The parties agree to split the mediator's fee and any filing fees equally. The mediation shall be held in Yadkin County, North Carolina, unless another location is mutually agreed upon. The parties agree that if there is no resolution of a dispute satisfactory to both parties pursuant to the mediation procedure outlined in this Section, the next step in the dispute resolution process, and the binding method of dispute resolution, the parties shall continue through a second mediation. Litigation in a court of competent jurisdiction shall be attempted in good faith to be avoided.

SECTION 26 – AUTHORITY TO MAINTAIN DELIVERY OF SERVICES

In the event that the Department's Board of Directors determines that the Department is unable to reliably deliver the services described herein, for reasons including, but not limited to, resignation or withdrawal of volunteer, part-time or full-time members or other withdrawal or loss of ability to deliver services, the Department's Board of Directors shall immediately so notify the Yadkin County Manager or designee at which time the Department authorizes the County to suspend the quarterly payments to the Department and to use such Department's facilities and equipment as are necessary to maintain the delivery of fire services in the Department's primary service area, so that an interruption of the Department's ability to deliver the fire services will not interfere with the standards of fire protection services provided for in this Agreement.

Should such use become necessary, upon the request of the Department, the Yadkin County Board of County Commissioners and the Department's Board of Directors will jointly select an independent third-party trustee who will regularly evaluate the County's use of such Department's facilities, equipment and resources on behalf of the Department. During the time that the Department is unable to provide services, the Department's Board of Directors shall fully cooperate with Yadkin County. Yadkin



County shall determine if the Department is able to resume delivery of reliable services. In the event that the Department serves multiple local governments, Yadkin County will seek reasonable agreement from the other impacted local government units regarding the designation of the independent third-party trustee.

SECTION 27 - SEVERABILITY

The provisions hereof are severable, and should any provision be determined to be invalid, unlawful or otherwise null and void by any court of competent jurisdiction, the other provisions shall remain in full force and effect and shall not thereby be affected unless such ruling shall make further performance hereunder impossible or impose an unconscionable burden upon one of the parties. The parties shall endeavor in good faith to replace any invalid, illegal, or unenforceable provisions with a valid provision, the rights and obligations of which come as close as practicable to that of the invalid, illegal, or unenforceable provision.

SECTION 28 - TERM AND TERMINATION

28.1 Term: This Agreement shall commence on the July 1, 2023, and shall remain in full force and effect through June 30, 2024, unless earlier terminated as provided herein.

28.2 Termination: This Agreement may be terminated as follows:

28.2.1 For Cause: By either party hereto in the event the other party breaches any of its material obligations hereunder; provided, however, that the defaulting party shall have thirty (30) days to correct such breach after written notice is given by such non-breaching party specifying the alleged breach.

If at any time during a non-compliance or probationary period as determined by the North Carolina Department of Insurance, the Department fails to comply with the plan or its District becomes unprotected (Class 10), the County may terminate this contract within its entirety.

28.2.2 Non-renewal: The parties hereto may terminate this Agreement upon written notice to the other party no later than thirty (30) days prior to (a) the expiration of the term

28.2.3 Insolvency: By either party hereto in the event the other party (i) is adjudicated insolvent, under state and/or federal regulation, or makes an assignment for the benefit of creditors; (ii) files or has filed against it, or has an entry of an order for relief against it, in any voluntary or involuntary proceeding under any bankruptcy, insolvency, reorganization or receivership law, or seeks relief as therein allowed, which filing or order shall not have been vacated within sixty (60) calendar days from the entry thereof;

(iii) has a receiver appointed for all or a substantial portion of its property and such appointment shall not be discharged or vacated within sixty (60) calendar days of the date thereof; (iv) is subject to custody, attachment or sequestration by a court of competent jurisdiction that has assumed of all or



a significant portion of its property; or (v) ceases to do business or otherwise terminates its business operations, is declared insolvent or seeks protection under any bankruptcy, receivership, trust deed, creditors arrangement or similar proceeding;

28.3 Notices: All notices required in this Section 29 shall be reasonably specific concerning the cause for termination and shall specify the effective date and time of termination.

28.4 Effect of Termination: Termination of this Agreement for any reason shall not release any party hereto from obligations incurred under this Agreement prior to the date of termination. All services required to be performed under the terms of this Agreement shall be provided through the effective date of termination.

SECTION 29 - NOTICES

All notices, reports, records, or other communications which are required or permitted to be given to the parties under this Agreement shall be sufficient in all respects if given in writing and delivered in person; by overnight courier; or by registered or certified mail, postage prepaid, return receipt requested, to the receiving party at the following addresses:

IF TO YADKIN COUNTY:

County Manager
P.O. Box 220
Yadkinville, NC 27055

IF TO FIRE DEPARTMENT:

SECTION 30 – AMENDMENT/ASSIGNMENT

This Agreement may not be amended except in writing signed by the parties hereto. The parties also agree that this Agreement is not transferable or assignable by either party without the written consent of the other party to this Agreement which shall not be unreasonably withheld.

SECTION 31 - DISPOSITION OF ASSETS IN EVENT OF COMPLETE DISSOLUTION

In the event that the Department dissolves its corporate existence in accordance with N.C.G.S. 55A, Article 14 or ceases to provide the services contracted for under its Agreement, the Department hereby agrees that its assets shall be liquidated in conformity with N.C.G.S. § 55A, Chapter 12 to the extent necessary to pay off the entire Department's debt. All assets remaining after payment of all such debts shall be liquidated and/or otherwise distributed by the Department in conformity with N.C.G.S. § 55A, Chapter 14, but limited in geographic scope of such



liquidation/distribution to other local nonprofit entities or government agencies providing the same or similar services within the area that comprises the Department's currently existing Fire District.

In the event of a complete dissolution of the Department, the Department agrees to provide the County as much notice as possible, but in no event less than ninety (90) calendar days of the Department's date of intended dissolution. The complete dissolution of the Department shall be treated as a termination of the Agreement in accordance with Section 28.

SECTION 32 - DISPOSITION OF ASSETS IN EVENT OF A MERGER

If the Department is dissolving because of a merger with another non-profit fire department or rescue squad, the Department shall conform to N.C.G.S. § 55A, Article 11 with the merger. The Department then hereby agrees that its assets shall be liquidated in conformity with N.C.G.S. § 55A, Article 12 to the extent necessary to pay off the entire Department's debt prior to the merger or the Department's lending organization(s) allows for the transfer of debt to the other non-profit organization that it is merging with. All assets remaining after payment of all such debts or the transfer of debt shall be transferred to the other non-profit fire department or rescue squad with which the Department is merging.

In the event of merger of the Department, the Department agrees to provide the County as much notice as possible, but in no event less than ninety (90) calendar days of the Department's date of intended merger.

SECTION 33 - SALE OF FIRE DEPARTMENT PROPERTY

The Department agrees that it will not sell, donate, or otherwise transfer any rights in any equipment, apparatus, real property, or other property purchased with funds received from the County, which is titled to the Department, or in which the Department otherwise has an interest, without first offering to sell such property to the other fire departments located within Yadkin County prior to offering it for sale to any person or entity outside of Yadkin County. All of the Departments and Fire Marshal's Office shall be notified of such items by email.

SECTION 34 - E-VERIFY

Pursuant to N.C.G.S. § 143-133.3, the County is required to ensure entities with which it contracts, and the contractor's subcontractors, comply with Article 2 of Chapter 64 of the North Carolina General Statutes. These are requirements related to the use of E-Verify. E-Verify is the federal program operated by the United States Department of Homeland Security and other federal agencies, or any successor or equivalent program, used to verify the work authorization of newly hired employees pursuant to federal law. The Department agrees to ensure that the Department and any subcontractor performing work under this Agreement: (i) uses E-Verify if required to



do so by North Carolina law; and (ii) otherwise complies with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes.

SECTION 35 - IRAN DIVESTMENT ACT

Pursuant to Article 6A of Chapter 143C of the North Carolina General Statutes, the County must require most entities with which it contracts, which would include the Department under this Agreement, to certify that the entity is not identified on a list created by the State Treasurer pursuant to N.C.G.S. § 143C-6A-4 (the "Final Divestment List"). This requirement is related to ensuring that entities with which local governments contract are not involved in investment activities in Iran. The Department certifies that: (i) it is not listed on the Final Divestment List, and (ii) it will not utilize any subcontractor performing work under this Agreement which is listed on the Final Divestment List.

SECTION 36 - NO WAIVER

Failure of a party to enforce any of the provisions of this Agreement at any time, or to request performance by the other party pursuant to any provision of this Agreement shall in no way be construed as a waiver of any such provision, nor in any way affect the validity of this Agreement, or any part thereof, or the right of the non-enforcing party to enforce each and every provision of this Agreement.

SECTION 37 - MUTUALLY-DRAFTED AGREEMENT

The Department and the County hereby acknowledge that each participated in the negotiation and drafting of this Agreement. Accordingly, the Department and the County agree that any rule of construction of contracts allowing for the interpretation of this Agreement to be construed against the drafting party is inapplicable to this Agreement.

SECTION 38 - HEADINGS

The Section headings used herein are for reference and convenience only and shall not enter into or affect the interpretation and enforcement of this Agreement by either party.

SECTION 39 - ENTIRE AGREEMENT; MERGER

The terms and provisions herein contained constitute the entire agreement by and between the County and the Department and shall supersede all previous communications, representations, or agreements, either oral or written, between the parties hereto with respect to the subject matter hereof; except, that this Agreement shall not be construed to supersede any existing and applicable Mutual Aid Agreements.



SECTION 40 - COUNTERPARTS

This Agreement may be executed in several counterparts, all of which shall constitute one agreement binding on all parties hereto, notwithstanding that all parties have not signed the same counterpart.

SECTION 41 - AUTHORIZATION

Each party warrants that it has the corporate or other organizational power and authority to execute, deliver and perform this Agreement. Each party further warrants that the execution, delivery and performance by it of the Agreement has been duly authorized and approved by all requisite action of the party's management and appropriate governing body.

IN WITNESS WHEREOF the Department, pursuant to a resolution duly adopted by its Board of Directors, has caused this instrument to be duly executed in its name by the President of its Board of Directors and attested by its Secretary and Chief, and the County has caused this instrument to be duly executed in its name by the County Manager, pursuant to a resolution duly adopted by the County Board of Commissioners, and attested by its Clerk.

This ____ day of _____, 2023.

YADKIN COUNTY

ATTEST:

_____ by: _____

Clerk to the County Board of Commissioners County Manager

This instrument has been pre-audited in the manner required by the Local Government Budget and Fiscal Control Act.

Yadkin County Finance Officer

FIRE DEPARTMENT

ATTEST:

_____ by: _____

Secretary, Board of Directors

President/Chairperson, Board of Directors

Chief of Department



Exhibit A - Insurance Requirements

The Fire Department shall obtain and keep in force during the term of this Agreement the following minimum insurance coverage, annually providing the County's Risk Manager with a Certificate of Insurance:

- A. Workers' Compensation: Coverage of all volunteer firefighters and employees for statutory limits in compliance with applicable state and federal laws. Employer Liability limits shall have the following minimum limits:
 - \$100,000 Each Accident
 - \$100,000 Disease – Each Employee
 - \$500,000 Disease – Policy Limit
- B. Comprehensive General Liability, Including Medical Malpractice and Professional Errors & Omissions: Coverage with minimum limits of \$1,000,000 per occurrence combined single limit for bodily injury liability and property damage liability and \$10,000,000 aggregate.
- C. Business Auto Policy: Coverage with minimum limits of \$1,000,000 per accident combined single limit for bodily injury liability and property damage liability. This shall include owned vehicles, hired and non-owned vehicles and employee non-ownership. Physical Damage coverage on owned Fire Department vehicles.
- D. Management, Including Officers, and Directors: Coverage with minimum limits of \$1,000,000 per claim and \$3,000,000 aggregate.
- E. Umbrella Liability (Excess Liability): Coverage with a minimum limit of \$1,000,000 with underlying coverage of Comprehensive General Liability, Auto liability, Employer's Liability, and Management.
- F. Fidelity Bonds: A blanket fidelity bond shall be purchased in the amount of not less than \$100,000
- G. Property Coverage:
 - 1. Fire Department insured on a guaranteed replacement cost basis.
 - 2. Personal Property insured on a replacement cost basis.
 - 3. Portable equipment insured on a guaranteed replacement cost basis

ADDITIONAL INSURANCE REQUIREMENTS

- A. The Fire Department's General Liability policy shall be endorsed, specifically or generally, to include the following as Additional Insured:



Yadkin County, its Officers, Agents, and Employees are included as Additional Insured with Respects to the General Liability Insurance Policy.

- B. Before commencement of any work or event, the Department agrees to provide a Certificate of Insurance in satisfactory form as evidence of the insurances required above.
- C. Notwithstanding the notification requirements of the Insurer, the Fire Department hereby agrees to notify the County's Risk Manager at P.O. Box 220 Yadkinville, NC 27055, of the cancellation or substantive change of any insurance policy set out herein.
- D. Certificate Holder shall be listed as follows:

Yadkin County
Attention: Risk Manager
P.O. Box 220
Yadkinville, NC 27055

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Exhibit B - Agreed Upon Procedure

In order to complete the agreed upon procedures in a timely and orderly manner, the Department's chosen CPA / auditor will need at a minimum the following items to be prepared and available for it for each Department.

- 1) Detailed trial balance or general ledger of all the accounts and their activity throughout the July - June fiscal year. Detailed report should list activity for each account (checks/deposits), date and amount of each transaction. In addition, each account within the detailed report should subtotal to a balance.
- 2) Bank Statements and Bank Reconciliations for all accounts for the months July – June of the fiscal year under review.
- 3) All invoices and supporting documentation for expenditures throughout the fiscal year (July - June).
- 4) All deposit slips and supporting documentation for revenues throughout the fiscal year (July - June).
- 5) Monthly and/or annual financial statements (if any) prepared by bookkeepers or other qualified persons.

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Exhibit C - Fire District



NOT FOR PROFIT FIRE PROTECTION AGREEMENT

DEPARTMENT NAME HERE



FY 2023 – FY2025



Table of Appendices

Title	Appendix
Fire Insurance and Response District Map	A
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**STATE OF NORTH CAROLINA
COUNTY OF WAKE**

THIS AGREEMENT, made and entered into this the 7th day of, July 2022, by and between WAKE COUNTY, hereinafter referred to as the "County", and the NAME, hereinafter referred to as the "Fire Department";

RECITALS:

- A. WHEREAS, North Carolina General Statutes §69-25.5 provides that the board of county commissioners may provide for fire protection in a fire protection district by contracting with any incorporated nonprofit volunteer or community fire department; and
- B. WHEREAS, North Carolina General Statutes §153A-233 additionally provides that a county may contract for fire-fighting or prevention services with one or more incorporated volunteer fire departments, and may for these purposes appropriate funds not otherwise limited as to use by law;
- C. WHEREAS, the NAME, Inc., Inc. agrees to contract with Wake County to provide fire protection services; and
- D. WHEREAS, North Carolina General Statutes §159-13 et seq. provides that the county budget ordinance may be in any form that the Board of County Commissioners of any County deems most efficient in enabling it to make the fiscal policy decision embodied therein and provides for a fund for each special district whose taxes are collected by the county; and
- E. WHEREAS, the Fire Department is a North Carolina nonprofit corporation organized and authorized to furnish fire protection services and other services authorized by its charter to the citizens of its district; and
- F. WHEREAS, the NAME Fire Insurance and Response District(s) of Wake County have boundaries defined by the most current description on file maintained by the Wake County Geographic Information Services in the Department of Fire Services Office, as illustrated by the map contained in Appendix A; and
- G. WHEREAS, the Fire Department has secured equipment, land and buildings for the operation of Fire Station(s); and
- H. WHEREAS, Wake County presently levies and collects a special tax and is responsible for appropriating the funds derived there from for fire protection in Wake County; and



- I. WHEREAS, the County and Fire Department desire to enter into this Agreement for the Fire Department to furnish fire protection for and within the described District.

AGREEMENT

USE AND AMOUNT OF SERVICE TAX LEVIED

Wake County agrees to make funds, equipment, facilities and/or personnel available to the **NAME** of Wake County, from the proceeds of the tax levied from the special fire protection service tax district. The amount of such service tax levy shall be determined by the Board of the County Commissioners from year to year. The County will collect the funds from the special tax as may be levied as provided by law. For each fiscal year, the funds provided from the service tax district shall be based on the needs projected in the budget request jointly submitted by the Fire Department and the County staff to the County Commissioners and as approved by and deemed necessary by the County Commissioners for furnishing fire protection and emergency services within the District.

Special fire district tax funds levied and collected by the County and paid to the Fire Department by the County to provide fire protection pursuant to G.S 69-25.5 shall be used solely for fire department operations, fire protection and emergency services in the **NAME** Insurance and Response Districts as shown in Appendix A and other areas of response as dispatched and to meet the standards established by this Agreement.

ACCOUNT MAINTAINED FOR RECEIPTS FROM SERVICE TAX

A separate account shall be maintained by the County for the receipts from the special tax levied for the service tax district. Out of this account:

The County will pay the retained fees for system-wide services provided in the unincorporated areas of the County, including forestry, fire training, communications (including WECO), computer-aided dispatch, 800 MHZ radio system and hazardous materials response, and any other fees that may be recommended by the Fire Commission and approved by the County.

The County will pay the approved total appropriations for the Fire Department in equal monthly payments to said Fire Department in the third week of each month, provided that prior to and as a condition of payment, the Fire Department has submitted such funding request to the Fire Commission in a line item budget format for the Fire Commission's review and recommendation, and the Board of Commissioners has reviewed and approved said funding.



SERVICE TAX REVENUES IN EXCESS OF APPROPRIATIONS

Any fire protection service tax district revenues collected annually in excess of the approved total appropriations and retained County fees shall be maintained in the separate account established by the County. The Wake County Fire Commission shall make recommendations to the County for distribution of these revenues. The Wake County Board of Commissioners will issue final approval of distribution.

SERVICES FURNISHED BY THE COUNTY

The County shall furnish the following services to the contracting Fire Department for the term of this Agreement:

such vaccinations as are deemed necessary for all full time, part time and volunteer members of the Fire Department by the County's medical director and fire protection needs analysis in order to maintain such fire protection throughout the County, fire investigation and emergency scene assistance services as requested, and annual Fitness for Duty medical examinations for fire department fire suppression personnel

Fitness for duty medical exams shall follow NFPA 1582 standards and evaluate the employee's physical ability to perform the essential functions of their job classification. Exams must conform to the examination guidelines as indicated on the latest Wake County Medical Exam Program document.

Departments shall have the option of obtaining fitness for duty medical exams for their fire suppression personnel through the department's own medical provider.

In such event, reimbursement shall not exceed the County designated reimbursement rate, as determined through procurement process.

Exams provided by Department's medical provider must conform to the examination guidelines.

To be eligible for reimbursement, Department shall follow Wake County Fire Tax District Medical Program guidelines as outlined.

SERVICES FURNISHED BY FIRE DEPARTMENT

The Fire Department will furnish fire protection, emergency medical first responder services, and other all hazards emergency services as recommended by the Wake County Fire Commission and approved by the Wake County Board of Commissioners or as contracted for by the Board of Commissioners within the District and shall provide the necessary equipment, personnel and those things necessary for



furnishing such protection in the District. The services shall be in accordance with minimum standards set forth in this Agreement. Special technical services not provided by the department shall be requested through Wake County Fire Services and Emergency Management. The Fire Department shall furnish said fire protection without charge to all persons and property located in the District in an efficient and workmanlike manner. This provision shall not prohibit the Fire Department from entering into contracts with the Federal, State or local governments, or utility companies for the provision of fire protection services exceeding the scope of this Agreement for a fee. The additional services identified in the contract shall not cause an additional obligation of county funds to complete services. A copy of all contracts shall be provided to Wake County Fire Services at time of contract renewals. Wake County Board of Commissioner approval is required to utilize County assets for the provision of fire protection services exceeding the scope of this Agreement. This requirement shall not prohibit the Fire Department from billing for certain services, including but not limited to inspection services, false alarm responses, and hazardous materials mitigation responses, based on a fee schedule or other cost recovery program, provided that such fee schedule has been approved by the Wake County Board of Commissioners.

BOOKS AND RECORDS

The County may inspect the financial books and records of the Fire Department at reasonable times during regular business hours of the County. The Fire Department agrees that it will supply such financial books, records, and information or verification as may be reasonably requested by the County. The Fire Department shall maintain a written accounting system which provides adequate documentation of all of its receipts and disbursements including, but not limited to, those related to the expenditure of funds subject to this Agreement.

QUARTERLY REPORT

The Fire Department shall provide to its Board of Directors and the Wake County Fire Services Department, at least quarterly, a financial report containing at a minimum 1) a Balance sheet 2) a Statement of Income and Expenses, and 3) a General Ledger detail for the reporting time period.

ANNUAL REPORT

The Fire Department shall provide the County with an annual audit of the Department's financial statements prepared in accordance with generally accepted accounting principles. The audit shall be conducted by independent certified public accountants in accordance with generally accepted auditing standards. The audit report and any accompanying management letters must be submitted to Wake County no later than 5:00 PM on the last working day of October



following the close of the fiscal year. A draft version of the audit report shall be submitted to Wake County Internal Audit Department for review prior to issuance of the final audit report. The Internal Audit Department will complete the review within five (5) to ten (10) business days. The primary purpose of this review is to encourage consistent reporting by all departments.

If the Fire Department elects to assume responsibility for its own audit, the financial records and data enumerated in Appendix "B" shall be presented to the Fire Department's auditor in the manner and condition described therein.

The County agrees, upon the timely written request of the Fire Department, to make available an audit conducted at Fire Department expense by an independent certified public accountant.

If the Fire Department elects to participate in the audit furnished by the County, then the Fire Department agrees to submit financial records and data to the County's auditor no later than 4:00 PM on the last business day of August of the current fiscal year. Such financial records and data shall include the records and documents enumerated in Appendix "B", "Information for Annual Audit", attached hereto and incorporated herein, and shall be presented in the manner and condition described therein.

In the event that the Fire Department does not have an independent annual audit performed, then and in that event, the Fire Department shall provide the County with its unaudited financial statements containing a detailed accounting of the Fire Department's budget and expenditures, no later than 5:00 p.m. on the last working day of September following the close of the fiscal year. The Department must provide any follow up documentation requested by County to support financial statement amounts, including but not limited to any of the financial records and data enumerated in Appendix "B", within 5-10 days of written request from the County. This option is required to comply with this section only if the Fire Department does not submit an independent audit.

In the event that the audit, management letter or self-reporting reveals any reportable and/or material issue(s) with regard to accounting processes; compliance with laws, regulations, or contract provisions; fraud or abuse; or other financial mismanagement, the Fire Department shall provide a written statement to the County that contains an explanation of each such issue and an action plan (with implementation timetable) for resolving each such issue, and shall provide periodic reports to the County on progress made in resolution of each issue. If resolution of such issues requires professional advice on the part of that Fire Department's (or County's) auditor, the Fire Department shall bear the cost of such advice.



Should the Fire Department fail to submit its audit report, unaudited financial statements, and/or any requested follow up documentation to the County within the above time period, the County may suspend all funds immediately until the audit, financial statements, or documentation is delivered as set forth above, except that the County's Director of Internal Audit may grant a reasonable submittal extension if the Department is unable to deliver the audit, financial statements or documentation for reasons beyond the control of the Fire Department or the Fire Department's auditor.

DECISION MAKING PROCESS OPEN TO PUBLIC

Because of the Fire Department's extensive reliance on public funds for its operations, the public has a continuing interest in the Fire Department's decision-making processes and decisions regarding the spending of those funds. The Fire Department agrees to the provisions of this Section, acknowledging that such provisions are required by this Agreement notwithstanding that such provisions are not required by statute.

To ensure public trust, the Fire Department agrees that its Board of Directors meetings will be open to the public.

To ensure the ability of the public to attend those meetings, the Fire Department agrees to provide public notice of such meetings to Wake County Fire Services at the beginning of each calendar year for publication on the Wake County Public Meeting Calendar. The notice shall include date, time and location of each meeting for the entire 12-month period. The Fire Department and the County agree that public notice of a Board of Directors meeting called in the midst of a declared disaster or emergency to make decisions required to respond to that disaster or emergency is not practical, and therefore not required.

To ensure the ability of the public to review the Fire Department's decision-making processes and spending decisions, the Fire Department agrees to take minutes of all meetings that would enable a person not in attendance to have a reasonable understanding of what happened, and to make minutes of those meetings available to the public by the time of the Fire Department Board of Directors' next meeting. An electronic version of the finalized meeting minutes shall be provided to the County Fire Services on a quarterly basis.

Notwithstanding the Fire Department's reliance on public funds, there are matters on which a Board of Directors must act that are non-public in nature. The County and the Fire Department agree that, in the course of a public



meeting, the Board of Directors may decide to close the meeting under the following circumstances:

To consult with an attorney (to preserve attorney-client privilege) for an actual claim, judicial action, mediation, arbitration, etc. (does not include closing a meeting for "legal advice" or general legal information);

To discuss purchase, exchange or lease of real property;

To discuss the terms of an actual or proposed employment contract;

To deal with personnel matters concerning a member and/or employee (does not include general personnel policy discussion/action);

To request (or hear a report on) an investigation of alleged criminal misconduct directly concerning the Fire Department, a member or employee;

To make decisions on matters other than those that directly or indirectly involves public funds;

The Fire Department agrees to keep an agenda and minutes for any closed meeting or part of a meeting, which shall be made available for public examination at the next Board of Directors meeting, except for minutes of closed sessions dealing with criminal matters, personnel matters, sessions concerning matters other than those that directly or indirectly involving public funds, and, unless the Board decides otherwise, matters of attorney-client privilege). The Department agrees that the agenda(s) and minutes of any closed meeting or part of a meeting shall meet the same standards as minutes of all public meetings and shall include a statement of the purpose of conducting the meeting in closed session.

The County and Fire Department further agree that a "meeting" exists for purposes of this section when a majority of Board members get together physically, or via conference call or other electronic means for the purpose of transacting business, and that a social gathering of Board members at which business is not (and will not be) transacted is not a "meeting" for purposes of this section.

Notwithstanding the provisions of this Section, the County shall have access to all meeting agenda(S) and minutes, including any closed meeting or part of a meeting, without exception, upon request.



NON-COMPLIANCE BY FIRE DEPARTMENT

If the County has a reasonable belief that the Fire Department has violated any provision of this Agreement, the County will provide the Fire Department written notice of the possible noncompliance and initiate an audit to verify compliance. If the County determines that the Fire Department has failed to render the fire protection and services as provided in this Agreement or has otherwise operated in a manner that violates the provisions of this Agreement, then the County shall give the Fire Department ninety (90) days advance written notice that the funds allocated are subject to suspension and shall additionally provide a list of the improvements needed for compliance. If during the said ninety (90) day period, the Fire Department makes improvements satisfactory to the County, no suspension shall occur. During the ninety (90) day period, the Fire Department is not relieved of their responsibility to provide fire protection and emergency services in a manner otherwise consistent with the terms of this Agreement. If after the ninety (90) period, the Fire Department has failed to make satisfactory improvements to comply with this Agreement, then the County may suspend any or all of the monthly payment of funds allocated to the Fire Department pursuant to Section 2 herein.

AUTHORITY TO MAINTAIN DELIVERY OF SERVICES

In the event that the Fire Department's Board of Directors determines that the Fire Department is unable to reliably deliver the services described herein, for reasons including, but not limited to, resignation or withdrawal of volunteer, part-time or full-time members or other withdrawal or loss of ability to deliver services, the Fire Department's Board of Directors shall immediately so notify the County, at which time the Fire Department authorizes the County or its agents to suspend the monthly payment to the Fire Department and to use such Department facilities and equipment as are necessary to maintain the delivery of fire services in the Fire Department's primary service area (to the extent the Fire Department exercises operational control and/or ownership interest over such facilities and equipment), so that an interruption of the Fire Department's ability to deliver fire services will not interfere with the standards of fire protection service provided for in this Agreement.

Should such use become necessary, upon the request of the Fire Department, the County and the Fire Department's Board will jointly select an independent third-party trustee who will regularly evaluate the County's use of such Fire Department facilities, equipment and resources on behalf of the Fire Department. The Wake County Fire Tax District will be responsible for paying the trustee fees associated with the study. During the time that the Fire Department is unable to provide services, the Board of Directors of the Fire Department shall cooperate with the Fire Commission. The Fire Commission shall determine if the Fire Department is able to resume delivery of reliable service.



FINANCIAL COMPLIANCE

The Fire Department agrees that if its financial records are judged to be un-auditable for purposes of audit or establishment of a budget by the County's Director of Internal Audit, or if a regular or special audit by a Certified Public Accountant reveals competent evidence of reckless or willful financial mismanagement practices or intentional or criminal wrongdoing, the Fire Department's Board of Directors will notify the County, at which time, the County and Board of Directors may jointly name a trustee who will assume responsibility for management and financial decision-making for the Fire Department until such time as the County and Fire Department's Board of Directors agree that the Fire Department's finances have been stabilized to the extent required to satisfy the financial management provisions of this Agreement.

COMPOSITION OF BOARD OF DIRECTORS

The Fire Department agrees that as long as this Agreement or subsequent renewals of an existing Agreement are in effect, the following restrictions shall apply to the Board of Directors:

If the fire chief of the Department serves as a member of the Department's Board of Directors, that fire chief shall serve as an ex officio member, without vote, of the Department's Board of Directors.

No compensated current employee of the Fire Department shall serve as a member of the Department's Board of Directors. "Compensated current employee" shall be defined as a current employee of the Fire Department paid a salary or hourly wage for services provided to the Fire Department. This shall not include volunteers who receive stipends or reimbursements; or employees paid an hourly wage pursuant to any contract with a duration of less than thirty (30) days per calendar year.

No family member of 1) the Fire Department's Chief Officers or 2) the President of Board of Directors shall serve as a member of the Department's Board of Directors. "Chief Officers" shall be defined as the persons designated by the Board as the Fire Chief of the Department or appointed by the Fire Chief to a chief officer rank. This designation shall not include other officers at or below the rank of Captain. "Family member" shall be defined as a parent, spouse, child, or sibling of the member, including a parent, child, or sibling of the member's spouse. If a family member as defined herein is a properly elected or appointed director at the time this Agreement is entered, then and in that event, the Board of Directors shall 1) request the resignation of such member or take any other action available under the current by-laws to insure that the family member does not serve as a director during the performance of this contract 2) change the by-laws at the next annual meeting to insure that no family member serves as a director during the performance of this contract.



Each Board of Directors shall have a minimum of twenty percent (20%) citizen membership, unless prohibited under the Fire Department's by-laws in effect. If the by-laws in effect do not permit such composition, then and in that event, the Fire Department shall make a good faith effort to promote citizen participation on the Board to the extent permitted and shall make an amendment to the by-laws to allow compliance with this Section.

The Fire Department's current By-Laws should be sent to Wake County Fire Services for electronic filing. Any subsequent updates or modifications to the Fire Department By-Laws shall be immediately sent to Wake Fire Services for electronic filing.

LIQUIDATION OR DISSOLUTION

In the event of liquidation or dissolution of the Fire Department, all equipment and assets will be distributed in accordance with the Fire Department's Charter or Articles of Incorporation and the North Carolina Non-Profit Corporation Act. All assets and equipment that have been acquired using County funds, other than those accounts maintained by the County as special rural fire district funds, shall be returned to the County.

Should such liquidation, dissolution, or termination of this Agreement pursuant to Section 24 occur while there remains an ongoing requirement for County provided fire protection in the Fire Department's primary service area, all required firefighting apparatus and equipment (excluding real property) shall be assigned or distributed by the dissolving Fire Department to its successor in fire protection within the Fire Department's primary service area. Real property owned by the Fire Department and not reasonably required by the County for the purpose of fire protection in the sole discretion of the County, or real property which is already being used by other governmental entities for fire protection is excluded. Such unallocated Real property will be returned to public service use in consultation with homeowners within the Fire Department's primary service area. If in the sole discretion of the County, the County or successor fire department appointed by the County reasonably requires the use of the Real property to provide fire protection within the Department's primary service area, the Fire Department shall lease such Real property through a leasing instrument which will insure maintenance of such property for the duration of need, but will not accrue revenue to the Fire Department above and beyond such maintenance. The County in its sole discretion may decline to exercise this provision and the Department shall have no right to compel the exercise of this provision.



MERGER

In the event of a merger between the Fire Department and another entity, all assets purchased by the Fire Department prior to the establishment of the Fire Protection Service Tax District will remain the property of the Fire Department; and all assets purchased by the Fire Department after the establishment of the Fire Protection Service Tax District will be distributed in accordance with Section 13 herein.

FIRE DEPARTMENT'S USE OF FUNDS

The Fire Department shall use the funds subject to this Agreement in accordance with the annual Department Budget. This budget may be amended by the Fire Department Board of Directors within the approved total appropriations made available by this Agreement provided that all appropriations must be used for furnishing fire protection within the district and amendments providing for any expenditure that establishes a new operating expense that will extend beyond the current fiscal year shall require the written consent of the Director of the Department of Fire Services and any amendment to the budget regardless of whether it extends beyond the current fiscal year shall be subject to the following provisions:

The Department shall notify the Director of the Department of Fire Services of addition or deletion of full- or part-time positions (defined here as positions budgeted at a pay rate equal to, or in excess of, the current federal minimum wage) not later than thirty (30) days after the change takes effect. Use of personnel funds for any purpose other than compensating persons occupying budgeted positions shall require the written approval of the Director of Fire Services. A decision of approval or disapproval shall be provided to the department from the Department of Fire Services within forty-eight (48) business hours of receipt of complete requested documentation.

The Department is required to notify the County in writing within thirty (30) calendar days of the following changes:

- changes in the board of directors;
- changes in key personnel, including, but not limited to: chief executive officer, president, executive director, finance director, or equivalent; or,
- any modification in the use of County funds provided through this Agreement.

The Fire Department agrees to follow the current Wake County Procurement policy, excluding Section IIB, Section IIC and Section IID, which is contained in Appendix C.



The Fire Department and the County agree that, in the event of a bona fide emergency, the Department may proceed with emergency purchases without seeking formal or informal bids as described herein.

The Department shall not enter into a financial transaction which shall require the Department to create a security interest in favor of a third party in real or personal property wholly or partially acquired with County funds without Wake County Board of Commissioners approval. Security interest shall be defined as any agreement or act that gives the beneficiary of the security interest preferential rights in the disposition of the secured asset, including but not limited to a mortgage, charge, pledge, or lien.

The County may request the Department, at any time during the fiscal year, to provide the County with satisfactory documentation that the funds are expended in an acceptable manner. County requests may include, but are not limited to, performance measures, financial statements, other funding agreements, and salaries and benefits information. Any request for information will be submitted in writing to the Department. The Department shall have up to thirty (30) calendar days from the date of written request to submit documentation.

The Department agrees that County funds shall not be requested or used to pay penalties or fines without County approval.

The Department certifies that, as of the date listed below, it is not on the Final Divestment List as created by the State Treasurer pursuant to N.C.G.S. Section 143-6A-4. In compliance with the requirements of the Iran Divestment Act and N.C.G.S. Section 143C-6A-5(b), Department shall not utilize any subcontractor in the performance of this Contract that is identified on the Final Divestment List.

FIRE DEPARTMENT'S BUDGET PREPARATION

The Fire Department agrees that it shall continue to use the County's electronic financial reporting system furnished by Wake County for budget preparation and presentation purposes only, based upon the County's "chart of accounts" which provides accurate documentation of all of its receipts and disbursements, including (but not limited to) those related to the funds subject to this agreement, and the Fire Department and County will use the product(s) of that reporting system in the development and analysis of the budget for FY 2003 and subsequent fiscal years. The Fire Department agrees that it will make these reports available to the public upon request.

As part of every annual budget submission, the Fire Department shall identify the name, rank and date of separation of each paid employee that leaves employment



with the Department and the name, rank and date of employment of each new hire employee. The modified budget form provided by the County shall incorporate a request for this information. Use of lapsed salary dollars shall conform to Section 15.1 of this agreement.

As part of every annual budget submission, the Department is required to disclose any existing debt of the Department and any arrangements for repayment (i.e., monthly payments, promissory note). "Existing Debt" shall be defined as any legally enforceable secured or unsecured obligation to pay money.

INSURANCE

Fire Department shall obtain and keep in force during the term of this Agreement and any subsequent renewals of this Agreement the following minimum insurance coverage, providing the Wake County Finance Department with a certificate of insurance upon each policy renewal. Insurance companies must be authorized to do business in North Carolina and have an AM Best rating of "A-/VII" or better; or have reasonable equivalent financial strength to the satisfaction of Wake County's Finance Department. Any request for consideration of alternate insurance coverage must be approved by Wake County PRIOR TO final execution of this Agreement.

Worker's Compensation, covering both regular employees and volunteers, with minimum limits for Coverage A: Statutory for State of North Carolina, and Coverage B – Employers Liability: \$100,000 each accident/\$100,000 disease each employee/\$500,000 disease.

Commercial General Liability, Including Medical Malpractice/Errors and Omissions, with minimum limits of \$1,000,000 per occurrence or incident, including contractual liability.

Commercial Auto Liability, with minimum limits of \$1,000,000 per accident for bodily injury liability and property damage, including coverage for owned, hired, and non-owned vehicles.

Auto Physical Damage Coverage for any vehicle, including permanently attached equipment, listed by the Fire Department on the Fire Tax District replacement schedule, regardless of whether owned by County or Fire Department. Each vehicle shall be insured on an Agree Value basis. Values will be provided by Wake Fire Services at the end of each calendar year. Wake County shall be included as Loss Payee for any County-owned or leased vehicle used in the provision of agreement services; the certificate of insurance must list County-owned vehicles. For the purpose of this section, "Agreed Value" is the value agreed upon by the insured and the insurer at the beginning of the policy period but may be amended by endorsement.



Portable Equipment Coverage, valued on a guaranteed replacement cost basis, for any portable equipment used in the provision of agreement services.

Management/Public Officials Liability, with minimum limits of \$1,000,000 per claim and \$2,000,000 aggregate.

Umbrella or Excess Liability, with minimum limits of \$2,000,000, extending coverage over the underlying Employer's Liability; General Liability including Medical Malpractice/Errors and Omissions Liability; Auto Liability; and Management/Public Officials Liability. There shall not be any "drop down deductibles" in areas where underlying coverage is not required but the Umbrella Policy provides coverage.

Fidelity/Employee Dishonesty Coverage, covering all employees and volunteers, with limits not less than \$100,000.

Wake County shall be included as additional insured on the General Liability, including Medical Malpractice/Errors and Omissions; Auto Liability, Management/Public Officials Liability; Umbrella Liability; and loss payee on any policy covering vehicles or other property owned by Wake County or where Wake County has funds at risk.

Claims Made Coverage: Any claims made policy must include either 1. a retroactive date prior to or equal to the effective date of this agreement, or 2. full prior acts coverage. If any policy written on a claims made basis is canceled or non-renewed, it must be replaced with another claims made policy with the same retroactive date as the canceled or non-renewed policy. If this agreement is terminated and not renewed, extended reporting period ("tail") coverage must be purchased and maintained for a period of three years beyond the date of termination. The duty to provide extended coverage as set forth herein survives the effective dates of this Agreement.

INDEMNIFICATION

The Fire Department shall indemnify and save harmless Wake County from any and all liability and expenses including attorney's fees, court costs, and other costs incurred by Wake County which are caused by the negligence or willful misconduct of the Fire Department, its agents, or employees, provided that such liability arises out of acts for which any defense of governmental, statutory, or common law immunity is not available. The indemnification provided for herein shall not be construed as a waiver of any applicable defense of governmental, statutory, or common law immunity, and shall not prevent the Fire Department from asserting any defense of such immunity; provided that if a court of competent jurisdiction determines that no such immunity applies, then the indemnity provided for herein shall apply.



INSURANCE SERVICES OFFICE, INC. RATING

The Fire Department shall make a good faith effort to maintain its current rating, or better, with the North Carolina Department of Insurance, and Insurance Services Office (ISO), Inc., as well as its present nonprofit corporation status pursuant to Chapter 55A of the North Carolina General Statutes. The Fire Department shall continuously comply with all applicable laws, ordinances and regulations. The bylaws of the Fire Department shall have reasonable provisions enabling citizens of the District to participate in the affairs of the Fire Department, as determined necessary by the Fire Department Board of Directors. Cases in which a fire department loses or receives a reduced rating will be examined by the Wake County Department of Fire Services. The Wake County Director of Fire Services shall make a report to the Wake County Fire Commission containing recommendations for corrective action.

In the event that the Fire Department's ISO rating falls below a Class 6 public protection classification for fire insurance grading purposes, the Fire Department shall prepare and submit to the County a plan to obtain a minimum of a Class 6 public protection classification. If the Department has a public protection classification equal to or better than a Class 6, the Fire Department is not required to downgrade to a Class 6.

The Fire Department agrees to implement said plan after its completion subject to availability of funds as recommended by the Fire Commission and approved by the Board of Commissioners.

The Wake County Board of Commissioners reserves the right to alter or merge insurance district boundaries in their sole discretion. The Department of Fire Services will notify the Department when considering insurance district boundary changes. The Fire Department agrees to cooperate with Wake County Fire Services in developing and implementing any County Commission approved insurance and response district changes. Any changes which occur during the life of this agreement shall be identified in an amended insurance and response area map to be attached in Appendix A.

STANDARDS OF PERFORMANCE

The Fire Department shall furnish fire protection and emergency services in a professional, efficient and workmanlike manner, in particular so as to meet the requirements of and comply with rules and regulations of the North Carolina Department of Insurance, Insurance Services Office, Inc., Article 11, Chapter 153A of the North Carolina General Statutes, Article 14, Chapter 160A of the North Carolina General Statutes, and other pertinent federal, state and County laws, regulations



and standards. The Fire Department agrees to participate jointly with the County in development and implementation of countywide fire service system performance standards through the Fire Commission including (but not limited to) staffing, turnout time, response time, fire and emergency-event outcomes, customer satisfaction and dissatisfaction, documentation consistency and compliance with standard operating procedures.

The departments shall develop and initiate plans for Public Fire Education, Pre-Incident Surveys and ensure fire hydrants/water sources are maintained and documented in accordance with NCOSFM guidelines.

The following minimal performance standards are agreed to by the County and the Fire Department and are a part of this contract:

RESPONSE TIME: When 90 seconds elapses after dispatch of the Fire Department with no response, the Fire Department will be re-paged. After an additional 90 seconds (three minutes total) have elapsed, the next closest fire department will be dispatched.

STAFFING ON SCENE: The Fire Department shall make best efforts to ensure staffing is adequate for the type of incident and in accordance with the current Long Range Plan's identified effective response force.

AUTOMATIC AID AGREEMENTS: The Fire Department shall provide automatic aid service for all calls for service and respond with the dispatched unit per designated response plans in the current CAD. Each fire department will participate in the closest unit AVL dispatch as designated in the County areas. Fire stations that are not continuously staffed on a 24 hour a day / 7 day a week basis may or may not participate in quickest unit response inside a municipality's corporate limits. This agreement is Appendix F of this document.

MUTUAL AID AGREEMENTS: All Fire Departments shall cooperate and participate in the most current Wake County Mutual Aid system plan. The Wake County Emergency Communication Center will automatically dispatch the nearest mutual aid department after failure in three (3) minutes of the initially dispatched department to acknowledge the call. This shall apply to all calls. Wake County will supply the Fire Department with a copy of the officially adopted mutual aid system plan. The agreement can be found as Appendix D of this contract.

TRAINING: The Fire Department shall have formally adopted written guidelines for appropriate initial training of firefighters and continuing education of firefighters that meet or exceed all state requirements.



Initial firefighter training shall include education on hazardous materials responder, incident command system, and blood borne pathogens.

The Department shall annually conduct and/or participate in a minimum of one (1) live fire training exercise with the preferred location being at the Wake County Fire Training Center.

The Department shall annually participate in a minimum of one (1) multi-company and one (1) multi-department live fire training exercise.

No member of the Department shall engage in structural firefighting without having first completed the Wake County Essentials of Firefighting course or equivalent course as determined by the Department's Chief Officer.

VOLUNTEERS: Fire Department shall demonstrate a commitment to recruiting and retaining volunteers within their respective department.

Upon request the Fire Department shall complete and return to the County a semi-annual Volunteer Report form, which provides the following information: 1. Total number of volunteers as of report date, 2. Number of new volunteers joining the department since last semi-annual report, 3. Number of volunteers that have left the department since last semi-annual report, 4. Volunteer recruitment outreach events the Fire Department held or participated in that report period, 5. Volunteer participation rate for emergency responses during that report period, 6. Volunteer participation rate for department training events during that report period, 7. Volunteer participation rate for department duty crew shifts during that report period, 8. The full-time occupation of each volunteer.

DEPRECIATION: Each Fire Department shall have a depreciation schedule for equipment and property valued over \$25,000.00.

FIRE STATION CONSTRUCTION/RENOVATION: The Wake County Fire Services, in conjunction with the Wake County Fire Commission, shall provide recommendations on new fire station locations and major renovations utilizing service tax district funds to the Wake County Fire Commission. Major renovations include renovations of existing fire stations which exceed \$100,000.00 in total cost. All expenditures of service tax district funds for new fire stations and major renovations require approval of the Wake County Board of Commissioners.



FISCAL RESPONSIBILITY:

At a minimum, all nonprofit Fire Departments shall have on hand, as of the end of the fiscal year, Expendable Net Assets Without Donor Restrictions or Board Designations of at least 5% of their annual total expenses identified in their audited financial statements; and Liquidity of at least 10% of their annual total expenses identified in their annual audited financial statements. All Fire Departments will maintain the designated level of both expendable net assets without donor restrictions and liquidity as follows:

Expendable Net Assets Without Donor Restrictions or Board Designations is defined as Net Assets Without Donor Restrictions, less net investment in capital assets, less amounts designated for specific expenditures by the governing board. Net investment in capital assets is total property and equipment, net of accumulated depreciation, less debt owed on property and equipment. At year-end, this amount must be at least equal to 5% of the total annual expenses identified in the audited financial statements for that year.

Liquidity is defined as total financial assets available to meet cash needs for general expenditures within one year. This amount is total assets, less nonfinancial assets (e.g. property and equipment, inventory, prepaid amounts), less assets that are unavailable for general expenditures due to contractual or donor-imposed restrictions, less assets that are unavailable for general expenditures because they have been designated for other purposes by the governing board. This liquidity amount is the same as is required to be disclosed by professional accounting and reporting standards. At year-end, this amount must be at least equal to 10% of the total annual expenses identified in the audited financial statements for that year.

Fire Departments with Expendable Net Assets Without Donor Restrictions and Board Designations (as defined above) exceeding 15% of the department's total annual expenses shall notify County staff and the Fire Commission in writing of their intended use of excess funds. Use of the excess funds should be made in the following order:

Finance apparatus options, station improvements, or other capital needs that have been identified as priorities by the Fire Commission and County staff in the Long-Range Plan or CIP programs, Retire existing debt, One-time purchases, which include:

Emergency non-budgeted expenditures for unanticipated repair



Replacement of essential firefighting equipment one-time purchases for such equipment as SCBA and SCBA cylinders with specifications approved by Fire Commission

Another option approved by the Fire Commission, the Department of Fire Services Director and Budget Director.

After planned uses of the excess funds have been formally approved by the governing board, the amount of such funds should be reported as designations in the financial statements.

Should a department not choose from the options listed above, County staff and the Fire Commission will consider excess funds when determining the department's operating appropriation from the Fire Tax.

FIXED ASSETS: Each Fire Department shall maintain an accurate inventory of all equipment valued at \$5,000.00 or more. This fixed asset list shall be kept for each Fire Department by station and be available for review at reasonable times during business hours of the County. The Fire Department agrees to cooperate with and participate in any Wake County inventory control systems.

FIRE INVESTIGATIONS: The Fire Department officer in charge at all fire scenes shall attempt to determine the origin and cause of every fire. When the officer in charge cannot determine the origin and cause OR if the cause is suspected to be incendiary in nature, the officer in charge shall request a representative from the Wake County Fire Services Department to assist. The Fire Department shall provide whatever assistance is needed by Wake County staff at the fire scene. The responsibilities under this section shall be in addition to, and not in replacement of the responsibilities outlined under subsection 20.12 "Post Incident Review".

POST INCIDENT REVIEW: In order to provide a systematic and consistent approach for reviewing and evaluating fire response, the Fire Department shall be required to conduct a post incident review for the following incidents occurring in the unincorporated areas of the county: fires resulting in fatalities, fires resulting in more than \$400,000 property loss, fires resulting in civilian injury, fires resulting in firefighter injury, and any other incident as determined by the Fire Department. Post incident reviews will be facilitated by a fire service member that has completed a post-incident review training program approved by the Fire Commission, or equivalent training as determined by the Fire Commission.



MEDICAL FIRST RESPONDER: Each Fire Department shall participate in the Wake County Medical First Responder Program. Each fire department shall conform to the most current version of the Wake County Medical First Responder Policies and Procedures that can be found on the Wake County Fire Services website. Departments shall operate under the direction of the Wake County Medical Director and Emergency Medical Services Director. Each Fire Department shall have an adopted guideline that addresses the Medical First Responder Program and Operation.

EMERGENCY DISASTER RESPONSE: Each Fire Department shall follow the Wake County Emergency Operations Plan and all applicable appendices.

DISPOSING OF EQUIPMENT: The Fire Department shall offer equipment that they have deemed necessary to sell or donate to other Wake County Fire Departments prior to offering to outside agencies. All sold or donated items should be within their NFPA-specified service life, in serviceable condition, and retested or recertified by the manufacturer or certified third-party testing organization. The Fire Department shall not dispose of any County asset without the approval of the Director of Wake County Department of Fire Services and the Wake County Finance Director, and, if approval is received, shall follow all County guidelines taking into account any applicable statutory requirements for asset disposal.

PERSONNEL: The Department agrees to adopt and to initiate compliance with, and enforcement of personnel rules for compensated and volunteer members that are in compliance with FLSA and any other applicable federal or state law, and not substantially and materially different from, or inconsistent with the current Fire Compensation Administrative Guidelines adopted by the Fire Commission or within 30 (thirty) days of Fire Commission revision of such guidelines.

EMPLOYMENT: The Fire Department agrees to conduct a background-check for all "finalist" candidates for full-time and part-time employment and volunteer membership prior to hire or appointment.

No person with a felony or serious misdemeanor conviction(s) shall be hired or serve as a volunteer with the Fire Department. "Serious misdemeanor conviction(s)" shall be defined to include offenses reflective of violent criminal behavior or dishonesty. If additional funding is required to perform the background checks, background checks will be done subject to availability of funds. Nothing herein shall be construed to prevent the Fire Department from hiring an individual who has an isolated misdemeanor conviction remote in time but has demonstrated a sustained record of



responsible, lawful behavior and is otherwise fit for duty. A felony or serious misdemeanor conviction received during employment or volunteer service shall be grounds for review of continued employment or service.

All paid and volunteer employees of the Fire Department shall be subject to, for cause and/or suspicion, drug testing at any time as deemed appropriate by the Fire Department.

DRIVER'S LICENSE CHECK: The Department agrees that it will conduct a driver license record review at least annually on each member and employee.

USE OF COUNTY-OWNED VEHICLES: The Department agrees that in the event it uses or leases County-owned vehicles in the performance of duties under this Agreement, the Department shall not make these vehicles available to individual employees or volunteers for personal use or other employment not provided for under the Fire Services Contract.

ADMINISTRATIVE AND OPERATIONAL PROCEDURES: The Department agrees to participate jointly with the County in development and implementation of countywide fire service standard administrative and operational procedures through the Fire Commission. Nothing in this section shall prohibit the Department from establishing or maintaining its own standard administrative and operational procedures provided they are not in conflict with County-wide procedures as described herein, or the County from issuance of County-wide emergency procedures in event of a declared disaster or emergency.

MEDICAL EXAM PROGRAM: The Department agree to comply with the latest version of the Wake County Fire Tax District Medical Exam Program. The latest version can be found on the Wake County Fire Services website.

FIRE COMPENSATION ADMINISTRATIVE GUIDELINES: The County and Fire Department agree to abide by the requirements contained in the Wake County Fire Compensation Administrative Guidelines as approved by the Wake County Board of Commissioners on October 20, 2003 and as they may be amended from time to time during the existence of the Agreement. The Department shall adopt the said Fire Compensation Administrative Guidelines and agree to operate their Department's pay and benefits system by the terms of said Fire Compensation Guidelines. The Department acknowledges review and acceptance of the most current Wake County Fire Compensation Administrative Guidelines originally effective July 1, 2003 as updated November 2020. The latest version can be located on the Wake County Fire Services website.



ADVERSE FINDINGS: The Fire Department agrees to notify the Wake County Department of Fire Services within 30 days of any adverse finding by any Municipal, State or Federal agency against the Department, pertaining to employment practices, employee safety, environmental issues, etc.

EMERGENCY ALERTING: The Fire Department agrees to rely only on the countywide alphanumeric and tone/voice paging systems for emergency alerting and response purposes.

GRANTS: The Fire Department shall receive approval from the Wake County Department of Fire Services prior to making application for any grant funding for equipment, staffing or programs currently funded by the Fire Tax District which will require Fire Tax District matching funds. Grant funding requiring matching funds must be approved in the Wake County Budget ordinance or by resolution of the Wake County Board of Commissioners. Grant funding received by the department without approval will not be replaced by Fire Tax funding after the performance period of the grant or useful lifetime of grant-funded equipment. The Fire Department shall cooperate with and participate in regional grant applications which serve to maximize grant funding impact across Wake County.

WEAPONS: With the exception of sworn law enforcement officers, operating within their jurisdiction, no weapons of any sort are permitted to be carried by Department personnel while on duty within department vehicles or buildings, or while on calls for service. This applies to all weapons whether concealed or visible. This includes firearms, knives, conducted electrical weapons and chemical irritants, such as mace and pepper spray.

RELATIONSHIP OF PARTIES

The Department, including any officer, employee, or agent of the Department is an independent contractor of the County and none of these shall be considered employees of the County. The relationship between the parties shall be limited to the performance of this Agreement in accordance with its terms. County and the Fire Department agree that the Fire Department shall operate and act as an independent contractor in accordance with the standards set forth herein, and the County shall not be responsible for any of the Fire Department's acts or omissions. Neither the Department, any officer, employee, or agent of the Department shall be deemed an officer, employees, or agent of the County. No liability for benefits, such as workers compensation, pension rights, or other provisions shall arise out of or accrue to any party, its officers, agents, or employees as a result of this Agreement or performance thereof.



TERM OF AGREEMENT

The term of this agreement shall be for three years, beginning on July 1, 2022 and ending on June 30, 2025, unless earlier terminated by either party in accordance with Section 24 of this agreement. This term is subject to the continued legal existence of the District(s) and the Fire Department.

NON-ASSIGNABILITY

This agreement may not be transferred, assigned, or subcontracted by the Fire Department without the written consent of the County.

TERMINATION

This Contract may be terminated by either party with or without cause upon advance written notice to the other party, served upon the other party by certified mail at least ninety (90) days prior to termination. Failure of the County and the Fire Department to agree upon the amount of funding shall terminate this contract in accordance with this section of this Agreement.

RESERVATION OF RIGHTS

Wake County reserves the right to provide the highest level of fire protection and emergency services possible, subject to the availability of funding.

NO WAIVER

Failure of the County to enforce any of the provisions of this Agreement at any time, or to request performance by the Fire Department pursuant to any of the provisions of this Agreement at any time shall in no way be construed as a waiver of such provisions, nor in any way affect the validity of this Agreement, or any part thereof, or the right of the County to enforce each and every provision. In the event that there is disagreement between representatives of the County Department of Fire Services and the Department as to the meaning and/or applicability of any section of the Agreement, the County and the Fire Department shall endeavor in good faith to mediate the disagreement, and agree to select and share the cost (if any) of the services of a trained community mediator to mediate the disagreement. However, nothing herein shall be construed to prevent either party from seeking legal or equitable relief in a court of competent jurisdiction.



NO THIRD PARTY BENEFICIARIES

This contract is not intended for the benefit of any third party. The rights and obligations contained herein belong exclusively to the parties hereto, and shall not confer any rights or remedies upon any person or entity other than the parties hereto.

ENTIRE AGREEMENT

The terms and provisions herein contained constitute the entire agreement by and between the County and the Fire Department and shall supersede all previous communications, representation or agreement, either oral or written between the parties hereto with respect to the subject matter hereof; except, that this paragraph shall not be construed to supersede any existing and applicable Mutual Aid Agreements.

NOTICES

All notices, reports, records, or other communications which are required or permitted to be given to the parties under the terms of this Agreement shall be sufficient in all respects if given in writing and delivered in person, by confirmed facsimile transmission, by overnight courier, or by registered or certified mail, postage prepaid, return receipt requested, to the receiving party at the following address:

If to Wake County:

Mr. Darrell Alford
Wake County Department of Fire Services
P.O. Box 550
331 South McDowell Street
Raleigh, North Carolina

Telephone: (919) 856-6349

Facsimile: (919) 856-6236

If to Fire Department:

DEPARTMENT NAME

BOARD PRESIDENT

ADDRESS

ADDRESS

Telephone:

Email:

GOVERNING LAW

The Parties acknowledge that North Carolina law shall govern this Agreement.



SEVERABILITY

If any provision of this Agreement shall be determined to be unenforceable by a court of competent jurisdiction, such determination will not affect any other provision of this Agreement.

COUNTERPARTS

This Agreement may be executed in several counterparts, each of which shall be deemed an original.

NO WAIVER OF SOVEREIGN IMMUNITY

The County and the Fire Department agree that nothing herein shall be construed to mandate purchase of insurance by the County pursuant to N.C.G.S. 153A-435; or to be inconsistent with Wake County's "Resolution Regarding Limited Waiver of Sovereign Immunity" enacted October 6, 2003; or to in any other way waive the County's defense of sovereign or governmental immunity from any cause of action alleged or brought against the County for any reason if otherwise available as a matter of law.

VERIFICATION OF EMPLOYEE WORK AUTHORIZATION

To ensure compliance with the E-Verify requirements of the General Statutes of North Carolina, all contractors, including any subcontractors employed by the contract(s), by submitting a bid, proposal or any other response, or by providing any material, equipment, supplies, services, etc, attest and affirm that they are aware and in full compliance with Article 2 of Chapter 64, (NCGS 64-26(a)) relating to the E-Verify requirements.

NON-DISCRIMINATION. IN CONSIDERATION OF SIGNING THIS AGREEMENT, THE PARTIES HEREBY AGREE NOT TO DISCRIMINATE IN ANY MANNER ON THE BASIS OF RACE, NATURAL HAIR OR HAIRSTYLES, ETHNICITY, CREED, COLOR, SEX, PREGNANCY, MARITAL OR FAMILIAL STATUS, SEXUAL ORIENTATION, GENDER IDENTITY OR EXPRESSION, NATIONAL ORIGIN OR ANCESTRY, MARITAL OR FAMILIAL STATUS, PREGNANCY, NATIONAL GUARD OR VETERAN STATUS, RELIGIOUS BELIEF OR NON-BELIEF, AGE, OR DISABILITY WITH REFERENCE TO THE SUBJECT MATTER OF THIS CONTRACT. THE PARTIES AGREE TO COMPLY WITH THE PROVISIONS AND INTENT OF WAKE COUNTY ORDINANCE SL 2017-4. THIS PROVISION SHALL BE BINDING ON THE SUCCESSORS AND ASSIGNS OF THE PARTIES WITH REFERENCE TO THE SUBJECT MATTER OF THIS AGREEMENT.



EFFECTIVE DATE OF AGREEMENT

The effective date of this Agreement shall be the date upon which Wake County executes this agreement. This date shall be reflected in the first paragraph of this Agreement. The terms and conditions of this Agreement shall apply to the entire Term as set forth in Section 22 or as amended by the parties.



IN TESTIMONY WHEREOF, the County has caused this instrument to be executed by the Wake County Manager, and the Fire Department has caused this instrument to be signed in its name by its President, attested by its Secretary, and its corporate seal hereto affixed, all by authorization of its Board of Directors duly given.

This the _____ day of _____, 20_____.

WAKE COUNTY

BY: _____
David Ellis or designee
Wake County Manager

BY: _____
Darrell Alford
Wake County Fire Services Director

This instrument has been pre-audited in the manner required by the Local Government Budget and Fiscal Control Act.

Finance Director or designee

This person is responsible for monitoring the contract performance requirement is:

Darrell Alford _____ Department Head Initials

NAME

BY: _____
Board President



Appendix L – North Carolina Service District Process Documents:



LEE COUNTY PROTECTION SERVICE DISTRICT NCGS REPORT 2024

DIRECTORY:

- A – Framework Notation
- B – Background
- C – Statutory Report – Standards
- D – Statutory Report – Findings
- E – Statutory Report – Base Report
- F – Draft Resolution Calling for Public Hearing and Rate Cap
- G – Draft Example of Public Notice
- H – Disclaimer

Note that this document will need specific updates at the time of execution.



A. Framework Notation:

This written report below is positioned with the Lee County Board of Commissioners 1) adopting a resolution calling for a public hearing to consider adopting a fire protection service district and 2) also adopting a resolution enacting a provision in the North Carolina General Statutes declaring a rate cap for a fire protection service district.

B. Background:

As the cost of providing fire and rescue services within Lee County increases into the future, the Lee County Board of Commissioners will be considering creating a fire protection service district as the primary funding structure for the fire protection service delivery system within the unincorporated areas of Lee County. This service district will enable essential funding for the provision of fire and rescue services. This will be referred to as the Lee County Fire Protection Service District.

At the written request through adoption of individual municipal resolutions from the Town of Broadway, the municipal boundaries of Broadway is also being considered as integral components of the proposed Lee County Fire Protection Service District.

Consistent with North Carolina General Statutes (NCGS), the Lee County Board of Commissioners are positioned to hold a public hearing on **November 1, 2024**, to consider adoption of the fire protection service district for Lee County.

North Carolina General Statute 153A-302 requires that Lee County complete a written report prior to the Lee County Board of Commissioners holding a public hearing to consider adoption of such a unified service district. The NCGS requires that this report contain:

1. A map of the proposed district, showing its proposed boundaries.
2. A statement showing that the proposed district meets the standards set out in subsection (a) of NCGS 153A-302.
3. A plan for providing one or more of the services listed in NCGS 153A-301 to the district (which in this case is fire protection).

Furthermore, the NCGS requires that this report be available for public inspection in the office of the clerk to the board before the date of the public hearing.

C. Statutory Report - Standards:

For all areas of Lee County, North Carolina outside of municipal limits, NCGS 153A-301 would apply under provision (a) (2) Fire protection. To create such a service district, the Lee County Board of Commissioners must consider the following five (5) elements/standards:

- 1. The resident or seasonal population and the population density of the proposed district.**



Within the proposed Lee County Fire Protection Service District, the Geographic Information System (GIS) projects the new service district to be composed of approximately 32,269 persons in unincorporated areas plus residents of Broadway with 1,318 people. There are approximately 228 cumulative square miles (total square miles of 258 excluding 30 square miles of the City of Sanford) and an average density of approximately 191 persons per square mile, which is primarily rural population density.

Unincorporated Area of Lee County	32,269
Town of Broadway	1,318

Approximate Total Persons 33,587

(Source: State of North Carolina Office of State Demographer 2022 Certified Population)

2. The appraised value of property subject to taxation in the proposed district.

According to the Lee County Tax Office, the projected appraised valuation of the property to be included in the Lee County Fire Protection Service District for all areas outside of the City of Sanford is approximately **\$4,710,662,000**, which would be subject to taxation in the proposed new service district. This includes the unincorporated areas of Lee County and the municipal boundaries of Broadway.

3. The present tax rates of the county and any cities or special districts in which the district or any portion thereof is located.

Beyond Lee County's general tax rate and each of the participating municipality general tax rates, there are currently 8 fire protection service districts, each with a separate and individual rate. The mean average of the 8 protection service district rates is \$.11425 per \$100 valuation. There is a variance between \$.082/\$100 valuation (Tramway) to \$.127 per \$100 valuation (Cape Fear / Clearwater). The county's current FY 23-24 general tax rate is \$.65 per \$100 valuation, with a 98.850% collection rate.

Tramway:	\$0.082
Deep River:	\$0.108
Cape Fear:	\$0.127
Clearwater:	\$0.127
Northview:	\$0.090
Lemon Springs:	\$0.102
Carolina Trace:	\$0.128
Pocket:	\$0.150



4. The ability of the proposed district to sustain the additional taxes necessary to provide the services planned for the district.

The current tax rate levy for Lee County for FY 23-24 is \$.65 per \$100 of assessed valuation. The proposed service district tax will apply to all real and personal property in the service district that is subject to the county's general property tax(es). These taxes are subject to the state's general aggregate property tax limit of \$1.50 per \$100 valuation. The Lee County Board of Commissioners are positioned to voluntarily set a cap of \$.15 per \$100 valuation on the unified fire protection service district. Therefore, the county's current tax levy plus the maximum of the unified fire protection service district is under the state's maximum aggregate property tax limit. There is already a mean average of \$.11425 per \$100 valuation in place for the eight (8) existing fire protection service districts.

5. Any other matters that the commissioners believe to have a bearing on whether the district should be established.

Key dynamics are significantly changing in providing fire protection services in North Carolina, principally with shifts in volunteerism trends and with significantly increasing capital costs of providing fire protection and rescue services. Counties are seeking to utilize the most effective and efficient tools provided to them by North Carolina General Statutes to provide services to all residents in the unincorporated areas of the county, seeking to achieve the following goals:

- Establish sustainable funding long-term for the fire service in Lee County.
- Provide methods to increase funding needed for providing fire and rescue services. The current level of funding from Lee County plus additional contributions from some municipalities is not adequate to provide the essential tools, equipment, and necessary provisions to provide fire and rescue services to the people of Lee County into the future.
- Uniform inclusion and engagement by municipalities that choose to be a part of the unified service district across the county.
- Establish a more equitable level of dedicated fire service taxation across the unincorporated areas of Lee County to support these core, essential services.
- As an overall fire protection service delivery system in the Lee County jurisdiction, better meet the national service delivery standards for volunteer and combination fire departments.

The most common method that many progressive North Carolina counties have and are shifting towards to accomplish the above tasks is a unified fire protection service district encompassing unincorporated areas of the county (and those municipalities that choose to join the service district).



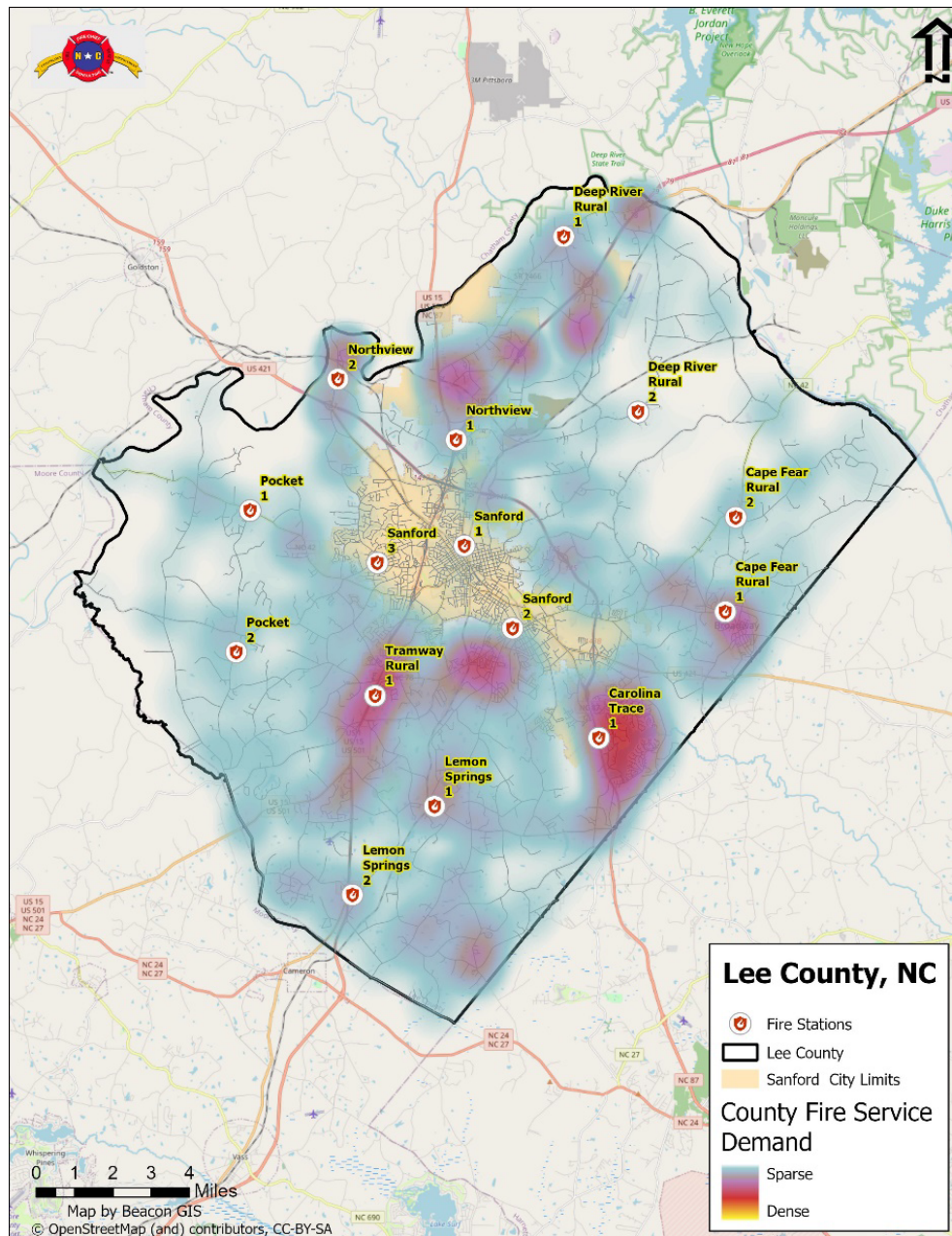
D. Statutory Report - Findings:

In reviewing the above five (5) items, the Lee County Commissioners must find that all the following four (4) conditions apply:

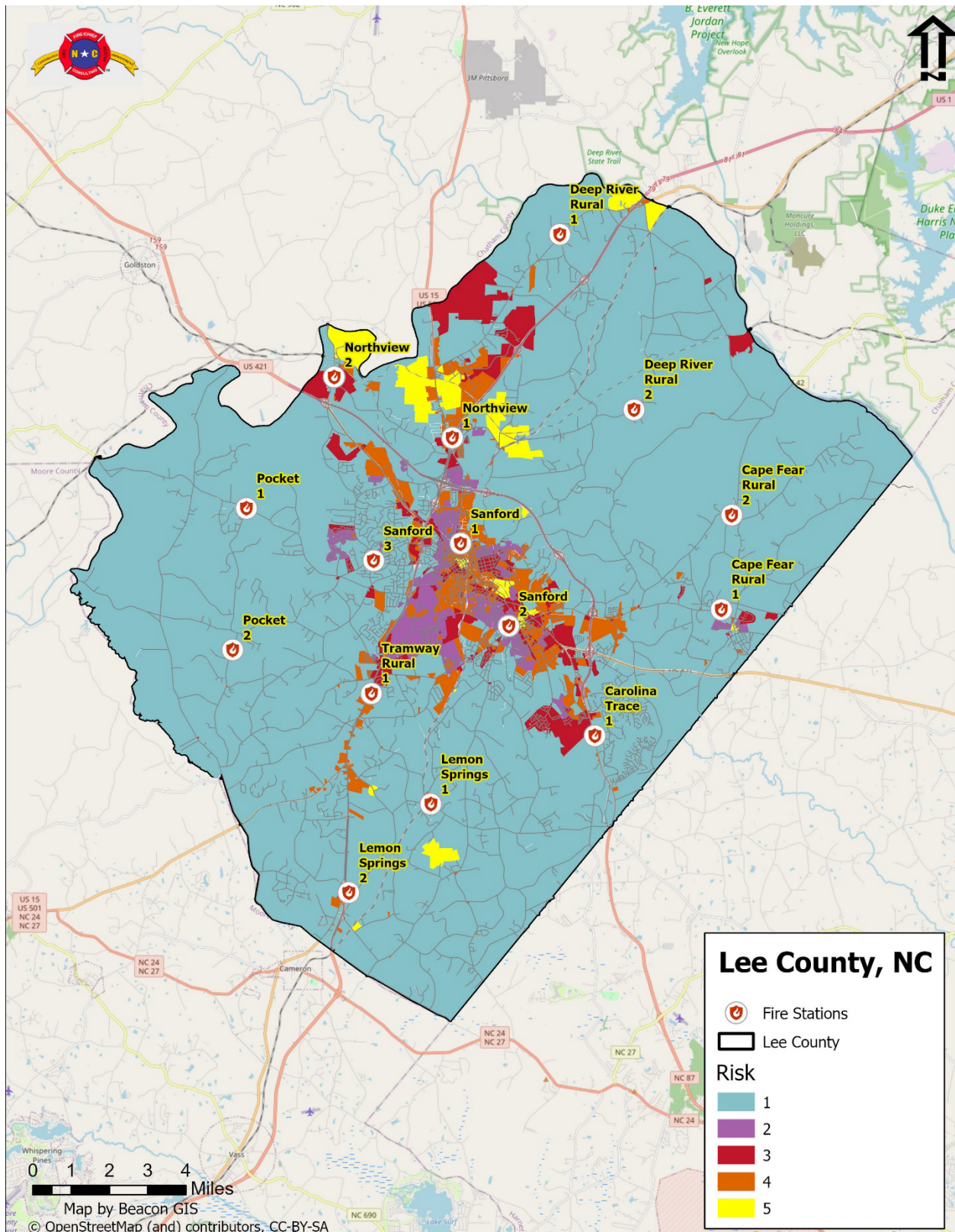
1. There is a demonstrable need for providing fire protection in the district.

Fire and rescue services are core, essential functions of local government in North Carolina. Lee County has traditionally contracted with private, non-profit corporation fire departments to provide fire protection and rescue services. Based upon the usage of these emergency services over a five-year study period of data, Lee County residents are very dependent upon the fire departments that serve and protect them. The graphic below depicts where emergency incidents are occurring in Lee County over a five-year review period.





Furthermore, Lee County has many high-risk properties, such as industrial and commercial properties, transportation corridors, and manufacturing facilities. Many of these high-risk properties fall outside of municipal boundaries as is evidenced by the graphic below, with high-risk locations located in most every fire district in Lee County. High-risk properties demand a high level of fire protection services to provide for public safety.



Therefore, Lee County has a strong need for fire and rescue services and a demonstrated hazard and risk demanding that there be adequate fire and rescue services to provide essential public safety in the unincorporated areas of Lee County.

2. It is impossible or impracticable to provide those services on a countywide basis.

Because for decades Lee County Government has outsourced most of the fire and rescue response services through a service contract with private, non-profit corporation fire departments and municipalities, Lee County is not in a position of ownership of fire apparatus, or fire station facilities. Furthermore, firefighting is a very labor-intensive responsibility and requires many firefighters to provide these essential services. Currently, Lee County does not have the fire apparatus, the fire station facilities nor the firefighters to adequately perform fire protection and rescue services in the proposed fire protection service district. Therefore, it is Lee County's desire to contract with private non-profit corporation fire departments and certain municipalities to provide these essential services in the service district area moving forward.

Furthermore, it is impractical to provide these fire and rescue services on a countywide basis because the City of Sanford operates a separate municipal fire department.

Because of all these factors, it would be completely impractical for Lee County to operate countywide fire and rescue services in the foreseeable future.

3. It is economically feasible to provide the proposed services in the district without unreasonable or burdensome annual tax levies.

With a total collective tax valuation of approximately \$4,710,662,000 for the area of consideration for the Lee County Fire Protection Service District, each cent of taxation will yield approximately \$471,066, assuming a 98.85% collection rate.

Moving forward, contracting fire departments in Lee County absolutely cannot sustain credible provision of fire and rescue services operations at this current level of funding, prompting the necessity for evaluation of the implementation of a fire protection service district for supplemental funding.

Funding from the Lee County Fire Protection Service District may only be able to be used to provide fire and rescue services within the service district. Additional local government funding may come into the service district through General Fund appropriation. However, NCGS prohibits any funds collected from the fire protection service district to be used for any other purpose than to provide fire and rescue services within the service district.

Current unmet needs in the Lee County fire protection service delivery system are many. Capital replacement of fire apparatus is currently needed within the service delivery system. Upgrade of fire apparatus, tools and equipment is needed in the system. Grant

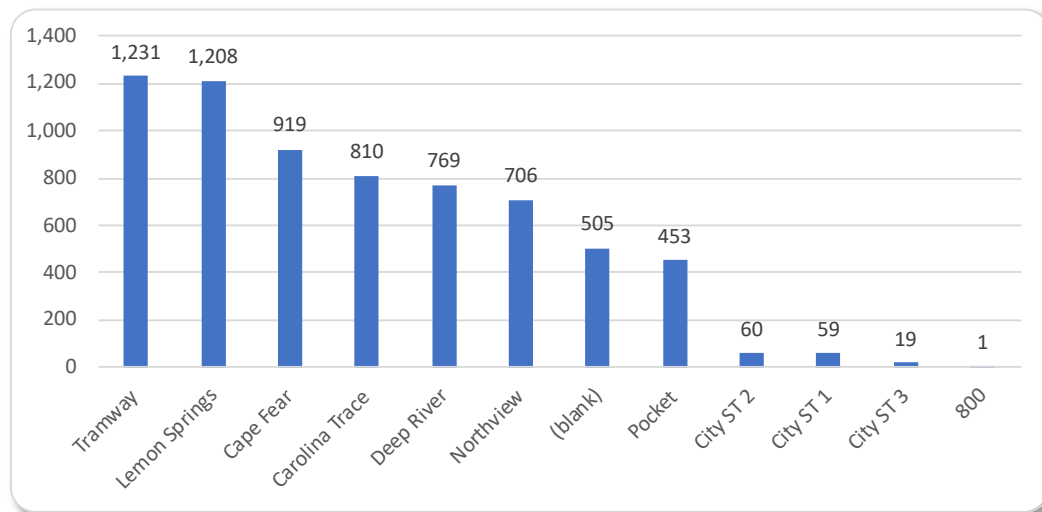


match funding is needed. Volunteerism incentive and staffing programs are needed for Lee County. Updating station facilities is also needed, among others.

The Lee County Board of Commissioners are positioned to take a voluntary, proactive step in setting a cap on the rate of the new unified fire protection service district at this time of \$.15 per \$100 valuation. This cap, as permitted by North Carolina General Statute, will ensure that the tax rate for property owners in Lee County who are included in the Lee County Fire Protection Service District will not have rates beyond that amount.

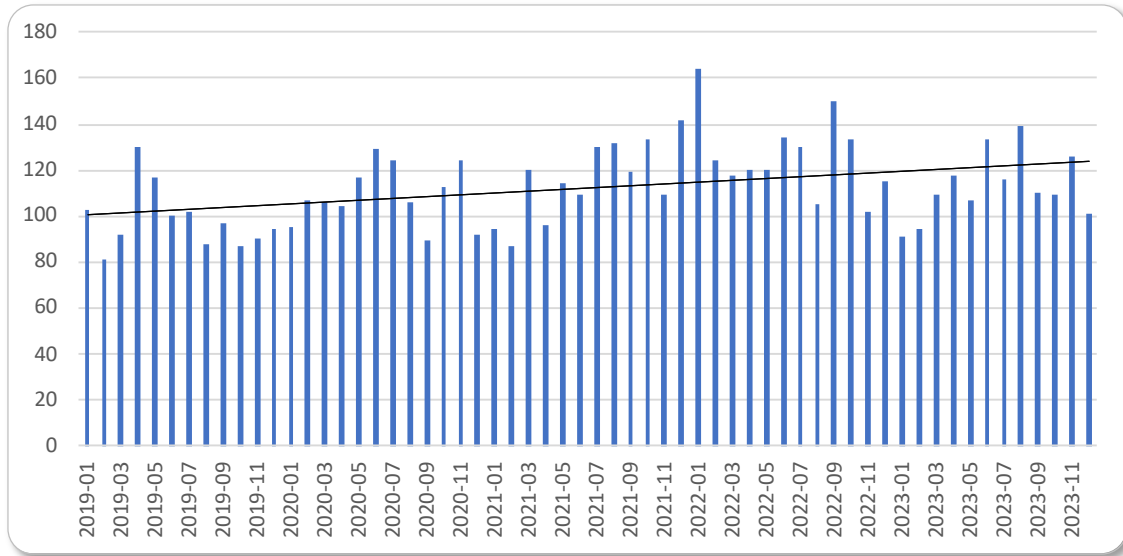
4. There is demonstrable demand for the proposed services by persons residing in the district.

The demand for the proposed fire and rescue services in the proposed fire protection service district is best evidenced by the number of emergency calls for service that consistently occur from residents calling 9-1-1 for emergency assistance with fire, medical or other emergency situations. The chart below for a six year period illustrates that emergency call volume is both consistent and increasing. Excluding the City of Sanford, fire departments have responded to approximately 6,740 emergency events. This would indicate that an average annual workload of approximately 1,100 events occur annually outside of the City of Sanford.



Furthermore, data from the six year review period, evaluating over 6,740 emergency events, indicates that the current fire protection service delivery system in Lee County is consistently performing in response to the emergency calls that occur.





Response Time is defined as the elapsed time from the fire department dispatch of the incident to the arrival of the first fire department unit, response time represents the total amount of time fire departments have direct control: turnout time and travel time of fire apparatus. While each of the two can be evaluated individually, the response time will be shown below.

Evaluating only emergency response events for the entire county yields 6,740 emergency incidents. The response time is represented in decimal format at the 80th percentile. **Overall, the Lee County Fire Departments have demonstrated their ability to provide a response time of 10.44 minutes (10 minutes 44 seconds) or less, on 80% of emergency incidents.**

As noted earlier, consistent with North Carolina General Statutes, Lee County municipalities who desire to do so may adopt a resolution requesting Lee County to include that municipality within the new Lee County Fire Protection Service District.

If a municipality chooses to be a part of the fire protection service district, the municipal property owners will be taxed at the same rate as the property owners in the unincorporated areas of the service district. However, there are no prohibitions for a municipality to provide additional funding beyond service district funding from the municipal general fund to support fire and rescue services within the municipality if the municipality desires to do so.

The one (1) Lee County municipality (Broadway) that has requested to become part of the Lee County Fire Protection Service District would be fully integral to the service district in every way.

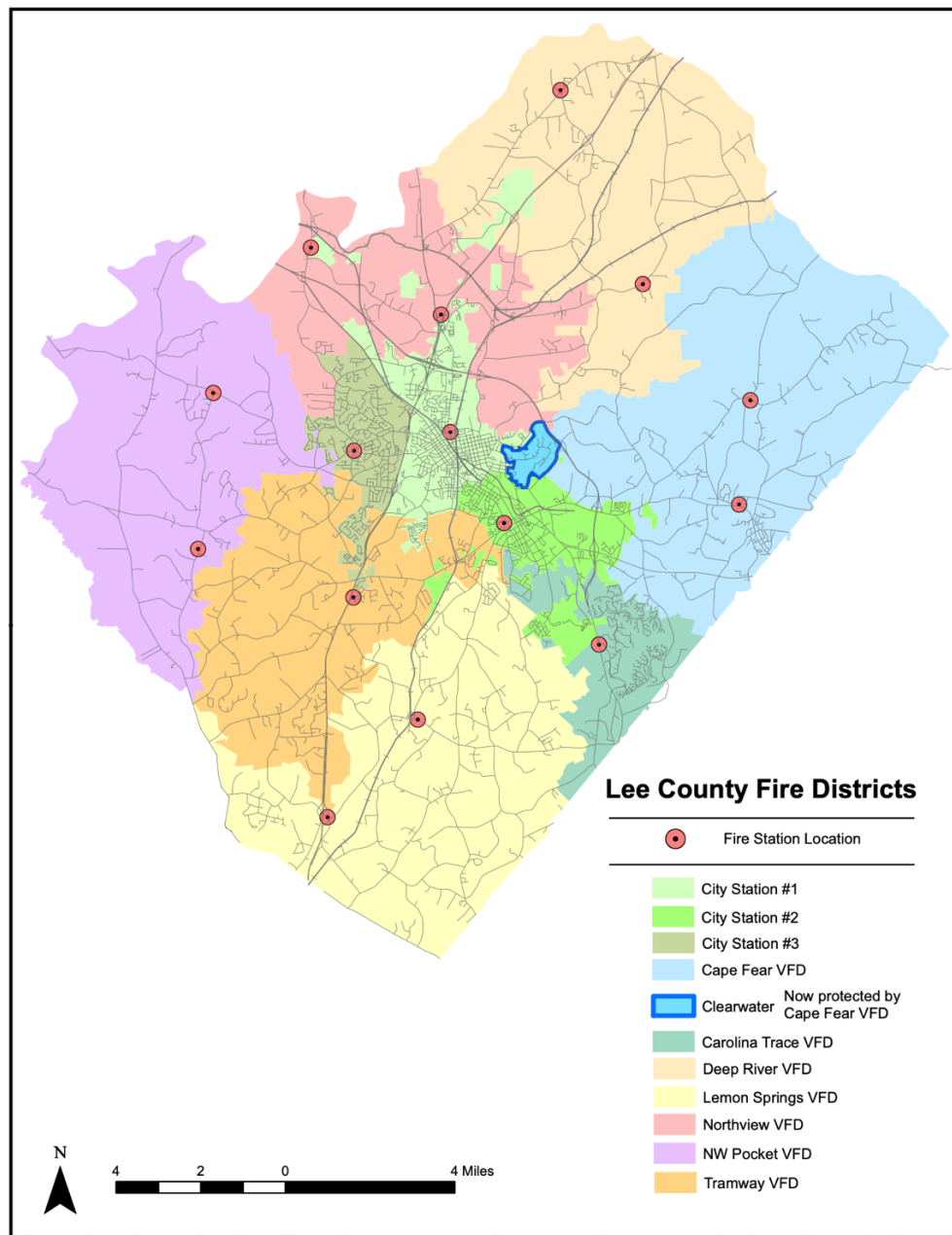


E. Statutory Report – Base Report:

To assist the Lee County Commissioners in making the above determination, a report is required to be generated addressing each of the above questions and providing relevant data. In addition, this report must also include the following three (3) components:

1. A map of the proposed district showing its proposed boundaries.

The proposed Lee County Fire Protection Service District will comprise all areas of Lee County outside of the following area: The City of Sanford.



2. A statement showing that the proposed fire protection service district meets the five (5) elements/standards as well as the four (4) key findings as outlined above.

The proposed Lee County Fire Protection Service District meets the five (5) elements/standards as defined in the North Carolina General Statutes in the following ways:

- 1) Within the proposed Lee County Fire Protection Service District, there are projected to be approximately 33,587 persons, approximately 228 square miles and an average density of approximately 191 persons per square mile. The service district will encompass the unincorporated area of Lee County as well as the Town of Broadway.
- 2) The projected appraised valuation of the property to be included in the Lee County Fire Protection Service District is approximately \$4,710,662,000 which would be subject to taxation in the proposed district.
- 3) Lee County's general tax rate is \$.454 per \$100 valuation, without all current fire protection service districts currently in the county currently at an average of \$.10 per \$100 valuation.
- 4) The current tax rate levy for Lee County for FY 23-24 is \$.65 cents per \$100 of assessed valuation. The proposed service district tax will apply to all real and personal property in the district that is subject to the county's general property tax(es). These taxes are subject to the state's general aggregate property tax limit of \$1.50 per \$100 valuation. The Lee County Board of Commissioners is positioned to voluntarily set a cap of \$.15 per \$100 valuation on the fire protection service district. Therefore, the county's current tax levy plus the maximum of the fire protection service district is far under the state's maximum aggregate property tax limit.
- 5) Lee County desires to establish a fire protection service district to provide more sustainable funding long-term for dedicated funding to support delivery of fire and rescue services in Lee County. Key needs are to address volunteerism trend changes and cost of essential equipment needed to provide fire and rescue services.



The proposed Lee County Fire Protection Service District meets the four (4) key findings as defined in the North Carolina General Statutes in the following ways:

- 1) As a core and essential function of local government, there is a clear and demonstrable need for fire and rescue services to be provided in the proposed fire protection service district.
- 2) Because of Lee County's history of contracting with private, non-profit fire departments and municipalities to provide fire protection services, it is impossible and impractical for Lee County Government to provide these services directly. The county intends to continue a professional relationship with providers through a performance-based contract.
- 3) Given the comparable tax rates across North Carolina utilized for fire protection, coupled with the Lee County Board of Commissioners proactive, voluntary action to cap the rate of the unified fire protection service district at \$.15 per \$100 at this time, it is economically feasible to provide these essential services in the new unified fire protection service district. It is also possible to phase in the implementation of the tax rate for the service district.
- 4) With response to over 6,470 emergency calls for service over the past five (5) years, residents in Lee County have a clear need for fire and rescue emergency assistance. This level of service has been consistent and with long-term population growth projections, it is anticipated that the call demand for emergency response will only continue to increase moving forward.

3. A plan for providing fire protection services to the single unified fire protection district.

Lee County plans to develop a performance-based contract and execute that contract with private, non-profit fire departments and municipalities on an annual basis in Lee County and in immediately surrounding areas where necessary for the provision of fire and rescue services. The contract is planned to represent a best practice document in North Carolina and will reflect similar documents used in other North Carolina counties.

F. Drafted Resolution Calling for Public Hearing and Rate Cap:

**RESOLUTION TITLE: CALLING A PUBLIC HEARING TO CONSIDER THE ESTABLISHMENT
OF A FIRE PROTECTION SERVICE TAX DISTRICT FOR ALL
UNINCORPORATED AREAS OF LEE COUNTY AND THE
MUNICIPALITY OF BROADWAY AND TO ESTABLISH A RATE CAP**

WHEREAS, fire and rescue service needs in the unincorporated areas of Lee County are growing and the costs of providing fire and rescue services are significantly increasing, especially considering personnel costs and capital expenses; and



WHEREAS, North Carolina General Statutes ("NCGS") § 153A-301 authorizes the Lee County Board of Commissioners (the "Board") to establish and define a service district in order to finance, provide, or maintain for the district certain services in addition to or to a greater extent than those financed, provided, or maintained for the entire County; and

WHEREAS, the Municipality of Broadway has been previously participating in earlier fire protection service districts and providing funding for fire and rescue services through their respective General Fund and each duly adopted independent resolutions, requesting the Lee County Board of Commissioners to include their respective municipal boundaries in the Lee County Fire Protection Service District for the purpose of providing fire and rescue services; and

WHEREAS, North Carolina General Statutes ("NCGS") § 153A-303 prescribes a process whereby municipalities may request the Lee County Board of Commissioners (the "Board") to consider including municipalities within the county's fire protection service district, which has been created in in order to finance, provide, or maintain certain services in addition to or to a greater extent than those financed, provided, or maintained for the entire County; and

WHEREAS, pursuant to NCGS 153A-302(b), the Board must cause a report containing certain specified information to be prepared and filed with the Clerk to the Board; and

WHEREAS, the Board is authorized by NCGS 153A-307 to levy additional taxes in a county service district to finance the level of service provided in the district that is not provided in the entire county; and

WHEREAS, NCGS 153A-309.2 provides specific provisions that counties may use in implementing fire protection service districts, and pursuant to that statute, the Board wishes to limit the amount of special taxes that may be levied in the proposed district; and

WHEREAS, the Board plans to hold a public hearing on **November 1, 2024** to consider implementing a fire protection service district to improve the funding structure of the fire protection service delivery system in Lee County; and

WHEREAS, the Board will consider establishing a single, unified fire protection service district that will encompass all unincorporated areas of Lee County as well as the municipal boundaries of Broadway that will provide essential funding for the provision of fire and rescue services; and

WHEREAS, those statutes referenced above authorize the Board to adopt a resolution within ninety (90) days of a public hearing and prior to the first publication of notice that property taxes within a new fire protection service district will not exceed fifteen cents (\$0.15) on each one hundred dollars (\$100) of property subject to taxation; and



WHEREAS, adoption of this resolution providing a cap of \$0.15 per \$100 valuation for the proposed unified fire protection service district represents the maximum amount of taxation that property owners in the unincorporated areas of Lee County and the municipality of Broadway would experience if the fire protection service district were approved.

NOW THEREFORE, BE IT RESOLVED BY THE LEE COUNTY BOARD OF COMMISSIONERS:

The Lee County Board of Commissioners resolve to call for a public hearing on **November 1, 2024**, to consider the establishment of a single, unified fire protection service district for all unincorporated areas of Lee County consistent with North Carolina General Statutes and

The Lee County Board of Commissioners give notice consistent with the North Carolina General Statutes that, if adopted, the property taxes within the new proposed Lee County fire protection service district will not exceed \$0.15 on each \$100 of property subject to taxation; and

BE IT FURTHER RESOLVED BY THE LEE COUNTY BOARD OF COMMISSIONERS:

That the Clerk to the Board is hereby directed to make such publications of the notice of public hearing regarding the proposed new service district as set forth in NCGS § 153A-309.2(b); and

The County Manager or his designee is directed to prepare a map of the proposed district, prepare and file with the Clerk to the Board the report required by NCGS 153A-302(b).

G. Drafted Example of Public Notice:

Lee County Board of Commissioners Public Notice

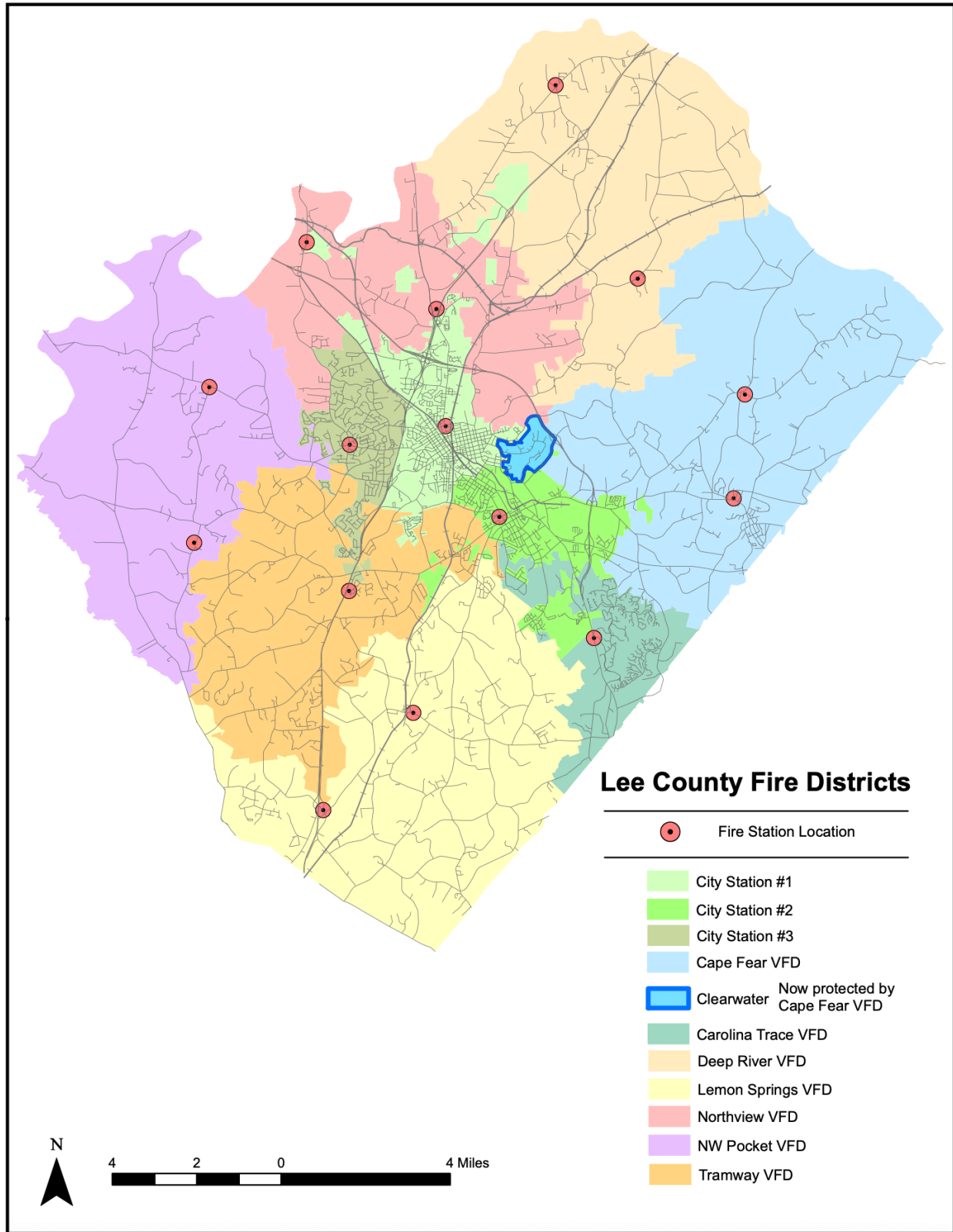
Notice is hereby given that, pursuant to the provisions of N.C.G.S. 153A-309.2, the Lee County Board of Commissioners will hold a public hearing during its regular Board Meeting on **November 1, 2024** at 6:00pm at the Lee County Government Center, 106 Hillcrest Drive, Sanford, NC on a proposal to establish a unified fire protection service district in Lee County outside of municipal limits and within the municipal limits of Broadway for the purpose of funding fire and rescue services in the unincorporated areas of Lee County and said municipality. A map of the proposed service district is found below. A report as required by N.C.G.S. 153A-302(b) is available for public inspection in the office of the clerk to the board. Questions should be addressed to the Lee County Manager. Any person wishing to comment in writing, prior to the public hearing, may do so by forwarding comments to the Clerk to the Board of Commissioners Hailey Hall at hhall@leecountync.gov Lee County strives to ensure that people with disabilities have equal opportunity to access its programs, services, and activities. If you



will require assistance to participate in a meeting of the Lee County Board of Commissioners, we request that you contact the Clerk to the Board at least 5 business days before the event.

The proposed Lee County Fire Protection Service District is to include all unincorporated areas of Lee County and the municipality of Broadway. It does NOT include the City of Sanford.





H. Disclaimer:

This project has been conducted by NC Fire Chief Consulting upon the written request of the Lee County, NC Government. The sole intent of this project is to improve, advance and strengthen the fire protection service delivery system in Lee County and the State of North Carolina. Persons involved in this report have contributed for the purposes of providing information, professional observations and recommendations to the county elected officials, management, and the fire service leadership. Recommendations included in this report are based upon professional experience and understanding of North Carolina state statute and current fire and rescue service best practices. Information contained within this document is not intended to be fully comprehensive, and recommendations are based on information available at this time. As with any project based on a snapshot in time, additional facts, local issues and/or changes in the facts could alter the conclusions and recommendations in this document. This document is solely to be utilized by local government and fire service officials for long-term decision making and planning purposes. It should not be utilized for any other purpose. No warranties or guarantees (express or implied) are provided. While this document will hopefully assist local officials in their deliberative and long-term planning process, it should be recognized that there are many local issues that may impact the ultimate decisions and what works for a particular jurisdiction. The ultimate decision-making lies with the appropriate local government officials.



Appendix M – Municipal Resolution to Join a Service District

**TOWN OF BROADWAY, NORTH CAROLINA
RESOLUTION INCLUDING THE TOWN OF BROADWAY WITHIN THE LEE COUNTY FIRE
PROTECTION SERVICE TAX DISTRICT
RESOLUTION NUMBER: _____**

WHEREAS; the Lee County Board of Commissioners (Board) intend to create a county service tax district for the purpose of financing fire protection as authorized in G.S. 153A-301, and;

WHEREAS; the Board intends to establish such a district as outlined in G.S. 153A-302, and;

WHEREAS; pursuant to G.S. 153A-302(a) territory lying within the corporate limits of a municipality or sanitary district may not be included in a county service tax district unless the governing body of the municipality or sanitary district agrees by resolution to such inclusion, and;

WHEREAS; expenses related to the provision of fire protection services are increasing due to increased fire facilities, staff, and apparatus required to maintain service levels, and;

WHEREAS, the Town of __Broadway_ desires to be included in the Lee County Fire Protection Service Tax District, and

WHEREAS; Lee County will contract for fire protection services within the boundaries of the fire protection service tax district, and;

WHEREAS; all citizens within the corporate limits of _Broadway_ will be taxed at a uniform rate established by the Lee County Board of Commissioners for the fire protection service tax district;

NOW THEREFORE BE IT RESOLVED; the __Broadway_ Town Council hereby declare their desire to be included within the Lee County Fire Protection Service Tax District and authorize a limit in the rate of tax being levied to a maximum of fifteen cents (\$0.15) on each one hundred dollars (\$100.00) of property subject to taxation consistent with the limitations of G.S. 153A-307.



Adopted this _____, 2024 while in regular session.

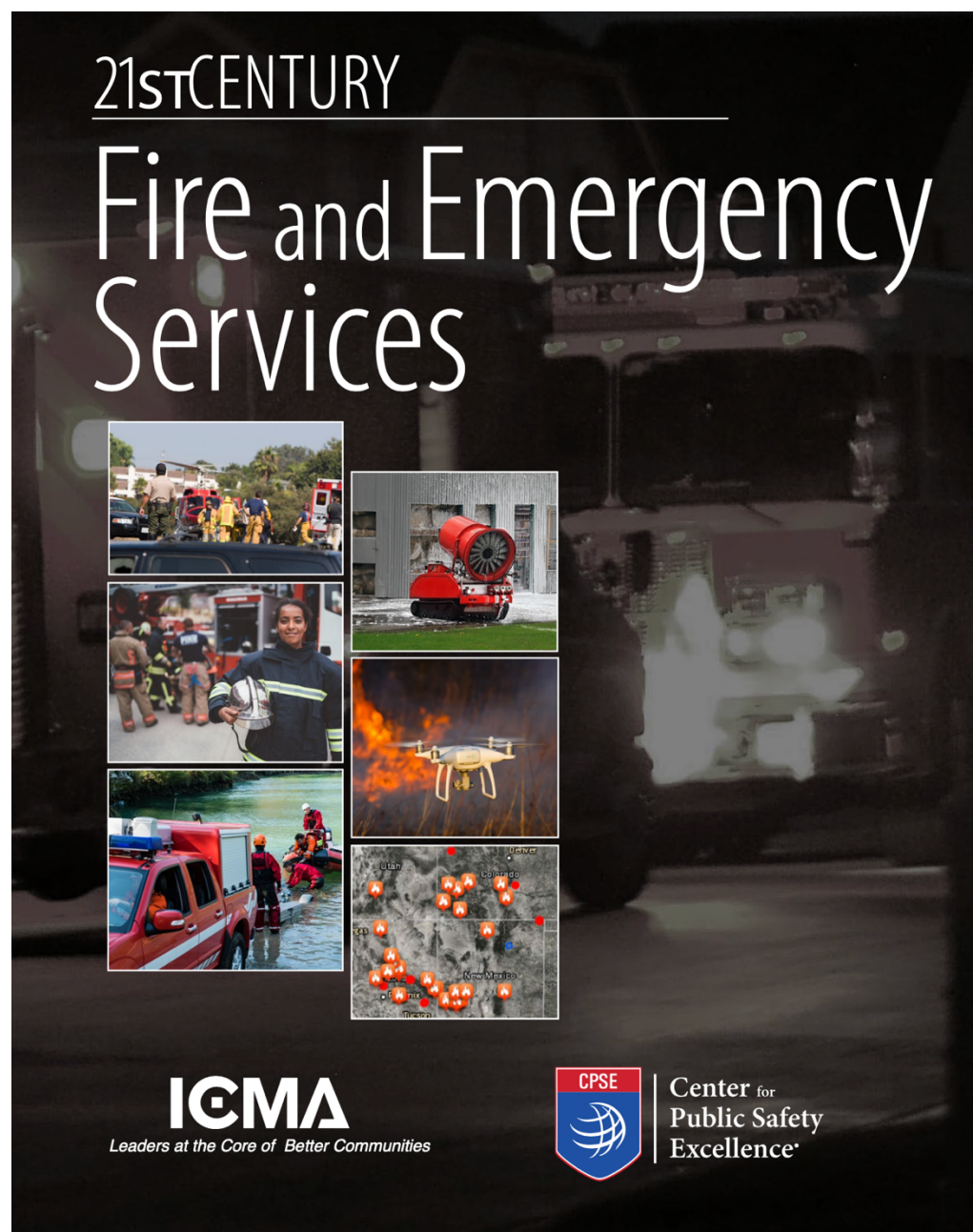
ATTEST:

_____ Town Clerk _____
Mayor



Appendix N – 21st Century Fire and Emergency Services

Below are excerpts from the 21st Century Fire and Emergency Services that are relative to this review.



CRITICAL ISSUE E:

PARTNERSHIPS

A partnership is often thought to be a form of business, where two or more people come together to share ownership, responsibility, and profits from a given business venture. In every community across our nation, a partnership exists between the fire and emergency services and the general public that is built upon a shared commitment to the health and safety of its residents. The fire and emergency services are in an enviable position in communities, as they are well positioned to be the hub of service provision for many supporting services already found within their community, and that align with organization's core mission. The importance of this has been clearly proven during homeland security threats, through the interagency cooperation, intelligence sharing, and joint response to those events by law enforcement and the fire and emergency services. There are significant opportunities to create partnerships with allied health care, mental and behavioral health providers, and various social service agencies to leverage the talents of each agency with a focus on improving service to the community. Too often agencies respond multiple times to the same individual who calls 911 as their only known access for assistance, when the need is truly not an emergency, but could be met by another service provider in the community. Over the next 30 years, the fire and emergency services will need to partner with related service providers to create a local response network that can provide a host of services under the umbrella of a multifaceted organization, if it hopes to meet the needs of the community served.



Initiative 1: Acknowledge the need to work with a wide range of partners to serve the community and develop local strategies to create new approaches to providing services more effectively.

Strategies:

1. Inventory and leverage the allied services (law enforcement, health, social services, non-governmental organizations) in the community to provide more effective and efficient services.
2. Partner with insurers and health providers to innovate existing response strategies, improve patient outcomes, and reduce system costs.

Initiative 2: Promote a symbiotic relationship with other internal departments and outside agencies that are routinely allied responders to an incident.

Strategies:

1. Routinely meet, train, develop standardized operational response plans, and share real-time intelligence of what is happening in communities with allied responders to increase response capability and coordination during a homeland security event.
2. Develop goals and outcomes with a wide array of agency stakeholders, both internally and externally, to meet the objective of providing for a safe and healthy community.
3. Promote regular communication between all stakeholders on strategic issues, while continuing to handle operational issues through the established chain of command.
4. Develop opportunities for stakeholders to appreciate the roles and responsibilities of all other stakeholders toward better alignment of service delivery.

Initiative 3: Continue to expand community emergency response capabilities.

Strategies:

1. Promote individual and neighborhood self-sufficiency through existing programs (e.g. community emergency response teams, the radio amateur civil emergency service, volunteers in patrol, and senior Medicare patrol volunteers) to create greater resiliency in the community.
2. Focus on creating personal accountability in preparation for community-wide emergencies.
3. Identify and support community functions that are critical for recovering from and adapting to community-wide disasters.



CRITICAL ISSUE F:

SUSTAINABILITY

Sustainability is often defined as meeting the needs of the present without compromising the ability of future generations to meet their needs. The concept of sustainability has three pillars: economic, environmental, and social. If we look through the lens of local government today, there are reasons to be concerned that local government may not be sustainable in the future. Many agencies across the United States are struggling with the cost to provide services at the levels needed to meet a growing population, an aging population, and a population with changing service demands. Those cost pressures are exacerbated by unfunded pension costs along with and the cost to maintain and replace aging infrastructure and response vehicles. Shifting responsibilities from federal and state governments to the local level have forced many local governments to provide new services. These factors have placed tremendous strain on local government to balance ever growing service demands with funding available within their jurisdiction. This will be an on-going issue and will necessitate doing business differently in the future, not only in the fire and emergency services but throughout all services provided by local government as well.

The volunteer fire service has struggled in the last decade in many parts of the United States to recruit and retain enough volunteers to provide adequate services. With the mission of providing services to more than 70 percent of U.S. jurisdictions, volunteer recruitment and retention is becoming a national problem.

Today business, government, and society are learning from the science of change that they must recreate themselves even when they would like to believe the old way of business will go on forever. As Peter Drucker put it, "the best way to predict the future is to create it." The future of the fire and emergency services will rest upon those who are in it. If the fire and emergency services hope to sustain itself in the future, it must be willing to redesign itself and address the issues that are having a negative impact on the service today. Failure to address these issues will lead to what author Max Bazerman calls "predictable surprises." Predictable surprises are those events or outcomes that catch us by surprise, yet both were predictable and preventable. If this occurs, the fire and emergency services will be placed at risk to continue to be the community's safety net. Ultimately, local government will be faced with making difficult choices about how to provide the services needed and the level of services to be provided. That is why the issue of sustainability is so important and must be addressed now, rather than being left to the next generation of leaders to resolve.



Initiative 1: Address aging fire and emergency services vehicles and building structures.

Strategies:

1. Establish a comprehensive building renewal and replacement plan and provide the needed funding to address the short- and long-term community needs.
2. Urge the architectural profession and equipment manufacturing industry to anticipate and plan for the future designs needed by the fire and emergency services to address changes in response and deployment methods, building constructions, building densities, road infrastructure, and SMART cities and SMART building design.

Initiative 2: Reconsider and revamp current deployment methods.

Strategies:

1. Ensure response protocols and opportunities for consolidation are explored to ensure effectiveness of service delivery is balanced with cost efficiency.
2. Adopt staffing models based on statistically known call demand factors, such as time of day, special events, and seasonal changes while maintaining an adequate baseline deployment required to meet the health and safety needs of the community and employees.
3. Evaluate consolidation of seldom used specialty and single-purpose pieces of equipment to maintain effective cost management and capacity of those services for the threat environment that exists within the jurisdiction.
4. Develop a better understanding of community needs and their changing demands for services so as to modify the service delivery model(s) to meet them.

Initiative 3: Develop sustainable pension model.

Strategy:

1. Promote collaboration between labor groups, local government, and state government to ensure existing pension financial commitments are met while ensuring adequate service levels within the communities being served.

Initiative 4: Adopt and implement a community risk reduction strategy

Strategies:

1. Embrace a comprehensive strategy to minimize incidents and, if an incident does occur, to minimize the impact on the people, the community, and the emergency responder.
2. Adopt the concepts outlined in "Vision 20/20 – National Strategies for Fire Loss Prevention," and incorporate these recommendations into the daily agency operation to minimize the impacts to the community and emergency responders.
3. Develop strategies locally and nationally that reduce risk through proper vegetation management, designing new fixed fire protection systems that can be used in wildland urban interface, and zoning changes that prohibit building in the wildland urban interface.
4. Embrace the use of fire sprinkler technology in all buildings through the rapid adoption of codes and ordinances at the federal, state, and local government levels to dramatically reduce the incidence of deadly and costly fires.
5. Urge the sprinkler industry to develop a more cost-effective means to retrofit existing buildings with sprinklers or other fire suppressant technology.
6. Develop standards and a tiered code methodology that would support a phased in retrofit plan for existing buildings.



Initiative 5: Improve resource allocation by focusing on the outcomes trying to be achieved.

Strategy:

1. Evaluate resource allocation using department response data.
2. Alter deployment methods to assure better outcomes and desired services levels for communities including EMS, community paramedicine, or increased prevention efforts.

Initiative 6: Examine fixed costs associated with current delivery models and associated contracts.

Strategy:

1. Negotiate labor contracts with the flexibility to promote innovation in service delivery and servicing models, while still providing a fair and equitable wage, benefit, and pension package for the workforce that is economically sustainable.

Initiative 7: Explore public/private partnership opportunities.

Strategies:

1. Solicit success stories and best practices of effective public/private partnerships related to capital investments and operating costs.
2. Create, maintain, and regularly update a national repository of best practices available to all agencies at no cost.

Initiative 8: Research strategies to assist communities in sustaining their volunteer fire and emergency services or, if needed, how to transition to a new model.

Strategy:

1. Champion the establishment of a federal commission to develop a national plan of action to ensure volunteer fire and emergency services agencies remain viable in the future.

Initiative 9: Dramatically revamp the fire and emergency services education and training model to provide the needed skill sets, knowledge, and abilities required for the anticipated changes in the future and to remain current with the application of emerging technologies.

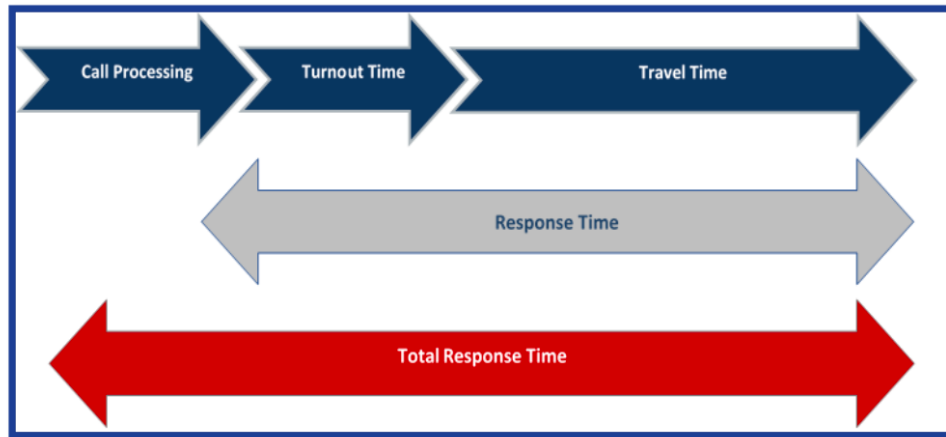
Strategy:

1. Urge academic institutions to develop the means to speed up their course development model and to be able to quickly adapt and develop new courses that will be required to sustain the needed workforce skill sets.
2. Encourage academia to use of state-of-the-art technology to meet the educational learning styles of future generations.

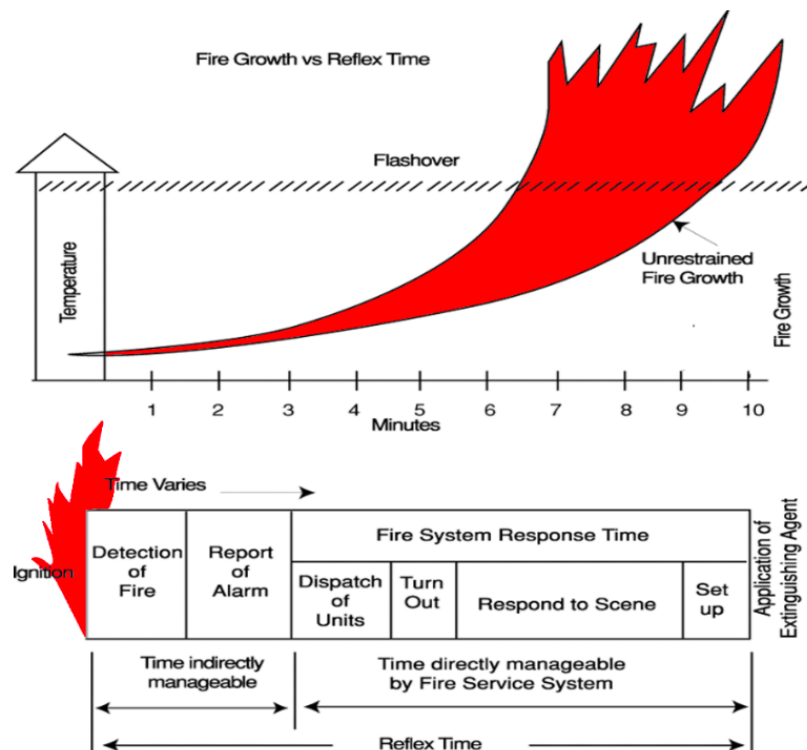


Appendix O – Select Fire Service Visual Data Points Applicable to the Lee County Analysis:

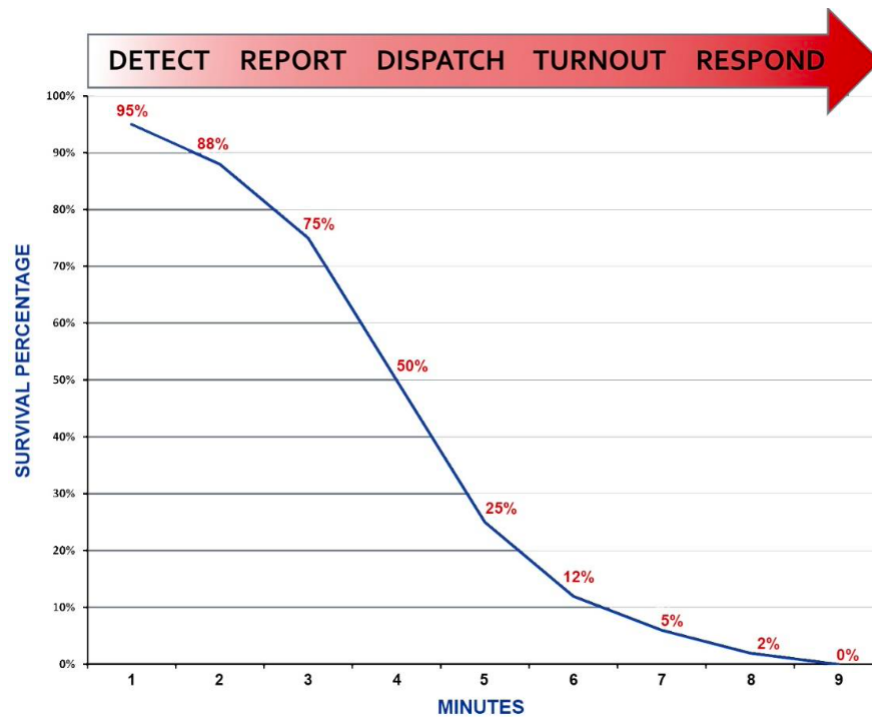
Total Response Time Continuum:



Fire Growth and Reflex Time:



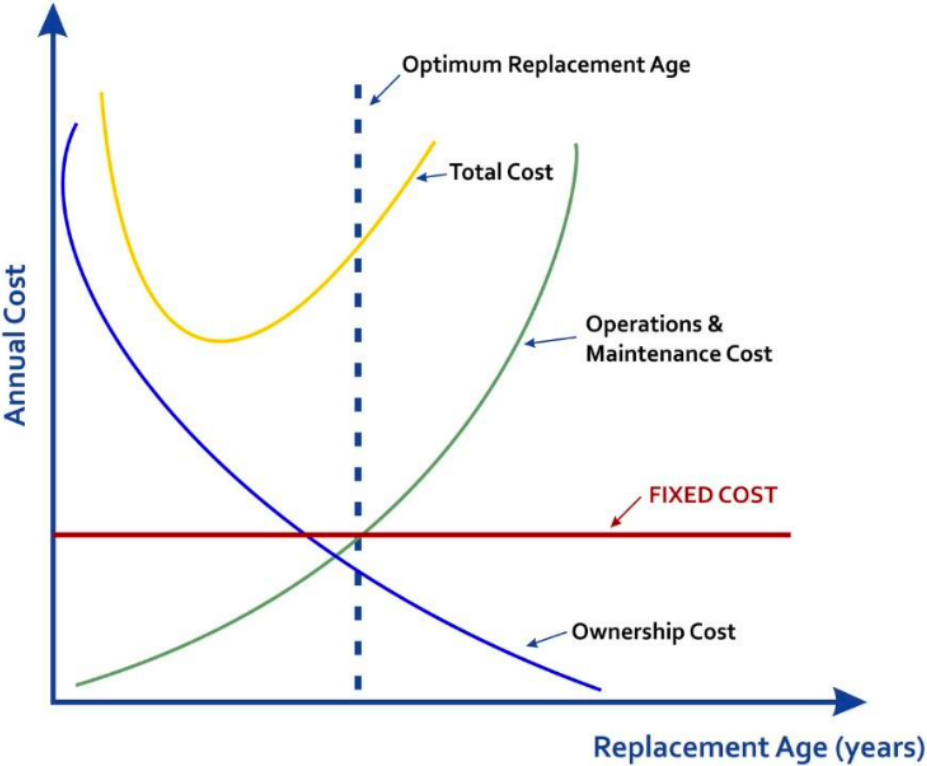
Cardiac Arrest Event Sequence:



NFPA 1710 Initial Full Alarm Assignments:

2,000 SF Residential Structure Fire		Open-Air Shopping Center (13,000 SF to 196,000 SF)		1,200 SF Apartment (3-story garden apartment)	
Incident Commander	1	Incident Commander	2	Incident Commander	2
Water Supply Operator	1	Water Supply Operators	2	Water Supply Operators	2
2 Application Hose Lines	4	3 Application Hose Lines	6	3 Application Hose Lines	6
1 Support Member per line	2	1 Support Member per line	3	1 Support Member per line	3
Victim Search and Rescue Team	2	Victim Search and Rescue Team	4	Victim Search and Rescue Team	4
Ground Ladder Deployment	2	Ground Ladder Deployment	4	Ground Ladder Deployment	4
Aerial Device Operator	1	Aerial Device Operator	1	Aerial Device Operator	1
Rapid Intervention Crew	4	Rapid Intervention Crew	4	Rapid Intervention Crew	4
		EMS Care	2	EMS Care Crew	2
Total	17	Total	28	Total	28

Economic Theory of Vehicle Replacement:



Illustrative Evaluation Components and Points for Fire Apparatus Replacement:

Evaluation Components	Points Assignment Criteria	
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 hours	
Service	1 point for Light Duty use 3 points for Normal Duty use 5 points for Severe Duty use Example: Fire Pumpers are classified as severe duty service.	
Condition	1 point: Excellent 2 points: Good 3 points: Fair 4 points: Poor 5 points: Severe accident or major component replacement This category takes into consideration body condition, interior condition, accident history, anticipated repairs, etc. The better the condition, the lower the points assignment.	
Reliability	1 point: In the repair shop once every three months or less 3 points: In the repair shop once every month 5 points: In the repair shop two or more times per month	
Point Ranges	Condition Rating	Condition Description
Under 18 points	Condition I	Excellent
18 to 22 points	Condition II	Good
23–27 points	Condition III	Consider Replacement
28 points or higher	Condition IV	Immediate Replacement



Appendix P – Project Staff

Gregory H. Grayson, Fire Chief (ret), City of Greensboro, NC

Greg Grayson has more than 41 years of progressive experience in the North Carolina fire and rescue service. His experience includes beginning public service as a volunteer firefighter and ascending the career ranks to become the Fire Marshal/Fire Rescue Director for Wake County, North Carolina. In the following seventeen years, he served as the fire chief for three North Carolina urban cities – Burlington, Asheville, and Greensboro. In these executive leadership capacities, he was responsible for comprehensive fire and rescue operations, prevention programs, training and career development, emergency management functions and specialized regional response teams. In Burlington, he effectively led positive organizational change and implemented an innovative reserve firefighter program. In Asheville, he commanded significant re-engineering throughout the fire department and led Asheville to become an accredited agency. In Greensboro, he led the department to maintaining both accreditation and ISO “Class1” status and navigated the department through difficult fiscal years and challenging large-scale emergencies. In 2015, his long-term, dedicated public service to the people of North Carolina was recognized by the Governor through the prestigious “Order of the Long Leaf Pine”, the state’s highest honor that can be awarded to a citizen.

Upon retiring from local government service, Chief Grayson was appointed by the State Fire Marshal in 2015 to proactively serve as the state’s first and only public fire service management consultant, providing high level technical assistance to county and municipal managers - enabling them to better strengthen their jurisdiction’s fire protection service delivery systems. He also managed statewide fire service advancement initiatives and led the Office of State Fire Marshal’s Technical Services program.

Beyond extensive experience, Chief Grayson holds a Master of Public Administration, bachelor, and associate in fire protection. He holds numerous professional credentials including Chief Fire Officer (CFO), MIFireE from the Institution of Fire Protection Engineers and multiple other fire service certifications, including being North Carolina’s first Advanced Firefighter. He is one of very few, if not the only, Fire Chief in the United States to also hold the Senior Professional in Human Resources (SPHR) and SHRM-SCP credentials. He is active in the North Carolina Association of Fire Chiefs and the IAFC Metropolitan Fire Chiefs organizations and continues to serve as a volunteer firefighter in his home community.

David Bullins, Fire Chief (ret), Statesville, NC

David Bullins has served the NC fire service since 1982. His career started as a volunteer in the rural Piedmont area and ended as a career municipal fire chief in the foothills of the state. Chief Bullins served the Summerfield Fire Department as a volunteer and was the first paid firefighter on their roster. His career continued with



the City of Greensboro Fire Department where he rose through the ranks serving as firefighter, captain, battalion chief, and planning & research officer. Part of his career with Greensboro Fire Department was that of Training Officer. Chief Bullins was appointed to the position of Fire Chief for the City of Statesville in 2007. After retiring in 2014 from the fire service, he continued his training and education goals by serving as the Fire and Emergency Management Department Chair for Guilford Technical Community College. He now serves as the Director of Public Safety for Mitchell Community College in Statesville, N.C. and teaches fire technology and emergency management throughout the state. Chief Bullins has a master's degree from Oklahoma State University in Fire & Emergency Management Administration, a bachelor's degree from the University of Cincinnati in Fire & Safety Engineering Technology, and associate of applied science degree from Guilford Technical Community College. He also is a graduate of the National Fire Academy Executive Fire Officer Program and is designated as a Chief Fire Officer (CFOD) from the Center for Public Safety and Excellence.

Todd Tuttle, Assistant Chief (ret), Greensboro NC

Chief Tuttle is a 33-year fire service veteran who also served as a paramedic. For the last half of his career, he managed the intricate records management systems for the City of Greensboro Fire Department, which is an accredited, ISO Class 1 city. These duties included CAD, mobile data, AVL, FireHouse, GIS technologies, Accreditation, performance management and many other related areas. Chief Tuttle is recognized throughout the state and nation as a technical expert on Firehouse records management systems as well as data analysis.

Barry Hendren, Assistant Chief (ret), City of Asheville, NC

Chief Hendren recently retired from Asheville Fire Department at the Assistant Chief level after more than 33 years of municipal fire protection experience. Chief Hendren was instrumental in developing and leading the department's training programs, accreditation efforts and served in a leadership capacity most of his career in Asheville. Chief Hendren was responsible for all shift operations, strategic planning, fire marshal's office and EMS program in his role.

Chief Hendren earned an associate degree in fire protection from Central Piedmont Community College and earned his Bachelor in Fire Protection Engineering Technology from UNC Charlotte. He has held the Chief Fire Officer Designation since 2008.

Wes Hutchins, Fire Chief (ret), Walkertown, NC

Chief Hutchins currently serves as the Executive Director of the North Carolina Association of Fire Chiefs. Previously, he served as the Dean of Emergency Services for Forsyth Technical Community College. He also served for near 44 years as Fire Chief for Walkertown Fire Department, where he now serves as a Town Council Member. He holds a master's in public administration Degree from Grand Canyon



University, a bachelor's from Gardner-Webb University and an Associate in Fire Protection from Guilford Technical Community College

Robert McNally, Beacon GIS Partner, Monroe, NC

A GIS Analyst/Planner with niche specialty and ground experience for Fire, Rescue, EMS, Public Safety, Emergency Management, and Homeland Security projects, Robert owns Beacon GIS, a first responder planning services firm. Robert brings 20 years of public safety experience as a responder, manager, and trainer. He has been awarded twice for his service to the community. He graduated magna cum laude with bachelor's degree in public administration, securing an honor scholarship while during his education. Robert also has a graduate degree in Urban and Regional Planning from the University of North Carolina at Charlotte. Robert McNally has spoken at several conferences about public safety and homeland security and Beacon GIS has been involved in over 180 projects for emergency services of various sizes across the United States & Canada.

Scott Burnette, Fire Chief (ret), City of Asheville, NC

Chief Burnette recently retired from Asheville Fire Department after more than 30 years of municipal fire protection experience, the last 14 as Fire Chief. Chief Burnette has also served as Fire Chief of the Mills River Fire Department in Henderson County. Chief Burnette led the Asheville Fire Department's initial accreditation effort as accreditation manager and continued to achieve accredited agency status for the department multiple times. He led the department through a tragic line-of-duty death in 2010. Chief Burnette implemented many innovative and progressive programs in his tenure in Asheville and led in the development and construction of Fire Station 13, increasing department staffing and opening a model regional fire training facility.

Chief Burnette has remained a certified and practicing North Carolina Paramedic and continues to serve with Henderson County EMS as a Paramedic responder. Chief Burnette has earned an associate degree in fire protection from Gaston College, was in the first graduating class of the University of North Carolina at Charlotte Fire Protection Engineering bachelor's degree program, graduating with honors, and received a master's degree in fire service leadership. He has held the Chief Fire Officer Designation since 2008.

Nick Campasano, Fire Services and Emergency Manager Director (ret.), Wake County, NC

Chief Campasano brings over 40 years of experience to the team of fire service leadership, most recently as the Director of Fire Services and Emergency Management for Wake County as they have progressed to a best practice fire service delivery model system in North Carolina. He began his fire service career in 1982 as a volunteer for the Goffstown, NH fire department. He began his full-time



career with the City of Manchester, NH in 1985 and served for thirty years, advancing through the ranks, and retiring as a Deputy Chief.

In addition to his fire service experience, Chief Campasano was elected to and served three terms as one of the five-member Board of Selectmen, the governing body for the Town of Goffstown, New Hampshire.

Educationally, he holds a Bachelor of Science degree in Human Services and a Master of Science degree in Organizational Management and Leadership, both from Springfield College. He also holds a Master of Arts degree in Homeland Security and Defense from the United States Naval Postgraduate School. In addition, Chief Campasano earned and holds the international professional designation of Chief Fire Officer by the Commission on Professional Credentialing, through the Center for Public Safety Excellence.





North Carolina Fire Chief Consulting
www.NCFireChief.com
336-266-7998



¹ United States Fire Administration, National Fire Data Center, Fire Risk in 2019

² U.S Census Bureau.

³ U.S. Fire Administration website

⁴ National Fire Protection Association, Home Fire Victims by Age and Gender, December 2021.

⁵ Bureau of Labor Statistics, Education pays, 2022, website, <https://www.bls.gov/careeroutlook/2023/data-on-display/education-pays.htm>

⁶ 2020 Cape Fear Regional Hazard Mitigation Plan.

⁷ US Corps of Engineers, National Levee Database, <https://levees.sec.usace.army.mil/#/map-viewer>

⁸ U.S. Cybersecurity & Infrastructure Security Agency, <https://www.cisa.gov/critical-infrastructure-sectors>.

⁹ NC DOT Annular Average Daily Traffic Mapping Application, <https://connect.ncdot.gov/resources/State-Mapping/Pages/Traffic-Volume-Maps.aspx>

¹⁰ Federal Railway Administration Crossing Viewer website.

¹¹ Genesee & Wyoming Inc. website, <https://www.gwrr.com/atw/>

¹² Vision 20/20, Community Risk Assessment guide

