



Town of Wake Forest, North Carolina Fire Department Feasibility Analysis

August, 2019



A Progressive North Carolina Local Government Initiative Compiled and Presented by:



336-266-7998

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

<u>Directory/Index:</u>	<u>Page</u>
1. Executive Summary	3
2. Background/Process	
A. Core Goals and Directives	13
3. Review of Stakeholder Input:	
A. Wake Forest Fire Department Board of Directors	18
B. Town of Wake Forest Elected Officials	21
C. Wake Forest Firefighters	23
D. Observations and Recommendations	28
4. Human Resource Related Impacts:	
A. Overall Observations	31
B. Delta of Compensation and Benefits	37
C. Special Fair Labor Standards Act (FLSA) Considerations	55
D. Associated Recommendations	63
5. Capital Resource Impacts:	
A. Existing Fire Facilities	66
B. Existing Fire Apparatus	88
C. Insurance Considerations	113
D. Capital Improvement Planning	115
E. Observations and Recommendations	116
6. Operational Impacts:	
A. Standard of Coverage Analysis	133
B. Insurance Rating Analysis	144
C. Policies and Agreements	148
D. Observations and Recommendations	152
7. Financial Feasibility Analysis:	
A. Delta of Fiscal Measurements FY 20-21	157
B. Projected Delta of Fiscal Measurements - Future Years	163
C. Performance Measurement Considerations	164
8. Support Documents:	
A. Support Document Inventory	168
B. Support Documents - Appendix A through Appendix L	169-223
C. Disclaimer	224

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

1. EXECUTIVE SUMMARY

The Town of Wake Forest, like many North Carolina municipalities, is experiencing transition and growth in service demand, which is increasing complexity of providing core local government functions, such as fire and rescue services. When dynamics change, so must the infrastructure and systems that enable and support those basic functions. These “growing pains” are a natural progression of the maturation of a unit of local government, and are not unique to Wake Forest. However, with the progressive request of the Board of Directors of the Wake Forest Fire Department, Inc (a private not for profit corporation) the Town of Wake Forest has proactively stepped forward to provide due consideration to the potential of consolidating and unifying the Wake Forest Fire Department into the municipal government corporation of the Town of Wake Forest. Innovatively, the Town of Wake Forest requested specialized assistance from EnviroSafe, a North Carolina management consulting firm that specializes in local government public safety services and serves as the sole fire consulting provider for the North Carolina League of Municipalities to conduct investigative work around several aspects of this potential unification of the Wake Forest Fire Department, Inc. into a department of the Town of Wake Forest.

Report Synopsis:

The Wake Forest Fire Department is a progressive organization and is providing credible service to the people of Wake Forest. However, the current systems are not sustainable long-term as the Town continues with rapid growth and complexity increases. It is the assessment team’s recommendation that in the best interest of the people of Wake Forest, the fire department become part of Wake Forest Town Government. Many Wake Forest residents may not even recognize that their firefighters are not currently part of Town Government. Time is needed to properly transition that unification with a mirage of human resource and operational considerations. Costs to operate the fire department as a part of the Town will be higher in the years ahead. However, provision of fire and rescue services are core, essential elements of local government responsibility. With those additional costs, effectiveness, efficiency and sustainability can be strengthened, resulting in improved outcomes over time.

Purpose:

This independent, third-party, comprehensive analysis of the Wake Forest Fire Department is designed to empower the Wake Forest Fire Department Board of Directors and Town of Wake Forest elected officials with information to make responsible, long-term decisions that are in the best interest of protecting and servicing the people of Wake Forest, North Carolina.

The decision of the Town to fully explore this potential was prompted by a request from the Board of Directors of the Wake Forest Fire Department. Key drivers of this decision relate to the scope and scale of operations that the fire department has grown to in recent years,

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

parallel to the growth of the Town of Wake Forest. The fire department has grown to soon over 80 career personnel along with both part-time and volunteer firefighters. The budget of the fire department has grown to over \$7.5 million annually. The Town of Wake Forest is funding approximately 80% of the overall cost of the fire department currently, with Wake County's fire protection service district comprising the remaining 20% of funding. Key challenges for the fire department include recruiting and retaining personnel. As a private, non-profit corporation fire department, the organization is not allowed to participate in the North Carolina Local Government Employee Retirement System (NCLGERS). This void creates loss of current personnel to nearby municipal fire departments that do participate in the retirement system. In addition, the lack of participating in NCLGERS detracts some firefighter candidates from applying or accepting employment with the fire department. The percentage turnover in the department in recent years is higher than is typical for similarly sized fire departments that are allowed to participate in NCLGERS.

Process:

To professionally conduct this analysis, EnviroSafe divided the assessment of this situation into five core work focus areas. These include:

- Data Analysis and Stakeholder Input
- Human Resource Related Impacts
- Capital Resource Impacts
- Operational Impacts
- Financial Feasibility Analysis

Distinct teams of subject matter experts in each of these respective areas from across North Carolina have been engaged by EnviroSafe to bring current, relevant and professional observations and recommendations regarding this situation. Collectively, analysis of these areas will enable the essential decision makers in this potential unification to make the most responsible and well-informed decisions possible to move the fire protection service delivery system forward for the Town of Wake Forest.

Data Analysis and Stakeholder Input:

EnviroSafe reached out to several distinct groups in order to gain an accurate understanding of perceptions, priorities and needs related to the potential unification. Individual or small group interviews were held with all members of the Town of Wake Forest Board of Commissioners, the members of the Board of Directors of the Wake Forest Fire Department, Inc. and extended to all of the firefighters – both career and volunteer - of the Wake Forest Fire Department.

Findings from these sessions indicate that the Town Board and the Fire Department Board both recognize that changes are needed in the system/structure of the fire department. There is mutual respect between the Town elected officials and the fire department Board. Both bodies

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

recognize that the experienced leadership of Wake Forest Town Manager Kip Padgett has enabled both bodies to seriously consider this unification for the benefit of the people of the Town.

Both Boards were asked to identify their perspective on the strengths, weaknesses, missed opportunities and perceived threats if the unification did not come to fruition. The high service levels provided by the fire department, demonstrated professionalism, well developed pride within the department and the advancements that have been made under Chief Early's leadership over the past ten years were consistently articulated. Commonly identified as gaps or weaknesses were: lack of being able to participate in NCLGERS resulting in high turnover, lack of dedicated human resource staff within the department, low levels of diversity, sustainability, and depth of staff in other support areas.

Concerns about costs to unify the fire department into the Town and the necessary business modifications were also voiced.

Both Boards recognize that this unification is a historic decision and will prompt many changes for the fire department and the Town. However, there was consensus that a deep look into this opportunity was necessary for sustainability into the future. It was clear from listening to both Boards that some levels of changes were needed in order to move Wake Forest Fire Department away from being a training ground for other fire departments. In addition, participation in NCLGERS was a key factor to making Wake Forest competitive with other municipal fire departments in the region to attract and retain top quality personnel.

Fire Department officers, career line personnel and volunteer firefighters were also consulted to gain an understanding of their perceptions and needs. There was excellent engagement by the firefighter groups and all personnel demonstrated strong commitment to public service and improvement, and the firefighters expressed enthusiasm about the potential unification.

The quality of personnel, family culture within the department, demonstrated pride, the department's strong commitment to training, aggressive firefighting tactics and having the opportunity to provide meaningful input led the list of identified strengths of the department. Again, lack of ability to participate in NCLGERS, recruitment and retention of personnel, apparatus maintenance, internal communication challenges and voids of organizational infrastructure such as human resources and information technology consistently emerged as identified gaps from the firefighter's perspective. Concerns about the potential unification included the process that would be followed. There was recognition that being part of the Town Government would bring with it more requirements and restrictions. However, there was consensus that the benefits would outweigh the negatives and that changes were necessary to sustain the fire department into the future.

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

Human Resource Related Impacts:

This segment represented a major portion of the work of this project due to relevance and cost of personnel. Providing fire and rescue services is very personnel intensive, and salary and benefits represent well over 85% of most any career fire department budget. Current systems for both the fire department and the Town were assessed and differences were identified and troubleshooted. A complex and comprehensive crosswalk was developed in order to determine impacts for each individual fire department employee. Compensation, health care, benefits and associated costs were assessed.

The fire department currently utilizes a step pay plan, which is considered best practice and very effective for the teamwork that is necessary for firefighters. This method has been proven superior to other types of compensation systems for firefighters. The Federal Government recognizes that firefighter work environments and schedules are different than any other profession and distinguishes firefighters who are part of local governments under the Fair Labor Standards Act (FLSA) 7(k) exemption which allows municipal firefighters to work 212 hours in a 28-day period before earning overtime. This FLSA 7(k) provision is NOT allowed or entitled for private, non-profit fire departments and is reserved only for state and local government fire departments.

We believe that the step pay plan system should continue to be utilized. However, the current compensation rates need some adjustment in order to be more equitable with the Wake County and North Carolina market. Should decision makers elect to move forward with the unification, the Town is planning a compensation study in fall, 2019. This is an essential component because compensation compression issues need to be addressed throughout the sworn ranks. It is realistic that it may take a couple budget cycles to fully implement pay compression issues that are anticipated to emerge in the compensation study.

However, the assessment team identified some more immediate needed changes in the starting pay for each rank in order to be comparable with other compensation in the Town, the Wake County area and similar sized fire departments in North Carolina. The team also identified the differences in the fire department policies and Town policies related to benefits and has made recommendations related to modifications in those areas.

Being a part of the NCLGERS system will surely strengthen the fire department's ability to attract and retain talent. NCLGERS is a defined benefit plan as opposed to 401(k) plans which are defined contribution plans. The Wake Forest Fire Department currently provides the 401(k) program as their retirement savings vehicle. Participation in the NCLGERS system will enable Wake Forest to more effectively "compete" for talent with other local governments. Looking into the future, there is clarity that being a part of NCLGERS will strengthen recruitment and retention for the fire department. However, a challenge in the coming years will be with current fire department employees who will most likely not be able to complete full retirement

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

as provided for in NCLGERS. NCLGERS is set up to require a minimum of five years of credible service but is designed for full benefits to be provided at thirty years of credible service. For existing personnel with a number of years working for the private, non-profit fire department, they may not be able to fully recognize all the benefits of being a part of NCLGERS. Personnel will be able to enjoy many of the benefits available to them as NCLGERS participants, including participating in the State of North Carolina 401(k) plan; whereas current fire department employees could choose to roll their current 401(k) funds into the state plan based on individual needs and choices. Subsequently, if chosen, the state 401(k) plan can provide a defined lifetime benefit for persons who desire that model.

Early within this initiative, it was recognized that many of the current fire department personnel did not have a consistent understanding of what NCLGERS was and was not. It was recommended to the Town that an awareness level training class be presented to all fire department personnel so that a higher level of understanding is present. The Town recognized this need and issued a change order to EnviroSafe's contract to provide this training to fire department personnel. This level of commitment to education is to be commended.

Should the decision be made to unify the fire department into the Town, the assessment team recommends maintaining the step pay plan system, conducting the compensation study in the fall, addressing specific differences in employee benefits and incentives and importantly - adopting a special separation allowance model similar to what is mandated for police officers serving in local government in North Carolina. While not mandated by law, local governments can elect to provide parallel programs for firefighters and with the transitional issues for Wake Forest, the team recommends that approach. Other North Carolina municipalities have taken this approach and the team recommends this progressive approach for the Town of Wake Forest.

Capital Resource Impacts:

A significant evaluation of all physical assets of the Wake Forest Fire Department, Inc. was conducted. Each fire apparatus was assessed for mechanical capability and firefighting equipment. Each fire station was assessed by a specialized fire station licensed architect as well as an OSHA specialist for functionality, comparison with fire service industry standards and Americans with Disabilities (ADA) requirements.

Overall, the fire department has well maintained the facilities. Fire Station 1 in Downtown has some modifications that are needed that could be accomplished in one or two budget cycles. Stations 2, 3 and 4 only needed minor modifications.

Station 5 (the former Falls Station) is problematic. The fire department has valiantly strived to improve this facility since it came under the fire department's purview a few years ago. However, essential basic needs and expectations for this station are lacking in comparison to

Town of Wake Forest Fire Department Feasibility Analysis **August, 2019**

needs for a career fire station. The station currently accommodates part-time, weekday firefighters and volunteer firefighters. The team recommends utilizing Station 5 as a volunteer only station moving forward in the short term. Long term, a different system configuration between Wake County, the Town of Wake Forest and the City of Raleigh would be most beneficial and efficient. This aspect is more fully addressed in the operations section of this report.

Regarding apparatus, thirteen (13) fire apparatus were assessed by the team. The greatest issue with the apparatus is lack of a consistent preventive maintenance system. The Town will need to enhance apparatus maintenance efforts through internal staff or additional service contracts with providers for repairs as well as preventative maintenance. Secondly, some of the apparatus are designed for rural use and Wake Forest is operating as an urban response system. Therefore, the apparatus will have difficulty fulfilling life expectancy due to the call volume and demands for a community with the density and workload of Wake Forest. Moving forward, the Town should purchase urban level fire apparatus for maximum efficiency. Fire apparatus should ideally have a life cycle of approximately ten (10) to twelve (12) years of front-line service and five (5) to seven (7) years of reserve service for a total of less than 20 years of service.

Conditions were declared for the fire apparatus as follows:

- (4) Excellent (30%) - Engine 4, Tanker 4, Brush 1, Brush 5
- (5) Good (39%) - Engine 1, Engine 2, Engine 3, Ladder 1, Tanker 2
- (1) Fair (8%) – Engine 7
- (3) Poor (23%) – Engine 5, Engine 6, Ladder 3
- Not Rated – Squad 5

The Capital Improvement Plan (CIP) is in place to replace fire apparatus and funding the CIP should be a priority moving forward to ensure that adequately performing fire apparatus is available to serve the people of Wake Forest. Within the existing fire department CIP, commitments have already been made for purchasing a \$1.3 million replacement aerial truck and \$700,000 for expansion of Fire Station 2. At least three replacement fire engines need to be included in the CIP as soon as conditions will allow.

All Capital assets of real estate, buildings, apparatus, equipment and associated materials are envisioned to become true assets of the Town with this unification. The assets are significant and should be considered as an important component of this consolidation and unification effort.

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

Operational Impacts:

The Wake Forest Fire Department's call volume has been steadily increasing. Between Fiscal Year 13-14 and Fiscal Year 17-18, there was an increase of 38% in call volume. This is significant and reflects the growing Wake Forest community. Approximately 3,800 calls for service are responded to annually, or about 10 calls per day on average. Of the total emergency calls for service, approximately 63% were related to medical emergencies, which is customary in urban environments. Typically, the percentage is even higher.

Based on the data provided, the department was meeting a five (5) minute response time goal (comprised of turn out time and travel time) for first unit arrival on approximately 44% of all calls. It appears that the 90th percentile of response times would be between 7 and 8 minutes. What this realistically means to the Wake Forest resident is that on 90% of emergency responses, their fire department would arrive in 8 minutes or less for a first unit response.

Based upon the data the assessment team has been provided, the stated standard of coverage at this point would be as follows:

“For 90% of all typical residential structure fire incidents, the Wake Forest Fire Department is providing at least one apparatus along with at least four (4) adequately trained firefighters arriving within 8 minutes total response time and is prepared to take immediate action in accordance with department protocols.”

The team reviewed all structure fires occurring over the past five fiscal years. An average of 16 structure fires are occurring annually within the complete district. Of these structure fires, approximately 60% are reported to be contained to the room of origin. This is admirable performance and in alignment with urban levels of service.

Additional attention to minimum staffing levels is needed within the fire department. Adequate staffing at structure fires is very important in providing fire and rescue services. Federal law mandates that a minimum of four firefighters are on scene before making interior entry into a structure fire. This requirement is so that a minimal rescue team can be formed before sending personnel into an immediately dangerous to life and health environment (IDLH). Wake Forest must comply with this requirement as there are very few acceptable exceptions to this mandate. Beyond that requirement, staffing levels are a local decision. However, the national standards for emergency response articulate that a minimum of 17 firefighters are necessary to adequately manage a house fire in a typical residential (<2000 square feet) structure. Data indicates that Wake Forest is placing an average of 17 persons on structure fires. In Wake Forest, 90% of structure fire incidents show a staff count of 22 or less. Moving forward, strengthening on duty staff and exercising all available automatic aid agreements will continue to be important for Wake Forest, especially as Wake Forest develops higher hazard occupancies such as apartments, strip shopping centers and commercial structures. As an

Town of Wake Forest Fire Department Feasibility Analysis **August, 2019**

example, a minimum of 27 firefighters is needed on scene at a basic garden type apartment fire according to national industry standards. Wake Forest will need to plan for more urban levels of staffing in the future. While four persons on each engine and ladder is not a legal requirement, it should be a goal of the Town to increase firefighter staffing to reach this level of minimum staffing as soon as conditions will allow. The fire department is dependent upon automatic aid now (approximately 200 times per year). As Wake Forest further develops, the Town will need to be able to manage single residential fire incidents more internally and rely on automatic aid more for secondary incidents occurring simultaneously and higher hazard incidents.

Fire departments measure at the 90th percentile in all cases because of multiple events occurring due to storms, access issues, mechanical failures and other uncontrollable events. The fire department should be reporting all demonstrated performance in response times at the 90th percentile to comply with industry standards and expectations.

EnviroSafe conducted a GIS analysis of performance of the fire department and produced a series of maps depicting travel time, population density and risk. We also evaluated coverage from the Insurance Services Office (ISO) perspective to adequately assess the overall engine and ladder coverage for the Town of Wake Forest. Looking ahead, collaborative efforts are possible with the Town of Rolesville and/or the Rolesville Rural Fire Department related to the area of the Town in the Northwest quadrant. As Rolesville considers placing a fire station in the area of Old Pearce Road and Daniel Road, that fire station could assist the Town of Wake Forest. Conversely, the Town of Rolesville has area near Burlington Road where collaborative opportunities exist with current Wake Forest Fire Station 3. It is typical in North Carolina that local governments enter into Interlocal Agreements for joint use of facilities and or reciprocal agreements, which may be effective in these locations.

Department operating policies were examined by external subject matter experts and potential issues were identified and discussed with the Fire Chief. Some administrative policies would need to yield to Town of Wake Forest policies. However, there were no policies or procedures that presented obstacles that could not be effectively mitigated during the transitional period. Contracts and agreements currently in place with the private, non-profit corporation fire department would need to transfer to the Town of Wake Forest. Examples would be the contract with Wake County Government, automatic aid agreements, service agreements, etc. However, additional improvement measures are also offered within the report.

Substantial additional review was provided related to Fire Station 5. The building is a significant issue to be addressed. The area and insurance district primarily serviced by this station is unique and atypical at best. However, the current utilization of volunteers is excellent and an important, ingenious component for the future. For the foreseeable future, the team recommends that Station 5 transition to a volunteer only station. Wake County would recognize Station 5 as an unstaffed station. However, volunteers could establish duty crews to

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

provide staffing and response from the fire station as best possible. Current part-time personnel should be re-deployed to supplement the fire department's remaining four stations. This move will help support needed career staffing at the other stations and enable Station 5 to continue to serve the approximately seventy structures in Station 5's primary response/insurance district. This plan will also support the department's volunteer program, which is effective and will provide an excellent opportunity for firefighter recruitment and public service. Coordination and collaboration between the Town and Wake County Government will need to occur in order to transition this component.

Financial Feasibility Analysis:

Financial aspects are integral to this assessment. The team evaluated the fire department budget, the Town budget and the associated capital improvement plans (CIP). Particular attention was given to the human resource costs and benefits as well as operating expenses. Transitioning fire service from the private, non-profit model to the municipal model will be more costly. However, outcomes will improve, certain components such as support functions and systems can be delivered more effectively and efficiently and costs for employee turnover are projected to decrease under the municipal model.

Firefighter turnover is expensive. Reducing firefighter turnover will improve efficiency. It is estimated that the loss of each firefighter to another fire department results in as much as a \$50,000 cost per firefighter. These costs are in recruitment, training and equipment. Beyond direct costs, there are costs to effectiveness and organizational morale, beyond the ability to attract and retain talent.

A high range methodology was utilized in order to predict costs in future years. In the first year, costs could increase as much as a net of \$988,970 based upon projections. Key drivers of this increase include converting the firefighter's pay scale and benefits conversion, a more aggressive apparatus maintenance and CIP replacement program and potential ancillary/support costs. It is important to note that a number of variables can affect the actual amount of increase, especially in the first year (FY 20-21). However, given projected growth in the Town and the assumed growth from the County district, it is fiscally feasible that the Town could assume full responsibility for the fire department for FY 20-21. Continuing work is needed throughout the transitional period to further refine the cost estimates as more variables are defined in preparation for the FY 20-21 budget.

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

Next Steps:

This assessment captures a “snapshot in time” of the Wake Forest Fire Department and how it could integrate into Wake Forest Town Government. It is designed to provide decision makers with information about the fire department and the fire and rescue service delivery aspects of the fire department as they currently exist.

Collectively, the assessment team has made 39 strategic, professional recommendations, along with ten (10) supplemental recommendations that should be reviewed and evaluated.

Decision makers with the Wake Forest Board of Directors and the Town of Wake Forest Board of Commissioners will need to now decide if they do or do not want to move forward with the unification of the fire department into Town Government. If the joint decision is to move forward, much work will need to occur in the following nine (9) months towards a July 1, 2020 implementation. Timing is of the essence. Many of the issues and needs raised in this report will need to be further vetted and adjustments made. Surely, additional issues will also emerge as all groups work towards a successful outcome. There will need to remain a focused and concentrated effort to this work over the coming nine months in order to ensure a smooth transition. The area needing most attention over the coming months will be the individual transition of each employee into the Town’s system and how each employee will fit into the NCLGERS system. This process will be very individualized, but critical to a positive outcome.

A transition team is recommended to be engaged in this transitional effort with representation from the fire department and the Town along with external facilitators to ensure that steady progress is being made and that persons are held accountable in the process for completing deliverables as well as timelines. In addition, a peer review team engagement near the time of transition will be most helpful to the fire department staff as they move into a change in culture and operations.

With a continued commitment to continuous improvement demonstrated by the Town of Wake Forest and the Wake Forest Fire Department throughout this process, the assessment team is confident that the Town can achieve the desired outcomes with implementation of this report’s recommendations.

The EnviroSafe Team sincerely appreciates the opportunity to provide this assessment and we are proud to have assisted in efficiently providing this project to improve and strengthen the fire service delivery system within the Town of Wake Forest, North Carolina. We sincerely thank everyone who supported this revolutionary initiative and express our honor to serve in this beneficial capacity of continuous improvement.

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

2. BACKGROUND/PROCESS:

A. Core Goals and Directives

Initial request from the Town of Wake Forest was made for assistance from EnviroSafe with the scope of work developed on February 6, 2019.

The core scope of the project includes the following deliverables:

1) Data Analysis and Stakeholder Input

When embarking upon strategic organizational changes; strong, clear and consistent communication is essential. Hearing from the approximate 70 employees of the WFFD as well as the governing boards and key stakeholders will allow for a better-informed decision by both the Town and the WFFD. Components include, but are not limited to:

- Review applicable governance documents, structures, protocols and systems.
- Analysis of applicable and governing North Carolina state laws, County contracts and applicable Town ordinances to ensure that potential obstacles are identified and addressed.
- Determine vital (deal breaker) issues that are important to all key stakeholder groups.
- Conduct three separate on-site (shift friendly) sessions with WFFD firefighters to capture perceptions of strengths, weaknesses, opportunities and threats (SWOT) related to the proposed consolidation.
- Conduct one feedback session with the WFFD Board of Directors to capture the same type SWOT analysis as well to ensure that concerns are noted.
- Conduct one on-site session with Town elected officials and leaders to capture the same SWOT analysis as well as to ensure that concerns are noted.
- Provide electronic feedback opportunities for identified groups as well as Wake County Government staff to provide input early in the process.
- Define and detail a consolidated global list of perceived benefits and concerns for the potential outcomes.
- Conduct any individual interviews as needed at the direction of the Town.
- Provide introductory as well as periodic written communication updates as we work through the process and provide those to the Town for distribution as they deem most appropriate.
- Develop a written summary of the recommendations and considerations relative to the potential consolidation.

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

2) Human Resource Related Impacts

Clearly, one of the most significant and essential aspects of consideration will be impacts for compensation and benefits for the firefighters and ensuring that they are smoothly integrated into the North Carolina Local Government Employee Retirement System (NCLGERS) in the most effective and efficient manner possible. This integration and enhancement is a key driver of this potential consolidation. Related to human resource concerns, we would conduct:

- Evaluation of current compensation structures in both the Town and WFFD, including pay plan(s) and history of plan funding success.
- Evaluation of current human resource and benefit policies in both organizations, including benefits options, employee/employer contributions.
- Determination of the status of each current WFFD benefitted employee and how they would integrate into the Town through development of a crosswalk type matrix, establishing a cost to that transition for each eligible person.
- Analysis of WFFD and Town policies and determining where gaps, errors and omissions may occur as well as identify employee losses and gains.
- Navigation of state policies related to NCLGERS and the North Carolina Firefighter and Rescue Squad Worker's Retirement System, including options and tiers of integration within NCLGERS at the Office of State Treasurer level.
- Evaluation of existing employee benefits, including but not limited to health insurance, determining impacts for both the employees and Town Government for cost, coverage and potential gaps.
- Evaluation of any existing benefits that may end or may change configuration with an analysis on what potential impacts may occur for individuals as well as the Town, including but not limited to sick leave and vacation accrual, tuition reimbursement, overtime opportunities, incentive pay, etc.
- Define key onboarding benchmarks that will be necessary during the transition for the firefighters and what Town procedures will need to be followed for that onboarding.
- Preliminarily identifying pitfalls such as new employee drug testing, essential employee training and other potential barriers.
- Ensure Town staff fully understand the operational provisions of the Fair Labor Standards Act (FLSA) 7(k) exemptions for firefighters and how those laws may necessitate modifications to existing Town policies or creation of new policies and procedures.
- Determination of what, if any, legislative implications the transition may necessitate.
- Develop a written summary of recommendations and considerations relative to the potential consolidation.

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

3) Capital Resource Impacts

Establishing and maintaining fire and rescue equipment that is in continual use 24 hours a day, 7 days a week can represent a significant effort fiscally as well as logistically. This specialized equipment also represents high cost, and in some cases can represent high risk operations, which necessitates complete insurance coverage for the Town of Wake Forest. We will evaluate the following:

- Inventory of all assets consistent with the Town's capital value policies.
- Evaluation of the condition of existing facilities in contrast with industry best practices, Americans with Disabilities, OSHA compliance and other areas and determining what corrective action, if any, may be needed, including an OSHA compliance audit of the facilities.
- Mechanical evaluation of all large fire apparatus to establish a serviceability rating for each unit based upon the mechanical capabilities and durability.
- Compare/contrast current capital assets in comparison to industry standards or norms to determine timelines for future needs.
- Evaluation of current insurance coverage of capital assets contrasted with Town provision of insurance coverage through the League of Municipalities and specialty providers (such as VFIS).
- Provide an insurance comparison in cost and coverage between options for the Town to consider.
- Project capital insurance costs into future fiscal years.
- Project Capital Improvement Plan (CIP) schedules for the next five (5) fiscal years related to the Fire Department.
- Develop a written summary of recommendations and considerations relative to the potential consolidation.

4) Operational Impacts

A clear understanding of the fire department's current and projected level of service is essential for the Town elected officials to fully comprehend as the department may potentially become part of Town Government and Town elected officials fully responsible for delivery of essential public safety fire and rescue services. We will provide information and feedback on the following:

- Conduct a high-level analysis of the standard of coverage of the WFFD to responsibly determine the demonstrated level of service that the WFFD currently provides to the Town as well as the unincorporated areas.

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

- Analyze what level of service the Town should consider adopting as the service level guidance for the department to operate under and identify the level of service that the department would be measured against moving forward.
- Produce GIS maps that indicate current service levels so that decision makers can best understand the performance data visually.
- Validate the current station locations in alignment with national standards for service and coverage, raising an awareness of gaps where they may exist.
- Analyze any impact the potential consolidation may have related to the public protection classification rating of the WFFD and/or the Town.
- Review current departmental operating policies and procedures and identify concerns that would need to be mitigated before consolidation with the Town.
- Review all existing automatic aid agreements for validity and necessity and make recommendations for modifications that would need to be considered with the transition to Wake Forest Town Government.
- Re-visit the Wake County mutual aid agreement and determine modifications necessary for transition.
- Develop a written summary of recommendations and considerations relative to the potential consolidation.

5) Financial Feasibility Analysis

Providing fire and rescue services is very labor intensive and thus represents a significant percentage of any North Carolina municipal budget, reflecting between 20% and 30% of many total municipal General Fund allocations. Within most municipal fire department budgets, 85% or more of the General Fund appropriation is directed to salary and benefit costs. Determining current costs and projecting future costs is essential for fiscal accountability. We propose to:

- Analyze the fiscal data of the WFFD, including incomes from the Town as well as Wake County Government for protection of the unincorporated areas around Wake Forest.
- Determine a clear financial baseline for providing fire and rescue services within the Town of Wake Forest and the unincorporated fire district that WFFD currently serves.
- Review any available audits and fiscal records.
- Evaluate operating and capital budget impact and contrast the capital needs to the Town's capital capacity available in the out-year CIP.
- Evaluate any changes in how the assets and liabilities are treated on the balance sheet.
- Determine the Town's potential cost projections for FY 20-21 and FY 21-22.
- A review of all current federal and state grants will be conducted to project matches or unexpected contributions which may be programmed for future years.
- Review the Town's fire impact fee and determine if any modifications are warranted relative to the potential consolidation.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

- Provide analysis of performance-based measurement of fire department services from available, existing data.
- Develop a written summary of recommendations and considerations relative to the potential consolidation.

6. Presentation to Boards

We will prepare group and public presentations of findings for you as Town Manager and/or the elected officials that captures and summarizes the findings of the collective efforts. We are most often asked to make a presentation of this summary information to the firefighters as well as the Town and/or county elected officials.

We will compile a summary report of all components of the project, create a PowerPoint and make an interactive presentation; 1) to fire department officers and/or Board of Directors, and 2) the Town elected officials. This work will be accomplished in September, 2019.

**Town of Wake Forest Fire Department Feasibility Analysis
August, 2019**

3. REVIEW OF STAKEHOLDER INPUT:

EnviroSafe conducted twenty-two different stakeholder input sessions with the Wake Forest Fire Department (WFFD) Board of Directors, Town of Wake Forest elected officials, and all WFFD employees and volunteers. The sessions were held to create dialogue and collect important feedback from all key stakeholder groups in regard to the possible merger of Wake Forest Fire Department into the Town of Wake Forest. Areas discussed were perceived strengths, weaknesses, opportunities and threats (SWOT) related to the consolidation.

The goal of the sessions was to identify critical deal breaker issues, as well as a global list of perceived benefits and concerns for the potential outcomes. Each group was interviewed separately to alleviate anxiety and apprehension about giving honest and legitimate feedback. All items are listed in order of importance to each group.

A. Wake Forest Fire Department Board of Directors

EnviroSafe met with the WFFD Board of Directors in small groups over seven sessions to have dialogue about their thoughts and concerns of a possible merger with the Town of Wake Forest. They identified the following aspects for each area of the SWOT.

Strengths

The WFFD board listed many different strengths for the organization and agreed on many:

1. No division within the current board
2. WFFD very well trained
3. Adequate equipment
4. Pride in organization
5. Strong leadership / professionally run / Chief Early
6. Communication
7. Well-funded
8. Support from Town

Weaknesses (Gaps)

The board identified weaknesses and some that were quite different from what the WFFD staff identified. One major weakness that nearly all mentioned was retention of career staff and the challenge it presents. Other major challenges are listed below in order of importance to the board:

1. Retention of staff
2. Human Resource help (benefits knowledge)

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

3. Apparatus maintenance
4. No internal candidate for Fire Chief
5. Lack of NCLGERS
6. Lack of diversity
7. Organizational structure is flat
8. Lack of International Fire Accreditation
9. Sustainability
10. Ladder truck expense (running small calls)

Opportunities

The Board of Directors gave information related to missed opportunities for the organization:

1. Develop additional stations / land
2. Keep up with growth of community
3. Not involved in Town planning of neighborhoods
4. Better relationships with neighboring fire departments
5. More training with regional agencies
6. Volunteerism
7. Affordable housing

Threats (if no consolidation occurs)

The WFFD Board identified threats to the organization should the consolidation not occur:

1. Retention of employees
2. Relationship with the Town
3. Employee morale
4. Lack of retirement NCLGERS
5. Appearance of demographic makeup
6. County management of fire departments
7. Recruitment of employees

Concerns (if the consolidation does occur)

The WFFD board contributed to a list of concerns if the consolidation does occur:

1. Slows the wheels with government involvement
2. NCLGERS vs. 401K
3. Benefits
4. Future investments
5. 5-10 year plans on capital projects
6. WF Fire Board obsolete – loss of expertise for chief
7. Education of staff on results of each merger decision
8. Flat organization

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Vision for WFFD Board – Post Unification

The WFFD discussed possible options for the board if the merger takes place:

1. Board could go to an advisory board (Public Safety)
2. Boards days are numbered, inevitable no need for board
3. Manage Fish Fry fundraiser
4. Become a foundation (separate non-profit)
5. 1-3 year transitional team
6. Relief fund

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

B. Town of Wake Forest Elected Officials

EnviroSafe met with the Town of Wake Forest Mayor and Commissioners in small groups over five different sessions to discuss the possible benefits and concerns of a possible merger with the WWFD. They shared input in each area of the SWOT analysis.

Strengths

The mayor and commissioners had valuable feedback on strengths of the WFFD:

1. Caring people – good respect in community
2. Fundraising, charity, shop with a Firefighter for kids and seniors
3. Community involvement
4. Public service – engagement, programs
5. Training
6. Professionalism by Chief Early
7. Efficient on emergency scene
8. Innovative with programs – bike, drone, swift water

Weaknesses (Gaps)

The elected officials group contributed input on some weaknesses for the department:

1. Public perception of some spending (Christmas party at golf club)
2. Cost of consolidation, financially feasible?
3. Free to spend on capital projects
4. Lack of diversity
5. Grant opportunities

Opportunities

The mayor and commissioners identified several missed opportunities by the department:

1. Diversity
2. Grants
3. Demand of growth (need for another station)

Threats (if no consolidation occurs)

The elected officials identified threats to the organization should the consolidation not occur:

1. Level of service
2. County service areas
3. Duplication of efforts w/surrounding districts (Rolesville)
4. Recruitment
5. Wake County relationship
6. Growth impact

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Concerns (if the consolidation does occur)

The commissioners and mayor contributed to a list of concerns if the consolidation does occur:

1. Fiscal impact of taking on this operation short term
2. Long term fiscal impact
3. How does it look for benefits, salary, employee education?
4. Need a good transition process in place
5. Additional liability for Town

Vision for WFFD Board – Post Unification

The elected officials contributed ideas for the board if the merger does take place:

1. Advisory board
2. There should be a place / role in some capacity
3. Town currently has eleven (11) advisory boards w/nine (9) members each
4. Fire department has to be totally under the Town

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

C. Wake Forest Firefighters

Envirosafe met with three distinct groups of Wake Forest Firefighters in ten (10) different sessions to get open and honest feedback on the possible consolidation with the Town of Wake Forest.

Wake Forest Fire Department Chief Officers:

The WFFD Chief Officers met with Envirosafe in two sessions to identify the elements of a SWOT analysis and came up with the following benefits and concerns.

Strengths

The chief officer group had a little different outlook on the analysis, but also identified some of the common themes that came from the career staff group. They agreed that their strength lies in their employee base due to their attitude, commitment and dedication to the organization. The main strengths from this group are listed below:

1. Personnel – attitude, commitment, dedication
2. Family culture
3. Input – through committees and teams
4. History of organization – volunteers and career
5. Training – leadership, internal and external opportunities, budget
6. Aggressive tactics
7. Career / volunteer relationship
8. Incentive programs – education, tuition, annual fitness

Weaknesses (Gaps)

The chief's group also identified some major weaknesses in the organization which are listed below:

1. Communication
2. Growth of the community and being able to keep up
3. Young department (personnel)
4. Retention of employees
5. Flat organizational structure
6. Lack of structured pay plan
7. Lack of municipal support (HR, finance, executive level oversight)

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Opportunities

The chief officer group captured and prioritized some opportunities for the organization that could make the organization better.

1. Young members of department
2. Hire a grant writer
3. Attach raise to evaluation
4. Chance for employees to move to other town opportunities

Threats (if no consolidation occurs)

The chief officer group identified some very common threats to the organization should the consolidation not occur:

1. Retention
2. Recruitment
3. Retaliation – Town could start its own fire department
4. Damage to relationships

Concerns (if the consolidation does occur)

The chief officer group collectively identified a list of concerns of which some are unique, and others are right in line with the previous group:

1. More people in the process
2. New set of rules
3. More red tape
4. Senior employees
5. Incentive programs
6. Volunteer program?
7. Future of station # 5
8. Current assets and property value

Wake Forest Fire Department Staff (below Chief Officer):

Six different group sessions were conducted on site at the WFFD to collect key input from all employees. This was by far the largest group (approximately 60), therefore having the greatest amount of input.

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

Strengths

The career staff identified a significant number of strengths for the department. All six groups agreed on the top two major strengths being that the department is aggressive in its firefighting tactics and they have a family culture present in the organization. The next three were almost unanimous included training, having input, and pride in the organization. The top ten strengths are listed in order of importance to the group below:

1. Aggressive tactics
2. Family culture
3. Training
4. Voice/Input
5. Pride
6. Outside training opportunities
7. Quality equipment
8. Incentive programs (annual fitness, education, tuition reimbursement)
9. Training budget
10. Community involvement

Weakness (Gaps)

All six groups agreed on the top four weaknesses of the department being apparatus maintenance, no North Carolina Local Government Employee Retirement System (NCLGERS), retention and recruitment of employees. The top ten are listed below in order of importance:

1. Apparatus maintenance
2. No NCLGERS
3. Retention
4. Recruitment
5. Pay rates, lack of pay plan, pay compression
6. Benefits
7. Lack of NCLGERS education (The Town of Wake Forest and EnviroSAFE provided two on site NCLGERS educational sessions for all WFFD employees on July 19, 2019)
8. Shutting down Engine 1 to staff Engine 5
9. Top heavy structure / Flat organizational structure
10. Communication

Opportunities

The career staff identified five common themes when discussing missed opportunities that could make the organization better:

1. Lack of time for core job responsibilities due to projects and collateral duties
2. Lack of NCLGERS
3. Lack of internal apparatus maintenance program
4. Lack of Operations Chief to manage the Battalion Chief group
5. Benefit package

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

Threats (if no consolidation occurs)

The career staff below chief officer sees five major threats to the organization if the consolidation does not occur with the Town of Wake Forest:

1. Retention of employees which is already becoming a challenge
2. Fallout from the WFFD Board of Directors and/or the Wake Forest Town Commissioners
3. Not having NCLGERS
4. Recruitment of employees which is a tremendous challenge now
5. Salary / compression / lack of structured pay plan

Concerns (if the consolidation does occur)

The career staff across all six groups agreed on the top five major concerns should the merger of WFFD into the Town of Wake Forest does occur.

1. Hiring process – (have to reapply? Background checks, Town requirements)
2. What happens with leave time accruals – (sick, vacation, training leave)
3. Where do employees start with pension system?
4. Will the training budget remain as currently provided? Major strength in department.
5. How will the transition occur? Will there be education provided or people to guide the process?

Wake Forest Fire Department Volunteers:

The WFFD volunteer group met with EnviroSafe in two different sessions to discuss the benefits and concerns of a possible merger with the Town of Wake Forest. They identified the following for each area of the SWOT.

Strengths

The WFFD volunteer group agreed on multiple strengths for the organization aligning with career staff in several ways.

1. Training
2. Training budget
3. Aggressive tactics and outcomes
4. Relationship with career staff since Falls merger in 2012
5. Opportunities to train at same level as career staff

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

Weaknesses (Gaps)

The volunteer group identified a few common weaknesses and some different ones as well:

1. Apparatus maintenance
2. Organizational structure / Flat structure (all BCs same as ACs)
3. No Operations Chief
4. Onboarding of volunteers (need administrative process / procedure)
5. Communication
6. Volunteer staffing
7. Call volume dropping (hurting morale)

Opportunities

The volunteer group identified several missed opportunities that would enhance the WFFD:

1. Recruitment (volunteer base)
2. Retention of career and volunteer FFs
3. Operations Chief over BCs
4. Tap special resources from volunteer base, i.e. FireHouse

Threats (if no consolidation occurs)

The volunteer firefighters identified threats to the organization should the consolidation not occur:

1. Retention of career staff
2. Apparatus maintenance - liability
3. Lack of NCLGERS
4. Lack of confidence in leadership
5. Competition for budgets

Concerns (if the consolidation does occur)

The volunteer base agreed on a list of concerns if the consolidation does occur:

1. Town not seeing need for volunteers
2. Input with no action
3. Communication issues becoming worse
4. #5 becoming a first out truck
5. What happens to the volunteers?

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

D. Observations and Recommendations

The stakeholder input and SWOT analysis identified the major strengths and concerns for each group, as well as the major themes across the spectrum of all groups. These sessions were very worthwhile in gauging the culture of both the organization and the town.

Observations:

Strengths – There were five overall common themes for strengths for the WFFD. The unanimous choice by all groups was training and the budget to support it. Other top choices included aggressive firefighting tactics and a family culture within the organization. There was a strong sense of pride in the department and the employees like having a voice and input into decisions through committees and teams.

Weaknesses – The top two major weaknesses identified by the stakeholders was apparatus maintenance and retention of employees. The current maintenance process has caused long out of service delays of front-line apparatus and reserve units in place too long. Retention of employees is also a major concern for all groups and the lack of being in NCLGERS is perceived as the driving issue. For the same reason recruitment of new employees is considered a major weakness and communication is the final top five weakness for the organization.

Opportunities - Perceived missed opportunities are the lack of two key positions in the organization including an operation's chief and a grant writer. Other missed opportunities pertain to the lack of an apparatus maintenance program and not being involved in NCLGERS. The final concern is the lack of time for core job responsibilities due to collateral duties and projects.

Threats – In all discussions possible threats were considered if the consolidation does not occur. Again, retention of employees leads the concerns followed closely by recruitment of new employees and damage to relationships with the Town and County. The organization not being a part of NCLGERS and fall out from the WFFD board and Town commissioners are also key perceived threats.

Concerns – Concerns if the consolidation does occur were also considered by all groups and the common themes included how will the transition occur, what happens to the volunteers and what will the benefit comparison look like? Two final concerns if it goes through will be how does the training budget survive and what happens to all of the incentive programs currently in place?

Vision for WFFD Board – The Town of Wake Forest elected officials and WFFD board members were asked in their group sessions what was their vision for the board post-unification. Both groups mentioned becoming an advisory board for the Town was a possibility. Other ideas contributed were managing the fish fry, becoming a separate foundation or disbanding the group altogether.

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

Stakeholder Input Recommendations:

3.1 Apparatus Maintenance

Contract multiple full-time apparatus repair vendors and outline quality and efficiency expectations.

Form a collaborative contract with other Wake County Fire Departments for preventive maintenance programs for fire apparatus.

Develop an aggressive apparatus maintenance program with dedicated weekly, monthly, and quarterly preventive maintenance tasks to extend the life of emergency response apparatus.

3.2 Organizational Structure

Strongly consider adding a Deputy Fire Chief position to assist with span of control issues and succession planning. It is recommended that the three shift Battalion Chiefs report to a Deputy Fire Chief who ensures consistency across the operation of the three shifts. Also, there should be a clear chain of command and authority as to who is in charge when the Fire Chief is not in town or unavailable. It is important that the Fire Chief be able to attend training and vacation and that there is clear direction, command and control in his absence.

3.3 Recruitment and Retention of Employees

Consider developing a new position or assigning the duties of a recruitment officer to a current staff member to assist with recruitment of new employees.

Develop a cross functional recruitment team of department and town representatives to constantly recruit year-round for possible new employees. Recruitment officer can lead the recruitment team and be a liaison to Human Resources.

3.4 Grant Opportunities

Consider developing a grant writing position within the fire department, partnering with the town for a shared position, or adding the responsibility to a current fire department staff member. The Town could be eligible for SAFER grant funding to help strengthen the minimum daily staffing in the fire department. Priority should be given to establishing four person companies at the downtown station.

3.5 Incentive Programs

Strongly consider keeping some form of the current fire department incentive programs to assist with employee retention and morale.

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

3.6 Training Budget

Encouraged to keep similar funding in place for inside and outside training opportunities. The team recommends designating \$1,000 per firefighter for training annually. For FY 20-21, this would be approximately \$80,000 annually.

3.7 WFFD Board of Directors

Determine post-unification role for the Wake Forest Fire Department Board of Directors. Town elected officials will need to determine the most effective and efficient approach to utilize the experience and expertise of the current Board of Directors post-unification. The Town could benefit from their knowledge, experience and dedicated public service.

Town of Wake Forest Fire Department Feasibility Analysis
August, 2019

4. HUMAN RESOURCE RELATED IMPACTS:

A. Overall Observations

Providing fire and rescue services is staffing intensive and requires significant numbers of personnel to provide essential services. The largest portion of the current budget for the Wake Forest Fire Department (and most any other fire department) is personnel. It is typical that more than 85% of municipal fire department budgets are dedicated to salary and benefit costs. Therefore, an analysis of human resource issues and needs are essential for consideration in this unification.

EnviroSafe conducted an analysis of the human resource aspects of the current Wake Forest Fire Department (WFFD) and the Town of Wake Forest (TOWF) with respect to the potential unification. The following is a summary of that assessment.

Staffing Summary:

According to the staff roster provided, the Wake Forest Fire Department has 64 paid firefighter employees and five administrative personnel (Fire Chief, two Assistant Chiefs, a Logistics Civilian, and an Administrative Assistant.) Firefighters operate out of five fire stations. The department has five companies - four engines and one ladder. There is an additional engine housed at Station 5. Stations 1, 2, 3, and 4 have daily minimum staffing requirements of three. There is one Battalion Chief on duty per shift. Station 5 is staffed during the day, Monday through Friday, with part-time employees. Nights and weekend coverage at Station 5 are all volunteer personnel. All firefighters have Firefighter I and II, Hazmat, and EMT certifications. The WFFD plans to add 13 new full-time firefighter recruits in October, 2019. A firefighter recruit school will be held through Wake Technical Community College. For both the TOWF and the WFFD, Fiscal year spans July 1 – June 30. Benefits Open Enrollment occurs in May.

Evaluation of current compensation structures in both the Town of WF and WFFD, including pay plan(s) and history of plan funding success:

The TOWF supports one compensation plan. It includes public safety personnel. Positions are grouped in classes with similar difficulty, working conditions, and qualifications that can be compensated with the same range of pay. The position classification plan and the classification of any new positions must be recommended by the HR Director and Town Manager and adopted by the Board of Commissioners. The salary schedule outlines the minimum, midpoint (market) and maximum annual salary for each class of positions. Minimum salary for each pay grade is 76% of the midpoint and maximum salary is 124% of Midpoint.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

A compensation study is conducted for one-third of TOWF positions each year. Positions at the police department were reevaluated in FY 18-19 and fire department positions are slated for review in the October, 2019 study.

TOWF policy states that no employee shall receive a salary reduction as a result of the transition to a new salary plan. NOTE: WFFD employee pay, currently below the minimum of the pay grade to which their job title/rank is assigned, should receive an increase to at least the minimum pay rate for the grade.

The current total cost of base salaries for the WFFD's 69 employees is approximate \$3,452,327. The average annual salary is \$50,770. The average age of a WFFD employee is 34.

TOWF – 4% average annual increase in January which is based on annual performance evaluations conducted between October and November. Bi-weekly pay with deductions taken 24 of 26 weeks. Employee under the mid-point in their salary range are eligible for up to 7% increase (development range). Merit increases are performance based and the percentage increase awarded is dependent on the employees rating and budgetary considerations for a given year. Range of merit increase is from 1% to 7%.

WFFD – 2% increase annually in July. Increases are not merit based and allocated according to rank and years of service within rank (time in grade). Given the nature of the duties and responsibilities of a firefighter, group/team work is encouraged over individual performance. There are multiple pay steps for each rank. No employee is at top pay for their rank. WFFD part-time employees do not currently receive annual hourly rate increases. Their current pay is considered to be on the high side of the market rate, so the department is correcting the inconsistency by temporarily freezing the hourly wage.

The TOWF offers several typical methods to increase base pay:

5%	After satisfactory release from the 6-month introductory period
5%	Spanish Language Incentive (Public Safety personnel only)
2.5-5%	Education Incentive (Public Safety personnel only)

The TOWF Police Department has a Career Ladder Plan which clearly defined the requirements for advancement through the ranks.

The TOWF also offers annual incentive bonuses:

\$300-\$1000	Longevity Pay (Average years of Service at WFFD = 8.03 years; \$20,700 for 69 employees)
\$1,000	Fitness Test

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

The WFFD awards annual incentive bonuses for:

\$500-\$1,000	FEA (Fireground Endurance Assessment) (Must pass three times annually)
\$500-\$1,000	Degree pay
\$500	Website Maintenance (1 employee)
\$500	EMT pay (1 employee)

In aligning WFFD job titles/ranks with TOWF law enforcement job titles/ranks, the following considerations should be made:

- Competitive Promotional Processes start with the Police Corporal Rank (Lieutenant/Driver/Engineer Rank for WFFD)
- Exempt Employee status starts with the Police Lieutenant Rank (Battalion Chief Rank for WFFD)
- Education level required for each pay grade – Police LT requires Associates (? for WFFD)
- Maintaining the same % starting salary gaps between ranks as currently defined by WFFD

Firefighter 1 st Class is	5%	>	Firefighter
Lieutenant is	10%	>	Firefighter 1 st Class
Captain is	10%	>	Lieutenant
Battalion Chief is	15%	>	Captain
Assistant Fire Chief is	15%	>	Captain

Note: AFC Job Title is being eliminated and incumbents will become BCs

Evaluation of current human resource and benefits policies in both organizations, including benefits options and employee/employer contribution:

TOWF pays medical and dental, long-term and short-term disability, a death benefit and 1 X salary of life insurance for the employee. Up to \$2500 of annual qualifying tuition expenses are reimbursed after completion of the introductory period.

WFFD pays medical, vision, and dental, LT disability, a death benefit and 1.5 X salary of life insurance for the employee

TOWF contributes \$854,00 month or \$10,268 annually to each employee's medical plan (66 WFFD participants X \$10,248 = \$676,368). TOWF employees have a choice of two medical plans.

WFFD contributes \$348,626 annually to the employee medical plans (66 of 69 employees participate)

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Both the TOWF and the WFFD offer Blue Cross/Blue Shield medical plans. The WFFD changed providers in July, 2019 moving from United Healthcare to BCBS.

Analysis of WFFD and Town of WF policies and determining where gaps, errors and omissions may occur as well as identify employee losses and gains:

The TOWF prohibits by policy the hiring and employment of immediate family in permanent positions within the same work crew. Relatives cannot directly or indirectly supervise each other in the same work unit or in the same reporting structure. The TOWF prohibits employment in any position of any person who is an immediate family member of individuals holding certain key (Director-level) positions. The WFFD has similar restrictions for family members.

All applicant offers are subject to review by the HR Director and Town Manager. TOWF departments must provide justification for exceptions to guidelines for new hires.

Evaluation of existing employee benefits, including but not limited to health insurance determining impacts for both the employees and Town Government for cost, coverage, and potential gaps:

TOWF offers an immediate 5% contribution to the 401K for Law Enforcement Officers. It contributes 8.23% of employee salaries to LGERS. With the addition of the WFFD, this benefit represents an annual increase in Town 401K contributions of 5% times total base salary or \$172,616 for 69 employees.

Because the WFFD does not currently have a retirement plan for employees, it offers an immediate 7% employer contribution to employee 401K accounts, and up to 6% additional contributions in matching funds.

Evaluation of any existing benefits that may end or may change configuration with an analysis on what potential impacts may occur for individuals as well as the Town, including but not limited to sick leave and vacation accrual, tuition reimbursement, overtime opportunities, incentive pay, etc.:

Vacation accrues at a higher rate for WFFD employees. However, the TOWF offers an additional 12 paid days off (11 Holidays and a Personal Floating Day). TOWF Personnel Policy states that if employees are required to work on regularly scheduled holidays, they shall be paid at their hourly rate for hours actually worked in addition to any holiday pay to which they are entitled. NOTE: This should be evaluated for applicability to Firefighters given they work 24-hour shifts and all holidays are staffed. WFFD employees that work on a holiday receive time and one-half for hours worked.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

The TOWF's policy on sick leave transfer applies to a new employee's creditable service at another municipality and is capped at 240 hours.

New TOWF employees can keep their existing 401K plans or roll them to NCLGERS.

Define key onboarding benchmarks that will be necessary during the transition for the firefighters and what Town procedures will need to be followed for that onboarding:

WFFD employees will complete a TOWF application for employment and satisfy TOWF criteria for employment. WFFD employees should be given sufficient notice of the town's policy which requires background and drug screenings. Some employment terms may be non-negotiable and should be outlined in advance for WFFD employees.

A TOWF offer letter will be extended and require WFFD employee signature to acknowledge acceptance of terms of employment. It is critical that any person desiring to work for the Town of Wake Forest coming from the fire department formally declare that the Town is only responsible for employment and conditions from the date of hire (July 1, 2020) forward and that the Town has no responsibility whatsoever for employment practices prior to that date.

New TOWF employees will participate in new employee training and onboarding.

Preliminarily identifying procedural differences such as new employee drug testing, essential employee training and other potential barriers:

For Police New Hires, the TOWF requires:

- Completion of an online application
- A HS Diploma or GED
- A valid law enforcement certification from a NC Criminal Justice Education & Training Standards Commission OR enrollment in a NC Basic Law Enforcement Training (BLET) course
- Screening for disqualifying offenses/conduct
- Successful performance on written and physical agility tests
- Submission of required paperwork
- Successful performance in panel and command staff interviews
- Polygraph screening, background investigation, physical exam, psychological fitness test, & drug screen

For WFFD new hires, the department requires:

- Background and drug screenings
- Passing scores on written and (practical or physical ability) tests

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

FLSA 7(k) exemptions for Firefighters and Town Policies:

Evaluate the TOWF Overtime Pay Provisions Policy (Section 12 of Personnel Policy Handbook) to ensure it complies with FLSA 7(k) exemptions for firefighters. Hours for law enforcement personnel are based on a 28-day cycle with overtime rates beginning after 171 hours of work. Vacation, sick leave, and holidays are not included in the computation of hours worked. Only hours spent on the job are used to calculate overtime unless an unexpected emergency is cause for return to work. Compensatory leave must be approved by the Town Manager when an employee's balance is greater than 100 hours.

NOTE: Firefighters should receive overtime pay after 212 hours in a 28-day work cycle. WFFD firefighters currently work a 27-day cycle.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

B. Delta of Compensation and Benefits

EnviroSafe conducted an analysis of compensation and benefits contrasting the current Wake Forest Fire Department against the Town of Wake Forest general employees with attention to Wake Forest Police officers.

Benefits Comparison:

Summaries of the comparison and contrast are outlined below in the charts provided. Pay period, performance review, probation and introductory period, promotions, Spanish proficiency incentive, educational incentive, annual longevity, fit test, 401K, employee medical coverage, employee life insurance, employee dental, employee disability, employee vision, employee death benefit, tuition reimbursement, holidays, personal floating day off, vacation earnings, paid parental and elder care leave, sick leave, management leave, vacation carry over, wellness Wednesday, funeral leave, retirement contribution, supplemental insurance, spouse and family medical, retiree medical, college savings and vision comparisons were constructed.

TOWN OF WF	WFFD							
COMPENSATION								
PAY PERIOD	PERFORMANCE REVIEW	PROBATION/INTRO PERIOD	PROMOTIONS	SPANISH PROFICIENCY INCENTIVE	EDUCATION INCENTIVE	ANNUAL LONGEVITY BONUS/OTHER INCENT	FIT TEST	401K
Bi-Weekly/Mandatory Direct Dep	F/T, Annually (Jan 1), Av Incr=5% Salary=Midpt + DEV Plan, P/T, BiAnnually Employees with salaries at top of range receive lump sum payments	Conclusion of 6 MONTHS - 5% Merit	5% Inc or Min of new Pay Range	5% - One Time Increase	2.5% - Associate's (awarded after probation) 5% - Bachelor's (awarded after probation)	5-9 YRS SVC = \$300 10-14 YRS SVC = \$500 15-19 YRS SVC = \$700 20+ YRS SVC = \$1000	\$1,000	5% - Immediate No EE Match Required
Bi-Weekly Pay Cycle = 27 days, > 204 hrs = DT	Av Incr=2% (Pay Band Plan)	6 months	Promotion to FF 1st Class = 5% Promotion to LT or CPT = 10% Promotion to BC or AFC = 15%		\$500 - Assoc (Annual Incentive) \$1000 - Bach (Annual Incentive)	Special Assignments WebSite Maint = \$500	Fireground Endurance Level 1 = \$500 Level 2 = \$750 Level 3 = \$1000	7% - Immediate Plus up to 6% Match
BENEFITS								
EMPLOYEE MEDICAL COVERAGE	EMPLOYEE LIFE INSURANCE	EMPLOYEE DENTAL	EMPLOYEE S/T DISABILITY	EMPLOYEE L/T DISABILITY	EMPLOYEE VISION	EMPLOYEE DEATH BEN	TUITION REIMBURSE	
Town pays for ee coverage - \$777 or \$854 per month depending on plan	Free - 1 X Ann Salary Rounded to next \$1000	Free	Free	Free	Free	25K - 50K	Qualified Expenses - Annual Cap of \$2500 After Intro Period Bachelor's/Master's - Up to 3 credits/semester Associate's - Up to 6 credits/semester - Annual Cap of \$5250 Grade of "C" or better.	
WFFD pays for ee coverage	Free - 1.5 X Ann Salary	Free		Free	Free	LOOD 25k		
PAID TIME OFF								
HOLIDAYS	PERSONAL FLOATING DAY OFF	VACATION	PAID PARENTAL/ELDER CARE LEAVE	SICK LEAVE	MANAGEMENT LEAVE	VACATION CARRY OVER	WELLNESS WEDNESDAY	FUNERAL LEAVE
13 Paid (follow state schedule)	1 Paid	0-4 yrs svc = 12 Days 5-9 yrs svc = 15 Days 10-14 yrs svc = 18 Days 15-19 yrs svc = 20 Days 20+ yrs svc = 21 Days	Six Weeks of each in rolling 12 month period	12 Days >14 yrs svc = 10 days in 15th year >19 yrs svc = 10 days in 20th year	Granted to Exempt Personnel at the discretion of Dept Director & approved by Town Mgr (up to 80 hours annually)	Annual max carry over = 30 days, Remainder is converted to sick leave	Last Wednesday of the month excused 1 hour early for physical activity	40-42 hours based on work week after intro period
10 Paid								
Free'd to work on a holiday, receive reg pay for holiday and bank another holiday								
Free'd to work on a holiday, receive time and 1/2 pay for working hours		Operations Staff - (12 hr days) 0-4 yrs svc = 12 Days 5-9 yrs svc = 18.42 Days 10-14 yrs svc = 23.83 Days 15-19 yrs svc = 29.25 Days Admin Staff - (8 hr days) = 15 Days		12 Days		Annual max carry over = 30 days, Remainder is converted to sick leave		

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

EMPLOYEE PAID					
RETIREMENT CONTRIBUTION	SUPPLEMENTAL INSURANCE	SPOUSE/FAMILY MEDICAL (2018-19)	RETIREE MEDICAL INSURANCE	COLLEGE SAVINGS PROGRAM	VISION
6% - Immediate contrib for Police	Optional Dependent Dental, Dependent Life	BASE PLAN (New in FY 2020) Employee + 1 = \$466.28 (mthly) EE + Children = \$310.86 (mthly) EE + Family = \$932.57 (mthly)	Retirees hired after July 1, 2018 are not eligible for group med & life ins	Optional NC 529 Plan	Employee = \$3.63 (bi-wkly)
Vesting - 5 years of svc	Optional Dependent Vision	BUY UP PLAN (Existing Plan) Employee + 1 = \$512.40(mthly) EE + Children = \$341.60 (mthly) EE + Family = \$1024.80(mthly)			EE + 1 = \$7.05 (bi-wkly) EE + Family=\$10.35(bi-wkly)
Optional NC 457 Retirement Plan	Optional Dependent Dental	BLUE OPTIONS PPO 261 EE + 1 = \$225.78 (mthly) EE + Children = \$189.32 (mthly) EE + Family = \$395.10 (mthly)			
	Optional Dependent Vision	BLUE OPTIONS PPO 262 EE + 1 = \$189.64 (mthly) EE + Children = \$138.12 (mthly) EE + Family = \$344.18 (mthly)			
		BLUE OPTIONS PPO 264 EE ONLY = \$17.42 EE + 1 = \$264.10 EE + Children = \$202.43 EE + Family = \$449.10			

Column1	Column12	Column13	Column14	Column15	Column2	Column22	Column3	Column32	Column4	Column42	Column422	Column43	Column44	Column5	Column6
TOWN of WF TITLE	Competitive Process	Exempt from OT	Degree Req'd	Experience Req'd	PAY GRADE	SALARY (min)	SALARY (midpt)	SALARY (max)	WFFD TITLE	Competitive Process	Exempt from OT	Degree Req'd	Experience Req'd	CURRENT SALARIES	Rules for Promo
Police Chief(Exempt)	yes	yes	Bachelor's		31	98,457.00	129,417.00	160,376.00	Fire Chief	yes	yes	Bachelor's	6 yrs as Chief Officer	118K	
Dept Pol Chief (Exempt)	yes	yes	Assume Assoc		28	85,051.00	111,795.00	138,539.00							
					27	81,001.00	106,472.00	131,942.00							
Police Capt(Exempt)	yes	yes	Assume Assoc		26	77,144.00	101,401.00	125,659.00	Battalion Chief	yes	yes	TBD (in job description)	2 yrs as CPT	69K-86K	15% over CPT
					25	73,470.00	96,572.00	119,675.00							
Police LT (Exempt)	yes	yes	Associate's		24	69,971.00	91,974.00	113,976.00							
					23	66,639.00	87,594.00	108,549.00							
Police Sgt	yes	no	HS/GED/LEO		22	63,466.00	83,423.00	103,380.00	Captain	yes	no	HS/GED/FFII/EMT-B/ICS800/FOI	2 yrs as LT	53K-71K	10% over LT
					21	60,444.00	79,451.00	98,457.00							
Police Corporal - Promo Process starts w/this rank	yes	no	HS/GED/LEO		20	57,566.00	75,568.00	93,769.00	Lieutenant (Driver)	yes	no	HS/GED/FFII/EMT-B/ICS800/FOI	2 yrs svc	47K-56K	10% over FF 1st Class
Senior Pol Offcr	no	no	HS/GED/BLET	8 yrs svc	19	54,825.00	72,064.00	89,304.00							
Master Pol Offcr	no	no	HS/GED/BLET	6 yrs svc	18	52,214.00	68,633.00	85,051.00	FF First Class	no	no	HS/GED/FFII/EMT-B	1 year as FF	41K-52K	5% over FF
Police Officer II	no	no	HS/GED/BLET	2 yrs svc	17	49,728.00	65,365.00	81,001.00							
Police Officer I	no	no		6 mos svc	16	47,360.00	62,252.00	77,144.00	Firefighter	no	no	HS/GED/FFII/EMT-B		38K-46K	
					15	45,105.00	59,287.00	73,470.00							
Police Recruit	new hire	no			12	38,963.00	51,215.00	63,466.00	FF Recruit	new hire	no	HS/GED/FFII/EMT-B		36.7K	
					11	37,108.00	48,776.00	60,444.00							
Police Records Asst					10	35,341.00	46,454.00	57,566.00							

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

A closer analysis was examined regarding health care insurance rates that could affect the Wake Forest firefighters. Within this analysis, the following data was examined for current Wake Forest firefighters:

Medical					
Tier	Total Cost	WFFD Cost	WFFD %	EE Monthly Cost	EE Per Pay Period Cost
EE Only	4891.56	4891.56	100.00%	0	0
EE & Spouse	10761.72	4891.56	45.45%	489.18	225.76
EE & Children	9294	4891.56	52.63%	366.87	169.32
EE & Family	15164.04	4891.56	32.26%	856.04	395.1

Dental					
Tier	Total Cost	WFFD Cost	WFFD %	EE Monthly Cost	EE Per Pay Period Cost
EE Only	299.4	299.4	100.00%	0	0
EE & Spouse	598.56	299.4	50.02%	24.93	11.51
EE & Children	774.48	299.4	38.66%	39.59	18.27
EE & Family	1137.12	299.4	26.33%	69.81	32.22

Vision					
Tier	Total Cost	WFFD Cost	WFFD %	EE Monthly Cost	EE Per Pay Period Cost
EE Only	107.52	107.52	100.00%	0	0
EE & Spouse	209.64	107.52	51.29%	8.51	3.92
EE & Children	198.96	107.52	54.04%	7.62	3.51
EE & Family	317.16	107.52	33.90%	17.47	8.06

Value					
Tier	Total Cost	WFFD Cost	WFFD %	EE Monthly Cost	EE Per Pay Period Cost
EE Only	4464.6	4891.56	100.00%	0	0
EE & Spouse	9822.24	4891.56	49.80%	410.89	189.64
EE & Children	8482.8	4891.56	57.66%	299.27	138.12
EE & Family	13840.32	4891.56	35.34%	745.73	344.18

**Town of Wake Forest Fire Department Feasibility Analysis
August, 2019**

Up Plan					
Tier	Total Cost	WFFD Cost	WFFD %	EE Monthly Cost	EE Per Pay Period Cost
EE Only	5344.56	4891.56	91.52%	37.75	17.42
EE & Spouse	11758.08	4891.56	41.60%	572.21	264.1
EE & Chidren	10154.64	4891.56	48.17%	438.59	202.43
EE & Family	16568.04	4891.56	29.52%	973.04	449.1

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Comparatively, the information below represents the Town’s current employee benefit costs:

Medical Coverage—BCBS of North Carolina					
You now have a choice of two medical plans through Blue Cross and Blue Shield of NC - the Buy-Up Plan and the Base Plan. Review the chart below for the amount you will pay for the medical service listed.					
	Base Plan – NEW!		Buy-Up Plan – Current		
	In-Network	Out-of-Network	In-Network	Out-of-Network	
Annual Deductible (Individual/Family)	\$3,000/\$6,000	\$6,000/\$12,000	\$1,750/\$3,500	\$3,500/\$7,000	
Coinsurance	20% after deductible	50% after deductible	20% after deductible	50% after deductible	
Annual Out-of-pocket Maximum (Individual/Family)	\$5,000/\$10,000	\$10,000/\$20,000	\$3,750/\$7,500	\$7,500/\$15,000	
Preventive Care	Covered at 100%	Not Covered	Covered at 100%	Not Covered	
Office Visits					
Primary Care	\$25 copay	50% after deductible	\$25 copay	50% after deductible	
Specialist	\$50 copay	50% after deductible	\$50 copay	50% after deductible	
Urgent Care	\$50 copay	50% after deductible	\$50 copay	50% after deductible	
Emergency Room	\$500 copay (waived if admitted)		\$500 copay (waived if admitted)		
Hospital Services					
Inpatient	20% after deductible	50% after deductible	20% after deductible	50% after deductible	
Outpatient	20% after deductible	50% after deductible	20% after deductible	50% after deductible	
Employer / Employee Per Pay Period Costs – Medical:					
Base Plan – NEW!					
Tier	Total Cost	Town Cost	Town Percentage	EE Monthly Cost	EE Per Pay Period Cost
Employee Only	\$777.14	\$777.14	100%	\$0.00	\$0.00
Employee + Spouse	\$1,243.42	\$777.14	63%	\$466.28	\$233.14
Employee + Child(ren)	\$1,088.00	\$777.14	71%	\$310.86	\$155.43
Employee + Family	\$1,709.71	\$777.14	45%	\$932.57	\$466.28
Buy-Up Plan – Current					
Tier	Total Cost	Town Cost	Town Percentage	EE Monthly Cost	EE Per Pay Period Cost
Employee Only	\$854.00	\$854.00	100%	\$0.00	\$0.00
Employee + Spouse	\$1,366.40	\$854.00	63%	\$512.40	\$256.20
Employee + Child(ren)	\$1,195.60	\$854.00	72%	\$341.60	\$170.80
Employee + Family	\$1,878.80	\$854.00	46%	\$1,024.80	\$512.40

Employees of both organizations enjoy the benefit of employer paid premiums for employee-only medical insurance coverage. Approximately 60% of all Wake Forest Fire Department employees elect employee-only insurance. The most significant premium increase will be realized by those employees who choose to cover their families. Nine WFFD have selected a family plan. Monthly costs for these employees will increase up to \$280 per month depending on the TOWF plan selected.

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

NCLGERS:

If under the Town of Wake Forest, firefighters would be eligible to participate in the North Carolina Local Government Employee's Retirement System (NCLGERS) which is a major propellant of the consideration of this unification.

Every local governments in North Carolina is required by law to participate in NCLGERS. Each employee is required to contribute 6% of their salary towards NCLGERS. Each local government unit is required to pay into NCLGERS based upon direction of the State Treasurer. For FY 19-20, the percentage is at 9.02%. For FY 20-21, it is projected that the Town of Wake Forest will need to pay 10.15% into NCLGERS.

As a private, non-profit fire department, Wake Forest Fire Department, Inc. cannot participate in NCLGERS. Only local governments are allowed to participate. In some cases, this presents confusion because there was a short window of time in the late 1980s and early 1990s where private, non-profit fire departments were allowed entry into NCLGERS. This entry was stopped due to rulings by the federal Internal Revenue Service (IRS). However, those private, non-profit fire departments that were allowed in during those years are allowed to remain in the NCLGERS system. Some of those fire departments are located near Wake Forest and that makes it even harder for recruitment and retention for Wake Forest.

Those current private, non-profit fire departments that were allowed into NCLGERS during that entry time frame in North Carolina are as follows:

1. Alamance Community Fire Dist. Inc – Guilford County
2. Bayleaf Fire Department – Wake County (Now Northern Wake Fire Department)
3. Blue Ridge Fire Department – Henderson County
4. Clemmons Fire Department – Forsyth County
5. Colfax Volunteer Fire Department – Guilford County
6. Durham Highway Fire Protection Agency – Wake County
7. Garner Fire Department – Wake County
8. Guil-Rand Fire Department – Guilford County
9. Pincroft-Sedgefield Fire Department – Guilford County
10. Pleasant Garden Fire Department – Guilford County
11. Skyland Volunteer Fire Department – Buncombe County
12. Summerfield Fire Department – Guilford County
13. West Buncombe Fire Department – Buncombe County
14. Westarea Volunteer Fire Department – Cumberland County

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

There are multiple methods to utilize to qualify to retire with benefits from NCLGERS. There are unreduced and reduced benefits. Of interest to Wake Forest firefighters will be reduced benefits. The chart below indicates some viable options to qualify and the subsequent chart indicates the reduction when less than thirty (30) years of credible service is able to be used in the calculations.

How do I qualify for Local Governmental Employees' Retirement System (LGERS) benefits?

Service Retirement (Unreduced) Benefits are available:

- At age 65 with five years of membership service
- At age 60 with 25 years of creditable service
- At any age with 30 years of creditable service

Early Retirement (Reduced) Benefits are available:

- At age 50 with 20 years of creditable service
- At age 60 with five years of membership service

AGE	CREDITABLE SERVICE									
	29	28	27	26	25	24	23	22	21	20
59	95%	90%	85%	80%	80%	80%	80%	80%	80%	80%
58	95%	90%	85%	80%	75%	75%	75%	75%	75%	75%
57	95%	90%	85%	80%	75%	70%	70%	70%	70%	70%
56	95%	90%	85%	80%	75%	70%	65%	65%	65%	65%
55	95%	90%	85%	80%	75%	70%	65%	60%	60%	60%
54	95%	90%	85%	80%	75%	70%	65%	60%	55%	55%
53	95%	90%	85%	80%	75%	70%	65%	60%	55%	52%
52	95%	90%	85%	80%	75%	70%	65%	60%	55%	50%
51	95%	90%	85%	80%	75%	70%	65%	60%	55%	50%
50	95%	90%	85%	80%	75%	70%	65%	60%	55%	50%

It will be important for the Town to assist each fire department employee on an individual basis in the transition to NCLGERS to ensure that they are aware of their benefits of being a member of this system.

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

NC Firefighters and Rescue Squad Worker's Pension Fund:

WFFD firefighters are currently members of the NC Firefighters and Rescue Squad Worker's Pension Fund. This is a simple supplemental retirement fund set up by the North Carolina Legislature that provides a benefit of \$170 per month when a member of the department has contributed at least twenty years of credible service as a firefighter in North Carolina and is at least fifty-five (55) years of age. Cost of credible service is \$10 per person per month and requires that each participating firefighter receives a minimum number of training hours annually. The system is managed by the North Carolina State Treasurer.

The assessment team recommends that the Town of Wake Forest should continue providing the \$10 per month for qualifying firefighter.

Special Separation Allowance:

While all local government employees in the State of North Carolina are a part of NCLGERS, the physical demands and work schedules of police officers and firefighters are significantly different than those of general government employees.

Since the 1980's, North Carolina General Statute 143-166.41 requires that local governments provide a special separation allowance for police officers. The intent is to help bridge the gap between the retirement date and eligibility to draw Social Security. As an example, a retiree at age 57 would be eligible for the separation allowance for approximately five years, until age 62.

Although not mandated by General Statute, local governments may choose to provide this parallel option to their firefighters as well. Several local governments do this now and others are considering it. The assessment team encourages Wake Forest to implement this system with the potential unification of the fire department into Town Government. It will be an important component for recruitment of talent and it will also be a retention tool for existing personnel to encourage them to stay in Wake Forest and not take positions in Raleigh, Durham, Cary, Chapel Hill and other fire departments regionally. The special separation program is also recognized to also be a risk management tool.

Local governments initiating this benefit into their overall package can place boundaries and structure that will ensure that funds going to this effort are being used as intended. Under the consideration below, funding for this program would not be necessary for at least five years from the unification of the fire department into Wake Forest Town Government. A recommended ordinance for Wake Forest to consider is below. It parallels other municipalities in North Carolina and is becoming recognized as best practice to acknowledge the difficult and

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

complex work that firefighters provide and the physical and mental toll that work takes on firefighters over a thirty-year career.

Suggested Language

Town of Wake Forest Special Separation Allowance for Firefighters

(a) As used in this section, the term "firefighter" means a person (i) who is a full-time paid employee of an employer that participates in the Local Governmental Employees' Retirement System, who is actively serving in a position with assigned primary duties and responsibilities for the education, prevention, detection, and suppression of fire.

(b) Every firefighter who qualifies under this section shall receive an annual separation allowance beginning in the month in which the firefighter retires on a basic service retirement under the provisions of G.S. 128-27(a). The annual separation allowance shall be equal to eighty-five hundredths percent (0.85%) of the annual equivalent of the base rate of compensation most recently applicable to the firefighter for each year of creditable service. The allowance shall be paid in equal installments on the payroll frequency used by Wake Forest. To qualify for the allowance, the firefighter shall meet all of the following criteria:

- (1) The firefighter has either (i) completed 30 or more years of creditable service or (ii) attained 60 years of age and completed 20 or more years of creditable service.
- (2) The firefighter has not attained 62 years of age.
- (3) The firefighter retired after July 1, 2020.
- (4) The firefighter has served the previous five (5) years directly with the Town of Wake Forest local government (hence post July 1, 2020).

(c) As used in this section, "creditable service" means the service for which credit is allowed under the retirement system of which the firefighter is a member, provided that at least fifty percent (50%) of the service is as a firefighter as defined in section (a).

(d) Payment to a retired firefighter under the provisions of this section shall cease upon the earlier of following:

- (1) The death of the firefighter.
- (2) The last day of the month in which the firefighter attains 62 years of age
- (3) The first day of reemployment by a local government employer in any capacity.

Notwithstanding the provisions of subdivision (3) of this subsection, a local government employer may employ retired firefighters in a public safety position in a capacity not requiring participation in the Local Governmental Employees' Retirement System or an equivalent locally sponsored retirement plan, and doing so shall not cause payment to cease to those firefighters under the provisions of this section.

(e) This section does not affect the benefits to which an individual may be entitled from State,

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

local, federal, or private retirement systems. The benefits payable under this section shall not be subject to any increases in salary or retirement allowances that may be authorized by local government employers or for retired employees of local governments.

Compensation Schedules:

The fire department currently utilizes a step pay plan, which is considered best practice and very effective for the teamwork that is necessary for firefighters. This method has been proven superior to other types of compensation systems for firefighters. The Federal Government recognizes that firefighter work environments and schedules are different than any other profession and distinguishes firefighters who are part of local governments under the Fair Labor Standards Act (FLSA) 7(k) exemption which allows municipal firefighters to work 212 hours in a 28 day period. This FLSA 7(k) provision is NOT allowed or entitled for private, non-profit fire departments and is reserved only for state and local government fire departments.

We believe that the step pay plan system should continue to be utilized. However, the current compensation rates need some adjustment in order to be equitable with the Wake County and North Carolina market. Should decision makers elect to move forward with the unification, the Town is planning a compensation study in fall, 2019. This is an essential component because compensation compression issues need to be addressed throughout the sworn ranks. It is realistic that it may take a few budget cycles to fully implement pay compression issues that are anticipated to emerge in the compensation study.

However, the assessment team identified some more immediate needed changes in the starting pay for each rank in order to be comparable with other compensation in the Town, the Wake County area and similar sized fire departments in North Carolina.

The assessment team considered a number of factors in addressing the compensation issues. These include, but are not limited to:

- Current pay schedule for Wake Forest
- Comparative pay plans and structures for other fire departments in the region
- Comparative salary ranges and positions in the Wake Forest Police Department
- Recent firefighter compensation studies conducted in North Carolina for similar size agencies
- The Town's plan to conduct a compensation study in the fall of 2019 if the unification moves forward
- Industry best practice

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Below is the current pay structure for the fire department:

July 1, 2019						
	AS	FF	FFC	LT	CT	CO
		34,301.80				
0	39,478.40	38,510.20				
1	40,267.97	39,184.13	41,143.33			
2	41,073.33	39,869.85	41,863.34	46,049.68		
3	41,894.79	40,567.57	42,595.95	46,855.55		
4	42,732.69	41,277.51	43,341.38	47,675.52	52,443.07	
5	43,587.34	41,999.86	44,099.86	48,509.84	53,360.82	
6	44,459.09	42,734.86	44,871.60	49,358.76	54,294.64	62,438.83
7	45,348.27	43,482.72	45,656.86	50,222.54	55,244.80	63,531.51
8	46,255.24	44,243.67	46,455.85	51,101.44	56,211.58	64,643.32
9	47,180.34	45,017.93	47,268.83	51,995.71	57,195.28	65,774.57
10	48,123.95	45,805.75	48,096.03	52,905.64	58,196.20	66,925.63
11	49,086.43	46,607.35	48,937.71	53,831.48	59,214.63	68,096.83
12	50,068.16	47,422.97	49,794.12	54,773.54	60,250.89	69,288.52
13	51,069.52	48,252.88	50,665.52	55,732.07	61,305.28	70,501.07
14	52,090.91	49,097.30	51,552.17	56,707.38	62,378.12	71,734.84
15	53,132.73	49,956.50	52,454.33	57,699.76	63,469.74	72,990.20
16	54,195.38	50,830.74	53,372.28	58,709.51	64,580.46	74,267.53
17	55,279.29	51,720.28	54,306.30	59,736.92	65,710.62	75,567.21
18	56,384.88	52,625.39	55,256.66	60,782.32	66,860.55	76,889.64
19	57,512.57	53,546.33	56,223.65	61,846.01	68,030.61	78,235.20
20	58,662.83	54,483.39	57,207.56	62,928.32	69,221.15	79,604.32
21	59,836.08	55,436.85	58,208.69	64,029.56	70,432.52	80,997.40
22	61,032.80	56,407.00	59,227.35	65,150.08	71,665.09	82,414.85
23	62,253.46	57,394.12	60,263.82	66,290.21	72,919.23	83,857.11
24	63,498.53	58,398.51	61,318.44	67,450.28	74,195.31	85,324.61
25		59,420.49	62,391.51	68,630.66	75,493.73	86,817.79
26		60,460.35	63,483.36	69,831.70	76,814.87	88,337.10
27		61,518.40	64,594.32	71,053.76	78,159.13	89,883.00
28		62,594.98	65,724.72	72,297.20	79,526.92	91,455.95
29					80,918.64	93,056.43
30					82,334.71	94,684.92

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Below is a comparison conducted with the Wake Forest Police Department:

ENVIROSAFE WAKE FOREST COMPARISON					
WFFD RANK	CURRENT WFFD SALARY RANGE	AVERAGE SALARY IN RANGE	COMPARABLE WF POLICE RANK	CURRENT WF POLICE SALARY RANGE	MARKET RATE
FIRE CHIEF	\$118,404	\$118,404	POLICE CHIEF	\$98,457-\$160,376	\$129,417
DEPUTY FIRE CHIEF			ASSISTANT POLICE CHIEF	\$85,051-\$138,539	\$111,795
BATTALION CHIEF	\$69,289-\$85,325	\$76,044	POLICE CAPTAIN	\$77,144-\$125,659	\$101,401
CAPTAIN	\$53,361-\$70,433	\$60,238	POLICE SERGEANT	\$63,466-\$103,380	\$83,423
LIEUTENANT (DRIVER)	\$47,676-\$55,732	\$50,585	POLICE CORPORAL	\$57,566-\$93,769	\$75,688
FIREFIGHTER 1ST CLASS	\$41,143-\$51,552	\$43,751	MASTER POLICE OFFICER	\$52,214-\$85,051	\$68,633
FIREFIGHTER	\$38,510-\$45,806	\$39,867	POLICE OFFICER I	\$47,360-\$77,144	\$62,252
FIREFIGHTER RECRUIT	\$36,700		POLICE RECRUIT	\$38,963-\$63,466	\$52,215

Below is a recent analysis of fire departments of similar size in North Carolina:

North Carolina Association of Fire Chiefs Pay Study 2017 Number of Employees 31 -100 Employees



Fire Department Name	County Located	Population of Service Area	Annual Budget	Number of Full Time Employees	ISO Classification
Skyland Fire Department	Buncombe	28000	6325467	52	Class 3
Sanford Fire Department	Lee	29,000	5,500,000	52	Class 4
Durham County Fire & Rescue	Durham	65,000	4,100,000	53	Class 3
Morrisville Fire/Rescue	Wake	30,000	5.1 million	53	Class 3
Garner Fire-Rescue	Wake	54,000	5.1 Million	64	Class 2
Kemersville Fire Rescue	Forsyth	25,000	6,073,000	71	Class 4
City of Statesville Fire Department	Iredell	26,460	\$6,119,633	71	Class 4
Apex Fire Department	Wake	60,000	7,400,000	74	Class 3
Jacksonville Fire and Emergency Services	Onslow	70145	7,529,652	88	Class 3
Mooresville Fire Rescue	Iredell	38,000	9,500,000	91	Class 1
Chapel Hill Fire Department	Orange	59000	9,200,000	96	Class 2
Wilson Fire/Rescue Services	Wilson	49,620	7,989,600	97	Class 2
Average 31 To 100 Employees		44,519	\$4,981,239	72	\$0

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

North Carolina Association of Fire Chiefs

Pay Study 2017

Number of Employees 31 -100 Employees



Starting Pay for a Part-Time Firefighter	Minimum Starting Pay - Firefighter	Maximum Top-out Pay - Firefighter	Minimum Starting Pay - Paramedic	Maximum Top-out Pay - Paramedic	Minimum Starting Pay - Firefighter / Paramedic	Maximum Top-out Pay - Firefighter / Paramedic
\$10.00	\$27,500	\$46,000	\$45,000	\$58,000	Not Applicable	Not Applicable
Not Applicable	\$36,500	\$66,000	Not Applicable	Not Applicable	Not Applicable	Not Applicable
\$11.25	\$32,500	\$57,500	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Not Applicable	\$39,000	\$69,000	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Not Applicable	\$36,500	\$62,500	Not Applicable	Not Applicable	Not Applicable	Not Applicable
\$11.25	\$32,000	\$50,000	Not Applicable	Not Applicable	Not Applicable	Not Applicable
\$15.00	\$31,000	\$51,000	Not Applicable	Not Applicable	Not Applicable	Not Applicable
\$14.75	\$37,531	\$58,500	Not Applicable	Not Applicable	Not Applicable	Not Applicable
\$12.00	Unk	\$58,500	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Not Applicable	\$34,500	\$45,000	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Not Applicable	\$35,500	\$58,000	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Not Applicable	\$35,500	\$57,000	Not Applicable	Not Applicable	Not Applicable	Not Applicable
\$12.38	\$34,366	\$56,583	\$45,000	\$58,000	\$0	\$0

North Carolina Association of Fire Chiefs

Pay Study 2017

Number of Employees 31 -100 Employees



Minimum Starting Pay - Engineer	Maximum Top-out Pay - Engineer	Minimum Starting Pay - Company Officer	Maximum Top-out Pay - Company Officer	Minimum Starting Pay - District Supervisor	Maximum Top-out Pay - District Supervisor	Minimum Starting Pay - Shift Supervisor	Maximum Top-out Pay - Shift Supervisor
\$31,000	\$52,000	\$36,000	\$73,000	\$44,000	\$86,000	\$47,000	\$87,500
\$40,000	\$66,000	\$46,500	\$76,500	Not Applicable	Not Applicable	\$54,000	\$90,000
\$35,500	\$63,500	\$43,500	\$78,500	Not Applicable	Not Applicable	Not Applicable	Not Applicable
\$45,000	\$72,500	\$55,000	\$85,000	\$63,500	\$103,000	Not Applicable	Not Applicable
\$41,500	\$70,500	\$48,500	\$82,000	\$56,000	\$95,500	Not Applicable	Not Applicable
\$38,000	\$55,000	\$44,000	\$63,000	\$53,500	\$77,500	Not Applicable	Not Applicable
\$35,500	\$59,000	\$41,500	\$68,500	Not Applicable	Not Applicable	\$45,500	\$75,500
\$45,500	\$71,500	\$50,000	\$82,500	Not Applicable	Not Applicable	\$61,000	\$100,500
\$38,500	\$64,500	\$44,500	\$71,000	Not Applicable	Not Applicable	\$51,500	\$82,500
\$42,500	\$54,000	\$49,500	\$71,500	\$62,500	\$82,500	Not Applicable	Not Applicable
\$43,000	\$64,000	\$49,500	\$83,500	Not Applicable	Not Applicable	\$62,000	\$96,000
\$39,000	\$63,000	\$48,000	\$76,500	Not Applicable	Not Applicable	\$58,000	Not Applicable
\$39,583	\$62,958	\$46,375	\$75,958	\$55,900	\$88,900	\$54,143	\$88,667

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

North Carolina Association of Fire Chiefs

Pay Study 2017

Number of Employees 31 -100 Employees



Minimum Starting Pay - Training Officer	Maximum Top-out Pay - Training Officer	Minimum Starting Pay - Fire & Life Safety Officer	Maximum Top-out Pay - Fire & Life Safety Officer	Minimum Start Pay - Fire Inspector	Maximum Top-out Pay - Fire Inspector	Minimum Starting Pay - Fire Marshal	Maximum Top-out Pay - Fire Marshal
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Not Applicable	Not Applicable	Not Applicable	Not Applicable	\$51,500	\$84,500	Not Applicable	Not Applicable
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	\$60,000	\$98,000
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
\$48,500	\$70,000	Not Applicable	Not Applicable	\$42,000	\$81,000	\$59,000	\$85,000
\$45,500	\$75,500	Not Applicable	Not Applicable	\$39,500	\$65,000	\$58,500	\$96,000
\$52,500	\$82,500	Not Applicable	Not Applicable	\$41,500	\$64,500	\$55,500	\$91,000
\$51,500	\$82,500	Not Applicable	Not Applicable	\$40,500	\$67,500	\$49,000	\$78,500
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
\$62,000	\$96,000	Not Applicable	Not Applicable	\$49,000	\$83,500	\$57,500	\$84,000
Not Applicable	Not Applicable	\$48,000	\$76,500	\$43,000	\$69,000	\$58,000	\$93,500
\$52,000	\$81,300	\$48,000	\$76,500	\$43,857	\$70,714	\$56,786	\$89,429

North Carolina Association of Fire Chiefs

Pay Study 2017

Number of Employees 31 -100 Employees



Minimum Starting Pay - Deputy / Asst. Chief	Maximum Top-out Pay - Deputy / Asst. Chief	Minimum Starting Salary - Fire Chief	Maximum Top-out Salary - Fire Chief	Minimum Starting Salary - Office Manager	Maximum Top-out Salary - Office Manager
\$51,000	\$96,500	58804	119121	33193	62542
\$62,500	\$103,000	75,900	125,200	Not Applicable	Not Applicable
\$53,000	\$94,500	65,340	117,612	na	na
Not Applicable	Not Applicable	85,500	136,800	N/A	N/A
\$71,500	\$121,500	80,672	137,142	26,250	43,750
\$59,000	\$85,000	88,500	165,000	N/A	N/A
\$64,500	\$106,000	\$78,281	\$129,163	Not Applicable	Not Applicable
\$67,500	\$110,500	90,232	148,533	Not Applicable	Not Applicable
\$56,500	\$91,000	69000	110402	Not Applicable	Not Applicable
Not Applicable	Not Applicable	70,000	115,000	Not Applicable	Not Applicable
\$68,000	\$125,000	\$99,000	\$160,000	\$29,200	\$47,500
\$64,000	\$103,000	\$95,076.38	\$152,768.73	Not Applicable	Not Applicable
\$61,750	\$103,600	\$68,308	\$115,482	\$29,548	\$51,264

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

After taking all available information into consideration, the assessment team recommends that the Town of Wake Forest follows a pay plan structure similar to the chart below. It is parallel to what the fire department has been using, it is consistent with the step pay plans that are fire service industry best practice and it would encourage recruitment and retention.

STEP	FIREFIGHTER	FIRST CLASS	LIEUTENANT	FIRE CAPTAIN	BATALION CHIEF
1	\$ 40,000.00				
2	\$ 41,600.00	\$ 43,680.00			
3	\$ 43,264.00	\$ 45,427.20	\$ 49,969.92		
4	\$ 44,994.56	\$ 47,244.29	\$ 51,968.72		
5	\$ 46,794.34	\$ 49,134.06	\$ 54,047.47	\$ 59,452.21	
6	\$ 48,666.12	\$ 51,099.42	\$ 56,209.36	\$ 61,830.30	
7	\$ 50,612.76	\$ 53,143.40	\$ 58,457.74	\$ 64,303.51	\$ 77,164.22
8	\$ 52,637.27	\$ 55,269.13	\$ 60,796.05	\$ 66,875.65	\$ 80,250.78
9	\$ 54,742.76	\$ 57,479.90	\$ 63,227.89	\$ 69,550.68	\$ 83,460.81
10	\$ 56,932.47	\$ 59,779.10	\$ 65,757.01	\$ 72,332.71	\$ 86,799.25
11	\$ 59,209.77	\$ 62,170.26	\$ 68,387.29	\$ 75,226.01	\$ 90,271.22
12	\$ 61,578.16	\$ 64,657.07	\$ 71,122.78	\$ 78,235.06	\$ 93,882.07
13	\$ 64,041.29	\$ 67,243.35	\$ 73,967.69	\$ 81,364.46	\$ 97,637.35
14	\$ 64,337.49	\$ 69,933.09	\$ 76,926.40	\$ 84,619.04	\$ 101,542.84
15	\$ 64,337.49	\$ 70,256.54	\$ 80,003.45	\$ 88,003.80	\$ 105,604.56
16	\$ 64,337.49	\$ 70,256.54	\$ 80,373.48	\$ 91,523.95	\$ 109,828.74
17	\$ 64,337.49	\$ 70,256.54	\$ 80,373.48	\$ 95,184.91	\$ 114,221.89
18	\$ 64,337.49	\$ 70,256.54	\$ 80,373.48	\$ 95,625.15	\$ 118,790.76
19	\$ 64,337.49	\$ 70,256.54	\$ 80,373.48	\$ 95,625.15	\$ 123,542.39
20	\$ 64,337.49	\$ 70,256.54	\$ 80,373.48	\$ 95,625.15	\$ 124,113.80
21	\$ 64,337.49	\$ 70,256.54	\$ 80,373.48	\$ 95,625.15	\$ 124,113.80
22	\$ 64,337.49	\$ 70,256.54	\$ 80,373.48	\$ 95,625.15	\$ 124,113.80
23	\$ 64,337.49	\$ 70,256.54	\$ 80,373.48	\$ 95,625.15	\$ 124,113.80
24	\$ 64,337.49	\$ 70,256.54	\$ 80,373.48	\$ 95,625.15	\$ 124,113.80
25	\$ 64,337.49	\$ 70,256.54	\$ 80,373.48	\$ 95,625.15	\$ 124,113.80
26	\$ 64,337.49	\$ 70,256.54	\$ 80,373.48	\$ 95,625.15	\$ 124,113.80
27	\$ 64,337.49	\$ 70,256.54	\$ 80,373.48	\$ 95,625.15	\$ 124,113.80
28	\$ 64,337.49	\$ 70,256.54	\$ 80,373.48	\$ 95,625.15	\$ 124,113.80
29	\$ 64,337.49	\$ 70,256.54	\$ 80,373.48	\$ 95,625.15	\$ 124,113.80
30	\$ 64,337.49	\$ 70,256.54	\$ 80,373.48	\$ 95,625.15	\$ 124,113.80
31	\$ 64,337.49	\$ 70,256.54	\$ 80,373.48	\$ 95,625.15	\$ 124,113.80
32	\$ 64,337.49	\$ 70,256.54	\$ 80,373.48	\$ 95,625.15	\$ 124,113.80
33	\$ 64,337.49	\$ 70,256.54	\$ 80,373.48	\$ 95,625.15	\$ 124,113.80
34	\$ 64,337.49	\$ 70,256.54	\$ 80,373.48	\$ 95,625.15	\$ 124,113.80
35	\$ 64,337.49	\$ 70,256.54	\$ 80,373.48	\$ 95,625.15	\$ 124,113.80
36		\$ 70,256.54	\$ 80,373.48	\$ 95,625.15	\$ 124,113.80
37			\$ 80,373.48	\$ 95,625.15	\$ 124,113.80
38				\$ 95,625.15	\$ 124,113.80
39				\$ 95,625.15	\$ 124,113.80
40					\$ 124,113.80
41					\$ 124,113.80

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

EnviroSafe has custom created the above chart specific for the Town of Wake Forest. There are variables that can be adjusted. It is designed with the following features:

- Minimum and Maximums for each rank
- Bandwidth for each rank (how far before capping out at each respective rank)
- 4% pay steps between steps (based upon the Town's average 4% annual pay increases)
- Promotional rates between ranks as follows
 - Firefighter to First Class – 5%
 - First Class to Lieutenant – 10%
 - Lieutenant to Captain – 10%
 - Captain to Battalion Chief – 20%
 - Note this is important because this is the switch over from FLSA Non-Exempt (earning overtime) to FLSA Exempt (not earning overtime).

At a bare minimum, the Town should ensure that all personnel are placed at least at the lowest pay level for their position as of July 1, 2020. This will mean providing some employees increases on July 1, 2020 in order to ensure that they are making the minimum amount for their pay classification. This is consistent with current Town policy.

A comprehensive compensation study is slated for the fall of 2019 to be conducted by the Town's Human Resource Department. We would anticipate that study will support the pay plan as outline above. However, most of the current employees will need salary adjustments in order to properly address pay compression. In order to prepare the Town for this factor, we have made some salary projections that are used in the fiscal analysis component of this project. The following guidelines have been used:

1. Moving all employees to the entry level pay for their current rank
2. Taking current rank and current years in that rank
3. Rounding those years upward to the next highest year
4. Adding one year for FY 19-20
5. Adding one year for FY 20-21

As an example, a Fire Captain with 7.8 years in the rank of Captain was rounded up to 8 years (\$66,875.65). One year was noted for FY 19-20 and one additional year was noted for FY 20-21. Therefore, that Fire Captain was projected to be in the 10-year slot for budgeting purposes (\$72,332.71). Appropriate benefit costs were added based upon the highest projected salary.

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

Crosswalk:

EnviroSafe developed a complex proprietary system of analyzing where each current employee of the WFFD is and where they would be in the future Town of Wake Forest system. This high-level analytical tool enables budget projections in the fiscal section of the report. However, it is important to note what EnviroSafe has evaluated for each employee in order to develop and construct this significant tool.

Those components are as follows:

1. WFFD Employee number
2. WFFD Employee name
3. WFFD Base salary
4. WFFD Incentive pay
5. WFFD Salary with incentives
6. Projected Town of Wake Forest Base Salary
7. Projected Town of Wake Forest Incentive Pay
8. Projected Town of Wake Forest Salary with Incentives
9. WFFD Health Plan Tier
10. WFFD Employer Plan Cost
11. Projected Town of Wake Forest Medical Cost
12. WFFD Dental Insurance Coverage
13. WFFD Dental Expense
14. WFFD Vision Insurance Coverage
15. WFFD Vision Expense
16. Projected Town of Wake Forest Vision Expense
17. WFFD Life Insurance at .2 of Base Salary
18. Projected Town of Wake Forest Life Insurance
19. WFFD Medicare 1.45 of Base
20. Projected Town of Wake Forest Medicare at 1.45% of Base
21. WFFD FICA at 6.2% of Base
22. Projected Town of Wake Forest FICA at 6.2% of Base
23. WFFD 401(k) at 13% of Base
24. Projected Town of Wake Forest 401(k) at 5% of Base
25. Projected Town of Wake Forest NCLGERS at 10.15% of Base
26. WFFD Total Compensation
27. Projected Town of Wake Forest Total Compensation

Therefore, this interactive graph allows the Town to work with variables during the transitional period in order to develop the FY 20-21 budget in a responsible manner.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Beyond this complex employee crosswalk, EnviroSafe developed specialized charts on HR Employee Data, WFFD Benefits rates, Employee Deductions Crosswalk, Implementation, 5-year Budget projections, and a fully adjustable pay plan. This data interacts with each other, which will provide significant assistance to the Town of Wake Forest in unifying the fire department into Wake Forest Town Government.

It should also be noted that we conducted projections for all current Wake Forest Fire Department employees as well as the thirteen (13) firefighters that are projected to come to the department in fall of 2019, in order to project inclusive costs and impacts.

Outcomes of this data are in the fiscal section of the report. Actual calculations are provided to the Town of Wake Forest electronically and may be protected under public records. EnviroSafe's calculation tool is proprietary.

North Carolina Firefighters Relief Fund:

The State of North Carolina Firefighters' Relief Fund (FRF) was established in 1907 to financially assist firefighters that are injured while performing their duties, and to ensure that no firefighter would become financially destitute through no fault of their own. The FRF has seen several legislative revisions over the course of its history. Some of these added additional uses for the fund and recent changes placed additional guidelines on the fund. The FRF laws are found under G.S. 58-84 and G.S. 58-85. Laws that govern Wake Forest's use of the FRF are concentrated in G.S 58-84.

The Town of Wake Forest will be required to maintain a Local Relief Fund Board (LRFB) consisting of five specified members (GS 58-84-30): two members serving at the pleasure of the fire department elected by the membership who are qualified as beneficiaries of the fund; two of whom shall be elected or appointed by the Mayor and/or Board of Town Commissioners; and one appointed by the Commissioner of Insurance. If the local fire chief is not one of the members appointed, they shall serve as ex-officio members of the local Board. The LRFB shall then elect a Chairperson, Treasurer, and Secretary. The Secretary and Treasurer may be the same person.

Based upon information available to the assessment team, no substantial changes are envisioned for the Local Relief Fund with the transition to the Town of Wake Forest. The current relief fund board is functioning and serving well. Designation of members will need to be re-visited and the proper notification Board of Trustees report form sent to the State of North Carolina and the North Carolina State Firefighters Association. The Town will need to make provisions for housing the Relief Funds. However, Local Relief Funds cannot be used for any purpose other than those specified in clarity by state law.

**Town of Wake Forest Fire Department Feasibility Analysis
August, 2019**

C. Special Fair Labor Standards Act (FLSA) Considerations

The fire department currently utilizes a step pay plan, which is considered best practice and very effective for the teamwork that is necessary for firefighters. This method has been proven superior to other types of compensation systems for firefighters. The Federal Government recognizes that firefighter work environments and schedules are different than any other profession and distinguishes firefighters who are part of local governments under the Fair Labor Standards Act (FLSA) 7(k) exemption which allows municipal firefighters to work 212 hours in a 28 day period. This FLSA 7(k) provision is NOT allowed or entitled for private, non-profit fire departments and is reserved only for state and local government fire departments.

Municipal firefighters under the 7(k) exemption are not required to be paid overtime until they reach certain thresholds as outlined below:

Work Period Days	Max Hours Fire Protection
28	212
27	204
26	197
25	189
24	182
23	174
22	167
21	159
20	151
19	144
18	136
17	129
16	121
15	114
14	106
13	98
12	91
11	83
10	76
9	68
8	61
7	53

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

The position of eligibility is supported by two most recent and relevant documents. First, from the United States Department of Labor and secondly, from the North Carolina Department of Labor.

U.S. Department of Labor

Wage and Hour Division
Washington, DC 20210



FLSA2018-24

November 8, 2018

Dear **Name***:

This letter responds to your request for an opinion concerning whether nonprofit, private volunteer fire departments that contract with state municipalities and counties to provide fire protection services to the general public are “public agencies” entitled to the partial overtime exemption in Section 7(k) of the Fair Labor Standards Act (FLSA), 29 U.S.C. § 207(k)—and if not, whether they would become public agencies if the state enacted legislation that defined them as “political subdivisions.” This opinion is based exclusively on the facts you have presented. You represent that you do not seek this opinion for any party that the Wage and Hour Division (WHD) is currently investigating or for use in any litigation that commenced prior to your request.

BACKGROUND

Your letter represents that your client, a nonprofit firefighters’ association, consists partly of nonprofit, privately owned volunteer fire departments that contract with North Carolina municipalities and counties to provide fire protection services to the general public. These fire departments do not consider themselves political subdivisions and do not avail themselves of the partial exemption in Section 7(k). They provide fire protection services as independent contractors, purchase most of their own equipment, and independently elect their board of directors, which appoints their officers. Their bylaws give them independent judgment and discretion over their operations.

These fire departments receive public funds from the North Carolina Department of Insurance and their local government clients. Additionally, the North Carolina legislature has authorized local governments to collect a “fire fee” from taxpayers, which helps to fund the fire departments. The local governments also provide oversight; for example, they may review and audit the fire departments’ financials and budgets, make suggestions or provide input concerning their funding, and appoint several nonvoting seats to their board of directors. Upon dissolution, the fire departments’ bylaws require the distribution of their assets to the government for a public purpose.

GENERAL LEGAL PRINCIPLES

The FLSA provides a partial exemption to the overtime pay requirements of Section 7(a) for employees of public agencies engaged in fire protection activities. *See* 29 U.S.C. § 207(k). FLSA Section 3(x) defines a “public agency” as, among other things, “any agency of ... a State, or a political subdivision of a State.” 29 U.S.C. § 203(x); *see* 29 C.F.R. § 553.1(c). “The key factors in determining whether a private party should be considered a public agency are whether the entity is directly responsible to public officials or to the general public and whether the

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

parties' contracts designate them as state agencies rather than independent contractors." *Wilcox v. Terrytown Fifth Dist. Volunteer Fire Dep't, Inc.*, 897 F.2d 765, 767 (5th Cir. 1990) (holding that a nonprofit firefighting corporation that is required to provide its annual budget to the local government, is funded almost exclusively by local taxes, is subject to local government audit, and whose contract gives the local government "governing authority" over its operations is a public agency); *Powell v. Tucson Air Museum*, 771 F.2d 1309, 1311–12 (9th Cir. 1985) (applying the same two-part test) (citing *Skills Dev. Servs., Inc. v. Donovan*, 728 F.2d 294, 300 (6th Cir. 1984) (holding that a "political subdivision" is an entity "created by the State to constitute a department or administrative arm of the government or administered by individuals who are responsible to public officials or the general public")). State law declarations and interpretations identifying an entity as a public agency or political subdivision are not dispositive. *Cf. NLRB v. Nat. Gas Util. Dist. of Hawkins Cty., Tenn.*, 402 U.S. 600, 602–03 (1971) (holding that, under the National Labor Relations Act, federal law determines whether an entity created under state law is a "political subdivision").

In determining whether an entity is "directly responsible" to the public, the "single most determinative factor" is whether public officials select and control the entity's board of directors. WHD Opinion Letter FLSA 1226, 1986 WL 383425, at *4 (Mar. 18, 1986); *see* WHD Opinion Letter FLSA 730 (Oct. 9, 1990) (describing appointment and removal of board members as "the key factor"); *see also Powell*, 771 F.2d at 1312 (focusing on appointment and removal of board members); *Williams v. Eastside Mental Health Ctr., Inc.*, 669 F.2d 671, 679 (11th Cir. 1982) (same). Another important factor is whether public officials hire and fire the entity's employees. *Powell*, 771 F.2d at 1312; *see also Skills Dev. Servs.*, 728 F.2d at 300 (identifying "internal control"—the "ability to discipline or fire administrators"—as indicative of a political subdivision). "[S]ubstantial state regulation" alone does not establish public control. *Powell*, 771 F.2d at 1312; *Williams*, 669 F.2d at 679.

OPINION

Based on the facts you have provided, the nonprofit, privately owned fire departments that you describe are not public agencies within the meaning of Section 7(k) and are therefore not entitled to its partial overtime exemption. To begin with, the fire departments do not satisfy the first *Wilcox* factor because they are not "directly responsible" to public officials or to the general public. *See Wilcox*, 897 F.2d at 767. They purchase most of their own equipment, exercise independent judgment and discretion over their operations, and—most importantly— independently elect their board of directors. *See, e.g.*, WHD Opinion Letter FLSA2008-14, 2008 WL 5483053, at *1–2 (Dec. 18, 2008) (finding that a private volunteer fire department that contracts with municipal governments to provide fire protection services, receives funding through public taxes and fees, independently elects its directors, and independently hires and fires its employees is not a public agency); WHD Opinion Letter FLSA 1226, 1986 WL 383425, at *4 (describing appointment and removal of board members as the "single most determinative factor" of public control). The fact that local governments provide some of their funding; may review and audit their financials, budgets, and funding; and appoint nonvoting seats to their board of directors does not alone establish the requisite public control to make the fire departments directly responsible to the public. Moreover, the fire departments do not satisfy the second *Wilcox* factor because their contracts designate them as independent contractors, not as state agencies. *See Wilcox*, 897 F.2d at 767.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

The potential state legislation described in your letter would not make the fire departments public agencies entitled to the partial exemption in Section 7(k) because it would not limit the fire departments' operational independence or otherwise alter the analysis discussed above. The definition of "political subdivision" is a question of federal law, and declarations under state law "are not necessarily controlling." *Nat. Gas*, 402 U.S. at 602-03 (looking past formal labels to the entity's "actual operations and characteristics"). To transform a fire department into a public agency under Section 7(k), the state government must functionally establish "internal control" over the fire department's operations. *See Skills Dev. Servs.*, 728 F.2d at 300. This primarily involves the power to appoint or remove board members or officers, or to hire or fire employees. *See, e.g.*, WHD Opinion Letter FLSA 1226, 1986 WL 383425, at *4 (describing the ability to appoint or remove board members as the "single most determinative factor" of public control); *Powell*, 771 F.2d at 1312 (describing the ability to hire or fire employees as indicative of public control); *Skills Dev. Servs.*, 728 F.2d at 300 (describing the ability to discipline or fire administrators as indicative of public control).

We trust that this letter is responsive to your inquiry.

Sincerely,



Bryan L. Jarrett
Acting Administrator

***Note: The actual name(s) was removed to protect privacy in accordance with 5 U.S.C. § 552(b)(7).**

Town of Wake Forest Fire Department Feasibility Analysis
August, 2019



Cherie K. Berry
Commissioner

Jill F. Cramer
General Counsel

April 20, 2018

Mr. Tim Bradley
Executive Director
NC State Firefighters' Association
3101 Industrial Drive, Suite 200
Raleigh, NC 27609
tim@ncsfa.com

Ms. Debbie Clary
NC Strategy Partners, Inc.
214 South Lafayette Street, Suite B
Shelby, NC 28150-4366
debbie@ncstrategypartners.com

Dear Mr. Bradley and Ms. Clary:

Pursuant to our March 7, 2018 meeting, I have researched the laws related to your inquiry on the application of section 207(k) of the Fair Labor Standards Act (FLSA) to private non-profit fire departments contracting with municipalities and counties in North Carolina to provide fire protection services. My research found that the U.S. Department of Labor (USDOL) has consistently relied on federal case law to issue opinions, which decline to include non-profit volunteer fire departments under the 7(k) exemption. Upon a comprehensive review of the correspondence that transpired between your organization and the USDOL, existing case law, and our reading of applicable state and federal statutes, we do not believe that a submission from the N.C. Department of Labor (NCDOL) to USDOL will cause them to make any changes to their existing opinion.

The North Carolina State Firefighters' Association (NCSFA), represents private non-profit volunteer fire departments who contract directly with municipalities and counties (public agencies) to provide fire protection services. Due to increased fire calls, the volunteer fire departments must also employ full-time employees who work in fire protection activities. Those positions often require overtime work, which creates a financial hardship for the volunteer fire departments. In July of 2017, NCSFA submitted the following question to USDOL's Wage and Hour Division (WHD): "Will USDOL apply the Section 7(k) exemption to the employees of a privately owned non-profit fire department (who provide fire protection activities and services to the citizens of various municipalities and counties)?"

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

The USDOL's response was as follows:

As it regards the public agency status of private non-profit fire departments contracting with municipalities and counties in North Carolina, the Department of Labor has issued clear regulatory guidance specific to this question. §553.202 Limitations states that section 207(k) "...does not apply to any private organization engaged in furnishing fire protection...services...even if the services are performed under contract with a public agency." WHD believes that this guidance applies to and directly answers the question submitted as a request for opinion. The use of section 207(k) is limited to public agencies and it may not be used by providers of fire protection services under contract with a public agency.

The USDOL declined to respond with an opinion on a second question regarding whether a legislative change could alter an entity's status or successfully transform a private, non-profit fire department, which does not currently constitute a political subdivision of the state, into a public agency or political subdivision.

At our March 7 meeting, NCSFA asked NCDOL to submit another request to USDOL on this issue. Further, NCSFA has asked NCDOL for an opinion on the following:

- (1) Whether a possible ¹legislative change could be affected that would transform a private, non-profit fire department, which does not currently constitute a political subdivision of the state, into a public agency or political subdivision of the state; and
- (2) If such a legislative change would not be reasonable, what other options are available to these private, non-profit fire departments to lessen the financial impact of being required to pay overtime to their employees engaged in fire protection activities?

After extensive research, NCDOL believes USDOL will not change its opinion that Section 7(k) will not be applied to private organizations that provide fire protection. 29 CFR 553.202 states the "application of sections 13(b)(20) and 7(k), by their terms, is limited to public agencies, and does not apply to any private organization engaged in furnishing fire protection or law enforcement services. This is so even if the services are provided under contract with a public agency." [Note: The FLSA definition of "public agency" includes "the government of a State or political subdivision thereof; . . . a State, or a political subdivision of a State; or any interstate governmental agency." 29 U.S.C.A. § 203(x).]

Federal case law has consistently held that a private, non-profit fire department contracting with either a municipality or a county is not considered to be a public agency, and the term "public agency" will not apply to any private organization engaged in furnishing fire protection services on a contract basis to a municipality, county or other political subdivision of a State. The two defining Federal court cases, which have addressed the question of whether a volunteer fire

¹ Proposed legislation would read: "*Non-municipal fire departments, rated by the Commissioner of Insurance and providing fire protection to fire districts approved by the County shall be considered Political Subdivisions of the State.*"

Town of Wake Forest Fire Department Feasibility Analysis
August, 2019

department is entitled to an exemption from the FLSA overtime pay requirements on the grounds that it is a public agency providing fire protection activities are: (1) Wilcox v. Terrytown Fifth Dist. V.F.D., 897 F.2d 765 (5th Cir. 1990), cert. denied, 498 U.S. 900, 112 L. Ed. 2d 214, 111 S. Ct. 256 (1990); and (2) Conway v. Takoma Park V.F.D., Inc., 666 F. Supp. 786, appeal dismissed, 838 F.2d 465 (4th Cir. 1988). Both cases were later endorsed by In re Lower Merion Twp. Fire Dep't Labor Stds. Litig. 972 F. Supp. 315, (E.D. Pa. 1997), which held that "not every organization involved in firefighting is government agency for purposes of FLSA." That case opined that volunteer fire departments were not public agencies and, consequently, were not entitled to exemption from FLSA overtime pay requirements under 29 USCS § 207(k). The USDOL has consistently provided opinions regarding the applicability of Section 7(k) of the Fair Labor Standards Act (29 U.S.C. 207(k)), which reflect the above-noted cases.

Regarding your remaining questions about a proposed legislative change, NCDOL has concerns that a legislative change may have a negative ripple effect in that similar entities may also want to be considered a political subdivision of the State.

We sincerely appreciate that you openly discussed pursuing a legislative change with us, and asked our agency for assistance in moving toward a change that will assist the volunteer fire departments. We understand the inequity that exists. However, after careful consideration, we recommend that other avenues be considered to address this issue, including but not limited to, revising municipality contracts to put the volunteer fire departments in a better financial situation.

If I can be of further assistance, please contact me.

Sincerely,


Jill F. Cramer
General Counsel

cc:

Cherie Berry, NC Commissioner of Labor

Art Britt, NCDOL Chief of Staff

Phil Hooper, Deputy Commissioner, NCDOL Standards and Inspections Division

Jennifer Haigwood, Director of NCDOL Government Affairs

Christine Ryan, Administrator, NCDOL Wage & Hour Bureau

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Also related to FLSA are the earning rates for holidays, annual leave and sick leave. The Town's current policies are as follows:



Holidays
Eleven paid holidays per year (Town observes same holiday schedule as State of North Carolina).

Vacation
Accrues weekly. Maximum number of days an employee can accumulate is 30.

- 0-4 years
12 days per year
- 5-9 years
15 days per year
- 10-14 years
18 days per year
- 15-19 years
20 days per year
- 20+ years
21 days per year

Sick Leave
Accrues weekly. Twelve days per year. No Limit on number of days accumulated.

The modification that the Town will need to consider is the definition of a “day”. Shift firefighters working 24 hour shifts are typically given different provisions for taking these types of leave. Often, shift firefighters earn a “day” at 12 hours rather than 8 hours. Under this plan, taking a 24 hour shift off requires the use of two “days” of sick leave, annual leave, etc.

There are also models that would use 16 and 24 hours defined as a day that could be considered. In addition, policies related to holidays will also need to be developed. Most often, municipalities will allow shift firefighters to bank holiday leave to take off at another time, whether they are working on the holiday or not.

Last, trade time policies will need to be developed and evaluated for the Town to ensure that shift trade time practices are appropriate.

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

D. Recommendations

4.1 Firefighter Onboarding

Existing fire department personnel should complete a Town employment application and go through the Town's standard review process including background review. The assessment team does not advocate that firefighters currently serving in the fire department be required to interview or go through extensive assessment processes in order to become Town employees as a result of this unification. However, the Town will need to process each individual and ensure that they are properly in the Town's system, including standard drug testing as is the practice for all Town employees. There will need to be employee orientation and the Town's standard benefits package should apply, including a 5% 401(k) contribution. It is further recommended that a letter of offer be prepared for each person who is currently a fire department employee that is slated to become a Town employee. This letter of offer would outline key conditions of employment that both parties agree to such as compensation and benefits. It is also very important that the new Town employee expressly acknowledge a "line in the sand" that the Town will only be responsible for actions post July 1, 2020 and not before. All parties must recognize that there will be a clean break point and issues before that transition date are NOT the responsibility of the Town. These letters of offer should be reviewed by the Town's legal staff and should be notarized.

4.2 Pay Plan Structure

A pay plan structure will need to be in place as soon as possible. The assessment team has proposed a structure with starting pay provided in this report that will need to be reviewed by the Town's compensation consultant. However, the structure should match the fire service industry, recognizing the need and value of teamwork. The assessment team's recommendation is that no current fire department employee would lose compensation with the transition. Ideally, the pay plan structure would be agreed upon in early 2020 for a July 1, 2020 implementation. It must be noted however that pay compression issues exist now and would exist under the recommended pay plan. It is realistic that it could take a few budget cycles in order to address pay compression. However, that issue must be vetted by the Town's compensation analyst and/or consultant and a corrective plan articulated.

Within this pay structure are increases for promotions between ranks as well as maintaining incentive pays that parallel those in the Wake Forest Police Department. Some additional coordination of these incentives will need to occur during the transition period.

4.3 Waiting Periods

It is recommended that current fire department employees become Town employees without a waiting period for benefits, with the exception of health care insurance due to the Town's

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

health care contract requirements – which requires a 30-day waiting period. Due to this fact, there would also not be any probationary increases that would be due to employees at the six-month mark. Employees should immediately come under the Town’s health care insurance and NCLGERS contributions.

4.4 Recognition of “Days”

For sick leave and vacation leave, the Town’s benefit programs recognize days of work. For shift firefighters working on the FLSA 7(k) schedule, a day is typically considered either 12, 16 or 24 hours and not a typical 8 hour day. Administrative personnel working weekdays would be treated the same as any other Town employee. However, shift personnel should have provisions to adjust the “days” to their work day, consistent with the FLSA. Several options exist for carrying out this duty and there should be a policy addressing personnel who may have assignments that take them to and from shift assignments to keep the earnings equitable. The assessment team would recommend that a day for shift firefighters working 24 hour shifts be recognized as 12 hours. Therefore, shift firefighters would earn twelve days of sick leave per year with each day being 12 hours – or 144 hours total. Using this methodology is efficient when firefighters can work half of a shift due to illness, especially of a family member.

4.5 Transfer of Earned Sick Leave

The assessment team recommends that current firefighters becoming Town firefighters on July 1, 2020 be allowed to be credited with sick leave transfer of up to what they would have earned as Town employees. The Town currently allows up to twelve sick leave days per year to accumulate. Therefore, if a current Wake Forest Firefighter came into the Town with four years of service to the Wake Forest Fire Department on July 1, 2020, and their unused sick leave balance at the fire department was equal to or exceeded 48 days, they would be credited with 48 days upon becoming a Town employee. The Town should not accept more credit for the persons coming from the fire department than persons would have earned working full time for the Town to maintain fairness and equity. The Town should not award more sick hours than is on the books as being earned while the employee was part of the non-profit fire department.

4.5 Transfer of Vacation or Annual Leave

In order to ensure that firefighters becoming Town employees are able to take vacation time within the first year of the unification, it is recommended that the Town accept up to twelve (12) days of vacation for incoming employees.

However, responsibility for vacation leave beyond the twelve (12) days at the time of unification should be the responsibility of the Wake Forest Fire Department, Inc. The Town should not assume responsibility for vacation leave earnings that occur prior to July 1, 2020

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

other than the twelve (12) days. The fire department should have the responsibility for paying out those debts and not Wake Forest Town Government.

As of July 1, 2020, firefighters would become Town employees and would begin earning vacation leave under the Town's vacation or annual leave schedule as new Town employees.

This methodology is fair to existing Town employees, as well as the incoming firefighters who are becoming new Town employees.

4.6 Continuation of Firefighters and Rescue Squad Worker's Pension Fund

The Town should continue providing the North Carolina benefit for members of the fire department that fully meet all necessary criteria by paying the \$10 per month per firefighter contribution.

Town of Wake Forest Fire Department Feasibility Analysis
August, 2019

5. CAPITAL RESOURCE IMPACTS:

A. Existing Fire Facilities

The Town of Wake Forest contracted with Envirosafe to conduct an evaluation of the condition of the Wake Forest Fire Department (WFFD) existing facilities. The purpose of this evaluation was to identify any functional deficiencies of the existing facilities, document any obvious maintenance and upkeep necessary for the facilities. All facilities were compared in contrast with industry best practices, American with Disabilities, OSHA compliance and other areas to determine what corrective action, if any, may be needed in the future.

A team of Envirosafe subject matter experts including Ken Newell, Principal for Stewart-Cooper-Newell Architects worked together to perform the evaluation and made recommendations for each site. This assessment was cursory in nature and did not involve extensive testing of materials, systems, structural elements, or an evaluation of potentially hazardous materials that may or may not exist on-site. This report does not include an in-depth roof assessment but was based on visual observation and information gathered from architectural design drawings and WFFD staff.

This report did not include an in-depth assessment of building code compliance for the existing structure. It is assumed that the initial building construction and subsequent additions and modifications were permitted, and the built conditions are in compliance with the requirements of the building code for the period built and the interpretation of local jurisdiction. Any modifications, alterations, additions to the building, or change of use, will require a thorough assessment of the structure for current building code compliance with the interpretation of the authority having jurisdiction.

The section that follows will include a brief summary for each Wake Forest fire station site. Observations and recommendations for each station site are included in Observations and Recommendations.

**Town of Wake Forest Fire Department Feasibility Analysis
August, 2019**

Station #1 @ 420 Elm Ave.



Summary

Fire Station #1 is located at 420 Elm Avenue. The structure was built in 1985 and is comprised of multiple apparatus bays, administrative offices and living areas. Since the initial construction of the station, there have been multiple addition and renovation projects to provide for the additional living, sleeping, and training areas needed at the station. Major roof, electrical, and lighting upgrades were made in 2019 to include a new Onan gas fueled generator. Each shift firefighter has their own bed in the sleeping area of the building which is equipped with non-monitored smoke alarms. The apparatus bay area is equipped with "Plymovent" exhaust system and a large ventilation fan. The bay floor is in reasonably good condition with no major cracks and one repaired area for drainage. There is an information technology (IT) room (Wake County) off of the west side of the bay area and the station is equipped with a personal protective equipment (PPE) extractor and dryer for cleaning firefighter turnout gear. The station site includes a radio tower for paging, EOC, and VHF communications and new exterior post LED lights have been recently added. The fish fry building behind the main structure has new siding and a new roof.

**Town of Wake Forest Fire Department Feasibility Analysis
August, 2019**

Station #2 @ 9925 Ligon Mill Road



Summary

Fire Station #2 is located at 9925 Ligon Mill Road. The structure was built in 2001 as a Public Safety Facility with a saddle design and is comprised of multiple apparatus bays, administrative offices and living areas. The WFFD has plans to renovate the structure in 2019/2020 adding five additional sleeping areas and exercise room to accommodate new ladder apparatus and associated crew. The new staffing level for this station will be eight personnel per day. The asphalt shingled roof is original and the plan is to replace during the upcoming renovation. The station is equipped with its own Onan gas fueled generator, PPE extractor and dryer, and “Plymovent” system for apparatus exhaust. The apparatus bay also has an automated exhaust system that is activated by a carbon monoxide monitor.

**Town of Wake Forest Fire Department Feasibility Analysis
August, 2019**

Station #3 @ 1412 Forestville Road



Summary

Fire Station #3 is located at 1412 Forestville Road. The structure was built in 2009 on a four-acre parcel and includes ample parking for staff and public with recently replaced LED lighting. The station is fully sprinklered and is equipped with an on-site Cummings generator. The apparatus bay area includes two drive-through bays with 12' x 14' glass doors and a "Plymovent" apparatus exhaust system in conjunction with an automated exhaust system that is activated by a carbon monoxide monitor. The station is also equipped with separate extractor and dryer room for PPE on a separate air vent. The living area of the station includes adequate sleeping and living areas for staff.

**Town of Wake Forest Fire Department Feasibility Analysis
August, 2019**

Station #4 @ 1505 Jenkins Road



Summary

Fire Station #4 is located at 1505 Jenkins Road. The structure was built in 2015 and opened in April of 2016. The station is fully sprinklered and is equipped with an on-site generator. The apparatus bay area includes two drive-through bays with 12' x 14' glass doors and a "Plymovent" apparatus exhaust system in conjunction with an automated exhaust system that is activated by a carbon monoxide monitor. The station is equipped with separate extractor and dryer room and a PPE storage room on a separate air vent. The living area of the station includes administrative offices, as well as, adequate sleeping and living areas for staff. The station has four restrooms with two that are HC accessible and two that are not which meets the minimum standard of 50% of restrooms must be HC compliant.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Station #5 @ 11908 Holmes Hollow Road

Summary

Fire Station #5 is located at 11908 Holmes Hollow Road. The structure was built in the 1950's as a community center. WFFD merged with Falls Fire Department in 2012 and purchased the building and land in 2017. The station is staffed by part-time employees during the week days and volunteers on nights and weekends answering approximately five-hundred (500) calls annually. The facility has carbon monoxide detectors in the sleeping areas. WFFD has made significant improvements in the facility since the merger such as: concreted front ramp, re-dressed the front exterior and installed a drain in 2015. The station is also equipped with a new generator and "Plymovent" on two left bays. WFFD wants to reconfigure rooms on the right side of engine room to provide a fire wall separation, one bunk room and one office. The roof was original but was replaced using storm related money in May of 2019.



Town of Wake Forest Fire Department Feasibility Analysis August, 2019

OSHA Audit

In addition to the evaluation by the fire station specialist architect, EnviroSafe also conducted an audit performed by an OSHA specialist to identify any issues or concerns for the Town that could be matters of consideration before the potential unification. During that assessment, the OSHA specialist did not identify any matters that could not be corrected through practice or through relatively minor changes to equipment. Excerpts of the OSHA report are found as follows:

2-Chemical Safety

0.00%

Chemical - RTK and GHS compliance - MSDS 1910.1200

Chemical Hazards Observed

Are open drums and containers stored on spill containment pallets or pans?

N/A

Are secondary bottles labeled to meet HMIS or GHS compliance? Do they contain HMIS information or pictograms to indicate hazards along with first aid and specific hazard warning instructions.

No

Photos



Photo 5



Photo 6



Photo 7



Photo 8



Photo 9

Is there an SDS binder available where chemicals are used and has it been updated in the last 12 months?

No

Is there an updated chemical inventory available with maximum quantity on hand and location?

No

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Chemical Handling and Storage 1910.120

Chemical hazards observed

Are open drums and containers stored on spill containment pallets or pans?

No

Photos



Photo 18

Are quantities of more than a quart of flammable liquid stored in an approved flammable cabinet?

No

Notes

Combustibles are not allowed in flammable cabinet

Photos



Photo 19

Are metal flammable storage drums grounded properly to prevent sparks and fire?

N/A

Are approved secondary containers utilized, are they labeled properly and are they compatible with its contents?

No

Are any chemicals stored or being handled in an unsafe manner?

N/A

Compressed Gasses 1910 Subpart M

Do you have compressed gas cylinders stored at your facility?

N/A

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

4-Electrical Safety

14.29%

Electrical Safety 1910 Subpart S

Electrical hazards observed

Do electrical panels and disconnects have 36" radial clearance for emergency access?

No

Photos



Photo 2

Are there any electrical cords that are supplying equipment not considered temporary that should be hard wired?

No

Notes

extension cords "daisy chained" together

Photos



Photo 4

Were there excessive extension cords, surge protectors or overloaded circuits observed?

No

Photos



Photo 10

Photo 12

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

<p>Are electrical panels, disconnects and breakers labeled as to what they control?</p>	<div style="background-color: #f44336; color: white; border-radius: 10px; padding: 5px 20px; display: inline-block;">No</div>
<p>Photos</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Photo 13</p> </div> <div style="text-align: center;">  <p>Photo 14</p> </div> </div>	
<p>Observed electrical panels and disconnects or junction boxes with open slots, uncapped conduit holes, discontinued circuits or uncovered wiring.</p>	<div style="background-color: #f44336; color: white; border-radius: 10px; padding: 5px 20px; display: inline-block;">No</div>
<p>Notes</p> <p>broken boxes and face plates</p>	
<p>Photos</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Photo 15</p> </div> <div style="text-align: center;">  <p>Photo 16</p> </div> </div>	
<p>Are electrical panels and disconnects labeled with amperage and voltage?</p>	<div style="background-color: #f44336; color: white; border-radius: 10px; padding: 5px 20px; display: inline-block;">No</div>
<p>Are the facilities maintenance employees trained and using safe Arc Flash 70E and electrical safety procedures when working on HOT circuits?</p>	<div style="background-color: #0070c0; color: white; border-radius: 10px; padding: 5px 20px; display: inline-block;">N/A</div>
<p>Are electrical panel box doors kept closed?</p>	<div style="background-color: #4caf50; color: white; border-radius: 10px; padding: 5px 20px; display: inline-block;">Yes</div>

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

5-Emergency & Fire

75.00%

Emergency Equipment 1910.157 and 120

Emergency equipment issues

Emergency Preparedness 1910.38

Emergency preparedness issues observed

Fire Prevention 29 CFR 1910.39

Fire prevention hazards observed

Oily rags and combustible refuse stored in covered metal containers?	No
Fire alarm system functioning correctly?	Yes
Are Fire Extinguishers inspected monthly, documented and clear of obstructions?	Yes
Have automated sprinkler systems and risers been certified within the last 5 years and are they clear of materials?	N/A
Is paper, trash and flammable material stored away from potential fire or combustion hazards?	Yes

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

8-Exits

100.00%

Exits 1910 Subpart E

<input checked="" type="checkbox"/> Means of egress deficiencies observed	
Exits clear of obstructions?	Yes
Are doors on cold-storage rooms provided with inside release mechanisms that release the latches and open the doors?	N/A
Where exit doors open directly onto a street, alley, or other area where vehicles may be operated, are adequate barriers and warnings provided to prevent employees from stepping directly into traffic?	Yes
Emergency exit lighting and illuminated exits in place and operable?	Yes
Where exits are not visible are directional signs provided?	Yes
Are exit doors able to open from the direction of exit travel without the use of a key or special knowledge or effort?	Yes

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

9-Guarding & LOTO

0.00%

Machine Guarding 1910 Subpart O

<input checked="" type="checkbox"/> Machine Guarding Hazards Observed	
Guards firmly secured and not easily removable?	No
<p>Photos</p>  <p>Photo 3</p>	
Observed removed or damaged machine guards. SERIOUS HAZARD	No
Guards prevent workers from reaching under, around or behind guarded area?	No
Foot trundle or foot pedal safety guards are in place?	N/A
Point-of-operation guards provided and in place?	No
Observed bypassed safety switches or interlocks. SERIOUS HAZARD	N/A
Pinch points and inward running rollers are properly guarded?	N/A
Belts, chains, gears, sprockets, pulleys and flywheels guarded?	N/A
Machine controls within easy reach of the operator?	N/A
Guards provided for any other hazardous moving part of the machine?	N/A

Lockout Tagout (Control of Hazardous Energy) 29CFR 1910.147

<input type="checkbox"/> Control of hazardous energy (LOTO) issues observed

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

10-Housekeeping & Inspections

66.67%

Housekeeping 1910.22

<input checked="" type="checkbox"/> Housekeeping hazards observed	
Entry and walkways kept clear of materials and blockage?	Yes
Walkways adequately and clearly marked?	Yes
Floor surfaces even and uncluttered?	No
Photos 	
Photo 11	
Are footpaths in good condition?	No
Are railings in good condition?	Yes
Are fall preventive measures in place and used where gaps occur in railings?	No
Notes Needs barrier and load rating posted if used for storage	
Photos 	
Photo 17	
Stairs and risers kept clear?	Yes
Are liquid spills removed quickly?	Yes
Intersections kept clear of boxes, pallets, etc?	Yes

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

12-Noise Exposure

25.00%

Noise Exposure 1910.95

Noise from equipment or process was found to exceed safe Decibel levels of 85 DB

Are noise levels in any areas at or above 90 decibels for an 8 hour period?

No

Notes

When the compressor is on; the noise is more than 85db. Ear plugs need to offered while working around this equipment.

Photos



Photo 1

If yes are employees required to wear hearing protection and is it well stocked and readily available?

No

Do you have a written Hearing Conservation Program?

N/A

Do you conduct annual audiometric testing for workers exposed to excessive noise?

Yes

Are areas posted where hearing protection is required?

No

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

2-Chemical Safety

0.00%

Chemical - RTK and GHS compliance - MSDS 1910.1200

Chemical Hazards Observed

Are open drums and containers stored on spill containment pallets or pans?

N/A

Are secondary bottles labeled to meet HMIS or GHS compliance? Do they contain HMIS information or pictograms to indicate hazards along with first aid and specific hazard warning instructions.

No

Photos



Photo 3



Photo 5

Is there an SDS binder available where chemicals are used and has it been updated in the last 12 months?

N/A

Is there an updated chemical inventory available with maximum quantity on hand and location?

No

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Chemical Handling and Storage 1910.120

<input checked="" type="checkbox"/> Chemical hazards observed	
Are open drums and containers stored on spill containment pallets or pans?	N/A
Are quantities of more than a quart of flammable liquid stored in an approved flammable cabinet?	N/A
Are metal flammable storage drums grounded properly to prevent sparks and fire?	N/A
Are approved secondary containers utilized, are they labeled properly and are they compatible with its contents?	No
Photos	
	
Photo 9	Photo 10
Are any chemicals stored or being handled in an unsafe manner?	No
Notes	
Plastic containers are not allowed onsite for gasoline	
Photos	
	
Photo 11	

Compressed Gasses 1910 Subpart M

Do you have compressed gas cylinders stored at your facility?	N/A
---	-----

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

4-Electrical Safety

80.00%

Electrical Safety 1910 Subpart S

<input checked="" type="checkbox"/> Electrical hazards observed	
Do electrical panels and disconnects have 36" radial clearance for emergency access?	Yes
Are there any electrical cords that are supplying equipment not considered temporary that should be hard wired?	N/A
Were there excessive extension cords, surge protectors or overloaded circuits observed?	N/A
Are electrical panels, disconnects and breakers labeled as to what they control?	Yes
Observed electrical panels and disconnects or junction boxes with open slots, uncapped conduit holes, discontinued circuits or uncovered wiring.	Yes
Are electrical panels and disconnects labeled with amperage and voltage?	No
<p>Photos</p>  <p>Photo 7</p>	
Are the facilities maintenance employees trained and using safe Arc Flash 70E and electrical safety procedures when working on HOT circuits?	N/A
Are electrical panel box doors kept closed?	Yes

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

5-Emergency & Fire

50.00%

Emergency Equipment 1910.157 and 120

Emergency equipment issues

Emergency Preparedness 1910.38

Emergency preparedness issues observed

Fire Prevention 29 CFR 1910.39

Fire prevention hazards observed

Oily rags and combustible refuse stored in covered metal containers?

No

Fire alarm system functioning correctly?

N/A

Are Fire Extinguishers inspected monthly, documented and clear of obstructions?

No

Photos



Photo 12



Photo 13

Have automated sprinkler systems and risers been certified within the last 5 years and are they clear of materials?

Yes

Is paper, trash and flammable material stored away from potential fire or combustion hazards?

Yes

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

9-Guarding & LOTO

0.00%

Machine Guarding 1910 Subpart O

<input checked="" type="checkbox"/> Machine Guarding Hazards Observed	
Guards firmly secured and not easily removable?	No
Photos 	
Photo 1	
Observed removed or damaged machine guards. SERIOUS HAZARD Observed removed or damaged machine guards. SERIOUS HAZARD	No
Guards prevent workers from reaching under, around or behind guarded area?	No
Foot trundle or foot pedal safety guards are in place?	N/A
Point-of-operation guards provided and in place?	N/A
Observed bypassed safety switches or interlocks. SERIOUS HAZARD	N/A
Pinch points and inward running rollers are properly guarded?	N/A
Belts, chains, gears, sprockets, pulleys and flywheels guarded?	No
Notes Needs guards on stored chainsaws	
Photos 	
Photo 8	

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

11-Machine Shop

50.00%

Machine Shop and Maintenance Areas 1910.215, Subpart P,Q,O

<input checked="" type="checkbox"/> Machine shop was inspected	
When welding is the proper ventilation in place, is there a shield to protect other workers and are employees trained on safe welding and hot work procedures?	N/A
Are maintenance records kept to show PM or other regular maintenance on equipment and to verify equipment in facility is kept in safe working condition?	Yes
Bench Grinders - Shields in place, tool rest adjusted within 1/16", grinder securely mounted, no non-ferrous material in wheel? 1910.215(b)(1)(iii)	No
Table Saws - Are table saw and portable saw blades properly guarded to prevent injury?	N/A
Are ladders over 6' and other equipment safely secured to prevent falling?	No
Photos 	
Photo 6	
Are hand tools in safe working order? Are electrical cords in good condition?	Yes

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

12-Noise Exposure

25.00%

Noise Exposure 1910.95

Noise from equipment or process was found to exceed safe Decibel levels of 85 DB

Are noise levels in any areas at or above 90 decibels for an 8 hour period?

No

Notes

When compressor is on; earplugs should be worn.

Photos



Photo 2

If yes are employees required to wear hearing protection and is it well stocked and readily available?

No

Notes

Earplug bin is empty

Photos



Photo 4

Do you have a written Hearing Conservation Program?

Yes

Do you conduct annual audiometric testing for workers exposed to excessive noise?

N/A

Are areas posted where hearing protection is required?

No

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

B. Existing Fire Apparatus

While the fire service is extremely dependent upon human resources to accomplish the mission of saving lives and property, adequate capital resources are necessary to enable firefighters to perform their jobs. EnviroSafe conducted an on-site vehicle assessment on three (3) different days at Wake Forest Fire Department (WFFD). The assessments were based on mechanical attributes, road worthiness, and safety related issues of each emergency response apparatus in the department. The assessments were performed by an emergency apparatus subject matter expert who has more than 40 years of experience in the emergency fleet industry. The consulting team was advised that there is also programming within the capital improvement plan (CIP) to address fire apparatus and facility needs.

The goal of the vehicle assessments was to verify and validate the worthiness of the WFFD fleet in consideration of current value and long-term serviceability. The fleet was divided into three sections: Fire Engines, Aerial Apparatus, and Support/Service Apparatus to include thirteen (13) total fire apparatus assessed. Included in the report is a brief summary of each group, details for each unit, and a recommendations section for overall improvement and safety of the fleet.

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



Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Wake Forest Fire Department Fire Engines:

The WFFD has seven fire engines three of which they purchased and four others on cost share with Wake County. The four newest engines which were purchased on cost share range in years from 2007 to 2015. The oldest three range in years from 1995 to 2003. Four engines rated in the good category with one being fair and two considered in poor condition. The mechanical assessment of each engine is summarized below from newest to oldest.

In 1999 Wake County united all county fire departments (19) under one tax base. In 2005 they finalized a business plan allowing for major purchases and formed an apparatus committee who developed a base fire engine specification with 40 additional options. Six apparatus vendors bid on the Wake County specification and Pierce Manufacturing won the contract with the low bid. In the early 2,000's Pierce had developed the "Contender" line which was designed for rural and smaller municipal departments that provided a cost-effective fire engine by using a combination of custom and commercial cabs. In a two-year span Wake County purchased 21 Pierce Contender fire engines from that contract.

WFFD has two Pierce Contenders in the fleet and they are 2006 and 2007 models and rated as poor and good condition with both trucks having some mechanical issues. In the low call volume rural setting these apparatuses would be fine, but WFFD runs as a municipal fire department and these apparatuses will need to be replaced in the very near future.



Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

Engine 4

Engine 4 (E4) is a 2015 Rosenbauer and is the newest engine in the fleet. It is a 1,500 gallon per minute (GPM) pumper with a 1,000-gallon booster tank with 30,400 road miles. E4 was not available during the first two site visit days by Envirosafe due to it being in the shop for major motor work. A secondary assessment was completed on June 20, 2019, but not to the same level as the first assessments due to time and availability constraints. E4 is considered to be in excellent overall condition and should provide the department good service life for years to come.

Engine 3

Engine 3 (E3) is a 2012 Pierce Saber with a 1,500 GPM pump and 1,000 booster tank. E3 has 55,345 road miles and 3,873 hours on the engine. Like several other engines in the fleet is has a bad (class 3) oil leak, rust on the frame rails and the rear leaf springs are worn out making it a rough ride. The radiator has a slow leak and is considered in good condition overall.

Engine 5

Engine 5 (E5) is a 2007 Pierce Contender 1,250 GPM pumper with a 1,000-gallon booster tank. It has high road miles at 91,617 and 6,408 hours on the engine. E5 has a major (class 3) oil leak and is in overall poor condition.

*Note: See the Pierce Contender note above. The Pierce Contenders owned by WFFD will not be a dependable emergency response apparatus for very long because of this reason.

Engine 2

Engine 2 (E2) is a 2006 Pierce Contender 1,500 GPM pumper with a 1,000-gallon booster tank. It has 9,392 hours on the engine, but the odometer is inoperative and the estimated mileage is 97,500. Like E3 it has bad oil leaks, a lot of rust between the body and frame, and issues with the Jake Brake not operating properly. E2 has no reflective chevron on the rear of the truck which presents a significant safety issue when operating on a roadway. The overall condition of E2 is considered to be good.

*See note on the Pierce Contender above.

Engine 1

Engine 1 (E1) is a 2003 E-One Cyclone with 1,500 GPM pump and 1,000 gallon booster tank. It has high road miles at 131,676 and 12,338 hours on the engine. It recently had new brakes installed but has a leaking steering assist and the on-board generator is leaking. No reflective chevron on the rear of the apparatus presenting a safety issue and is considered in good condition overall.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Engine 6

Engine 6 (E6) is a 1996 E-One with a 1,500 GPM pump and a 1,000-gallon booster tank. It is considered to be a reserve apparatus but due to the large volume of out of service front-line apparatus it stays in a front-line position the majority of the time. During the assessment it was running front-line out of station #4. The current odometer reads 26,885 but it was changed out several years ago and the approximate mileage on the truck is over 172,500 miles with 9,186 hours on the engine (not sure if this gauge is original either). It like several other engines has multiple major (class 3) oil leaks and wears out brakes very often according to crew members. The apparatus has no reflective chevron on the rear to help prevent rear end collisions while operating on emergency scenes. E6 has no ground ladders or brackets for ladders and very limited equipment. E6 is considered to be in very poor condition.



Engine 7

Engine 7 (E7) is 1995 Pierce Dash with a 1,250 GPM pump and 500-gallon booster tank. It has extremely high road miles with 151,052 and 12,958 hours on the hour meter. The engine in the truck was rebuilt six months prior to the assessment and already has minor oil and power steering leaks. There is significant rust between the body and frame of the truck. This is a known problem and should be monitored. The apparatus had little to no equipment including no Self-Contained Breathing Apparatus (SCBA) or ground ladders. E7 is another apparatus without reflective chevron on the rear presenting a safety hazard when operating at emergency incidents. Another issue found with E7 was it had not had a vehicle inspection since August of 2017. The overall condition of E7 was considered to be fair.

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

Wake Forest Fire Department Aerial Apparatus:

The WFFD has a 2011 front-line aerial apparatus (Ladder 1) stationed at fire station #1 and a 1990 reserve aerial (Ladder 3) in the department. Ladder 1 runs multi-company calls covering the entire jurisdiction along with backing up E1 when it is unavailable. It is used heavily and is out of service due to mechanical issues frequently. Ladder 3 is well beyond its recommended NFPA service life of 25 years and has some structural frame issues to consider. Ladder 1 is in good condition and Ladder 3 is considered to be in poor condition. Below is the assessment summary of each aerial apparatus.



Ladder 1

Ladder 1 (L1) is a 2011 Pierce Aerial Platform apparatus with a 1,500 GPM pump and a 300-gallon booster tank. It currently has 68,599 road miles, 8,920 engine hours, and 244.7 aerial hours. L1 has a bad (class 3) oil leak and the bushings on the rear suspension are worn out. There is a notable amount of rust between the body and the frame and this should be monitored as a known issue. The tires on this apparatus are currently in good shape but it is noted that due to the weight of the apparatus and the call volume tires do not last very long before needing replacement. Overall L1 is considered to be in good condition.

Ladder 3

Ladder 3 (L3) is a 1990 E-One 75-foot quint aerial apparatus that is used as a reserve aerial apparatus for the department. L3 has 84,076 road miles on the odometer and 4,166 hours on the hour meter. According to WFFD staff L3 is in front-line status more often than not due to the mechanical issues and long down times of L1. There are several serious concerns with L3 and it running emergency calls for service. It has no reflective chevron on the rear promoting a constant safety concern for crews working on emergency scenes. The rear suspension is worn out, the rear end leaks grease and the most significant issue is the frame itself is warped. The instability and/or deterioration of an aerial apparatus frame presents significant safety

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

concerns for all involved. L3 is well beyond the NFPA recommended life expectancy of 25 years and is considered in overall poor condition.

New/Used Ladder

Note that post our analysis, the WFFD added a tiller ladder truck to the fleet. EnviroSafe did not evaluate this apparatus whatsoever. This is a used apparatus intended to fill a void until early 2021 when a new tiller ladder is planned to be placed in service. The WFFD desired to train their personnel on operation of this type of truck in Wake Forest before a new truck was placed into service.



Wake Forest Fire Department Support/Service Apparatus:

The WFFD has an array of different support/service apparatus within the organization. This part of the fleet is by far the newest and in the best condition of all apparatus. It includes two brush trucks and two tankers all in good to excellent condition and all of which are owned by Wake County. Squad 5 is a fifth service apparatus that was not available during the on-site visits due to being in the shop (6 months) for major repair work. A brief summary of each apparatus is below.

Brush 1

Brush 1 (B1) is 2006 Ford F-550 Power Stroke with a 6-liter engine. It has a 245 GPM pump and a 300-gallon booster tank. B1 has 9,731 road miles and is in overall excellent condition. This unit is owned by Wake County.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Brush 5

Brush 5 (B5) is 2008 Ford F-550 Power Stroke with a 6.4-liter engine. It has a 245 GPM pump and a 300-gallon booster tank. B5 has 11,749 road miles and is in overall excellent condition. This unit is also owned by Wake County.

Tanker 2

Tanker 2 (T2) is 2012 KME tanker truck with a 2,000-gallon tank and a 750 GPM pump. The only issue with T2 was the tires were of out the seven-year life span and need to be replaced. T2 is owned by Wake County and is in overall good/excellent condition.

Tanker 4

Tanker 4 (T4) is a 2017 Rosenbauer tanker truck with a 2,000-gallon tank and a 500 GPM pump. T4 is owned by Wake County and is in overall excellent condition.

Squad 5

Squad 5 (S5) is a 1997 International with a 1,250 GPM pump and 500-gallon booster tank. It was not available for assessment during the on-site visit due to being in the shop for major repair (6-months).

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

The following charts depict an overview of all apparatus assessed:

WAKE FOREST FIRE DEPARTMENT														
APPARATUS EVALUATION - May 2019														
Order	Condition	Unit	Year	Age	Use	Projected	Make	Model	Body	Pump	Tank	Road	Engine	Comments
	As Current				Expectancy	Remaining			Manufacture	Capacity	Gallons	Mileage	Hours	
	E, G, F, P				Years	Use								
1	Excellent	Engine 4	2015	4	25	21	Rosenbauer		Custom Pumper	1500	1000	30,040		Just returned in June from major engine work
					15 FL/10 R	11 front Line								Service life expectancy 15 years front line and 10 reserve
2	Good	Engine 3	2012	7	25	18	Pierce	Saber	Custom Pumper	1500	1000	55,345	3,873	Major class 3 oil leak
						8 front line								Frame rail rust is a known issue, need to monitor
														Rear leaf springs showing wear, radiator leak
3	Good	Ladder 1	2011	8	25	17	Pierce	Ladder	Custom Ladder	1500	300	68,599	8,920	Major class 3 oil leak
						7 front line								Bushing on rear suspension worn out, left worse than right
														Frame: molding underneath apparatus is a known issue
														for manufacturer, need to monitor rust
														UL test done on May 15, 2019
4	Good	Engine 2	2006	13	25	12	Pierce	Contender	Commercial	1500	1000	n/a	9,392	Odometer n/a - estimated 97,500 miles
						2 front line								No chevron on rear
														Jake brake non-operative,
														Lot of rust between frame and body
														Major class 3 oil leak
5	Good	Engine 1	2003	16	25	9	E-One		Custom Pumper	1500	1000	131,676	12,338	Front line service life is past
						0 - front line								No chevron on rear
														Steering assist leaking
														On board generator leaking
														New brakes recently installed
														High road miles

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Condition	Unit	Year	Age	Use	Projected	Make	Model	Body	Pump	Tank	Road	Engine	Comments
As Current				Expectancy	Remaining			Manufacture	Capacity	Gallons	Mileage	Hours	
E, G, F, P				Years	Use								
Fair	Engine 7	1995	24	25	1	Pierce	Dash	Custom Pumper	1250	500	151,052	12,958	Total service life is less than 1 year Total engine rebuilt six months ago No chevron on rear Little to no equipment, no ladders or SCBA Minor oil leak Power steering leak Frame: molding underneath apparatus is a known issue for manufacturer, need to monitor rust
					0 - front line								
Poor	Engine 5	2007	12	25	13	Pierce	Contender	Commercial	1250	1000	91,617	6,408	Overall poor condition Major class 3 oil leak
					0 - front line								
Poor	Engine 6	1996	23	25	2	E-One		Custom Pumper	1500	1000	26,885	9,186	Overall poor condition Odometer replaced, est mileage 172,500 Major class 3 oil leaks Ladder brackets taken off and put on E1 No ladders at all - still running front line for E4 No chevron on rear Has constant issue of wearing out brakes quickly
					0 - front line								
Poor	Ladder 3	1990	29	25	0	E-One	Quint	Ladder	1500	300	84,076	4,166	Overall poor condition No chevron on rear Rear suspension worn out **Frame rails warped** Rear end leaking grease UL tested on May 14, 2019 Well past service life
					0								
Not rated	Squad 5	1997	22	25	3	International	Support	Squad	1250	500			Apparatus was not available to EnviroSAFE due to being in shop out of town for major repairs (6-months)
Wake	County	Owned	-	Support	Vehicles								Due to vehicles being owned by the county and support vehicles, ES did a minimal overview
Excellent	Tanker 4	2017	2	20	18	Rosenbauer		Tanker	500	2000			
Good	Tanker 2	2012	7	20	13	KME		Tanker	750	2000			Needs tires, out of 7-year tire service life
Excellent	Brush 5	2008	11	20	9	Ford	F550	Brush	245	300			
Excellent	Brush 1	2006	13	20	7	Ford	F550	Brush	245	300			

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Detailed information on each apparatus is as follows:



Global Experience – Local Expertise



Unit: <u>E1</u>	Year: 2003	Current Age of Apparatus (years): 16
Overall Condition: Good	NFPA Life Expectancy: 25	
Make: E-One	Model: Cyclone	Body Manufacturer: custom
Pump Capacity (gpm): 1,500	Tank (gallons): 1,000	Road Milage: 131,676
Engine Hours: 12,338	Pump Hours: n/a	Equivalent Mileage:

COMMENTS

1. No chevron on rear	
2. Steering assist leaking	
3. New brakes recently installed	
4. On board generator leaking	
5. High road miles	
6. Overall condition: Good	



Global Experience – Local Expertise



Unit: <u>E2</u>	Year: 2006	Current Age of Apparatus (years): 13
Overall Condition: Good	NFPA Life Expectancy: 25	
Make: Pierce	Model: Contender	Body Manufacturer: commercial
Pump Capacity (gpm): 1,500	Tank (gallons): 1,000	Road Milage: odometer n/o
Engine Hours: 9,392	Pump Hours: n/a	Equivalent Mileage:

COMMENTS

1. Odometer non-operative (estimated mileage 97,500)	
2. No chevron on rear	
3. Tires in okay condition	
4. Lot of rust between body and frame	
5. Jake brake non-operative	
6. Bad oil leaks (class 3)	
7. Overall condition: Good	

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

		
COMMENTS		
Unit: <u>E3</u>	Year: 2012	Current Age of Apparatus (years): 7
Overall Condition: Good	NFPA Life Expectancy: <u>25</u>	
Make: Pierce	Model: Saber	Body Manufacturer: custom
Pump Capacity (gpm): 1,500	Tank (gallons): 1,000	Road Milage: 55,345
Engine Hours: 3,873	Pump Hours: n/a	Equivalent Mileage:
COMMENTS		
1. Major oil leak (class 3)		
2. Frame: molding underneath apparatus is a known issue, need to monitor for rust in frame channels		
3. Rear leaf springs showing wear		
4. Radiator slow leak		
5. Overall condition: Good		

		
COMMENTS		
Unit: <u>E4</u>	Year: 2015	Current Age of Apparatus (years): 4
Overall Condition: Excellent	NFPA Life Expectancy: <u>25</u>	
Make: Rosenbauer	Model: Pumper	Body Manufacturer: custom
Pump Capacity (gpm): 1,500	Tank (gallons): 1,000	Road Milage: 30,040
Engine Hours: n/a	Pump Hours: n/a	Equivalent Mileage:
COMMENTS		
1. Tires in good shape		
2. Just back from block work on engine		
3. Overall condition: Excellent		
Special note: this unit was out of service for major engine work during the original assessment time. A review of the apparatus was done when it returned without Envirosafe mechanic.		

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

			
COMMENTS			
Unit: E5	Year: 2007	Current Age of Apparatus (years): 12	
Overall Condition: Poor	NFPA Life Expectancy: 25		
Make: Pierce	Model: Contender	Body Manufacturer: commercial	
Pump Capacity (gpm): 1,250	Tank (gallons): 1,000	Road Milage: 91,617	
Engine Hours: 6,408	Pump Hours: n/a	Equivalent Mileage:	
COMMENTS			
1. Major oil leak (class 3)			
2. Overall condition: Poor			

			
COMMENTS			
Unit: E6	Year: 1996	Current Age of Apparatus (years): 23	
Overall Condition: Poor	NFPA Life Expectancy: 25		
Make: E-One	Model: Pumper	Body Manufacturer: custom	
Pump Capacity (gpm): 1,500	Tank (gallons): 1,000	Road Milage: 26,885	
Engine Hours: 9,186	Pump Hours: n/a	Equivalent Mileage:	
COMMENTS			
1. Odometer guage has been replaced (estimated mileage 172,500)			
2. No chevron on rear			
3. Major oil leaks (class 3)			
4. Currently run as first out reserve, now frontline for E4 w/no ladders			
5. No ladders on entire apparatus, still running first out			
6. The staff moved the ladders and the ladder arms off the truck to put on E1			
7. Has issue with wearing out brakes too often			
8. Overall condition: Poor			

**Town of Wake Forest Fire Department Feasibility Analysis
August, 2019**



Unit: E7	Year: 1995	Current Age of Apparatus (year): 24
Overall Condition: Fair	NFPA Life Expectancy): 25	
Make: Pierce	Model: Dash	Body Manufacturer: custom
Pump Capacity (gpm): 1250	Tank (gallons): 500	Road Milage: 151,052
Engine Hours: 12,958	Pump Hours: 471 (new gauge)	Equivalent Mileage:

COMMENTS

1. Tires in good condition									
2. Engine rebuilt 6 months ago									
3. Little to no equipment, no ladders, no SCBA									
4. No chevron on rear									
5. Oil leak minor									
6. Power steering leak									
7. Frame: molding underneath apparatus is a known issue with manufacturer, need to monitor rust in channels									
8. Last vehicle inspection August 2017									
9. Overall condition: Fair									

Town of Wake Forest Fire Department Feasibility Analysis August, 2019



Unit: L1	Year: 2011	Current Age of Apparatus (years): 8
Overall Condition: Good	NFPA Life Expectancy: 25	
Make: Pierce	Model: Ladder	Body Manufacturer: custom
Pump Capacity (gpm): 1500	Tank (gallons): 300	Road Milage: 68,599
Engine Hours: 8,920	Aerial Hours: 244.7	Equivalent Mileage:

COMMENTS

1. Major oil leak (class 3)
2. Bushing on rear suspension worn out, left side worse than right
3. Tires in okay condition
4. Frame: Molding underneath apparatus is a known issue for manufacturer, need to monitor for rust in channels
5. UL test done on May 15, 2019. Copy of report attached.
6. Overall condition: Good



Unit: L3	Year: 1990	Current Age of Apparatus (years): 29
Overall Condition: Poor	NFPA Life Expectancy: 25	
Make: Eone	Model: 75' Quint	Body Manufacturer: custom
Pump Capacity (gpm): 1500	Tank (gallons): 300	Road Milage: 84,076
Engine Hours: 4,166	Pump Hours: n/a	

COMMENTS

1. No chevron on rear
2. Tires in okay condition
3. Rear suspension worn out
4. Rear end leaking grease
5. ***Frame rails warped!
6. UL test completed on May 14, 2019. Report attached.
7. Overall condition: Poor

**Town of Wake Forest Fire Department Feasibility Analysis
August, 2019**



Unit: B1__	Year: 2006	Current Age of Apparatus (years): 13
Overall Condition: Excellent	NFPA Life Expectancy: <u>25</u>	
Make: Ford	Model: F-550	Body Manufacturer: Ford
Pump Capacity (gpm): 245	Tank (gallons): 300	Road Milage: 9,731
Engine Hours:	Pump Hours: n/a	Equivalent Mileage:

COMMENTS

1. Owned by Wake County
2. Overall condition: Excellent



Unit: B5__	Year: 2008	Current Age of Apparatus (years): 11
Overall Condition: Excellent	NFPA Life Expectancy: <u>25</u>	
Make: Ford	Model: F-550	Body Manufacturer:
Pump Capacity (gpm): 245	Tank (gallons): 300	Road Milage: 11,749
Engine Hours:	Pump Hours: n/a	Equivalent Mileage:

COMMENTS

1. Owned by Wake County
2. Overall condition: Excellent

**Town of Wake Forest Fire Department Feasibility Analysis
August, 2019**

 <p>Global Experience – Local Expertise</p>	
--	--

Unit: T2__	Year: 2012	Current Age of Apparatus (years): 7
Overall Condition: Exc/Good	NFPA Life Expectancy: 25	
Make: KME	Model: Tanker	Body Manufacturer: custom
Pump Capacity (gpm): 750	Tank (gallons): 2,000	Road Milage: 4,321
Engine Hours:	Pump Hours: n/a	Equivalent Mileage:

COMMENTS

- | | |
|------------------------------------|--|
| 1. Owned by Wake County | |
| 2. Needs tires, out of 7 year date | |
| 3. Overall condition: Exc/Good | |

 <p>Global Experience – Local Expertise</p>	
--	--

Unit: T4__	Year: 2017	Current Age of Apparatus (years): 2
Overall Condition: Excellent	NFPA Life Expectancy: 25	
Make: Rosenbauer	Model: Tanker	Body Manufacturer: custom
Pump Capacity (gpm): 500	Tank (gallons): 2,000	Road Milage: 2,461
Engine Hours:	Pump Hours: n/a	Equivalent Mileage:

COMMENTS

- | | |
|---------------------------------|--|
| 1. Owned by Wake County | |
| 2. Overall condition: Excellent | |

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

EnviroSafe also conducted evaluation of the loose equipment on each piece of fire apparatus owned by the fire department. An analysis of the protective equipment was also conducted. Some wear and tear on equipment was discovered. However, there were no major issues or systemic problems that were identified. Below is an excerpt of the inspection report.

Failed items

1 Failed

Untitled page / SCBA DAILY INSPECTION

Inspect harness webbing for cuts, tears, abrasion, fraying, or heat/chemical damage.

Fail

– Notes

Noticed some wear and tear of equipment

– Photos



Photo 1

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Untitled page

1 Failed 100.00%

SCBA DAILY INSPECTION

1 Failed

<p>Inspect harness webbing for cuts, tears, abrasion, fraying, or heat/chemical damage.</p>	Fail
<p>– Notes Noticed some wear and tear of equipment</p> <p>– Photos</p>  <p>Photo 1</p>	
<p>Inspect backframe for damage and debris.</p>	Pass
<p>Check cylinder retention system for damage and for proper operation.</p>	Pass
<p>Check all buckles and fasteners for proper operation.</p>	Pass
<p>Check respirator for debris inside and out. Clean if necessary. Visually inspect respirator holster for damage and debris.</p>	Pass
<p>Verify that the regulator gasket is not damaged and is in place around the regulator outlet port.</p>	Pass
<p>Inspect RIC/UAC connection for dirt or damage. Verify that RIC/UAC cover is present and without damage.</p>	Pass
<p>Open cylinder valve completely, with a 1/4 turn back.</p>	Pass
<p>Cylinder Pressure within an acceptable range? (Within 200 psi of full) (Compare Pressure with Cylinder Gauge and Module Gauge)</p>	Pass
<p>Allow for motion alarm to activate completely. This should consist of three audible stages.</p>	Pass

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

PASS Alarm- Manually activate PASS alarm and inspect lighting is operational.	Pass
Hose Connections- Check for leaking while under pressure.	Pass
Verify that the purge valve is not damaged and turns smoothly one-half turn from stop to stop.	Pass
Bleed off the system. Close cylinder valve completely. Using the purge valve, open until air begins to bleed off. Allowing time to visually inspect HUD light changes with decreases in pressure and Vibra-Alert to activate.	Pass
Overall Inspection of SCBA pack and attached cylinder?	Pass

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Protective Equipment Inspection

81.25%

Coat and Pants

Soiling	Pass
Contamination	Pass
Physical damage such as:	
a: Rips, tears, and cuts	Fail
<p>– Notes Found a coat that needs to be sent off for repairs. All other equipment passed.</p> <p>– Photos</p> <div style="display: flex; align-items: center;">  </div> <p>Photo 1</p>	
b: Damaged or missing hardware and closure systems	Pass
Thermal damage (Charring, burn holes, melting, discoloration of any layer)	Pass
<p>– Photos</p> <div style="display: flex; align-items: center;">   </div> <p>Photo 2 Photo 3</p>	
Damaged or missing reflective trim	Pass
Loss of seam integrity and broken or missing stitches	Pass
Correct assembly and size compatibility of shell, liner, and the drag rescue device (DRD)	Pass

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Comments:
Unanswered

Drag Rescue Device

Installation in garment	Pass
Soiling	Pass
Contamination	Pass
Physical damage such as:	
a. Cuts, tears, punctures, cracking, or splitting	Pass
b. Thermal damage (charring, burn holes, melting, discoloration)	Fail
<p>— Photos</p>  <p>Photo 4</p>	
c. Loss of seam integrity and broken or missing stitches	Pass
Comments: Unanswered	

Hood

Soiling	Pass
Contamination	Pass
Physical damage such as:	
a: Rips, tears, and cuts	Pass
b: Damaged or missing hardware and closure systems	Pass

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Loss of face opening adjustment	Pass
Loss of seam integrity and broken or missing stitches	Pass
Comments: Unanswered	

Helmet

Soiling	Pass
Contamination	Pass
Physical damage such as:	
a. Cracks, crazing, dents, and abrasions	Pass
b. Thermal damage to the shell (bubbling, soft spots, warping, discoloration)	Pass
Physical damage to the earflaps such as:	
a. Rips, tears, and cuts	Pass
b. Thermal damage (charring, burn holes, melting)	Pass
Damaged or missing components of the suspension and retention systems	Pass
Damaged or missing components of the faceshield/goggle system, including discoloration, crazing, and scratches to the faceshield/goggle lens limiting visibility	Pass
Damaged or missing reflective trim	Pass
Loss of seam integrity and broken or missing stitches	Pass
Comments: Unanswered	

Structure Gloves

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Soiling	Pass
<p>– Photos</p>  <p>Photo 5</p>	
Contamination	Pass
Physical damage such as:	
a: Rips, tears, and cuts	Pass
b. Thermal damage (charring, burn holes, melting, discoloration of any layer)	Pass
c. Inverted liner	Pass
Shrinkage	Pass
Loss of elasticity or flexibility	Pass
Loss of seam integrity and broken or missing stitches	Pass
<p>Comments: Unanswered</p>	

Rescue Gloves

Soiling	Pass
Contamination	Pass
Physical damage such as:	
a: Rips, tears, and cuts	Pass
Loss of seam integrity and broken or missing stitches	Pass

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Comments:
Unanswered

Footwear

Soiling	Pass
Contamination	Pass
Physical damage such as:	
a. Cuts, tears, or punctures	Pass
b. Thermal damage (charring, burn holes, melting, discoloration of any layer)	Pass
c. Exposed or deformed protective toe, protective midsole, or shank	Pass
Loss of water resistance	Pass
Closure system component damage and functionality if applicable	Pass
Loss of seam integrity and broken or missing stitches	Pass
Comments: Unanswered	

Escape Rope

Show Rope Inspection if Structure Qualified	On
<p>— Photos</p>  <p>Photo 6</p>	
No discoloration, friction markings	Operational
Is Escape Rope acceptable for use?	Operational

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Escape Belt

Show Escape Belt Inspection if Structure Qualified	Off
Safety Glasses or Goggles provided?	Yes

Additional information

Which Equipment failed inspection?	Unanswered
Was Equipment replaced?	Unanswered
Equipment replaced	Unanswered
Reason for failure	Unanswered
Unanswered	
Unanswered	

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

C. Insurance Considerations

Controlling costs is an issue for any municipality. Many municipalities realize that insuring some of the special provisions of the fire service can be even more challenging and have separated risks associated with insurance for fire and rescue services from a specialized commercial carrier, such as Volunteer Firemen's Insurance Services (VFIS), that can be more cost effective than insurance through the North Carolina League of Municipalities (NCLM) pool.

Worker's Compensation:

For comparison there are two workers compensation coverage projections below for the WFFD:

1. Under the Volunteer Safety Workers Compensation Fund (VSWCF) for which the fire department currently qualifies as a non-profit, the workers comp cost for eighty-two (82) firefighters @ \$1,000 each, is \$82,000 annually.
2. Under the North Carolina Rate Bureau Workers Compensation Assigned Risk, based on salary of \$4.2 million, the cost is \$185,426 annually. These rates are outside of VSWCF.

VSWCF is a self-insured fund approved by NC General Assembly specifically for fire departments that do not have other programs to go into such as NCLM member plans. VSWCF is administered by NC Fire and Rescue Commission and a Third-Party Administrator (TPA) handles the claims and renewals.

A municipal organization can have only one workers compensation policy. If the fire department were to become a department of the town the workers compensation would be included in their current policy. The rate is based upon the town's "risk experience modification", if any, of the town. The loss experience of the town is spread over all departments of the town which can have a premium adjustment on the base rate shown. If losses are high the rate will go up. If the losses are low it will have the base rate or less, if risk programs are in place to reduce accidents. Experience modifications usually stay on a policy for a rolling three (3) year cycle.

Due to the proprietary insurance information involved a much more detailed analysis is needed to determine the best options if the consolidation does occur.

Beyond insurance costs, some municipalities find available training advantages to utilizing a specialty system, such as risk management reduction through fire apparatus operator training. Training is offered both in class and on-line. Examples of training programs utilized by comparable North Carolina municipalities include:

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

- Bloodborne Pathogens
- Changing Culture within Emergency Services Organizations
- Managing Risks and Liability
- Emergency Vehicle Response
- Emergency Vehicle Driving
- Trailer Operations and Safety
- EMS Ethics
- Traffic Incident Management

5.14 - Insurance Recommendation:

The assessment team recommends that the TOWF conduct an insurance cost comparison and coverage analysis and determine the best approach for both the town and the WFFD, contrasting cost and coverage with multiple providers to determine the best value for the Town. This work will need to be conducted during the transition period.

**Town of Wake Forest Fire Department Feasibility Analysis
August, 2019**

D. Capital Improvement Planning

Capital Improvement Program:

A Capital Improvement Program (CIP) is merely a forecast of capital assets and funding sources over a selected period of time. Municipal government organizations use CIPs and capital budgets in conjunction to provide a schedule for the replacement and rehabilitation of existing capital assets. It allows time for project planning and investigation of finance options which are both critical to the merits of a capital asset.

This review looked at three distinct areas for CIP planning in the WFFD. Fire station improvements, fire apparatus replacement, and fire equipment replacement are most commonly the most expensive areas of focus for fire departments and needed to succeed. The WFFD has two (2) major capital expenditures planned for FY2020 in apparatus replacement and fire station improvements. Work has already begun on the specifications for a \$1.3 million dollar aerial apparatus for expansion to a second aerial company for WFFD. A capital project for fire station improvement is underway at fire station #2 to add dorm rooms for additional personnel to man the second aerial apparatus. This project is expected to cost \$700,000 during the FY2020 fiscal year.

The scope of this project requires CIP projection schedules for the five (5) years beyond consolidation which will include FY2021 which begins July 1, 2020, through FY2025. Further detail is provided in the observations and recommendations section of this report.



**Town of Wake Forest Fire Department Feasibility Analysis
August, 2019**

E. Observations and Recommendations

Existing Facilities

Station #1 Observations:

Due to the age of fire station #1 there is a lengthy list of concerns and recommendations below to be considered and addressed.

- No fire sprinkler protection
- All plumbing is original (1985)
- Public parking on both sides of building forcing citizens to walk across emergency response ramps
- The lobby would benefit from easier public access and the receptionist being able to see who was coming in and providing access
- Stress crack in exterior blocks on front wall under roof line
- Asphalt showing stress cracks and deterioration on east side parking, west side parking, rear of station by dumpster, and front ramp
- Water drainage collecting behind station on concrete because of stress cracks
- Exterior wall blocks showing stains
- ½ of structure's roof is original (1985)
- Large exhaust system is not automated and is operated by manual switch
- Gas heating units in bay ceiling are very inefficient
- Single point of drainage for apparatus bay floor
- Sleeping area bathroom is not handicap (HC) accessible. HC standard requires 50% of restrooms be HC compatible
- Kitchen does not meet HC standard
- PPE extractor and dryer in living area of station poses health hazard in same room with ice machine, vending machine, and personal clothes washer/dryer
- PPE storage and exercise equipment in apparatus bay area
- ½ of HVAC units original (1985)

In conclusion, overall the station is good condition and functioning well. To remain compliant with OSHA, Americans with Disabilities, and industry standards a constant plan must be managed to keep the facility up to par to meet the needs of the highly functional operations that occur in a fire station 365 days a year. Future renovations will be needed to address handicap accessibility, cancer prevention for firefighters, and safety of the personnel and public.

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019



5.1 - Station #1 Recommendations

- future upgrade will require dept to meet HC standard
- update remaining lights to LED
- any renovation on apparatus bay doors should enlarge size to 14' x 14'
- install protection bollards by all apparatus bay doors
- limit citizen parking to one side of building without requiring citizens to cross in front of bays for safety purposes
- redesign of lobby is warranted to have designated monitored entrance for public with restroom on public side and restricted access to remainder of building
- will need repair of all asphalt in 5-10 years, consider replacing with concrete due to weight and stress of apparatus
- all of front ramp repair should be concrete
- Town of WF should consider concreting street directly in front of station
- need to clean (pressure wash) exterior block every 2-3 years and seal with masonry sealer every 5-10 years
- masonry pointing of lentils is needed – 10-year maintenance
- exhaust system should be wired to “Plymovent” and come on together automatically
- gas heating units in bay should be replaced with infra-red tube heater units when conditions allow
- vinyl ceiling tiles will need to be painted/replaced in future renovation
- add laser eyes for movement in bay door thresholds to prevent door/apparatus collisions (nominal cost)
- add red, yellow, green LED lights beside bay doors for door clearance

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

- move firefighter PPE storage out of apparatus bay into a designated room with ventilation for carcinogen/cancer prevention
- consider adding HVAC to IT room
- in future station design and renovations move functional areas out of apparatus bays
- move PPE extractor & dryer out of living space (cold zone)
- exercise equipment should be re-located to an area outside of bay area for health and safety purposes
- department would benefit from installation of sphere speaker in the center of the bay for radio volume and clarity improvement. Would make ceiling tiles less necessary for echo.
- move lockers out of sleeping rooms that don't have enough egress clearance
- eliminate carpet in sleeping rooms for sanitation and contamination reasons
- water fountain in hallway needs to be in recessed area of hallway
- in front restrooms add grab bar near sink area to meet HC standard
- add fire sprinkler protection



Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

Station #2 Observations

The concerns for station #2 are there is no fire sprinkler protection, the asphalt drive is showing stress cracks and deterioration, and there is staining of the exterior brick and trim. Other concerns to consider in the renovation are the ice machine is in the apparatus bay, all doors leading to the bay are in swing operation, and the asphalt shingle roof is original (2001).

In conclusion, station #2 is in reasonably good shape for the age of the facility. Most of the concerns listed in the preceding paragraph can be addressed during the upcoming renovation project in 2019/2020. The recommendations below should strongly be considered as the organization plans for future capital improvement projects.



5.2 - Station #2 Recommendations

- consider installing 13R sprinkler protection system during renovation
- will need repair of all asphalt in 5 years, consider replacing with concrete due to weight and stress of apparatus (consider repairing in renovation)
- installation of bollards is recommended at bay doors for safety
- pour concrete or rock around hydrants to prevent erosion
- a patio cover is recommended
- consider fixing small issues like rotten wood and asphalt with renovation
- signage installed on right side drive “no public access”
- clean exterior with pressure washes every 2-3 years and seal brick every 5-10 years with masonry sealer
- department would benefit from installation of sphere speaker in center of the bay for radio volume and clarity improvement. Would make ceiling tiles less necessary for echo.
- move ice machine out of bay area (hot zone) into living area

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

- move PPE out of bay area, plans are to move into room off of bay with renovation
- move refrigerator into cold zone living space
- move clothes washer/dryer to sleeping areas side of building away from PPE extractors and dryers
- after additional sleep area renovation, firefighter parking should be on right and public access on left of structure
- upgrade lighting throughout station to LED in renovation
- strive to remove all carpet from station for contamination reasons
- change all doors leading from living areas to apparatus area to out swing operation for egress safety and functionality



Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

Station #3 Observations

On the exterior of the structure there is some block salting and staining. In the apparatus bay area, there is a soda vending machine and table which are a contamination issue. A work bench and wheel grinder are in the bay area and has no shield or signage. The only concern in the living area is the kitchen is not HC assessible. In conclusion, the station is in very good shape and with regular maintenance will provide many years of service to the department.



5.3 - Station #3 Recommendations

- partial roof cover needed for patio area
- back half of lot could be planted with trees for a border/buffer and less yard maintenance
- exterior block walls – pressure wash annually and seal with masonry sealer every 5-10 years
- remove vending machine, table, and all other functional areas out of apparatus bay
- install round globe shaped speaker in apparatus bay area for improved sound quality of radio system
- remove carpet in bedroom areas for sanitary/contamination reasons
- larger restroom stall sizes during next renovation
- restroom door swings in and impedes urinal access, make outswing
- future upgrade will be required to meet HC standard
- rock around fire hydrant to prevent erosion

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

Station #4 Observations

There is a large hill behind the structure with pine trees that need to be reforested. The kitchen sink is not HC compliant. In conclusion, the station is in excellent shape and very well designed. It should provide the department many years of great service life.



5.4 - Station #4 Recommendations

- install concrete sidewalk to training prop in right front yard and rock around fire hydrant
- future upgrade will require HC compliance with kitchen sink
- Ice and vending machine should be moved out of bay area

Town of Wake Forest Fire Department Feasibility Analysis August, 2019



Station #5 Observations

Due to the age of the facility and the limited size of the structure and lot there are a host of concerns:

- no fire sprinkler protection
- roof is part asphalt shingles and flat part is membrane – original (1950s), asphalt shingles replaced in May 2019
- bay doors 10 ft wide
- septic tank must be pumped every 3 months
- entire facility is not HC assessible
- no handicap egress on rear of structure
- lot size too small to rebuild on this site
- all sleeping areas are required to have sprinkler protection – none present
- all sleep room doors open inward, should be out swing operation for egress
- no exhaust for bay on right side for brush truck
- major trip hazard in the center of the bay where the grade changes significantly
- no HC accessibility to office or sleeping areas
- carpet in all sleeping areas, contamination hazard
- PPE stored in apparatus bay

Town of Wake Forest Fire Department Feasibility Analysis August, 2019



In conclusion, even though there have been numerous improvements, this facility is in poor condition. Compared in contrast with industry best practices, American with Disabilities, OSHA compliance and other significant areas this facility has to be considered a temporary station.

5.5 - Station #5 Recommendations

- sleep rooms should be sprinklered
- does not provide adequate facilities for females
- remove carpet for sanitary and contamination reasons
- remove PPE from bay and store in vented room
- permanently close roll-up door in fitness room
- step down into fitness room should include a landing and 3 risers
- before any additional renovations a hazardous materials study on asbestos and lead based paint should be done

Town of Wake Forest Fire Department Feasibility Analysis August, 2019



Apparatus Observations and Recommendations:

The WFFD has 5 front-line and 2 reserve engines in its current fleet inventory. Only 4 of the 7 are within the recommended industry standard of 15 years as a front-line apparatus and 2 of the 4 are Pierce Contenders which should be replaced around the 12-year mark which they have both exceeded.

5.6 – Aggressive Replacement Plan/Disposition

An aggressive replacement Capital Improvement Plan is needed to update the fire engine fleet for the WFFD. It is recommended that 3 fire engines be purchased over the next 5 budget cycles.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Note that an effective methodology of disposing of older apparatus could be to utilize a specialized fire equipment broker such as Brindlee Mountain Fire Apparatus rather than utilizing GovDeals alone. Many local governments find this practice beneficial.

The WFFD has 2 aerial apparatus as noted in the above summary. It is recommended that Ladder 3 (1990) which is well past its service life and has major frame issues not be used for front-line emergency response.

5.7 – Replacement of Aerial Truck

The department has plans to purchase a new aerial in the current budget cycle and it is highly recommended to stay on schedule with that purchase.

The WFFD has 4 engines and 1 aerial with no Chevron striping on the rear for safety while operating on emergency scenes. NFPA 1901 Standard for Pumper Fire Apparatus requires that 50% of rear facing surfaces on emergency response vehicles be covered with reflective striping. It is not Federal law, but many insurance companies are highly recommending it for legal and safety reasons. The same standard recommends at least 28" safety cones with a 6" reflective band on the top and 4" bands below.

5.8 – Safety Markings

It is recommended for the safety of WFFD personnel and the citizens of Wake Forest that the WFFD comply with this standard to prevent rear collisions while operating on emergency scenes.



During the apparatus inspections it was noted that E6 which was running front-line during that time and should be properly equipped to meet NFPA 1901 & 1931 Standard for Fire Department Ground Ladders. During the inspection there were no ground ladders on this

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

apparatus. Crews told the inspectors the ladder brackets had been taken off the apparatus and put on E1. During the same inspection it was noted that E7 had no ground ladders, no Self-Contained Breathing Apparatus, and little to no equipment. While the engine was in reserve status it poses a significant delay of service should it have to be placed in service.

5.9 – Ladders and Tools

It is recommended that all engines and ladders be equipped with the minimum requirements for ladders and tools per the NFPA 1901 standard.



The apparatus inspections and WFFD staff feedback sessions revealed major issues with the current apparatus maintenance program. The data collected notes a significant amount of mechanical issues with the entire fleet. The current system of bringing in part-time vendors to repair apparatus prolongs the amount of time units are out of service and forces lesser quality older reserves into service for longer periods of time, which causes them to need repair.

5.10 Maintenance and Service

It is recommended the WFFD contract with new full-time service vendors to provide more efficient long-term repairs.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019



CIP Observations and Recommendations

Fire Station Improvements

Fire station improvement is a critical area of infrastructure rehabilitation that must stay on the radar of any fire organization. As mentioned above, WFFD has a large capital project scheduled in the current fiscal year (FY2020) and a plan to build an additional station (#6) in future years FY24-26 at a cost of \$3.7 million. A copy of WFFD's CIP is attached below.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

TOWN OF WAKE FOREST CAPITAL IMPROVEMENTS PROGRAM CIP UPDATE FY 2019-2024			
DEPARTMENT	SUBMITTED BY	DEPARTMENTAL PRIORITY	
Wake Forest Fire Department	Chief Ron Early	High	
PROJECT TITLE		TYPE OF PROJECT	
<i>Construction of Fire Station #6 and Apparatus</i>		X	1 -Health/Safety/Welfare
			2 - Maintenance/Replacement
			3 - Existing Programs Expansion
			4 - New Program
PROJECT DESCRIPTION			
Plans are to put a second staffed ladder company within the Town limits in FY 2020. Based on growth trends in population and buildings, we will need to construct an additional station (#6) and add a staffed Engine Company approximately FY 2024 -2026.			
JUSTIFICATION			
Based on a recent ISO classification, we have a need for additional ladder companies because of the amount of tall buildings within the Town limits. The station that the ladder will be located is already in place. We are evaluating growth trends and response times throughout the Town and based on those trends it will be necessary to add an additional Station on the North/East or East side of the Town. As part of our evaluation process we will be able to determine the best location and timing of when the station will need to be constructed.			
PROJECT ALTERNATIVES		OPERATING IMPACT/OTHER COMMENTS	
No alternative.		The project will be completed using mostly fire impact fees, loans and tax revenues. The Ladder Company should be in place in FY 2020. The next station and Engine should be in place FY 2024-2026. We hope that impact will cover the cost of apparatus and the building. Personnel cost will be evaluated.	

PROJECT STATUS	Continuation - FY 2017		Funds Expended to Date	Funds Expended to Date			
<i>Funds Approved to Date</i>	\$	-	\$	-			
CAPITAL COST BREAKDOWN	Prior to July 2019	2019-20	2020-21	2021-22	2022-23	2023-24	Future Years
Planning & Engineering	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 200,000
Construction	-	-	-	-	-	-	2,900,000
Equipment	-	1,200,000	-	-	-	-	613,000
Contingency	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-
Total Project Costs	\$ -	\$ 1,200,000	\$ -	\$ -	\$ -	\$ -	\$ 3,713,000
FUNDING SOURCE(S)	Prior to July 2019	2019-20	2020-21	2021-22	2022-23	2023-24	Future Years
Fire Impact Fees	\$ -	\$ 1,200,000	-	\$ -	\$ -	\$ -	\$ 3,713,000
WF Fire - Loan	-	-	-	-	-	-	-
Total Funding Sources	\$ -	\$ 1,200,000	\$ -	\$ -	\$ -	\$ -	\$ 3,713,000
TOTAL PROJECT COST:							\$ 4,913,000

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

The major issue with fire station improvements CIP projections is the decision of what to do with WFFD station #5. If the consolidation of WFFD and the Town of Wake Forest occurs this decision will be a major one with long lasting effects. The decision to keep station #5 will require another decision of whether to spend major capital repairing the current structure or relocating to another location and building a new structure all of which is beyond the scope of this study. Food for thought prior to that decision is the current construction cost for a new fire station is approximately \$450 a square foot excluding the acquisition of land and preliminary development costs. Per Ken Newell who assisted on this project, stated that with the current condition of station #5 and the locked land boundary it would not be possible to meet accepted standards for this facility. Per the scope of work, we will recommend CIP projections to not include station #5.

Fire stations #4 and #3 were built in 2015 and 2009 respectively and are very sound fire station facilities that should not require any capital expenditures in the next five (5) years. Fire station #2 was built in 2001 and does have some issues as noted in the existing facilities observations and recommendations section of this report. The good news is the majority of these issues will be taken care of in the FY2020 renovation and addition of dorm rooms expansion.

Fire Station #1 was built in 1985 and is currently thirty-four (34) years old. Overall the station is good condition and functioning well. To remain compliant with OSHA, Americans with Disabilities Act, and industry standards a constant plan must be managed to keep the facility up to par to meet the needs of the highly functional operations that occur in a fire station. Future renovations will be needed to address handicap accessibility, cancer prevention for firefighters, and safety of the personnel and public.

5.11 – Station 1 Renovations

It is recommended that renovations to station #1 be planned to address the recommendations in this report in FY2024 at an estimated cost of \$1.5 million. At this time the structure will be 38 years old and 40 years old by the time the renovation is complete.

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

Fire Apparatus Replacements:

The emergency response apparatus evaluation is well documented in the Apparatus section of this report. The WFFD has five front-line engines and one aerial apparatus that are staffed daily along with two reserve engines and one reserve aerial in its current fleet inventory. The average age of the fleet listed above is 15.33 years which is beyond the recommended NFPA standard for emergency apparatus. Two of those front line engines are Pierce Contenders (see note above on Contenders) which should be replaced around the twelve year mark in which they have both exceeded. Multiple apparatus are not currently meeting NFPA standards in regards to rear body chevron and apparatus equipment. The department spent approximately \$231,268 in 2018 to maintain the emergency response fleet, averaging more than \$200,000 annually. As a result of the department's fleet age and quality, maintenance costs will continue to rise and out-of-service times will be extended even more. In the stake holder input sessions of this study poor vehicle maintenance was listed as one of the top two weaknesses from all groups interviewed. The addition of three engines over the next five years will reduce the average age of the fleet by 6.3 years; therefore, producing reduced maintenance costs and shorter out-of-service times.

5.12 – Aggressive CIP Replacement

An aggressive replacement CIP is needed to update the fire engine fleet for the WFFD. It is recommended that 3 fire engines be purchased over the next 5 budget cycles in the following fiscal years (FY21, FY23, FY25).

It is recommended that Ladder 3 (1990 model) which is well past its service life and has major frame issues not be used for front-line emergency response.

Projected costs will be included in CIP chart below.

Fire Equipment Replacement

A review was completed of all WFFD equipment by EnviroSafe Equipment Specialist Baxter Miller on July 19, 2019. Overall, he found the equipment to be in good sound condition. As noted in the Apparatus section some apparatus were lacking ground ladders and most reserves had no self-contained breathing apparatus (SCBA) and very few tools. Miller completed specific SCBA inspections and found some wear and tear on harness assemblies due to age. Research showed that twenty-eight (28) SCBA air packs were purchased by WFFD in 2000 for \$80,000 and again with a Federal grant in 2011 for \$129,693. Depending on the number of air packs departments usually try to purchase SCBA in phases every three (3) to five (5) years but some smaller departments are able to purchase all units at one time. It appears that is what WFFD

**Town of Wake Forest Fire Department Feasibility Analysis
August, 2019**

has done in the past and the air packs are due to be replaced in approximately ten (10) years which will be FY2021.

5.13 – SCBA Replacement

It is recommended that the department plan to purchase approximately thirty-five (35) SCBA air packs in FY2021 at a projected cost of \$7500 per unit.

CIP Projections for FY 2021 through FY 2025

WAKE FOREST FIRE DEPT							
CAPITAL IMPROVEMENT PROGRAM							
CIP PROJECTION FY 2021-2025							
Category		FY2021	FY2022	FY2023	FY2024	FY2025	Future Years
Fire Station Improvements	\$ -	\$ -	\$ -	\$ -	\$ 1,500,000	\$ -	
Fire Apparatus Replacement	-	570,000	-	605,000	-	640,000	
Fire Equipment	-		262,500	-	-		
Small fleet	-	-	35,000	-		-	-
Utility	-	-	33,000	-	-	-	-
Total Project Costs	\$ -	\$ 570,000	\$ 330,500	\$ 605,000	\$ 1,500,000	\$ 640,000	\$ -

**Town of Wake Forest Fire Department Feasibility Analysis
August, 2019**

6. OPERATIONAL IMPACTS:

A. Standard of Coverage Analysis

Fire Department Baseline Performance Report:

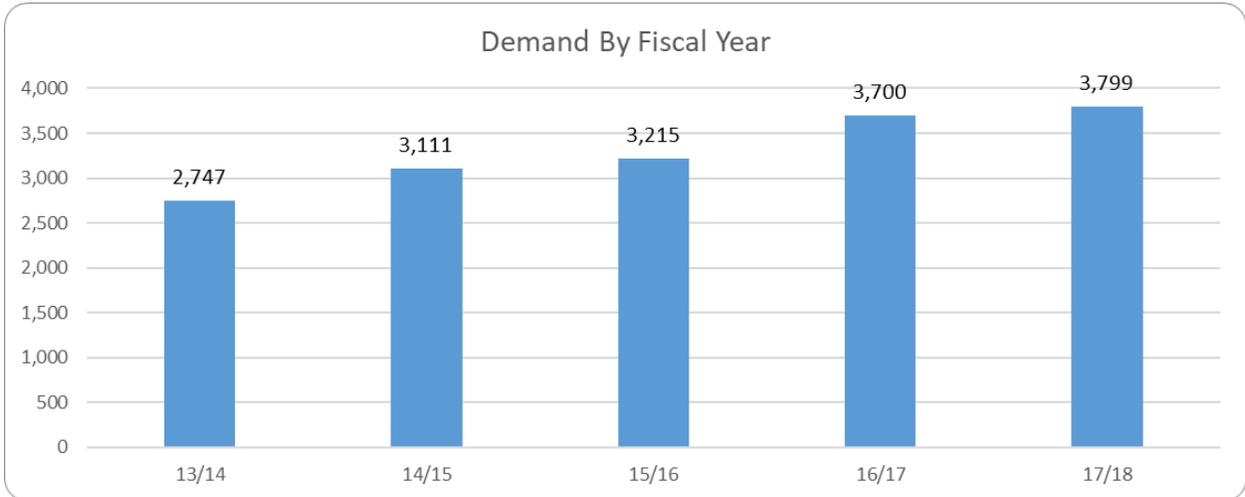
Disclaimer: The performance measures in this document are based on the data exported from the Firehouse Records Management System (RMS) as entered in the system by the end user(s) with no modifications. There is no guarantee of accuracy as it beyond the scope of this evaluation. Multiple evaluations were conducted as seen below with the following understandings:

- Data evaluation spans from 07/01/2013 to 03/29/2019 with a focus on the last five, full, fiscal years (FY) of data; FY13/14 to FY17/18
- Timestamps, as related to response times, were entered in the RMS as whole minutes where a response of 1 minute and 00 seconds to 1 minute and 59 seconds were entered as 01 minute and 00 seconds (01:00). This will prevent an accurate understanding of the actual time evaluation at the 90th percentile on every time component.
- The dispatch received time, required to calculate Call Processing Time, was not entered for approx. 50% of events. This will prevent an accurate understanding of the actual time it took the 911 center to process an incident and dispatch the fire units, at the 90th percentile.
- The “Response Code”, found in the individual unit report, was left blank on 31% of unit reports. For many departments, this is a place to capture the response type in respect to emergency or non-emergency response. When used in this manner, it allows the filtering of responses to focus on emergency response types only. Values in the look-up table for the field were consistent with this industry practice but not always used. The filtering of non-emergency events will not be reliable due to the number of responses missing this data.

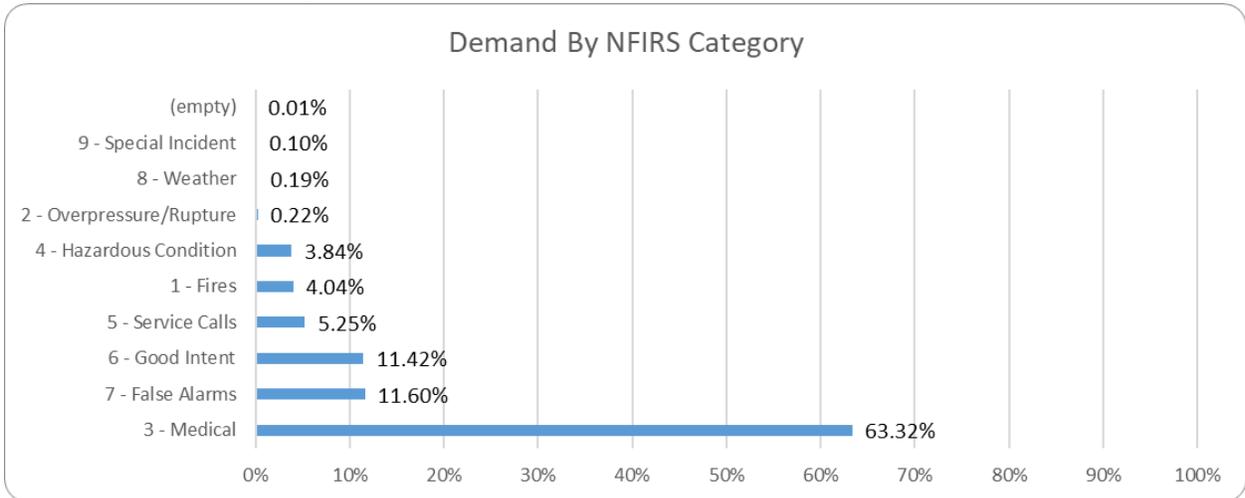
Demand for Service:

The department’s demand for service for FY17/18 was 3,799 events, approximately 10 per day. This is a 38% increase from FY13/14 with 2,747 events. The medical emergency contributes to 63.32% of the demand over the last 5 full years. The demand trend is growing with historic changes from 2.68% to 15.09%, annually.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019



Demand by NFIRS Category – 07/01/2013 to 06/30/2018



Response Times:

Using the National Fire Protection Association as a guideline for response (NFPA 1710), goals for response performance were set and evaluated against the following:

Call Processing Time: 1 minute

Response Time: 5 minutes, 00 seconds (turnout of 1 minute and travel of 4 minutes)

Total Response Time: 6 minutes (Call processing time, turnout, travel)

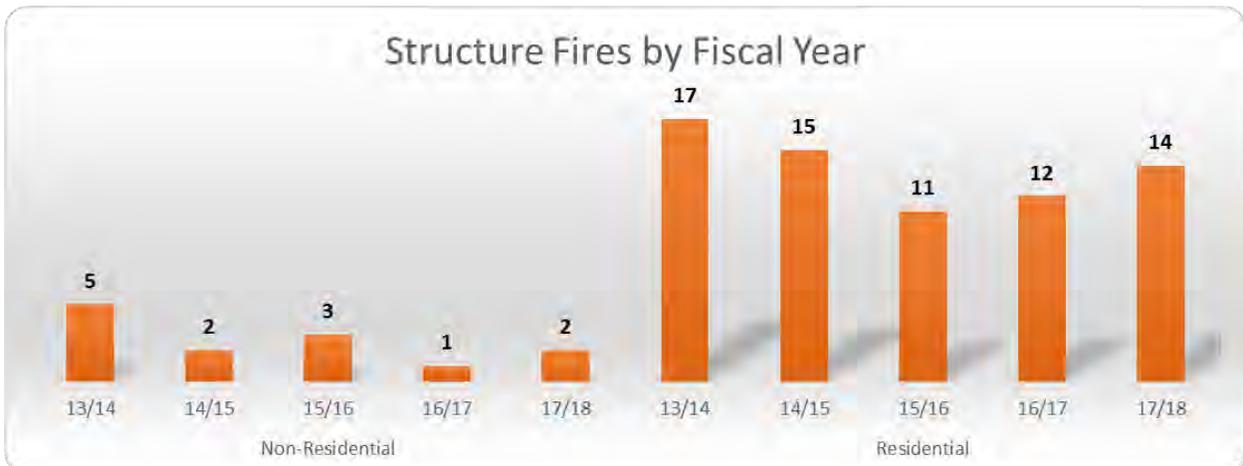
Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Set Response Performance Goals Here		
Call Processing	Response Time	Total Response Time
0:01:00	0:05:00	0:06:00
% Goals Met		
Call Processing	Response Time	Total Response Time
45.13%	44.34%	78.78%
90th Percentile Demonstrated Performance		
90th CP	90th RT	90th TRT
00:00:00	00:07:00	0:06:00
Staff and Counts per Incident		
90th Staff Count	Avg Staff Count	Incident Count
8.00	4.80	15,024

It appears the response time is somewhere between to 7- and 8-minute mark, at the 90th percentile. Because of the rounding to the nearest whole minute, this is impossible to pin-point. Of the 15,024 events measured here, 90% of them has a staff count of 8 persons or less; the average was 4.80 staff count. **Although the department's practice to round to the whole minute, the goal met percentages are more accurate than the 90th percentile demonstrated performance.**

The 5 min goal for Response Time is 44.34%

Structure Fires:



Within the department's jurisdiction, **annual structure fires average 16**. Over the last 5 fiscal years, 82 total structure fires have occurred with the following points:

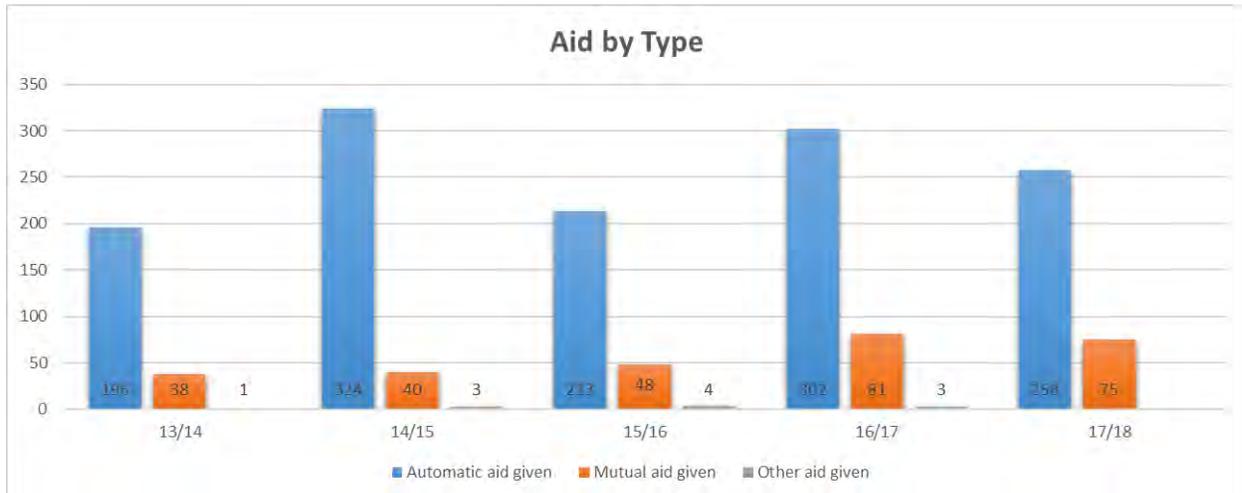
- Sixty percent (60%) of these fires were confined to the room or origin.
- Average duration of the event was 1 hour, 44 minutes
- There were **no** fire fatalities, only 1 civilian injury and 1 firefighter injury.
- The cooking area was the area of origin for 18% of the events, the highest percentage of any other area.
- A smoke alarm was found in fifty-four (54%) of these properties.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

- Forty percent (40%) were found to be unintentional, 28% remain under investigation, 12% were undetermined after investigation.
- A first arriving response time goal of 5 minutes was met on 40% of events.
- Average fire department staff count was 17 persons. 90% of these had a staff count of 22 or less persons. The max staff count on any incident was 30.

Mutual / Auto Aid:

Aid Given

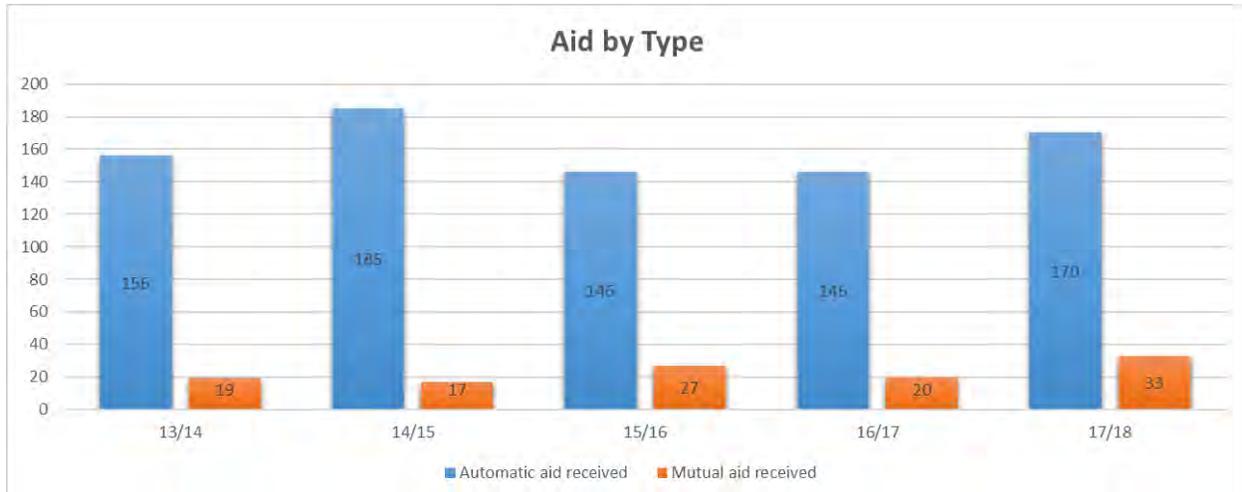


Aid by Department Name	Count	Avg Appar Cnt	Avg Staff Cnt
Bayleaf	119	0.56	1.04
Brassfield	7	0.71	1.57
Bunn	5	0.00	0.00
Durham Highway	7	0.14	0.43
Fairview	1	0.00	0.00
Falls	4	0.00	0.00
Franklinton	2	0.00	0.00
Moore County Public Safety	1	0.00	0.00
New Hope	83	0.80	1.89
Northern Wake	53	0.89	0.94
Raleigh	870	0.58	1.61
Rocky Mount	1	2.00	2.00
Rolesville	168	0.77	2.24
Rolesville Police Department	1	1.00	1.00
Stony Hill	119	0.69	1.84
Wake County Sheriffs	3	0.33	0.33
Wake Forest Police Department	1	1.00	1.00
Youngsville	141	0.52	1.53
Grand Total	1586	0.62	1.62

Aid Given, with the majority in the form of Auto Aid Given, averages 250 – 300 responses per year (1586 total for the 5 years). Raleigh, Rolesville and Youngsville are the top three recipients of the aid accounting for 75% of the aid given response over the last 5 years. 27% of these resulted in cancellation where a unit never arrives on-scene. Of the remaining, most were EMS events but 75 events were logged as Building Fires. On average, the department responds with 1 or less apparatus (0.62) and 1.62 staff members.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Aid Received



Aid by Department Name	Count	Avg Appar Cnt	Avg Staff Cnt
Bayleaf	81	0.63	1.22
Brassfield	3	0.67	1.00
Durham Highway	2	0.50	1.50
Falls	11	0.00	0.00
Franklinton	1	0.00	0.00
New Hope	45	0.89	1.58
Northern Wake	77	0.79	1.48
Raleigh	282	0.44	1.39
Rolesville	246	0.90	2.33
Stony Hill	135	0.83	2.28
Youngsville	33	0.67	2.33
Zebulon	3	0.33	0.00
Grand Total	919	0.69	1.78

Aid Received, with a majority in the form of Auto-Aid Received, occurred on 919 events (approx. 200 annually). Top three departments sending aid were Raleigh, Rolesville and Stony Hill. The top 10 event types are listed below with a balance of medical and fires. 89 building fires received aid.

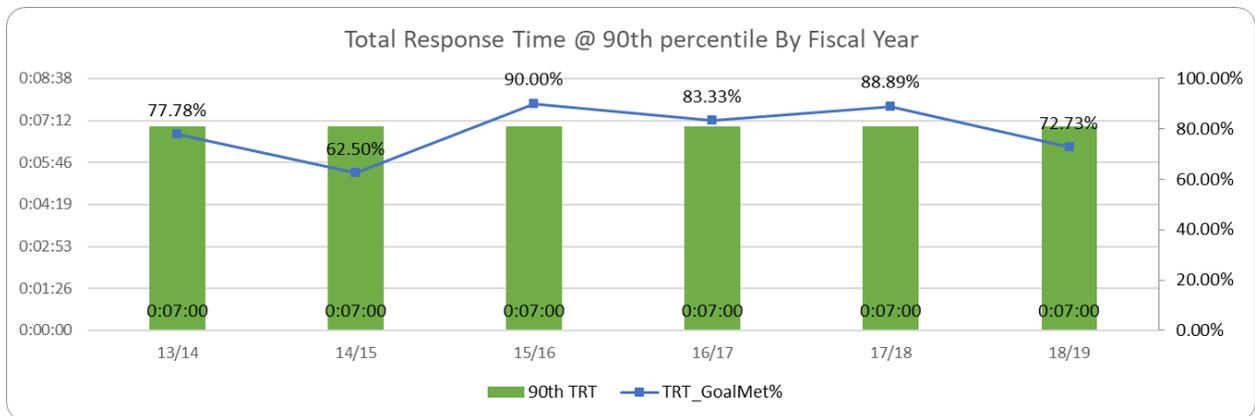
Incident Type Aid Type Department Name	Count	Avg Appar Cnt	Avg Staff Cnt
311 - Medical assist, assist EMS crew	89	0.47	1.58
111 - Building fire	89	1.11	2.81
611 - Dispatched & cancelled en route	88	0.48	1.15
322 - Motor vehicle accident with injuries	61	0.54	1.39
321 - EMS call, excluding vehicle accident with injury	55	0.49	1.69
113 - Cooking fire, confined to container	52	0.90	1.85
412 - Gas leak (natural gas or LPG)	40	0.63	2.05
700 - False alarm or false call, Other	34	0.44	0.94
745 - Alarm system activation, no fire - unintentional	26	0.19	0.38
440 - Electrical wiring/equipment problem, Other	23	0.52	1.52

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Standard of Cover:

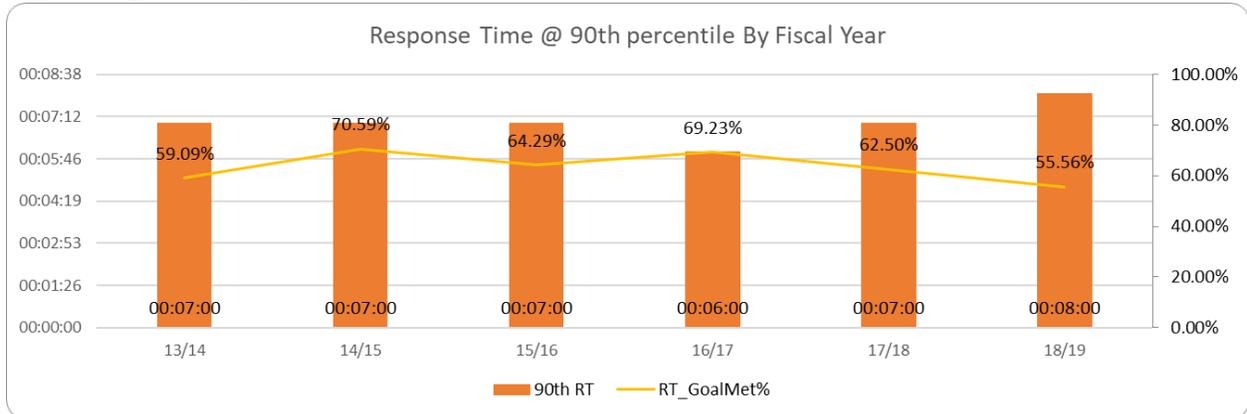
To establish a baseline of performance measured against the NFPA 1710 standard, a query for Structure Fires (NFIRS 111, 112, 120, 121, 122, 123) where Mutual was None or Aid Received, since 07/01/2013 was conducted. Total Response Time, inclusive of call processing time, turnout time and travel of the first arriving unit are needed to evaluate against the standard of 06 minutes and 20 seconds. The current dataset evaluated is from 07/01/2013 to 06/19/2019. A total of 100 events met the criteria above. Of the 100, 46 of these contained no data for the Dispatch Received date/time which prevents the calculation of Call Processing Time.

Two evaluations will be done: one to evaluate the Total Response Time of the 54 events containing the call processing time and another to evaluate only the Response Time (turnout and travel time) of the first arriving unit for all 100 events. The NFPA 1710 standard for Response time would be 05 minutes and 20 seconds. (01:20 for turnout and 4:00 travel) As noted earlier in this document, many incidents failed to have accurate timestamping in the database which included seconds. Time was rounded to the nearest minute. This prevents and actual 90th percentile time from being displayed. From the graph below, one can deduct the actual time at the 90th percentile to be between 7 and 8 minutes. This graph represents the 54 events with a Dispatch Received timestamp allowing a call processing time to be evaluated. The goal is 06 minutes 20 seconds.



Town of Wake Forest Fire Department Feasibility Analysis August, 2019

The chart below represents the Response Time (turnout and travel time) of all 100 events. The goal is 05 minutes and 20 seconds. The baseline performance in between 6 and 9 minutes, depending on the year.



Baseline Statement:

For 90% of all typical residential structure fire incidents, at least one initial arriving fire apparatus along with at least four (4) adequately trained firefighters should arrive within 8:00 minutes total response time and be prepared to take immediate action in accordance with department protocols.

Staffing:

Based on the unit report, looking to the first arriving unit, it appears the department is staffing the first arriving engine company with 3 or 4 staff on the majority of the events, annually.

Fiscal Year	90 th Staff	Avg Staff
13/14	4	2.3
14/15	5	2.6
15/16	4	2.8
16/17	4	2.8
17/18	4	2.3
18/19	5	2.7
Grand Total	4	2.6

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

Minimum Staffing Levels:

Additional attention to minimum staffing levels is needed within the fire department. Adequate staffing at structure fires is very important in providing fire and rescue services. Federal law mandates that a minimum of four firefighters are on scene before making interior entry into a structure fire. This requirement is so that a minimal rescue team can be formed before sending personnel into an immediately dangerous to life and health environment (IDLH). Wake Forest must comply with this requirement as there are very few acceptable exceptions to this mandate. Beyond that requirement, staffing levels are a local decision. However, the national standards for emergency response articulate that a minimum of 17 firefighters are necessary to adequately manage a house fire in a typical residential (<2000 square feet) structure. Data indicates that Wake Forest is placing an average of 17 persons on structure fires. In Wake Forest, 90% of structure fire incidents show a staff count of 22 or less. Moving forward, strengthening on duty staff and exercising all available automatic aid agreements will continue to be important for Wake Forest, especially as Wake Forest develops higher hazard occupancies such as apartments, strip shopping centers and commercial structures. As an example, a minimum of 27 firefighters is needed on scene at a basic garden type apartment fire according to national industry standards. Wake Forest will need to plan for more urban levels of staffing in the future. While four persons on each engine and ladder is not a legal requirement, it should be a goal of the Town to increase firefighter staffing to reach this level of minimum staffing as soon as conditions will allow. The fire department is dependent upon automatic aid now (approximately 200 times per year). As Wake Forest further develops, the Town will need to be able to manage single residential fire incidents more internally and rely on automatic aid more for secondary incidents occurring simultaneously and higher hazard incidents.

Fire departments measure at the 90th percentile in all cases because of multiple events occurring due to storms, access issues, mechanical failures and other uncontrollable events. The fire department should be reporting all demonstrated performance in response times at the 90th percentile to comply with industry standards and expectations.

Geographic Information System (GIS) Maps:

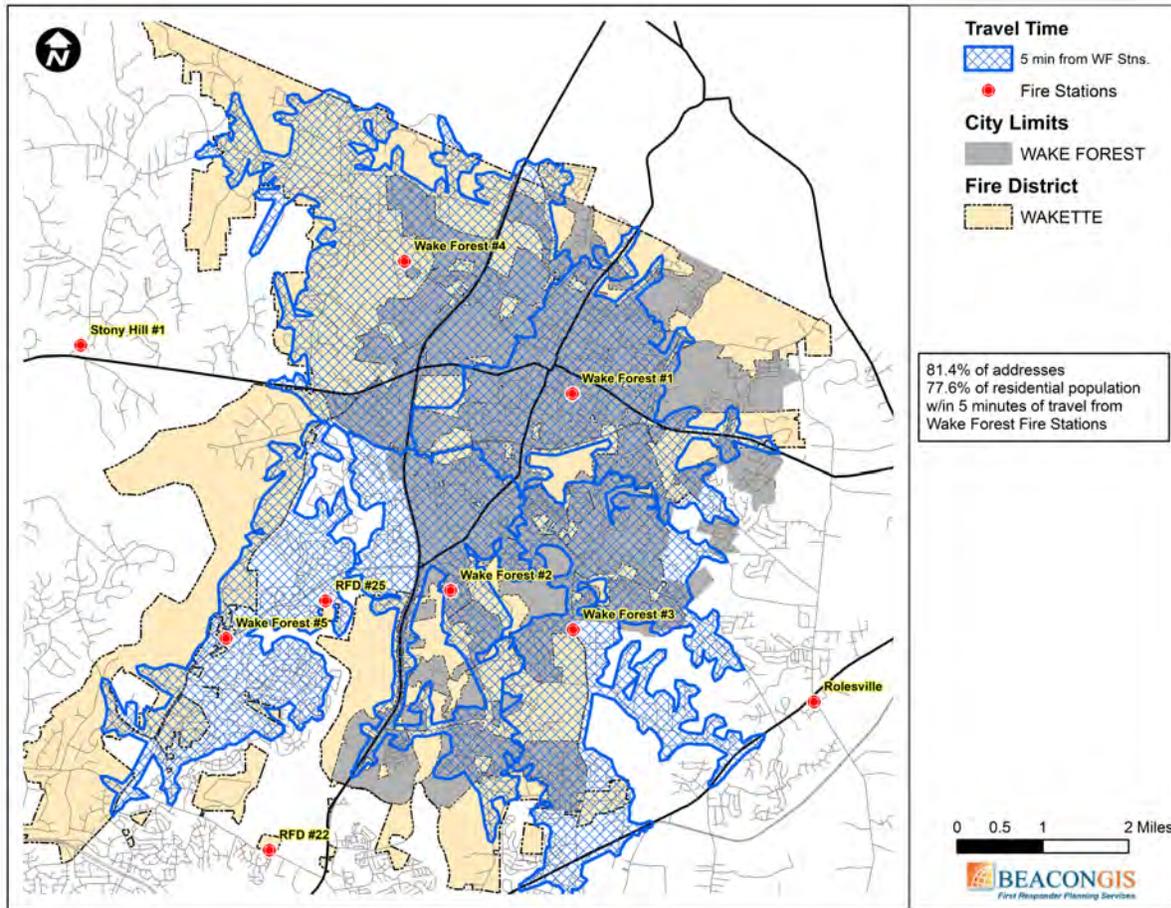
A series of maps produced by Envirosafe GIS specialists are integral to this report.

The following GIS maps depict the overall coverage issues within Wake Forest related to station location and service delivery:

- Map A – Wake Forest Travel Time Map
- Map B – Wake Forest Population Density Map
- Map C – Wake Forest Hazard Risk Map

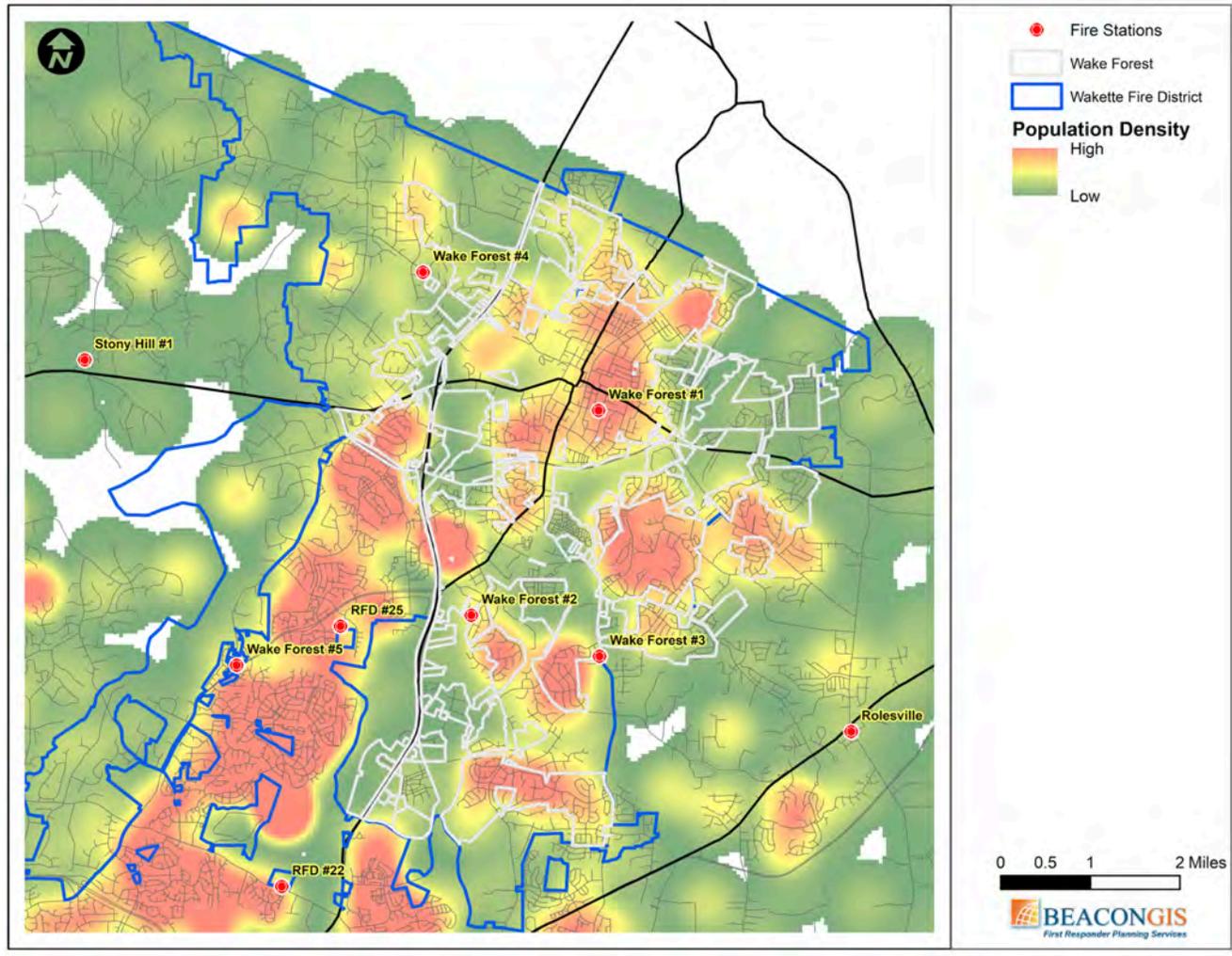
Town of Wake Forest Fire Department Feasibility Analysis
August, 2019

Map A – Wake Forest Travel Time Map



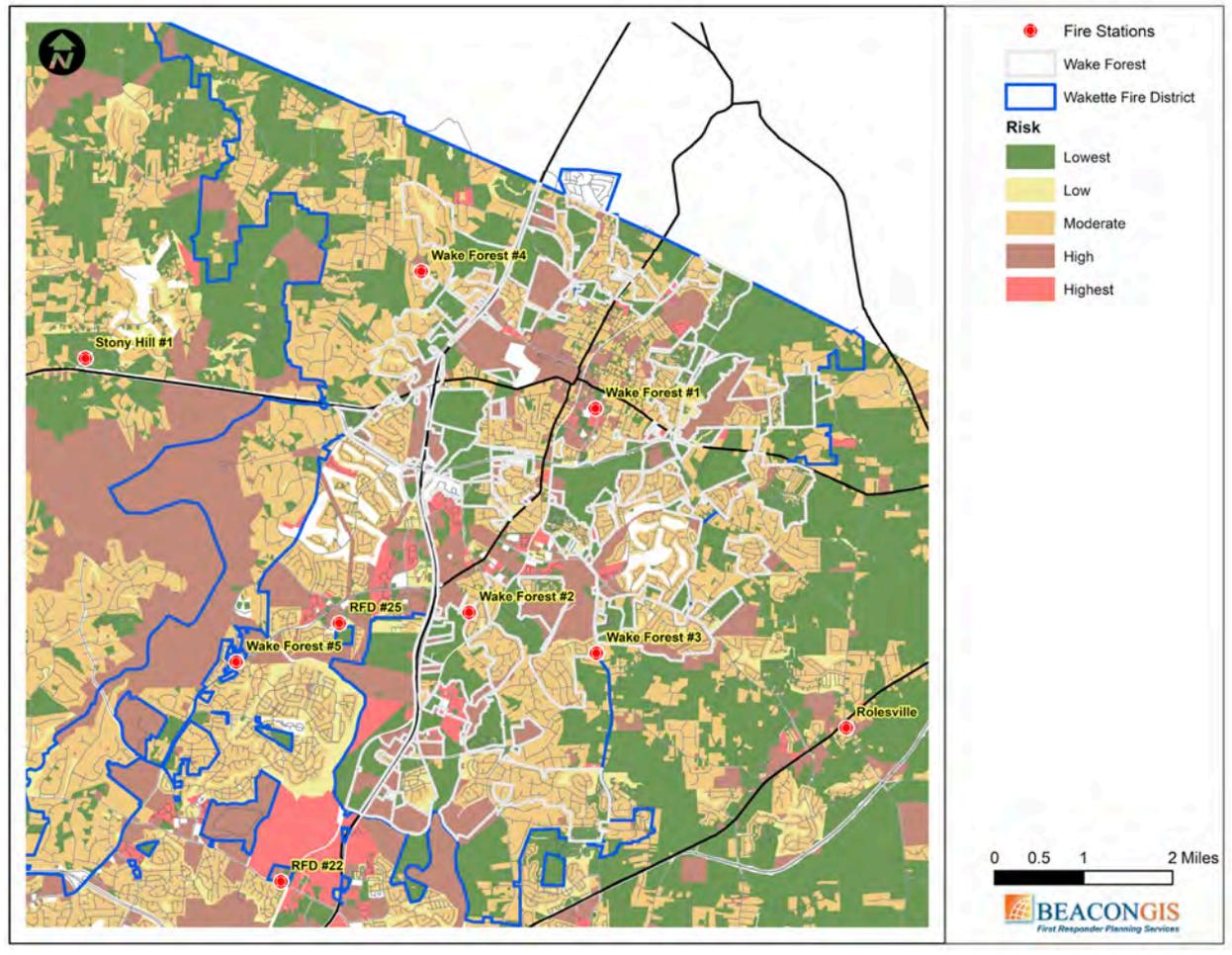
Town of Wake Forest Fire Department Feasibility Analysis
August, 2019

Map B - Wake Forest Population Density Map



Town of Wake Forest Fire Department Feasibility Analysis
August, 2019

Map C – Wake Forest Hazard Risk Map



Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

B. Insurance Rating Analysis

EnviroSafe consulted with subject matter experts regarding impacts that the unification of the private, non-profit fire department with Wake Forest Town Government.

The last evaluation of the Wake Forest and the Wakette fire insurance districts was in 2012. At the time the Falls fire insurance district was rated separately. Therefore, the current overall rating is not fully known. However, in the 2012 evaluation, the department rated as an ISO Class 4 for the Town of Wake Forest and Class 5 for the Wakette rural fire insurance district. Since that last inspection, some of the rating requirements have changed as well. Generally, the department would be set for re-inspection on or about 2022. However, with the unification of the fire department into Town Government, that inspection could be held sooner based upon the workload demands of state staff.

It is the assessment team's observation that the fire department could improve the rating with a re-evaluation post the unification of the fire department into the Town. This assessment is based upon the last score (68.71 points) coupled with improvements that have been made in facilities, equipment and personnel. Furthermore, credit can now be received for community risk reduction which will also help the rating. It is very possible that the Town of Wake Forest Fire Department could earn an ISO Class 3 or better rating in the next evaluation. It would also stand to reason that the Wakette District should improve to a Class 4 or better rating – pending outcomes with the Falls District calculations.

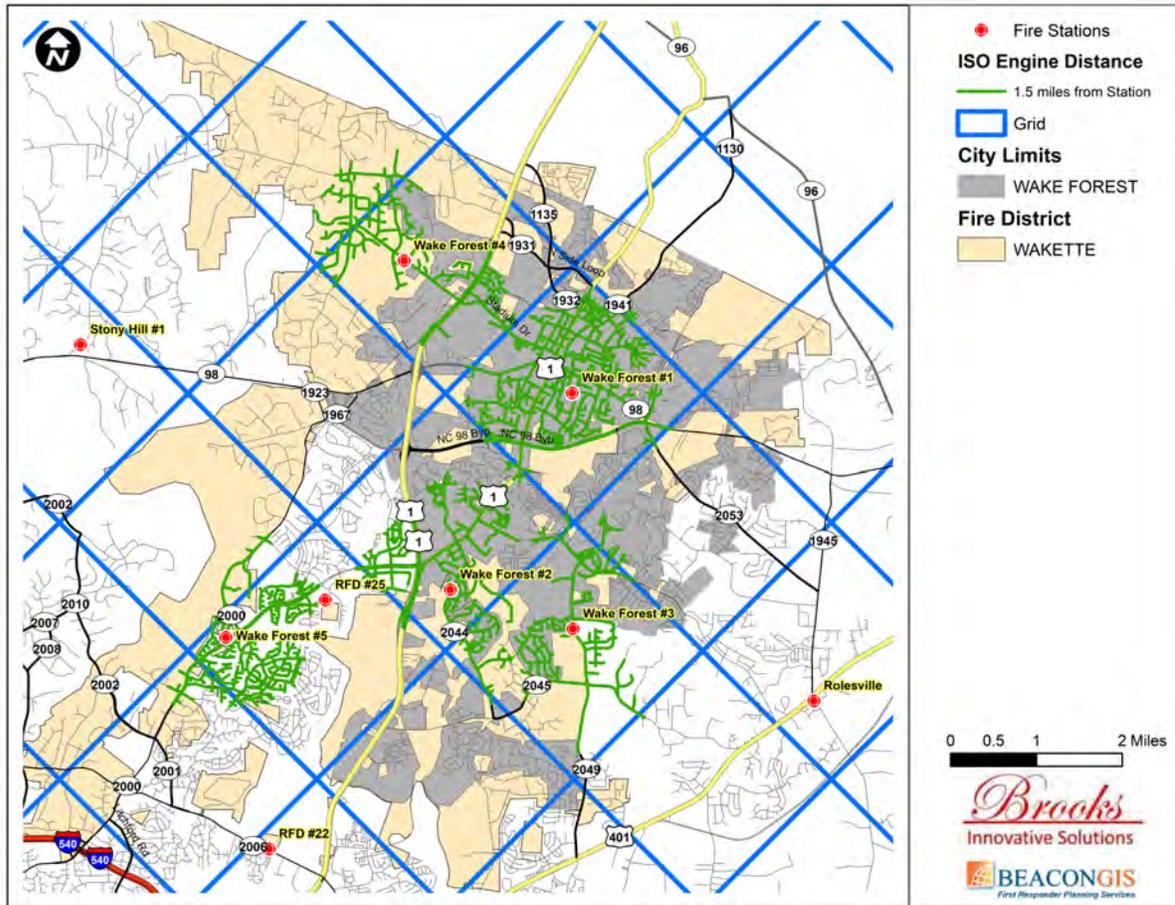
These rating projections must be tempered with the tremendous growth that Wake Forest has also experienced since 2012 in hazards and risks to protect. However, it is projected that the unification of the private, non-profit fire department into the Town Government would NOT have an adverse impact on the Town's fire insurance (ISO) rating based upon the information available to the assessment team.

Below is a summary sheet of the most recent ISO inspection for the Town of Wake Forest as one of many documents the assessment team obtained through a public records request to the State of North Carolina.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Wake Forest ISO Engine Distance

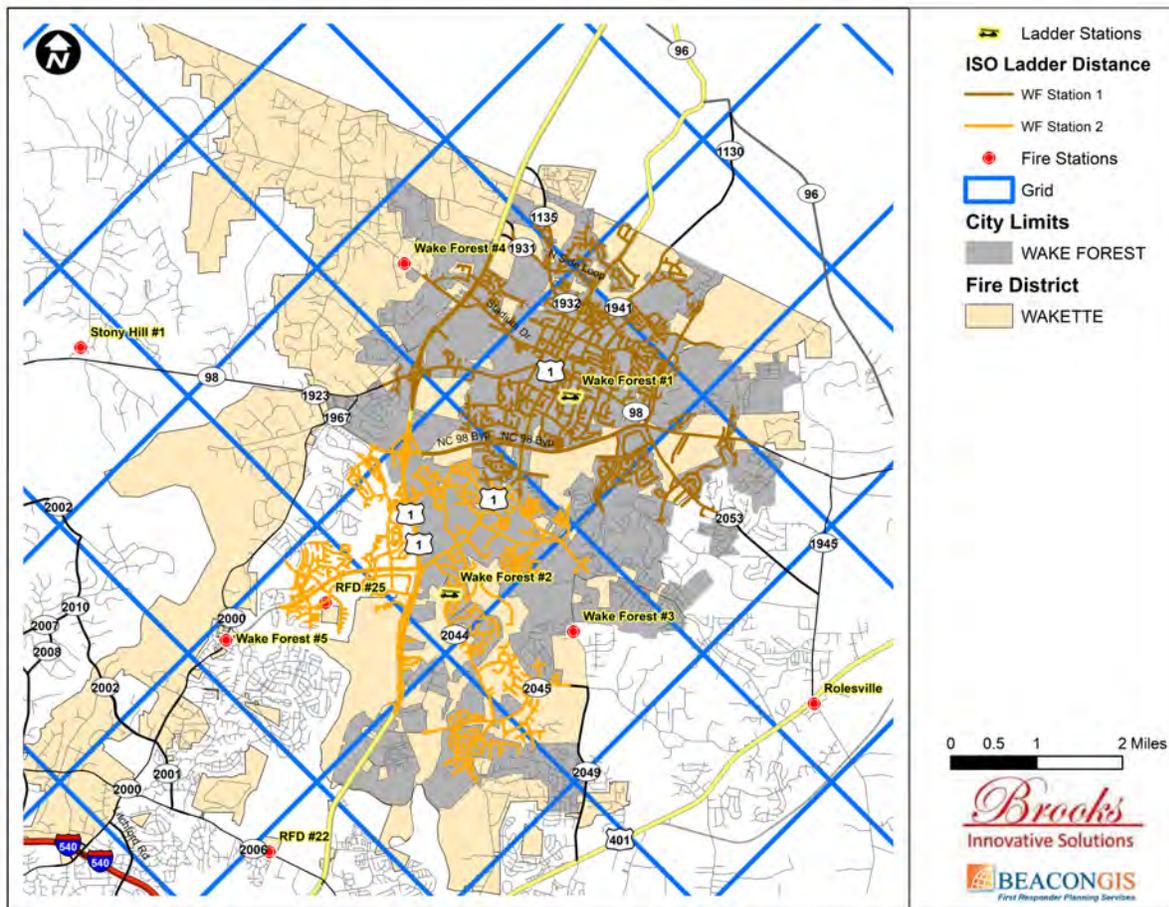
The Insurance Services Office evaluates the distance of 1.5 road miles from fire stations to determine engine company coverage. This evaluation for Wake Forest is depicted in the graphic below. Note that the Town limits are in gray and the Wakette rural district is in tan.



Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Wake Forest ISO Ladder Distance

The Insurance Services Office evaluates the distance of 2.5 road miles from fire stations to determine ladder coverage. This evaluation for Wake Forest is depicted in the graphic below. The graph indicates the current ladder (Station 1) and the ladder projected to go into service this fall (Station 2). Note that the Town limits are in gray and the Wakette rural district is in tan.



Town of Wake Forest Fire Department Feasibility Analysis August, 2019

C. Policies and Agreements

Standard Operating Guidelines:

The following summary is presented as an objective overview of the current guidelines in place for the Wake Forest Fire Department and how they can be adopted for continued use after the proposed consolidation. The current guidelines are separated into two (2) sections:

Administrative (100) and Operational (200)

Administrative Guidelines (1) The following list of administrative guidelines has been reviewed. All of these guidelines relate to overall organizational processes that typically need to be consistent throughout the entire work force and not specific to one department. Each item listed below stands on its' own merit, but will need to be reviewed in conjunction with its' counterpart on the municipalities side to make sure there are no conflicts and/or over-reaching statements. Each item, however, will need further discussion by both the town representatives and the fire department management and/or transition team:

- 100-01. Sick leave
- 100-02. Vacation leave
- 100-04. Holidays
- 100-05. Disciplinary actions
- 100-06. Purchasing
- 100-07. Personnel evaluations
- 100-11. Drug Testing
- 100-23. Light duty
- 100-26. Tuition reimbursement
- 100-35. Bereavement leave
- 100-36. Take home vehicle
- 100-39. Leave of absence
- 100-45. Travel allowance
- 100-50. Social media
- 100-51. Anti-harassment

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Administrative Guidelines (2) All items highlighted in yellow require further discussion relating specifically to the topics (see additional notes for highlighted guidelines). Their topics are not as broad based as the ones noted above.

100-03. Company colors. Standard verbiage should carry over.

100-06. Uniform wear. Standard verbiage should carry over.

100-09. Personal grooming. Standard verbiage should carry over.

100-10. Tornado watch and warning. Standard verbiage should carry over.

100-12. Vehicle accident. Standard verbiage should carry over.

100-13. Awards program. Standard verbiage should carry over.

100-14. Card access. Standard verbiage should carry over.

100-15. Lieutenant promotion. Standard verbiage should carry over.

100-16. Captain promotion. Standard verbiage should carry over.

100-17. Vehicle operator check-off. Standard verbiage should carry over but may need some revision based on municipality requirements - town driver's license, etc.

100-19. Hydrant maintenance. Standard verbiage should carry over.

100-20. Driving. Standard verbiage should carry over but may need some revision based on municipality requirements.

100-22. Shift change. Standard verbiage should carry over.

100-24. Volunteer participation. Standard verbiage should carry over. However, this will need further discussion with all interested parties. Typically, municipalities do not have the volunteer element within the ranks.

100-25. Lifetime membership. Will require some discussion. May need rewording to match town/state definition of retired/lifetime member.

100-27. On-call Chief. Standard verbiage should carry over. Will have to discuss the volunteer aspect.

100-28. Pre-incident survey. Standard verbiage should carry over.

100-37. Hose testing. Standard verbiage should carry over.

100-38. Station logbook. Standard verbiage should carry over.

100-40. Apparatus staffing. This will need further discussion as it relates to staffing with part-time help and volunteers. Staffing requirements are being addressed separately from this review but will play directly into this section.

100-41. Training. Standard verbiage should carry over but will need to address the volunteer vs. paid aspect.

100-42. Fire investigation. Standard verbiage should carry over but use of Wake County – 1 (WC-1) may require some dialogue.

100-43. Fire education. Standard verbiage should carry over.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

100-44. Ride along program. Standard verbiage should carry over but may possibly need approval of Town Attorney.

100-44-2. Ride along program, Application form. Standard verbiage should carry over.

100-46. Rural water supply. Standard verbiage should carry over.

100-47. Fire ground endurance assessment. Will need further discussion. The general requirement for the assessment is sound, but the implementation of the incentives and possible disciplinary action will have to be addressed at the town level.

100-48. Live-in program. Needs discussion at the management level.

100-49. Fire Chaplain. Standard verbiage should carry over.

100-52. Fire Fighter First Class. Standard verbiage should carry over.

100-53. Battalion Chief. Standard verbiage should carry over.

100-54. Electronic record keeping. Standard verbiage should carry over.

100-55. Fire station safety inspection. Standard verbiage should carry over.

100-56. Unmanned aerial system. Standard verbiage should carry over.

100-57. Emergency preparedness. General information is solid, but

Operational Guidelines

200-00. Wake Forest FD Fire Ground Operations. The document is well written and defines what the expectations of the department are on the fire scene. **The recommendation would be to make it more concise. Less narrative and more bullet statement form will make it easier to follow and comprehend.**

200-01. Safety Officer. Standard verbiage should carry over.

200-02. Accountability. Standard verbiage should carry over.

200-03. Personal Protective Equipment. Standard verbiage should carry over.

200-04. Rapid Intervention Team. Standard verbiage should carry over.

200-05. Mayday. Standard verbiage should carry over.

200-06. Rope Rescue. Standard verbiage should carry over.

200-07. Radio Communications. Standard verbiage should carry over.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Mutual / Automatic Aid Agreements & Contracts:

Wake Forest Fire Department (WFFD) is currently three (3) separate mutual aid agreements. The largest agreement is the Wake County Fire Protection Mutual Aid agreement that was executed on July 1, 2014, with the majority of the fire departments in Wake County. It is a reciprocal agreement that expires on June 30, 2020, and beyond will renew each annually automatically. WFFD is also in mutual aid agreements with Brassfield Fire Department, Inc. and Youngsville Fire Department, Inc. that began in March of 2012 and renew each year automatically.

WFFD is still bound by two memorandum of agreements that were executed in 1996 with Wake County for “Extrication Rescue Services” and “FEMA Disaster Services”. These agreements renew automatically each year.

WFFD is part of the Wake County Fire Protection Agreement between Wake County and WFFD. Funds come from proceeds of the tax levied from the special fire protection service tax district called the Wakette Fire Insurance & Response District. WFFD provides fire protection services to these identified districts and are compensated accordingly by Wake County.

As of June 19, 2019, the new Wake County dispatch system modified the protocol for closest unit dispatch from thirty (30) seconds to four (4) minutes. The purpose was to minimize the amount of time that jurisdictional lines were crossed for responses. As for the mutual aid/automatic aid agreement between the City of Raleigh Fire Department (RFD) and the WFFD, it was clarified that RFD will be dispatched automatically for calls requiring an engine company response based on the four minute, closest unit protocol mentioned above. Ladder companies do not fall under this agreement, but will always respond as mutual aid if ever requested.

**Town of Wake Forest Fire Department Feasibility Analysis
August, 2019**

D. Observations and Recommendations

Standard of Cover Related Recommendations:

As it relates to data collection for the purpose of evaluating performance:

6.1 - The department should consider investing in ESO CAD Monitor to allow the import of CAD data in Firehouse to start the incident report. This will reduce human error and save data entry time.

6.2 - If the department is using MCTs, inquire with the CAD vendor to determine if auto-enroute and auto-arrive feature are available. This will create consistent timestamping for turnout and travel time measures.

6.3 - In the Firehouse record management system (RMS) and within the unit report, make the response code field required and limit to three values of 1- Emergency, 2- Non-Emergency and 3- Cancelled for the unit status. This will allow the non-emergency events to be filtered out when evaluating response times.

6.4 – ISO Re-Inspection

Once the unification occurs and systems and processes have been smoothed out, it is recommended that the Town request a re-inspection from the North Carolina Department of Insurance – Office of State Fire Marshal to re-assess the Town’s insurance rating. This rating is projected to have an improvement for the Town, which will result in lower insurance premiums for businesses and commercial properties and potentially for some residential structures as well.

6.5 – Use of Opticom Traffic Signal Management Systems

The Town should invest wherever possible in the installation of Opticom system for the fire apparatus, beginning with intersections that are the most difficult for fire apparatus to navigate and where there is high call volume. These devices enable priority to be given to fire apparatus that is responding to emergency calls for service. Transportation related grant funding may be able to be used to help financially support installation of the Opticom system. Most of the expense in the newer GPS based Opticom traffic management systems is with the transmitting devices on the fire apparatus. Equipment is also needed at key intersections. This would be an excellent item to add to the Town’s CIP program.

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

6.6 – Staffing Levels

The Town needs to give priority attention to staffing levels within the fire department. Seek to optimize the staffing that is currently provided and work towards adding enough firefighters to ensure that safe levels of Wake Forest firefighters can respond to and mitigate typical residential fires within the Town of Wake Forest.

General industry standards would indicate each response company should be allocated approximately 15 firefighters in order to maintain minimum four person staffing on each unit. Given 4 engines and 2 ladders and a Battalion Chief, approximately 93 firefighters would be needed in Wake Forest. SAFER grants can assist with the implementation costs of this expansion. Also noted earlier are utilizing part-time personnel currently assigned to Fire Station 5 at other stations to help minimize this gap.

Policies and Agreements:

Guideline Observations

It may be possible/necessary to combine guidelines 100-17 and 100-20.

Guidelines 100-24, 100-25, 100-27, 100-40, 100-41, & 100-48 all reference staffing and the volunteer aspect currently in place. As a municipality, volunteers are typically not utilized; therefore, the revised guidelines will have to reflect an agreed upon solution to the daily operations.

Guideline 100-42 will need some revision to address the utilization of the Wake County investigation unit (WC-1). This resource is available to all within Wake County, but the document may need some new wording specifying the towns' relationship with the County.

Guideline 100-47 discusses incentives and disciplinary actions depending upon the individuals' performance in the testing process. A possible solution to the issue would be to review the Police Department's annual test to see if it can be modified and/or paralleled for use with the Fire Department.

Guideline 100-57 is the current Emergency Preparedness guideline. A revision will be needed to link with the town's emergency operations plan as part of an all-inclusive document. New Town of Wake Forest Emergency Operations Plan adopted April 2019. The fire department was involved in this process.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

A good portion of the administrative guidelines have overlapping information. Both organizations must realize that going forward a more in depth analysis of each item is required to ensure that there are no conflicting statements in the guidelines. Special attention must be taken so that one does not supersede the other.

The Operational Guidelines currently on hand for the department should translate seamlessly to the new organization. We see no conflicts or issues that would hinder the department from functioning in the same capacity as they currently do.

Policies & Guidelines Recommendations:

6.7 - Administrative guidelines in section (1) of this document need a detailed overview to coincide with existing town policies of like nature. Revisions will require town, fire department, and/or transition team input to accomplish.

6.8 - Administrative guidelines in section (2) of this document require further discussion relating specifically to the topics. Additional revisions/additions are required for all highlighted guidelines in this section.

6.9 - Operational guideline 200.00 – Fire Ground Operations needs revisions to make more concise by using more bullet and statement format versus long narratives. Revision will make the guideline easier to read and comprehend.

6.10 - Strongly consider the development of guidelines relating to the following areas of response; Rail, Highway, Bomb/Hazmat, Active Threat/Shooter and Confined Space.

6.11 – Emergency Medical Dispatch Protocol

A review should occur for the medical emergencies that the Town is being dispatched to with the Wake County Medical Director and the Emergency Medical Dispatch (EMD) protocol to ensure that the Wake Forest Fire Department is responding to the types of medical emergencies that are necessary and appropriate to serve the people of Wake Forest within the Wake County Emergency Medical Services delivery system.

North Carolina General Statutes give county governments the responsibility of Paramedic patient treatment and transport. However, municipalities provide first responder emergency medical care on life threatening medical emergencies. First responder pre-hospital care is critical to successful patient outcomes.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

However, most counties – including Wake – use the Emergency Medical Dispatch (EMD) system which prioritizes medical emergencies under the guidance of the County’s medical director. This is a prioritization system for medical emergencies to determine what situations require what kind of resources. During the transition phase, it is recommended that the Town review the protocols with Wake County Government and the medical director to ensure that the system is operating as the town desires to operate. In North Carolina, most every fire department is responding to “Delta” and “Echo” level calls and when no ambulance is available on other medical calls to 9-1-1. Most municipal fire departments respond to most “Charlie” level calls, but do not typically respond to less severe “Alpha” and “Bravo” medical emergencies. A review of the protocols with the medical director during the transition phase will ensure Town leadership and elected officials that resources are being optimized within Wake Forest for the benefit of the citizens and an appropriate and healthy balance is in place between fire and medical emergencies.

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

7. FINANCIAL FEASIBILITY ANALYSIS:

Financial aspects are integral to this assessment. The team evaluated the fire department budget, the Town budget and the associated capital improvement plans (CIP). Particular attention was given to the human resource costs and benefits as well as operating expenses. Transitioning fire service from the private, non-profit model to the municipal model will be more costly. However, outcomes will improve, certain components such as support functions and systems can be delivered more effectively and efficiently and costs for employee turnover are projected to decrease under the municipal model.

Firefighter turnover is expensive. Reducing firefighter turnover will improve efficiency. It is estimated that the loss of each firefighter to another fire department results in as much as a \$50,000 cost per firefighter. These costs are in recruitment, training and equipment. Beyond direct costs, there are costs to effectiveness and organizational morale, beyond the ability to attract and retain talent.

A high range methodology was utilized in order to predict costs in future years. In the first year, costs could increase as much as a net of \$988,970 based upon projections. Key drivers of this increase include converting the firefighter's pay scale and benefits conversion, a more aggressive apparatus maintenance and CIP replacement program and potential ancillary/support costs. It is important to note that a number of variables can affect the actual amount of increase, especially in the first year (FY 20-21). However, given projected growth in the Town and the assumed growth from the County district, it is fiscally feasible that the Town could assume full responsibility for the fire department for FY 20-21. Continuing work is needed throughout the transitional period to further refine the cost estimates as more variables are defined in preparation for the FY 20-21 budget.

**Town of Wake Forest Fire Department Feasibility Analysis
August, 2019**

A. Delta of Fiscal Measurements FY 20-21

**Town of Wake Forest Fire Department
Five-Year Budget Projections**

Account	FY2020 Current Year	FY2021 Projected	FY2022 Projected	FY2023 Projected	FY2024 Projected	FY2025 Projected
Revenues						
Town of Wake Forest	6,084,595	6,327,980	6,581,099	6,844,343	7,118,117	7,402,842
Wake County	1,329,222	1,400,000	1,456,000	1,514,240	1,574,810	1,637,802
Impact Fees	44,000	44,000	44,000	44,000	44,000	44,000
Total Revenues	7,457,817	7,771,980	8,081,099	8,402,583	8,736,926	9,084,644
Expenditures						
Personal Services	6,017,892	6,950,245	7,267,058	7,512,718	7,768,204	8,033,909
Professional Services	22,150	22,150	22,150	22,150	22,150	22,150
Operating	1,177,072	1,200,613	1,224,626	1,249,118	1,274,101	1,299,583
Capital Outlay	0	50,000	330,500	50,000	50,000	50,000
Total	7,217,114	8,223,009	8,844,334	8,833,986	9,114,455	9,405,642
Debt Service	277,545	537,941	569,038	560,689	1,014,567	980,819
Total Expenditures	7,494,659	8,760,950	9,413,372	9,394,675	10,129,022	10,386,461
Over (Under)	(36,842)	(988,970)	(1,332,273)	(992,092)	(1,392,095)	(1,301,817)
Equivalent Tax Rate		0.018	0.024	0.018	0.025	0.023

Overall Financial Impact:

The Town of Wake Forest (TOWF) is evaluating the feasibility of discontinuing its fire services contract and bringing the Wake Forest Fire Department (WFFD) in house to function as a Town Department. The 5-year budget forecast (as depicted in the table above) for the direct costs of the fire department indicates that implementing an in-house fire service delivery option will lead to a budget gap of approximately **\$988,970** in the first year, with escalated budget gaps in subsequent years. The projected first-year budget gap is equivalent to \$0.018 on the property tax rate. Key drivers of this gap include the cost of converting the WFFD's firefighters to the TOWF's more rewarding pay and benefits plan, as well as development of a more aggressive apparatus maintenance and CIP replacement program that is expected if WFFD becomes a TOWF department. In addition to the impact on direct costs, the TOWF will incur additional ancillary costs of **\$359,535** will be needed to provide service department support to an in-house fire department operation.

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

Funding Sources:

Funding for the WFFD currently comes from three main sources. The TOWF currently allocates \$0.11 of its property tax rate for the fire services contract with WFFD. The most recent budget forecast indicates that in FY 2021, the tax rate allocation will produce \$6.33M in revenue for fire services, an increase of \$243,385 (0.04%) over the current year. Increases are projected over the next four years at an annual rate of 4%.

Wake County also receives contracted fire services from the WFFD. In FY 2021, the County's contribution to fire services is expected to increase from \$1.33M to approximately \$1.4M, a 5% increase over the current year. The County contribution is projected to keep pace with the Town's. Annual increases of 4% are projected as well.

The TOWF charges impact fees on new or proposed development projects to fund a portion of the cost for providing infrastructure and other public services to the development. Revenue from impact fees is currently being used to offset the WFFD's annual debt service requirements associated with the installment financing of a fire engine purchased in 2019.

Current Year Expenditures:

The WFFD has a current operating budget of approximately \$7.5M for FY 2020, including a personal services budget of approximately \$6.0M. The budget includes funding for 13 new firefighter positions, at an approximate cost of \$797,326. The cost of these new positions is funded primarily from healthy growth in revenue generated from the TOWF's \$0.11 property tax allocation to fire service that occurred over the past year.

The WFFD is planning to hire the new firefighters and onboard them by October 1, 2019. This reflects good financial and operational planning. That is, the cost of the enhanced fire service operation will become part of the WFFD's base operating budget, prior to the fire department being brought in house in FY 2021, effectively "leveling out" the transitional costs associated with changing to an in-house fire service delivery method.

Projected Expenditures:

1. Personal Services Costs

Personnel costs will obviously be most impacted by the change to an in-house service delivery method. If implementation occur in FY 2021, the fire department's personal services budget is projected to increase by **\$932,353**. This amount is almost entirely attributable to the cost of converting 79 fighters (including 13 new firefighters) to the TOWF's pay and classification plan.

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

The cost of the pay plan conversion was previously discussed in detail in the personnel section of this report. In subsequent years, personal services costs are projected to increase by 4% annually, consistent with the TOWF's current budgetary and growth trends.

2. Operating Costs

Operating costs in the fire department are projected to increase by 2% annually over the five-year forecast period. This rate of growth is consistent with the inflationary trends and assumptions used by the TOWF in developing Wake Forest FY2020 Annual Budget. Other than accounting for inflation and normal growth trends, basic day-to-day operating costs (i.e. supplies, utilities, printing, etc.) will be largely unaffected by switching to an in-house fire service delivery option.

3. Capital Outlay

The TOWF currently engages in a capital planning process for major types of vehicles and equipment (i.e., capital outlay) which represent a substantial financial investment for the town and thus need to be managed in the most economic manner possible. In the current fiscal year, the WFFD's budget does not include a specific allocation for capital outlay purchases. The fire department, however, is projecting salary savings of approximately \$193,000 due to the planned October 1, 2019 (instead of July 1, 2019) onboarding of 13 additional firefighters. WFFD plans to use these savings if they materialize to cash-fund the following capital outlay items: 800MHZ radio replacements, new water rescue equipment, building modifications, small fleet replacements, and other capital equipment.

In FY 2021, \$50,000 is programmed for capital outlay to support various safety equipment purchases and minor building modifications as needed.

In FY 2022, the capital outlay budget increases significantly, from \$50,000 to \$330,500. A budget of \$350,000 is needed to replace 35 self-contained breathing apparatuses (SCBA) that will have reached their useful life, at a total estimated cost \$262,500. Additionally, \$68,000 is programmed for small fleet replacement and other capital items. In subsequent fiscal years, \$50,000 per year is projected for various capital outlay/equipment purchases and minor building modifications.

4. Capital Improvement Plan

In addition to the recommended capital outlay purchases noted above, several large capital improvement projects, totaling approximately \$4.52M, are projected over the five-year period to support an aggressive apparatus and CIP replacement program as recommended previously in this report. These projects include:

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

- New ladder truck in the current fiscal year \$1.20M
- Renovations/improvements to Fire Station 1 \$1.50M
- Three fire engines \$1.82M

The preceding capital improvement projects represent a significant investment of the TOWF’s financial resources and thus are recommended for long-term financing, consistent with the TOWF’s debt management policies and guidelines. The table on the next page shows the projected impact on the TOWF’s debt service requirements resulting from the adoption of a more aggressive CIP replacement program.

Existing and New Debt Service Requirements:

Capital Item/Project	FY2020 Current	FY2021 Projected	FY2022 Projected	FY2023 Projected	FY2024 Projected	FY2025 Projected
Existing Debt Service	277,545	279,191	187,381	179,036	179,035	145,276
New Ladder Truck - \$1.2M	-	258,750	258,752	258,748	258,749	258,750
New Fire Engine - \$570k	-	-	122,905	122,905	122,905	122,905
New Fire Engine - \$605K	-	-	-	-	130,452	130,452
Station 1 Renovation - \$1.5M	-	-	-	-	323,426	323,436
New Fire Engine - \$640K*	-	-	-	-	-	-
Total Debt Service	277,545	537,941	569,038	560,689	1,014,567	980,819

** This engine is planned for order in FY 2025; however, because it typically takes 12 to 14 months before a truck is delivered, a debt service payment will not be made until the following fiscal year.*

1. Existing Debt Service Requirements

WFFD’s existing debt service requirements (reflected in bold in the table above) include total principal and interest costs associated with three bank loans. Two of these loans are with Capital Bank, N.A., including a 2012 loan in the principal amount of \$1,342,000 for the construction of Fire Station 3 and a second 2012 loan in the principal amount of \$766,814 for an aerial ladder.

The Fire Station 3 loan is set to retire on October 5, 2019, at which time a final “balloon” payment of \$619,357 is due. The debt service projections for WFFD’s existing debt include EnviroSafe’s recommendation that the outstanding balance of \$619,357 at October 5, 2019 be refinanced for a period of no longer than 5 years, using a conservative interest rate assumption of 3.5%. This structure would allow the outstanding debt on Station 3 loan to be retired in FY 2025, consistent with other existing fire department debt that will retire at that time. A longer financing term is not recommended for Station 3 due to the age of the facility. The 2012 loan for the aerial ladder is scheduled to retire on July 5, 2021.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

WFFD has a third loan with the Wake Electric Membership Corporation in the principal amount of \$440,000 for the installment purchase of a fire engine. This loan originated in March, 2016 and is a no interest loan, requiring annual payments of \$44,000 per year. The loan is scheduled to retire on March 1, 2025.

The department's existing debt service costs will decline by approximately \$100,000 on July 5, 2021 with the retirement of the outstanding debt on the aerial ladder. By 2025, all of the WFFD's existing outstanding debt is set to retire. This timing will allow TOWF to leverage new debt to support EnviroSafe's, Inc. recommendation for a more aggressive apparatus and CIP replacement program for the fire department.

2. New Debt Service Requirements

The CIP, as previously stated, recommends a total investment of approximately \$4.52M for a new ladder truck in the current year, as well as fire station improvements and three new fire engines over the next five years. The impact of this investment on future debt service requirements is shown in the debt service requirement table on the previous page. Based on a 5-year term, at a three-percent interest rate, debt service requirements will almost double in FY 2021, going from \$277,545 to \$537,941, which reflects the anticipated procurement of a new \$1.2M ladder truck.

Debt service requirements will increase to approximately \$1.0M in FY 2024, as the additional fire apparatus replacements and fire station improvements recommended in the CIP are made. It should be noted that the debt service requirement schedule depicted in the previous page is subject to change based on the timing of ordering and taking delivery of the fire trucks and other CIP items.

Service Department Impacts:

Bringing the WFFD in-house will not only impact the direct costs of delivering fire services. With a current budget of approximately \$7.5M and 79 employees, there will undoubtedly be an impact on ancillary costs outside of the Fire Department. For instance, managing payroll for a fire department is a complex task. Fire departments typically operate with three shifts in order to have firefighters on duty 24 hours a day, seven days a week. Many fire departments operate on a 24-48 shift schedule, allowing firefighters to work as a team at the same fire station for an entire 24-hour shift, and then take two days off. This type of scheduling can be challenging for Human Resources (i.e., payroll in particular) to support, given the FLSA rules and restrictions placed on work hours, consecutive workdays, overtime compensation, etc. Other service departments or support functions that will likely be impacted as a result of implementation include fleet maintenance, Facilities Maintenance, Finance (accounting), and Information Technology.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

EnviroSafe, Inc. has not conducted specific analysis to quantify an in-house fire department’s impact on the TOWF’s service departments; however, EnviroSafe, Inc. agrees conceptually that bringing fire in-house will create some level of additional support costs. To address the likely impact on service departments, TOWF Finance Department staff recommends adding five support personnel in the following key areas:

<u>Support Position</u>	<u>Salary and Benefits</u>
Human Resources Consultant	\$ 77,922
Accounting Technician	60,989
IT Analyst	88,438
Public Facilities Specialist	66,093
Equipment Mechanic	66,093
Estimated Impact	\$ 359,535

This above projection will need further evaluation during the transitional period to determine applicability and evaluate available options.

Net Impact / Summary:

The 5-year budget forecast for the fire department indicates that direct fire department costs associated with switching to an in-house service delivery option will lead to a budget gap of approximately **\$988,970** in the first year, with an escalated budget gap in subsequent years. This first-year gap is equivalent to **\$0.018** cents on the property tax rate. As stated, the key drivers of this gap include the cost of converting the WFFD’s firefighters to the TOWF’s more rewarding pay and benefits plan, as well as development of a more aggressive apparatus maintenance and CIP replacement program that is expected if WFFD becomes a TOWF department.

In addition to the impact on direct costs, the TOWF will likely incur new ancillary costs of up to **\$359,535** to provide service department support to an in-house fire department operation. This impact is not included in the figures in the previous paragraph.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

B. Projected Delta of Fiscal Measurements – Future Years

☐

**Town of Wake Forest Fire Department
Five-Year Budget Projections Detail**

Account Description	FY2020 Current	FY2021 Projected	FY2022 Projected	FY2023 Projected	FY2024 Projected	FY2025 Projected
Personal Services						
Salaries & Wages	4,184,669	4,607,510	4,791,810	4,983,483	5,182,822	5,390,135
Salaries & Wages - Overtime	140,000	154,812	161,005	167,445	174,143	181,109
Salaries & Wages - Part-time	163,521	163,521	163,521	163,521	163,521	163,521
Temporary Employment	130,000	130,000	130,000	130,000	130,000	130,000
Group Insurance	417,505	809,592	809,592	809,592	809,592	809,592
FICA	353,292	386,772	401,345	416,500	432,262	448,654
NC Retirement	0	467,662	562,145	584,630	608,016	632,336
401 K Contributions	544,007	230,376	247,641	257,546	267,848	278,562
Other	84,899	0	0	0	0	0
<i>Personal Services Totals</i>	6,017,892	6,950,245	7,267,058	7,512,718	7,768,204	8,033,909
Professional Services						
Professional Services	22,150	22,150	22,150	22,150	22,150	22,150
<i>Professional Services Totals</i>	22,150	22,150	22,150	22,150	22,150	22,150
Operating						
Utilities	65,300	66,606	67,938	69,297	70,683	72,096
Postage & Shipping	1,000	1,020	1,040	1,061	1,082	1,104
Telephone	17,000	17,340	17,687	18,041	18,401	18,769
Telecommunications	21,000	21,420	21,848	22,285	22,731	23,186
Marketing/PR/Communications	0	0	0	0	0	0
Repair & Maintenance Services	37,200	37,944	38,703	39,477	40,266	41,072
R/M - Equipment	41,800	42,636	43,489	44,358	45,246	46,151
R/M - Vehicles	161,400	164,628	167,921	171,279	174,705	178,199
Contracted Services	40,475	41,285	42,110	42,952	43,811	44,688
Fire Services Contract	0	0	0	0	0	0
Insurance & Bonds	121,762	124,197	126,681	129,215	131,799	134,435
Advertising	0	0	0	0	0	0
Printing	0	0	0	0	0	0
Uniforms	213,260	217,525	221,876	226,313	230,839	235,456
Travel/Training Schools	106,250	108,375	110,543	112,753	115,008	117,309
Tuitions Assistance Program	0	0	0	0	0	0
Auto Supplies	3,000	3,060	3,121	3,184	3,247	3,312
Fuel	56,705	57,839	58,996	60,176	61,379	62,607
Departmental Supplies	46,700	47,634	48,587	49,558	50,550	51,561
Safety Supplies	91,280	93,106	94,968	96,867	98,804	100,780
Computer Supplies	0	0	0	0	0	0
Tools/Shop Supplies	0	0	0	0	0	0
Furniture/Office Upfit	0	0	0	0	0	0
Special Events	51,500	52,530	53,581	54,652	55,745	56,860
Dues & Subscriptions	26,340	26,867	27,404	27,952	28,511	29,081
Other	75,100	76,602	78,134	79,697	81,291	82,916
<i>Operating Totals</i>	1,177,072	1,200,613	1,224,626	1,249,118	1,274,101	1,299,583
Capital Outlay						
Capital Outlay - Buildings	0	25,000	0	25,000	25,000	25,000
Capital Outlay - Equipment	0	25,000	330,500	25,000	25,000	25,000
<i>Capital Outlay Totals</i>	0	50,000	330,500	50,000	50,000	50,000
Fire Department	7,217,114	8,223,009	8,844,334	8,833,986	9,114,455	9,405,642
Debt Service						
<i>Debt Service Totals</i>	277,545	537,941	569,038	560,689	1,014,567	980,819
Total	7,494,659	8,760,950	9,413,372	9,394,675	10,129,022	10,386,461

☐

**Town of Wake Forest Fire Department Feasibility Analysis
August, 2019**

C. Performance Measurement Considerations

The Town of Wake Forest will need to establish performance measures for the fire department relative to the budget and demonstrated performance such that when additional funds are needed, there will be a tangible measure of change of outcomes that are produced from additional funds. Most cities follow best practices in fiscal reporting that would be similar to the chart below. However, this is a component that will require additional work during the transition phase. This is due to the ability and capability of the Town's and fire department's data and records management systems as well as the measures that the Town desires to be reported by the fire department. Municipal leaders can attest that what is measured becomes important. Therefore, EnviroSafe recommends that the Town consider utilizing a format similar to the illustration below to determine fiscal measurements for the fire department moving forward.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Illustrative Best Practices Example of Fire Service Fiscal Performance Measurements:

Performance Measures	Actual 2017-18	Budget 2018-19	Adopted 2019-20	Projected 2020-21
<u>Workload Measures</u>				
• Total number of Fires	1,132	1,250	1,250	1,250
• Total number of Residential Structure Fires	211	210	210	210
• Total number of Commercial Structure Fires	57	60	60	60
• Total number of Medical Events	26,886	27,525	28,902	29,769
• Total number of Cardiac Arrest Patients	283	290	290	290
• Total number of General Fire Inspections	3,368	7,100	7,134	5,929
• Total number of Fire Investigations	324	300	300	300
<u>Efficiency Measures</u>				
• Percentage of first due unit arrival in six minutes or less (medical)*	67.78%	70.00%	70.00%	70.00%
• Percentage of first due unit arrival in six minutes 20 seconds or less (fires)	88.32%	90.00%	90.00%	90.00%
• Percentage of cardiac arrest patients that regain a pulse before being turned over to a higher level of medical care	30.39%	25.00%	25.00%	25.00%
• Percentage of compliance with the state mandated minimum inspection frequency for all occupancies	15.00%	40.00%	40.00%	40.00%
• Percent of when 9-1-1 call processing was 60 seconds or less (Metro 911 function) (Moderate Fire Hazard)	88.57%	90.00%	90.00%	90.00%
• Percent where turn out time was 80 seconds or less (Moderate Fire Hazard)	25.30%	50.00%	50.00%	50.00%
• Percent where travel time for first arriving unit was four minutes or less (Moderate Fire Hazard)	92.65%	90.00%	90.00%	90.00%
• Percent where 17 persons arrived on scene in 11 minutes 35 seconds or less (Moderate Fire Hazard)	98.77%	95.00%	95.00%	95.00%
• Percent where entire first alarm complement arrived in 10 minutes 20 sec or less (Moderate Fire Hazard)	85.70%	92.00%	92.00%	92.00%

Adopted 2019-20 Budget

128



FIRE DEPARTMENT

<u>Effectiveness Measures</u>				
• Percentage of actual residential structure fires that are contained to the room of origin	68.72%	70.00%	70.00%	70.00%
• Percentage of total number of fires that were commercial structures	21.20%	20.00%	20.00%	20.00%
• Percentage of total dollar loss that were commercial structures	44.60%	7.00%	3.00%	3.00%
• Percentage of dollar loss based on total value of commercial property where fires occurred	2.39%	1.00%	1.00%	1.00%
• Percent of property value saved by fire protection services	97.77%	85.00%	95.00%	95.00%

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

Town of Wake Forest Fiscal Reporting Measurements:

Measurement will also need to align and incorporate with the Town's reporting requirements to the State Treasurer.

North Carolina Financial Condition Analysis

Key: WAKE FOREST ■

General Fund

Report Generation: 8/25/2019 5:14:28 PM

Resource Flow

Service Obligation

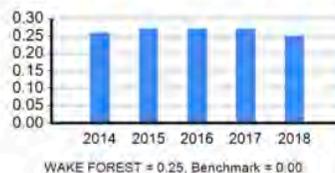
Operations ratio



Service obligation measures whether or not a government's annual revenues were sufficient to pay for annual operations. The operations ratio is calculated as total revenues divided by total expenditures (plus transfers to debt service fund).

Dependency

Intergovernmental ratio



Dependency measures the extent to which a government relies on other governments for resources. The intergovernmental ratio is calculated as total intergovernmental revenue divided by total revenue.

Financing Obligation

Debt service ratio

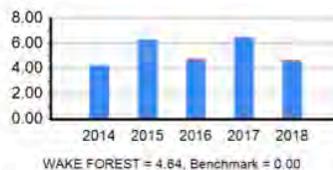


Financing obligation addresses service flexibility or the amount of expenditures committed to annual debt service. The debt service ratio is calculated as debt service divided by total expenditures (plus transfers to debt service fund).

Resource Stock

Liquidity

Quick ratio



Liquidity measures a government's ability to meet its short-term obligations. The quick ratio is calculated as cash & investments divided by current liabilities.

Solvency

Fund balance available as percentage of expenditures



Solvency measures a government's ability to meet long-term obligations. Fund balance as a percentage of expenditures is calculated as available fund balance divided by expenditures plus transfers out.

Leverage

Debt as percentage of assessed value



Leverage measures the extent to which a government relies on tax-supported debt. The ratio of debt as a percentage of assessed value is calculated as tax-supported, long-term debt divided by assessed value.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

WAKE FOREST			2014	2015	2016	2017	2018
Dimension	Indicator	Elements					
Service Obligation	Operations Ratio		0.99	1.03	0.98	1.03	1.03
		Total Revenues	32,945,331	35,923,014	38,037,437	39,738,004	40,880,330
		Total Expenditures	33,429,580	35,040,410	38,952,522	38,579,284	39,855,131
Dependency	Intergovernmental Ratio		0.26	0.27	0.27	0.27	0.25
		Total Intergovernmental Revenue	8,460,296	9,724,319	10,395,207	10,793,357	10,410,450
		Total Revenue	32,945,331	35,923,014	38,037,437	39,738,004	40,880,330
Financing Obligation	Debt Service Ratio		0.13	0.13	0.13	0.12	0.12
		Debt Service	4,303,397	4,565,909	4,895,010	4,757,426	4,610,650
		Total Expenditures	33,429,580	35,040,410	38,952,522	38,579,284	39,855,131
Liquidity	Quick Ratio		4.25	6.27	4.79	6.46	4.64
		Cash & Investments	9,546,172	10,589,274	11,940,916	14,167,443	12,835,658
		Current Liabilities (not including Deferred Revenue)	2,247,297	1,688,944	2,494,192	2,192,072	2,765,875
Solvency	Fund Balance Available as a Percentage of Expenditures	Dept. of State Treasurer Calculation	22.40	26.19	27.09	29.85	26.08
Leverage	Debt as a Percentage of Assessed Value		0.61	1.09	0.98	0.87	0.89
		Tax-Supported, Long-Term Debt	24,689,520	47,014,281	44,089,043	41,060,804	44,110,565
		Assessed Value	4,068,399,905	4,302,385,326	4,507,596,335	4,707,587,252	4,978,587,491

**Town of Wake Forest Fire Department Feasibility Analysis
August, 2019**

8. SUPPORT DOCUMENTS:

A. Support Document Inventory

Appendix A	Fire Service Assessment Review Team	169
Appendix B	Summary of Recommendations	177
Appendix C	Supplemental Recommendations	188
Appendix D	NFPA 1710 Summary/Highlights	203
Appendix E	NC City Manager Guide to SOC	205
Appendix F	Performance Review Model	208
Appendix G	Team Charter Example	209
Appendix H	Quality of Service Award Example	211
Appendix I	Citizens Academy Program	216
Appendix J	Fire Ops 101 Program	218
Appendix K	ISO Rating System	219
Appendix L	Project Firefighter Communication	222

**Town of Wake Forest Fire Department Feasibility Analysis
August, 2019**

B. Support Documents

APPENDIX A – ASSESSMENT TEAM MEMBERS

This work would not have been possible without the extremely high level of cooperation and support from the Wake Forest Fire Department and the Town of Wake Forest. In particular, the following Fire Department and Town Staff worked diligently to support the entire team of assessors:

- **Town Manager Kip Padgett**
- **Town Chief Financial Officer Aileen Staples**
- **Town Human Resources Director Virginia Jones**
- **Fire Chief Ron Early**
- **Town Deputy Finance Director Antwan Morrison**
- **Assistant Fire Chief Daryl Cash**

The following persons comprised the EnviroSafe Assessment Team:

- **Nelsie Birch, BirchBark Consulting, Charlottesville, VA**

Nelsie L. Birch is a strategic and proven leader focused on driving excellence in local government. She is specifically skilled in the areas of city management and operations; budget development and execution; public finance and credit analysis; and performance management. Her innovative approach to problem solving, along with her ability to translate complex issues and drive performance, has led her to many high-profile positions around the Washington, DC region and beyond. In 2016/2017, Birch led the financial turnaround for the City of Petersburg, VA, under the Robert Bobb Group.

Prior to starting Birchbark Strategic Consulting, Birch served as the Director of Agency Operations/Chief of Staff to the City Administrator for the District of Columbia. In this capacity, she was a key advisor to the City Administrator responsible for ensuring the success in managing the day-to-day operations of District Government and implementing the strategic direction and policy decisions set forth by the Mayor. Birch worked with the Executive Office of the Mayor, the Deputy Mayors, and all District agencies to spearhead several District-wide reform efforts. Birch also provided oversight to the Office of Performance Management, the Office of Labor Relations and Collective Bargaining, the Government Operations Cluster of agencies, and a team of high performing program analysts.

Birch also held the position as the Director of Management and Budget for the City of Alexandria, VA. In addition to overseeing the development of the City's annual operating

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

budget and capital improvement program, she was responsible for management analysis and innovation initiatives. She ushered in a new budget philosophy to align long-term outcomes with service delivery and incorporated extensive community engagement to make the budget more responsive and transparent. Birch also was the lead architect over the first Five-Year Financial Plan that was used to inform policy leaders on the suite of decisions that needed to be made to ensure long-term financial sustainability.

Birch's public finance acumen was developed early on in her career as she started as a credit analyst for Fitch Ratings and grew to become the lead credit analyst for Virginia, Maryland and Delaware local governments. She used this experience to become a Principal Analyst for the City of Baltimore, MD's Director of Finance where she led the effort to earn Baltimore its first credit rating upgrade in 40 years and was the CitiStat analyst over financial operations for the City. Birch also managed a team of consultants and city and school officials to develop innovative financing and procurement options to fund the \$2 billion in capital needs for school facilities. Birch then transitioned back into city management and became the Assistant to the City Manager for the City of Greensboro, NC. Here she developed a performance management framework for decision-making and an economic development strategy to drive greater regional collaboration and increased participation of small businesses. Birch then returned to the private sector and used her ability to drive performance and greater operational efficiency as a Business Development Specialist for PayLock IPT, a parking innovation and technology company. In this capacity she worked with municipalities to enhance operations, customer service, and revenue collections.

Birch holds a Master of Public Administration degree from Northern Illinois University with a concentration in Urban Management and a Bachelor of Arts degree from Knox College in Political Science. She is a graduate of Leadership ICMA through the International City/County Management Association and a graduate of the Senior Executive Institute through University of Virginia's Darden Business School/Weldon Cooper Center.

- **Benjamin Durant, Durham, NC**

Ben brings a wealth of fiscal management skills to the project. He currently serves as Senior Policy Advisor to the President of Guilford College. Previously, he served as Vice-Chancellor for Administration and Finance for North Carolina Central University and Vice-Chancellor for Business and Finance for Elizabeth City State University. Before his career in North Carolina higher education, Ben served as the Chief Financial Officer for the City of Asheville. In that capacity, he secured \$40M in bond financing to upgrade the city's water distribution system. He also served as Asheville's Budget and Research Director for many years. In that capacity, he implemented target-based budgeting.

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

Ben earned a Master of Public Administration degree from the University of North Carolina at Chapel Hill and a Bachelor degree in Political Science. He is the recipient of the Excellence in Public Service Award for Outstanding Manager.

- **Gregory H. Grayson, Fire Chief (ret), City of Greensboro, EnviroSafe**

Greg Grayson has more than 37 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.

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

- **Erica Gibbert, Charlotte, NC**

Erica Gibbert is an accomplished author and creative writer. She draws upon and continues to add to her multi-textured web of professional and personal experience to evoke passion and Truth. She received her Master's in Clinical Social Work from Smith College in North Hampton, Mass., a Bachelor of Science in Journalism from the University of Colorado, and an Associates in Interior Design from the Fashion Institute of Design in Merchandizing in San Francisco. She has served as a Mental Health Counselor for Adolescents as well as a High School teacher in Charlotte, NC. She is committed to unabashedly making something from everything and leaving beauty marks in her wake in hopes that they touch hearts, stir souls and fuel flames that allow us all to make a masterpiece of life.

- **Tammy Isaacs, EnviroSafe, Burlington, NC**

Ms. Isaacs has nearly 15 years of work experience in risk and safety management program development and implementation. Her experience in the private sector gives her valuable insight into the needs and outcomes that should be expected from a safety program. She is intimately familiar with OSHA regulations and stays current with the safety requirements needed to ensure a safe working environment. She is experienced the permitting process required for a multitude of industrial processes, and the subsequent recordkeeping that these processes entail. As Safety and Health Manager for an industrial corporation with a national footprint, Ms. Isaacs developed and implemented a facility safety program which led to lower modification rates and a decrease in the number of recordable incidents in a two-year period. Separately, as a manager of environmental health and safety for an international industrial part manufacturer, Ms. Isaacs developed and led safety teams at two facilities, resulting in the firm's designation as a Carolina Star site for two consecutive terms (3-year terms). Ms. Isaacs's experience in developing and leading safety programs in the private sector guides her management of the vast majority of EnviroSafe's safety retainer programs.

Ms. Isaacs is an experienced instructor of safety concepts and practices. She has thousands of contact hours training students on a multitude of topics, in a variety of settings.

- **Kristi Kjeldsen, Kjeldsen Consulting, Charlotte, NC**

Kristi served as the Charlotte Fire Department Human Resources Manager for seven years. She managed a staff of three Human Resources Generalists who were responsible for coordinating the extensive recruiting and assessment process for new firefighters and the multi-step promotional processes for all fire ranks. The team ensured that processes complied with department and city policies, and met state and federal regulations.

Kristi has 12 years of municipal government experience and 14 years in the private sector for a total of 26 years in Human Resources. Prior to entering HR, she worked as a computer programmer-analyst. Her areas of HR expertise include HR Management, Recruiting, Compensation, New Hire and Promotional Process Design, Human Capital Development,

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Employee Relations, HR Analytics, Process Improvement, Team Building, and Strategic Planning.

Kristi completed her undergraduate study in Business Administration at Vanderbilt University. She recently earned a master's degree in Human Resources Management at St. Mary's University with a 4.0 GPA.

Since 2009, Kristi has held the SPHR (Senior Professional in Human Resources) designation. Globally recognized, the SPHR is the highest level of professional designation in the HR field. Maintaining this certification requires obtaining 60 hours of continuing education per renewal cycle of which 15 hours must be related to strategic planning. This is accomplished by attending professional conferences and taking HR-related classes.

In 2014, Kristi became certified in administering and interpreting the Myers Briggs Type Indicator instrument. In 2015, Kristi earned the SHRM-SCP (Senior Certified Professional) designation and in 2016, she tested and became a Certified ADA (Americans with Disabilities Act) Coordinator for the department. She serves on the City's HR Advisory Board and ADA Committee. A member of IPMA (International Public Managers Association) and SHRM (Society for Human Resources Management), Kristi strives to stay current on today's HR topics. She has volunteered her time partnering with the career centers at Emory University and UNC-Asheville, and has served as a guest instructor for HR classes at UNC-Charlotte and CPCC.

Kristi serves with the City of Charlotte Human Resources Department. She has served as the Human Resource Officer for the Charlotte Fire Department, with more than 1,200 uniformed firefighters. Prior to serving in Charlotte, Kristi served as a Human Resource Specialist with the City of Asheville. She has a tremendous experience in fire service human resources systems and issues.

- **Robert McNally, Beacon GIS**

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 in the midst of 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 on the subject of 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.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

- **Baxter Miller, EnviroSafe, Burlington, NC**

Mr. Miller has 25 years of work experience in emergency and safety management. He has served as a member of his local fire department since 1995. He is a subject-matter expert in hazardous materials, fire suppression, confined space entry & rescue, and a multitude of other emergency response. His experience as an emergency field responder, and as an instructor of emergency response concepts, gives him a unique skillset to lead projects that require the collaboration of all emergency management stakeholders in a given jurisdiction. Mr. Miller is a well-respected member of the Rowan County, North Carolina emergency management community, and has long served as an active first responder in his home community.

Mr. Miller is a four-time firefighter of the year, and recipient of the Gaston College Sandy Powell Memorial Award for Dedication, Determination, and Commitment to Success. Fire House Magazine presented him with its Heroism and Community Service Award. Mr. Miller is, additionally, the recipient of a Medal of Valor Award for actions taken on March 7, 2008.

Mr. Miller's selfless service as a first responder is an invaluable attribute, ensuring that his students receive superior training from an instructor experienced in real-world deployments. Mr. Miller is well versed in OSHA regulations, having led the maintenance department in the Town of Granite Quarry for a period of 5 years. This experience has given him a unique insight into regulatory compliance, and enable him to oversee the development and enactment of customized safety programs for private and public sector entities focused on the specific needs of the organization. Baxter leads EnviroSafe's Confined Space Rescue Standby Team, and has hundreds of contact hours instructing students in confined space entry and rescue. His leadership in this area continues to promote and ensure a culture of safety amongst EnviroSafe's clientele.

- **Tommy Millikan, Fleet Maintenance Supervisor, City of Greensboro, NC**

Tommy has forty years of experience in large fleet experience and over thirty-seven years with the City of Greensboro Fire Department. He currently serves as the Maintenance Supervisor for Greensboro Fire and has held many mechanical and emergency response apparatus certifications throughout his career.

- **Ken Newell, Principal – Stewart/Cooper/Newell Architects, Gastonia, NC**

Ken has focused his career on assisting local governments and corporations with designing facilities that improve the quality of life of their citizens. Ken takes a hands-on approach with his clients; listening and working with them as a teammate. His best skill is his ability to translate our client's goals into feasible projects that can be built. Over the last two decades, he has earned a respected reputation around the United States in efficient, effective and budget-conscious design and programming of Fire and Rescue Stations as well as Police Departments. Ken has been directly involved in over 275 of the firm's 350+ Fire/EMS and Public Safety projects.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Ken earned a Bachelor of Art in Architecture degree from the University of North Carolina at Charlotte and a Bachelor of Architecture from the North Carolina State University School of Design in Raleigh. He is licensed to practice in North Carolina, Virginia, South Carolina, Florida, Georgia and Tennessee.

- **Andy Sannipoli, Durham NC**

Chief Sannipoli serves as an Assistant Fire Chief for the City of Durham. He was the key facilitator and implementor of the transition of the Durham County Fire Department into the City of Durham Fire Department in July, 2018. His expert work to make that process a smooth and positive transition has earned him reputation for his knowledge and expertise in this dynamic of the fire service.

- **Dr. Josh Smith, Statesville, NC**

Chief Josh Smith serves as a Battalion Chief with the City of Statesville Fire Department. He is also the Political Director for the North Carolina Professional Firefighters and Paramedics. In this role, he works closely with elected officials at the state level and has an exceptional knowledge of systems and processes within state government and how they apply at the local level. He has earned his PhD and works diligently to advance our state's fire service.

- **Ian Toms, Division Chief, City of Raleigh, NC**

Chief Toms joined the fire service in 1993 as a volunteer with Swift Creek Fire Department. Prior to the career fire service Toms worked a mechanical engineer for seven years and became a full-time firefighter with the City of Raleigh Fire Department in 1997. He currently holds the rank of Division Chief for "A" Platoon and spent four years as the Hazmat Program Manager for the department. Chief Toms is a NC Level II General and Hazmat Technician Instructor along with certifications in Hazmat/WMD from the National Fire Academy, Environmental Protection Agency, and the Department of Homeland Security. He currently serves as vice president for the Swift Creek Fire Department Board of Directors.

- **Todd Tuttle, Battalion Chief, City of Greensboro, NC**

Chief Tuttle is a 30-year fire service veteran who also served as a paramedic. He currently manages intricate records management systems for the City of Greensboro Fire Department, which is an accredited, ISO Class 1 city. Chief Tuttle is recognized throughout the state and nation as a technical expert on FireHouse records management systems as well as data analysis.

- **Mike Varnell, Fire Chief (ret), City of Rocky Mount, EnviroSafe**

Mike Varnell has thirty years of experience in the North Carolina and United States fire service. His experience runs the gamut in the municipal fire service by serving in positions from firefighter to fire chief. Early in his career (1993) Varnell earned a commendation from Governor James B. Hunt for saving four children from a burning house. In 1996, he was recognized by the NC Jaycees as one of the "Five Most Outstanding Public Servants" in

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

North Carolina. As his career progressed with Rocky Mount Fire Department, he was instrumental in leading the department through four successful international fire accreditation processes from 2003 to 2018. In 2016, under his leadership the department was only one of two in the nation to receive the coveted “Heart Safe Community Award” from the International Association of Fire Chiefs.

Chief Varnell is a graduate of the United States Fire Administration National Fire Academy’s Executive Fire Officer Program and the NC Association of Fire Chief’s Executive Development Program. Varnell holds a master’s degree in Executive Fire Service Leadership, a bachelor’s degree in business administration, and an associate degree in fire protection technology. He is credentialed by the Center for Public Safety Excellence and carries the “Chief Fire Officer” designation. He currently serves as a peer assessor for Commission on Fire Accreditation International and travels across the country evaluating fire departments for industry best practices. He has served on the International Association of Fire Chiefs’ Professional Development-Higher Education Committee and represented Region 4 on the NC Emergency Management Domestic Preparedness committee. He holds numerous certifications in the fields of administration, emergency management, and the fire service. He is a member of the International Association of Fire Chiefs, the NC Accreditation Support Consortium, and the NC Association of Fire Chiefs.

Since he retired from local government in April of 2019, he continues to teach Fire Protection Law, NC Local Government Finance, and Emergency Management classes at the college level. He is active in his community by volunteering on the Board of Directors for Meals on Wheels, Allocations Impact Team for United Way, and Cancer Care Ministry at his home church Englewood Baptist.

**Town of Wake Forest Fire Department Feasibility Analysis
August, 2019**

**APPENDIX B – SUMMARY OF RECOMMENDATIONS
BY FOCUS AREAS**

STAKEHOLDER INPUT RECOMMENDATIONS (7)

3.1 Apparatus Maintenance

Contract multiple full-time apparatus repair vendors and outline quality and efficiency expectations.

Form a collaborative contract with other Wake County Fire Departments for preventive maintenance programs for fire apparatus.

Develop an aggressive apparatus maintenance program with dedicated weekly, monthly, and quarterly preventive maintenance tasks to extend the life of emergency response apparatus.

3.2 Organizational Structure

Strongly consider adding a Deputy Fire Chief position to assist with span of control issues and succession planning. It is recommended that the three shift Battalion Chiefs report to a Deputy Fire Chief who ensures consistency across the operation of the three shifts. Also, there should be a clear chain of command and authority as to who is in charge when the Fire Chief is not in town or unavailable. It is important that the Fire Chief be able to attend training and vacation and that there is clear direction, command and control in his absence.

3.3 Recruitment and Retention of Employees

Consider developing a new position or assigning the duties of a recruitment officer to a current staff member to assist with recruitment of new employees.

Develop a cross functional recruitment team of department and town representatives to constantly recruit year-round for possible new employees. Recruitment officer can lead the recruitment team and be a liaison to Human Resources.

3.4 Grant Opportunities

Consider developing a grant writing position within the fire department, partnering with the town for a shared position, or adding the responsibility to a current fire department staff member. The Town could be eligible for SAFER grant funding to help strengthen the minimum daily staffing in the fire department. Priority should be given to establishing four person companies at the downtown station.

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

3.5 Incentive Programs

Strongly consider keeping some form of the current fire department incentive programs to assist with employee retention and morale.

3.6 Training Budget

Encouraged to keep similar funding in place for inside and outside training opportunities. The team recommends designating \$1,000 per firefighter for training annually. For FY 20-21, this would be approximately \$80,000 annually.

3.7 WFFD Board of Directors

Determine post-unification role for the Wake Forest Fire Department Board of Directors. Town elected officials will need to determine the most effective and efficient approach to utilize the experience and expertise of the current Board of Directors post-unification. The Town could benefit from their knowledge, experience and dedicated public service.

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

HUMAN RESOURCE RECOMMENDATIONS (7)

4.1 Firefighter Onboarding

Existing fire department personnel should complete a Town employment application and go through the Town's standard review process including background review. The assessment team does not advocate that firefighters currently serving in the fire department be required to interview or go through extensive assessment processes in order to become Town employees as a result of this unification. However, the Town will need to process each individual and ensure that they are properly in the Town's system, including standard drug testing as is the practice for all Town employees. There will need to be employee orientation and the Town's standard benefits package should apply, including a 5% 401(k) contribution. It is further recommended that a letter of offer be prepared for each person who is currently a fire department employee that is slated to become a Town employee. This letter of offer would outline key conditions of employment that both parties agree to such as compensation and benefits. It is also very important that the new Town employee expressly acknowledge a "line in the sand" that the Town will only be responsible for actions post July 1, 2020 and not before. All parties must recognize that there will be a clean break point and issues before that transition date are NOT the responsibility of the Town. These letters of offer should be reviewed by the Town's legal staff and should be notarized.

4.2 Pay Plan Structure

A pay plan structure will need to be in place as soon as possible. The assessment team has proposed a structure with starting pay provided in this report that will need to be reviewed by the Town's compensation consultant. However, the structure should match the fire service industry, recognizing the need and value of teamwork. The assessment team's recommendation is that no current fire department employee would lose compensation with the transition. Ideally, the pay plan structure would be agreed upon in early 2020 for a July 1, 2020 implementation. It must be noted however that pay compression issues exist now and would exist under the recommended pay plan. It is realistic that it could take a few budget cycles in order to address pay compression. However, that issue must be vetted by the Town's compensation analyst and/or consultant and a corrective plan articulated.

Within this pay structure are increases for promotions between ranks as well as maintaining incentive pays that parallel those in the Wake Forest Police Department. Some additional coordination of these incentives will need to occur during the transition period.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

4.3 Waiting Periods

It is recommended that current fire department employees become Town employees without a waiting period for benefits, with the exception of health care insurance due to the Town's health care contract requirements – which requires a 30-day waiting period. Due to this fact, there would also not be any probationary increases that would be due to employees at the six-month mark. Employees should immediately come under the Town's health care insurance and NCLGERS contributions.

4.4 Recognition of "Days"

For sick leave and vacation leave, the Town's benefit programs recognize days of work. For shift firefighters working on the FLSA 7(k) schedule, a day is typically considered either 12, 16 or 24 hours and not a typical 8-hour day. Administrative personnel working weekdays would be treated the same as any other Town employee. However, shift personnel should have provisions to adjust the "days" to their work day, consistent with the FLSA. Several options exist for carrying out this duty and there should be a policy addressing personnel who may have assignments that take them to and from shift assignments to keep the earnings equitable. The assessment team would recommend that a day for shift firefighters working 24-hour shifts be recognized as 12 hours. Therefore, shift firefighters would earn twelve days of sick leave per year with each day being 12 hours – or 144 hours total. Using this methodology is efficient when firefighters can work half of a shift due to illness.

4.5 Transfer of Earned Sick Leave

The assessment team recommends that current firefighters becoming Town firefighters on July 1, 2020 be allowed to be credited with sick leave transfer of up to what they would have earned as Town employees. The Town currently allows up to twelve sick leave days per year to accumulate. Therefore, if a current Wake Forest Firefighter came into the Town with four years of service to the Wake Forest Fire Department on July 1, 2020, and their unused sick leave balance at the fire department was equal to or exceeded 48 days, they would be credited with 48 days upon becoming a Town employee. The Town should not accept more credit for the persons coming from the fire department than persons would have earned working full time for the Town to maintain fairness and equity. The Town should not award more sick hours than is on the books as being earned while the employee was part of the non-profit fire department.

4.6 Transfer of Vacation or Annual Leave

In order to ensure that firefighters becoming Town employees are able to take vacation time within the first year of the unification, it is recommended that the Town accept up to twelve (12) days of vacation for incoming employees.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

However, responsibility for vacation leave beyond the twelve (12) days at the time of unification should be the responsibility of the Wake Forest Fire Department, Inc. The Town should not assume responsibility for vacation leave earnings that occur prior to July 1, 2020 other than the twelve (12) days. The fire department should have the responsibility for paying out those debts and not Wake Forest Town Government.

As of July 1, 2020, firefighters would become Town employees and would begin earning vacation leave under the Town's vacation or annual leave schedule as new Town employees.

This methodology is fair to existing Town employees, as well as the incoming firefighters who are becoming new Town employees.

4.7 Continuation of Firefighters and Rescue Squad Worker's Pension Fund

The Town should continue providing the North Carolina benefit for members of the fire department that fully meet all necessary criteria at the \$10 per firefighter per month contribution.

CAPITAL RECOMMENDATIONS (14)

5.1 - Station #1 Recommendations

- future upgrade will require dept to meet HC standard
- update remaining lights to LED
- any renovation on apparatus bay doors should enlarge size to 14' x 14'
- install protection bollards by all apparatus bay doors
- limit citizen parking to one side of building without requiring citizens to cross in front of bays for safety purposes
- redesign of lobby is warranted to have designated monitored entrance for public with restroom on public side and restricted access to remainder of building
- will need repair of all asphalt in 5-10 years, consider replacing with concrete due to weight and stress of apparatus
- all of front ramp repair should be concrete
- Town of WF should consider concreting street directly in front of station
- need to clean (pressure wash) exterior block every 2-3 years and seal with masonry sealer every 5-10 years
- masonry pointing of lentils is needed – 10-year maintenance
- exhaust system should be wired to "Plymovent" and come on together automatically

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

- gas heating units in bay should be replaced with infra-red tube heater units when conditions allow
- vinyl ceiling tiles will need to be painted/replaced in future renovation
- add laser eyes for movement in bay door thresholds to prevent door/apparatus collisions (nominal cost)
- add red, yellow, green LED lights beside bay doors for door clearance
- move firefighter PPE storage out of apparatus bay into a designated room with ventilation for carcinogen/cancer prevention
- consider adding HVAC to IT room
- in future station design and renovations move functional areas out of apparatus bays
- move PPE extractor & dryer out of living space (cold zone)
- exercise equipment should be re-located to an area outside of bay area for health and safety purposes
- department would benefit from installation of sphere speaker in the center of the bay for radio volume and clarity improvement. Would make ceiling tiles less necessary for echo.
- move lockers out of sleeping rooms that don't have enough egress clearance
- eliminate carpet in sleeping rooms for sanitation and contamination reasons
- water fountain in hallway needs to be in recessed area of hallway
- in front restrooms add grab bar near sink area to meet HC standard
- add fire sprinkler protection

5.2 - Station #2 Recommendations

- consider installing 13R sprinkler protection system during renovation
- will need repair of all asphalt in 5 years, consider replacing with concrete due to weight and stress of apparatus (consider repairing in renovation)
- installation of bollards is recommended at bay doors for safety
- pour concrete or rock around hydrants to prevent erosion
- a patio cover is recommended
- consider fixing small issues like rotten wood and asphalt with renovation
- signage installed on right side drive "no public access"
- clean exterior with pressure washes every 2-3 years and seal brick every 5-10 years with masonry sealer
- department would benefit from installation of sphere speaker in center of the bay for radio volume and clarity improvement. Would make ceiling tiles less necessary for echo.
- move ice machine out of bay area (hot zone) into living area
- move PPE out of bay area, plans are to move into room off of bay with renovation

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

- move refrigerator into cold zone living space
- move clothes washer/dryer to sleeping areas side of building away from PPE extractors and dryers
- after additional sleep area renovation, firefighter parking should be on right and public access on left of structure
- upgrade lighting throughout station to LED in renovation
- strive to remove all carpet from station for contamination reasons
- change all doors leading from living areas to apparatus area to out swing operation for egress safety and functionality

5.3 - Station #3 Recommendations

- partial roof cover needed for patio area
- back half of lot could be planted with trees for a border/buffer and less yard maintenance
- exterior block walls – pressure wash annually and seal with masonry sealer every 5-10 years
- remove vending machine, table, and all other functional areas out of apparatus bay
- install round globe shaped speaker in apparatus bay area for improved sound quality of radio system
- remove carpet in bedroom areas for sanitary/contamination reasons
- larger restroom stall sizes during next renovation
- restroom door swings in and impedes urinal access, make outswing
- future upgrade will be required to meet HC standard
- rock around fire hydrant to prevent erosion

5.4 - Station #4 Recommendations

- install concrete sidewalk to training prop in right front yard and rock around fire hydrant
- future upgrade will require HC compliance with kitchen sink
- Ice and vending machine should be moved out of bay area

5.5 - Station #5 Recommendations

- sleep rooms should be sprinklered
- does not provide adequate facilities for females
- remove carpet for sanitary and contamination reasons
- remove PPE from bay and store in vented room
- permanently close roll-up door in fitness room
- step down into fitness room should include a landing and 3 risers

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

- before any additional renovations a hazardous materials study on asbestos and lead based paint should be done

5.6 – Aggressive Replacement Plan

An aggressive replacement Capital Improvement Plan is needed to update the fire engine fleet for the WFFD. It is recommended that 3 fire engines be purchased over the next 5 budget cycles.

The WFFD has 2 aerial apparatus as noted in the above summary. It is recommended that Ladder 3 (1990) which is well past its service life and has major frame issues not be used for front-line emergency response.

5.7 – Replacement of Aerial Truck

The department has plans to purchase a new aerial in the current budget cycle and it is highly recommended to stay on schedule with that purchase.

5.8 – Safety Markings

It is recommended for the safety of WFFD personnel and the citizens of Wake Forest that the WFFD comply with this standard to prevent rear collisions while operating on emergency scenes.

5.9 – Ladders and Tools

It is recommended that all engines and ladders be equipped with the minimum requirements for ladders and tools per the NFPA 1901 standard.

5.10 Maintenance and Service

It is recommended the WFFD contract with new full-time service vendors to provide more efficient long-term repairs.

The apparatus inspections and WFFD staff feedback sessions revealed major issues with the current apparatus maintenance program. The data collected notes a significant amount of mechanical issues with the entire fleet. The current system of bringing in part-time vendors to repair apparatus prolongs the amount of time units are out of service and forces lesser quality older reserves into service for longer periods of time, which causes them to need repair.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

5.11 – Station 1 Renovations

It is recommended that renovations to station #1 be planned to address the recommendations in this report in FY2024 at an estimated cost of \$1.5 million. At this time the structure will be 38 years old and 40 years old by the time the renovation is complete.

5.12 – Aggressive CIP Replacement

An aggressive replacement CIP is needed to update the fire engine fleet for the WFFD. It is recommended that 3 fire engines be purchased over the next 5 budget cycles in the following fiscal years (FY21, FY23, FY25).

It is recommended that Ladder 3 (1990 model) which is well past its service life and has major frame issues not be used for front-line emergency response.

5.13 – SCBA Replacement

It is recommended that the department plan to purchase approximately thirty-five (35) SCBA air packs in FY2021 at a projected cost of \$7500 per unit.

5.14 - Insurance Recommendation:

The assessment team recommends that the TOWF conduct an insurance cost comparison and coverage analysis and determine the best approach for both the town and the WFFD, contrasting cost and coverage with multiple providers to determine the best value for the Town. This work will need to be conducted during the transition period.

OPERATIONS RECOMMENDATIONS (11)

6.1 - The department should consider investing in ESO CAD Monitor to allow the import of CAD data in Firehouse to start the incident report. This will reduce human error and save data entry time.

6.2 - If the department is using MCTs, inquire with the CAD vendor to determine if auto-enroute and auto-arrive feature are available. This will create consistent timestamping for turnout and travel time measures.

6.3 - In the Firehouse record management system (RMS) and within the unit report, make the response code field required and limit to three values of 1- Emergency, 2- Non-Emergency and 3- Cancelled for the unit status. This will allow the non-emergency events to be filtered out when evaluating response times.

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

6.4 – ISO Re-Inspection

Once the unification occurs and systems and processes have been smoothed out, it is recommended that the Town request a re-inspection from the North Carolina Department of Insurance – Office of State Fire Marshal to re-assess the Town’s insurance rating. This rating is projected to have an improvement for the Town, which will result in lower insurance premiums for businesses and commercial properties and potentially for some residential structures as well.

6.5 – Use of Opticom Traffic Signal Management Systems

The Town should invest wherever possible in the installation of Opticom system for the fire apparatus, beginning with intersections that are the most difficult for fire apparatus to navigate and where there is high call volume. These devices enable priority to be given to fire apparatus that is responding to emergency calls for service. Transportation related grant funding may be able to be used to help financially support installation of the Opticom system. Most of the expense in the newer GPS based Opticom traffic management systems is with the transmitting devices on the fire apparatus. Equipment is also needed at key intersections. This would be an excellent item to add to the Town’s CIP program.

6.6 - Staffing Levels

The Town needs to give priority attention to staffing levels within the fire department. Seek to optimize the staffing that is currently provided and work towards adding enough firefighters to ensure that safe levels of Wake Forest firefighters can respond to and mitigate typical residential fires within the Town of Wake Forest. General industry standards would indicate each response company should be allocated approximately 15 firefighters in order to maintain minimum four person staffing on each unit. Given 4 engines and 2 ladders and a Battalion Chief, approximately 93 firefighters would be needed in Wake Forest. SAFER grants can assist with the implementation costs of this expansion. Also noted earlier are utilizing part-time personnel currently assigned to Fire Station 5 at other stations to help minimize this gap.

6.7 - Administrative guidelines in section (1) of this document need a detailed overview to coincide with existing town policies of like nature. Revisions will require town, fire department, and/or transition team input to accomplish.

6.8 - Administrative guidelines in section (2) of this document require further discussion relating specifically to the topics. Additional revisions/additions are required for all highlighted guidelines in this section.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

6.9 - Operational guideline 200.00 – Fire Ground Operations needs revisions to make more concise by using more bullet and statement format versus long narratives. Revision will make the guideline easier to read and comprehend.

6.10 - Strongly consider the development of guidelines relating to the following areas of response; Rail, Highway, Bomb/Hazmat, Active Threat/Shooter and Confined Space.

6.11 – Emergency Medical Dispatch Protocol

A review should occur for the medical emergencies that the Town is being dispatched to with the Wake County Medical Director and the Emergency Medical Dispatch (EMD) protocol to ensure that the Wake Forest Fire Department is responding to the types of medical emergencies that are necessary and appropriate to serve the people of Wake Forest within the Wake County Emergency Medical Services delivery system.

Town of Wake Forest Fire Department Feasibility Analysis
August, 2019

**APPENDIX C – SUPPLEMENTAL GENERAL RECOMMENDATIONS FOR
CONSIDERATION**

The peer review team developed a series of ten (10) additional more general recommendations to be considered by the Town of Wake Forest associated with fire service industry best practices. These recommendations are offered as guidance for the Town and the Fire Chief to help navigate the department forward, with the intention of enhancing and improving the outcomes of the Wake Forest Fire Department (WFFD).

1. The WFFD should collaborate with neighboring fire departments for reciprocal, automatic-aid assistance in order to assemble the necessary firefighters at the scene of typical residential structure fires.
2. Wake Forest needs to establish what is an effective firefighting response force (ERF) within the Town of Wake Forest needs to be.
3. WFFD should firmly develop and drill a second and third alarm dynamic response plan.
4. The Town be divided into fire demand zones, or FDZ units of measurement and applied in the department's records management system.
5. Wake Forest should conduct an insurance cost comparison and coverage analysis and determine the best approach for Wake Forest.
6. Wake Forest should clearly identify within their submitted and adopted budget those identified items that are regulatory in nature.
7. The Town of Wake Forest should officially adopt a standard of coverage or level of service statement for first unit arrival on all calls as well as full complement arrival for structure fire calls to be measured at the 90th percentile.
8. The WFFD should develop a quality of service award program that can recognize crews when the crew performs exceptional work.
9. A priority should be placed on better educating elected and appointed Town officials about the WFFD.
10. The Town of Wake Forest should consider establishing a safety compliance and audit program.

1. The Wake Forest Fire Department's daily-minimum staffing level is a key concern of firefighters. **The WFFD should collaborate with neighboring fire departments for reciprocal, automatic-aid assistance in order to assemble the necessary firefighters at the scene of typical residential structure fires.** Given the number of on-duty Wake Forest firefighters is below the number of firefighters necessary to safely operate at a typical residential structure fire (minimum of 17 firefighters), WFFD is very dependent upon automatic aid from neighboring fire departments in assembling enough firefighters on the scene of a typical residential working house fire. Furthermore, WFFD

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

is more dependent upon both automatic and mutual aid in order to respond to a large multi-family residential or commercial building fire (minimum of 27 firefighters for a garden style apartment building). The WFFD cannot assemble an effective firefighting force for a typical residential structure fire with the daily-minimum staffing level of firefighters without assistance from other fire departments. An important component of this staffing level issue is secondary or tertiary emergency calls for service that are received. Although not unique for a municipality the size of Wake Forest, more attention to daily-minimum staffing needs will be important in the future as the Town grows, and the hazards the Town is responsible for protecting increase. Planning and preparation for increased daily-minimum firefighter staffing needs to parallel the growth of the Town.

It is typical that fire departments utilize assistance from neighboring fire departments to help meet their response demands. As communities grow, the dependency upon neighboring communities generally decreases. Reciprocal assistance from neighboring fire departments come in two forms – mutual aid and automatic aid. Mutual aid is where request is made on a case-by-case basis and requires the intervention of fire officers calling for assistance through the 9-1-1 center. Mutual aid receives no credit from ISO. Automatic aid is where neighboring fire departments are sent to fire emergencies in parallel with Wake Forest being dispatched. Automatic aid is recognized and credited by ISO and is a well-established industry best practice.

By federal and state law, fire departments must assemble enough firefighters on the scene of a structure fire in order to deploy a rescue team. Structure fires are considered an environment that is immediately dangerous to life and health (known as IDLH atmospheres). Therefore, Wake Forest is required to assemble a minimum of four (4) firefighters on the scene of structure fire before making an interior attack. This practice is typically referred to as the “two in – two out” requirement. With Wake Forest primarily operating with less than four on duty personnel, additional assistance will be needed on scene before Wake Forest firefighters can make an interior attack. There are few situations where known rescues may alter the legal requirement.

National standards and research clearly establish that a minimum of seventeen (17) firefighters should initially and automatically be dispatched to a basic, residential structure fire. Response to a garden apartment type building or strip shopping center demands at least twenty-eight (28) firefighters and response to a high-rise building (more than 75' high) and other high hazard locations requires 43 or more firefighters.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

2. **Wake Forest needs to establish what is an effective firefighting response force (ERF) within the Town of Wake Forest needs to be.** The national standard reflects the minimum need of seventeen (17) firefighters for a typical residential house fire. However, Wake Forest should conduct their own analysis to determine how much higher this number may need to be for the specific hazards and resources in Wake Forest. While each community should establish what is appropriate for them, there is significant guidance from the National Fire Protection Association (NFPA) and the National Institute for Standards and Technology (NIST). An excellent resource to better understand the effective firefighting force can be found at :
<https://www.youtube.com/watch?v=f42S9TRc634>

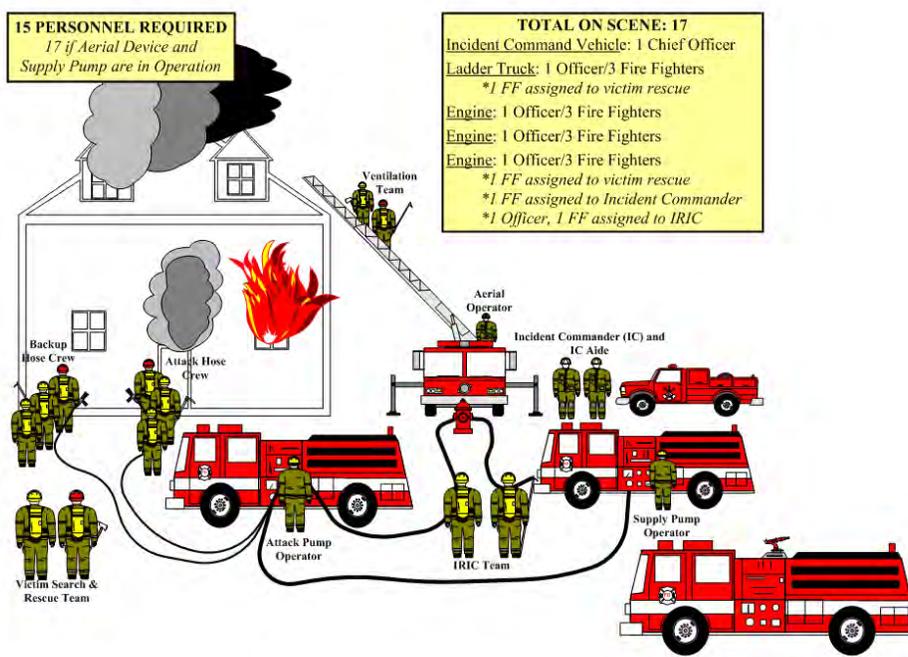
As Wake Forest grows and calls for emergency service increase, there will be a growing number of secondary or tertiary calls for service that have a weaker response under current staffing levels. This issue is addressed under the standard of cover recommendations in this report. Local governments that operate with primarily career personnel should plan to cover 90% of their emergency calls for service under the same level of service, or standard of care.

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.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019



Beyond legal requirements, industry standards and research has determined that a typical house fire (less than 2,000 square feet) will necessitate at least 17 firefighters to control a fire.



Town of Wake Forest Fire Department Feasibility Analysis August, 2019

3. As noted above, minimum firefighters necessary to operate on scene at commercial fires grows exponentially for commercial buildings. Also, in areas where automatic aid is heavily depended upon and water supply must be secured (such as Wake Forest and areas where rural operations occur), additional personnel may be needed. Therefore, the peer-review team further recommends that the **WFFD should firmly develop and drill a second and third alarm dynamic response plan.** This means that when firefighters encounter emergency conditions beyond their day-to-day capability, they call for an entire second incident “wave” of response. In some instances, a third “wave” or higher may be needed. Resources from the entirety of the county will be necessary in these cases. WFFD is fortunate to be a part of strong mutual-aid agreements currently. However, as the Town grows, so will the need for use of these agreements, in addition to establishing the necessary daily-minimum staffing of firefighters in Wake Forest.

The national consensus standard for the deployment of fire and rescue services for career fire departments (NFPA 1710) originally focused on staffing needs for typical residential structures, such as one- and two-family homes of approximately 2,000 square feet. The national consensus standard has now been advanced to include larger structures, such as strip shopping centers. An appendix document further outlines these terms. A summary is as follows:

- **Single-Family Dwelling — minimum of 16 firefighters (17 if aerial device is used)**
 - The initial full alarm assignment to a structure fire in a typical 2000 ft² (186 m²), two-story, single-family dwelling without a basement and with no exposures must provide for a minimum of 14 members (15 if an aerial device is used).
- **Open-Air Strip Mall — minimum of 27 firefighters (28 if aerial device is used)**
 - The initial full alarm assignment to a structure fire in a typical open-air strip shopping center ranging from 13,000 ft² to 196,000 ft² (1203 m² to 18,209 m²) in size must provide for a minimum of 27 members (28 if an aerial device is used).
- **Garden-Style Apartment — minimum of 27 firefighters (28 if aerial device is used)**
 - The initial full alarm assignment to a structure fire in a typical 1200 ft² (111 m²) apartment within a three-story, garden-style

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

apartment building must provide for a minimum of 27 members (28 if an aerial device is used).

- **High-Rise — minimum of 42 firefighters (43 if building equipped with fire pump)**
 - The initial full alarm assignment to a fire in a building with the highest floor greater than 75 ft. (23 m) above the lowest level of fire department vehicle access must provide for a minimum of 42 members (43 if the building is equipped with a fire pump).
- Fire departments that respond to fires in occupancies that present hazards greater than those noted above should deploy additional resources on the initial alarm – automatic aid.

It must be noted that the dimensions described above come from a national industry standard and are NOT legally mandated staffing levels. However, they are the baseline for fire service operations in the United States for career fire departments and a reference from which career fire departments are evaluated against.

Although on duty resources are minimal, a dynamic response plan for clearly identifying second and third alarms for certain call classes should be developed for use within the Town. Furthermore, the plan will need to be trained and exercised with those involved at either a table-top level or full-scale level. Some grant funding through Emergency Management may be available for such training for modeling a major structure fire.

4. The use of data is important for the long-term planning and stability of the WFFD. Additional attention is needed with data management. The peer review team recommends that **the Town be divided into fire demand zones, or FDZ units of measurement and applied in the department's records management system.** Currently, WFFD does not divide records by geographic area. A more definitive and smaller unit of measurement, possibly in sync with census tracts or other formats available in the County's Geographic Information System (GIS) will enable the department to work with much more accurate data. This effort should be an extension of the Town's hazard risk analysis.

The core of professionally protecting risks is to identify those risks and to plan for those risks accordingly. To best grasp the overall fire risk for the Town, a more thorough hazard risk analysis should be completed which would establish fire demand planning zones and identify all high hazard occupancies, with response levels accordingly.

Each geographic area of the Town has features that distinguish themselves from others regarding fire hazards. General residential areas may group together. More rural

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

areas may present special challenges with water supply. Commercial occupancies may demand higher levels of response services.

The best practices approach to managing these different needs is to establish fire demand zones, or FDZs. FDZs are geographical areas that have similar fire service needs and issues. By grouping these areas together, similar types of responses can be made. In addition, demographic data can be tracked such as population, value of property, etc. for each of the geographical areas. These planning areas can be modified as needed and can be tracked within the city's geographical information system (GIS) database.

In most cases, the boundaries of these FDZs can follow physical boundaries, such as roads, rivers, and other landmarks that are often consistent with station first due areas. However, most departments believe it is critically important that front line companies be involved in designing FDZs so that buildings with high hazards can be readily identified by responding firefighters.

As a part of the hazard risk analysis and determining the FDZs, any occupancy that requires a high level of resources should be identified and preplanned. These buildings typically receive a higher level of dispatched response than moderate level fire responses. Examples may include industrial or commercial buildings or unsprinklered high risk buildings. WFFD would need to determine specifically what buildings within their jurisdiction demanded a high risk or high hazard response and adjust the initial response accordingly.

5. Controlling costs is an issue for any municipality. Many municipalities realize that insuring some of the special provisions of the fire service can be challenging and have separated risks associated with insurance for fire and rescue services from a specialized commercial carrier, such as VFIS, is more cost effective than insurance through the League pool. The peer review team recommends that **Wake Forest conduct an insurance cost comparison and coverage analysis and determine the best approach for Wake Forest.**

Beyond insurance costs, some municipalities find available training advantages to utilizing a specialty system, such as risk management reduction through fire apparatus operator training. Training is offered both in class and on line. Examples of training programs utilized by comparable North Carolina municipalities include:

- Bloodborne Pathogens
- Changing Culture within Emergency Services Organizations
- Managing Risks and Liability
- Emergency Vehicle Response
- Emergency Vehicle Driving

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

- Trailer Operations and Safety
 - EMS Ethics
 - Traffic Incident Management
6. Fire and Rescue Services are very regulated and have an array of requirements to meet with through federal/state OSHA mandates or industry standards. The Peer Review team recommends that **Wake Forest clearly identify within their submitted and adopted budget those identified items that are regulatory in nature.** Examples include, but are not limited to personal protective equipment (PPE) for firefighters, breathing air equipment, equipment testing, etc. This measure is generally found beneficial for the department as well as Town Administrators when developing and approving allocations within the budget.
7. The peer review team recommends that the **Town of Wake Forest officially adopt a standard of coverage or level of service statement for first unit arrival on all calls as well as full complement arrival for structure fire calls to be measured at the 90th percentile.** This solid guidance will better enable the fire department to report on current performance as well as plan for future performance. It will also enable Town officials to know what level of service their fire department is providing and to articulate that information to residents. It is also essential to setting future performance goals. Furthermore, this benchmark can be assessed with new development to determine if the projected level of service will be within the Town's adopted standard of coverage, and best determine how to mitigate any potential adverse impacts.

Firefighters meet a wide variety of conditions at every fire call. Some fires will be at early stages and others may already have spread throughout the entire structure. This variation in condition complicates attempts to compare fire department capability. A common reference point must be used so that the comparisons are made under equal circumstances.

When considering setting response time criteria, the peer review team strongly recommends that the Town of Wake Forest formulate such expectations and deliverables from the citizen's perspective. As an example, from Mrs. Smith's perspective, how long is the time from dialing 9-1-1 until she sees a Wake Forest fire engine arrive? Generally, Mrs. Smith is not concerned with the cascade of events that are essential to providing a professional response from her fire department. However, she will be keenly aware of the TOTAL time that is taken from her call to WFFD arrival. Some jurisdictions measure only travel time and this route can produce confusion for residents.

Much of the fire service industry has moved away from using averages and uses response times at the 90% percentile for career service and 80% for primarily volunteer

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

service. This fractal style of emergency incident reporting represents a more accurate and realistic expectation to the people that are served and protected by the department because it simply states that an emergency response will occur on 80% of incidents within the specified time frame. This measure allows for consideration of multiple emergency calls occurring simultaneously as well as storms that come through the jurisdiction, inclement weather situations and operational failures such as engines failing to start or collisions that may occur in transit. Nationally, the 80% or 90% percentile is recognized as the most solid best practice in the fire and rescue industry. North Carolina fire departments have moved away from using mean averages. While accurate, the use of averages represents that one-half of the overall responses are shorter than the average and one-half of the responses are longer than the average.

The first component in establishing a standard of cover will be for first unit response arrival as well as full complement arrival (acknowledging some of the barriers Wake Forest faces with the accuracy of times for full complement arrival.)

Expectations of the department regarding the level of performance should be more clearly defined. The Wake Forest Town Manager and Fire Chief should examine and review data to determine measurable and meaningful performance standards that are consistent with fire and rescue industry standards and best practices that are reasonable and can be achieved by the WFFD. Town residents should understand the general level of service that they should receive in return for the property tax that they pay that supports the fire department.

Two measures must be determined to establish a credible standard of care, or standard of coverage for fire response - an acceptable amount of time for a first unit to arrive on certain emergency calls as well as time necessary for the full complement needed on certain emergency calls. It is recommended that the level of service be based upon 80% of the call volume. Language similar to the following could be considered:

Initial arriving firefighters and apparatus on typical structure fires:

For 90% of all typical residential structure fire incidents, at least one initial arriving fire apparatus with an assembly of at least four (4) adequately trained firefighters should arrive within ____ (determined by Town of Wake Forest) ____ minutes total response time and be prepared to take immediate action in accordance with department protocols.

Full response of firefighters and apparatus on typical structure fires:

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 assemble within ____ (determined by the Town of Wake Forest) ____ minutes total response time. The effective response force should be capable

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

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.

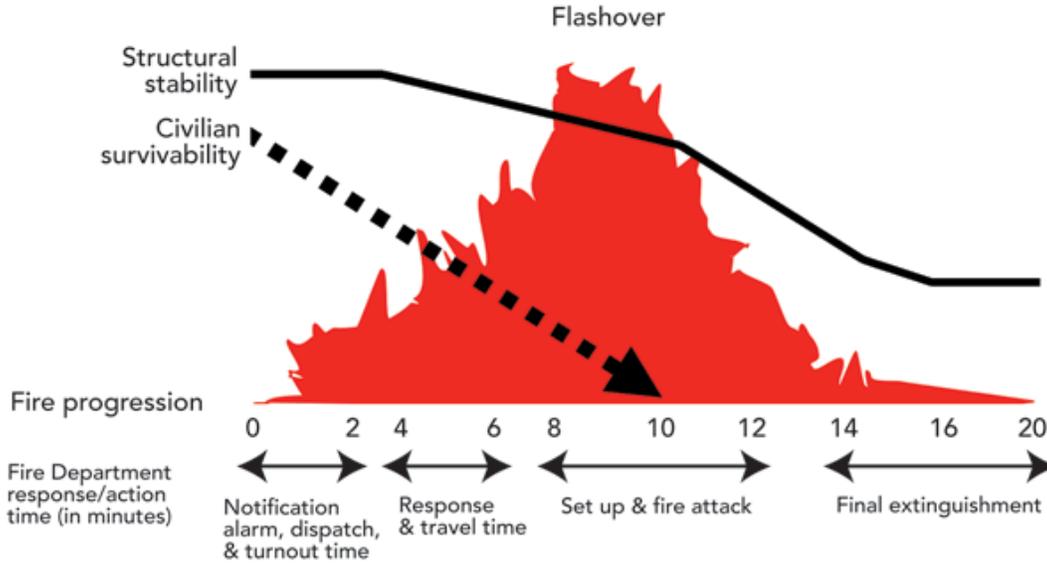
Inputs influence outcomes. Within the effective delivery of fire and rescue services, response time elements are directly proportional to expected outcomes. In recent years, significant scientific research has substantiated the correlation of response times and number of trained firefighters necessary 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.

In order to strengthen fire protection service delivery systems and to empower local jurisdictions to more clearly determine 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

**Town of Wake Forest Fire Department Feasibility Analysis
August, 2019**



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

**Approximate Range of Credible First Unit 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

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Also, levels of service for all emergency calls other than structure fire and medical emergencies should be developed for all other types of emergency calls that the WFFD is expected to provide. This may include emergency rescue vehicle extrication, outdoor/brush fires, hazardous materials response and other categories of calls.

In addition to establishing levels of service for fire response, the WFFD should also determine levels of response for non-fire emergencies. For the same reasons as stated above, to responsibly know how your department is performing, clearly identified measures should be used to allow members of the WFFD, Town management, local elected officials and the general public to know what to expect when they have an emergency and need the WFFD. Additional measures that are typically used include, but are not limited to:

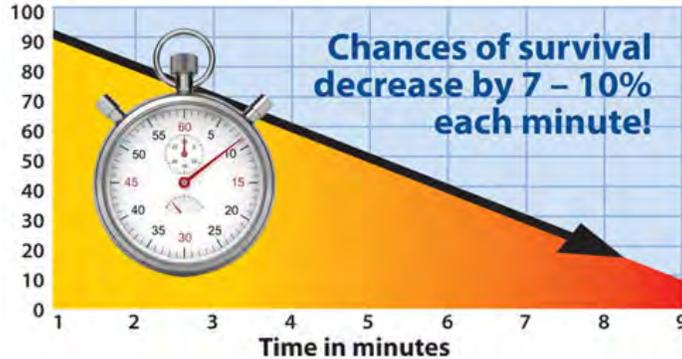
- ✓ Life threatening emergency medical calls
- ✓ Hazardous materials calls
- ✓ Technical rescue calls

Emergency patient transport services in North Carolina is the responsibility of County Governments as defined by NC General Statutes. However, the provision of medical first responder services are less defined and often left to local decisions as a part of the overall emergency medical services system.

In order to enhance pre-hospital patient care, municipalities and fire departments in North Carolina may provide supplemental medical response. These supplemental services are generally provided at either the first responder, medical responder, emergency medical technician or emergency medical technician-Intermediate level.

Since time of emergency occurring to time that pre-hospital care is initiated has a direct impact on patient outcomes, the goal of a community is for emergency responders to reach patients as soon as reasonably possible. Science has demonstrated that a patient with a critical life-threatening emergency has an approximate 90% chance of survival if emergency care is given immediately. The chance of survival drops by about 10% per minute after that. The graphic below well illustrates the enormous value of medical first responders for a community:

Town of Wake Forest Fire Department Feasibility Analysis August, 2019



WFFD should assess the non-fire call classifications that they provide services for and determine what appropriate response times should be, all based upon the 90th percentile.

Once the standards of coverage or standards of care are established, WFFD and the Town Manager should take these reports to Wake Forest elected officials and review the performance levels of the WFFD at the 90th percentile. This information will enable the elected officials to better explain the level of service to their constituents as well as enable the elected officials to make better informed policy decisions moving forward. This information may be conveyed through a staff report, a memo from the Town Manager or any other format that that is deemed most appropriate.

It is further recommended that Wake Forest submit response data to “FIRECARES”. FIRECARES is a collaborative effort with the US Fire Administration, the National Institute of Standards and Technology, Worcester Polytechnic Institute, the Center for Public Safety Excellence, the International Association of Fire Chiefs, the International Association of Firefighters and others. FIRECARES uses “big data” to provide a profile of a community related to risks and vulnerability to fire. If fire department resources are deployed to match the risk levels inherent to hazards in the community, it has been scientifically demonstrated that the community will be far less vulnerable to negative outcomes in firefighter injury and death, civilian injury and death and property loss. FIRECARES analyzes massive amounts of fire department and community data to identify whether resources are appropriately deployed to match a community’s risk level. This additional information would provide dashboard type ongoing feedback and analysis for Wake Forest in the years to come. <https://firecares.org/#about>

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

8. Firefighter recognition is an important part of the overall management of the fire department. The peer review team recommends that **the WFFD develop a quality of service award program that can recognize crews when the crew performs exceptional work.** This type award program helps to model exceptional behavior and rewards teams for exemplary efforts. An example of a fire department quality of service awards program is included as an appendix to this report.

Some people characterize firefighting as a “team sport” rather than an individual sport. Some municipalities find it beneficial to recognize an entire response team or fire crew when they do exceptional work, as opposed to only recognizing an individual. Recognizing the team can build esprit-de-corps and can encourage firefighters to do their best and highlight modeling of effective behaviors.

9. **A priority should be placed on better educating elected and appointed Town officials about the WFFD,** the services that are provided, and the manner in which these services are provided. Many municipalities have found that the “Fire Ops 101” program is extremely effective in accomplishing this task. This is a designed, structured program that is often offered regionally, and includes elected and appointed officials as well as local media. A better understanding of the challenges a firefighter faces on a day-to-day basis is gained by those who attend and actively participate. Many elected officials report that the Fire Ops 101 program changed their perspective about their fire and rescue services. Better understanding builds trust over time. Other measures may include providing elected officials with electronic notification of emergency calls as they occur to increase their awareness of call activity within the Town. Regular and clear communication between the Town Manager and Fire Chief is also necessary for a positive and productive professional relationship organizationally. It is recommended that systematic methods be instituted to ensure frequent and meaningful communication.

The most recent Fire Ops 101 program in North Carolina was held recently in Greensboro. It was attended by city elected officials as well as key city staff and many local media outlets. As a part of this project, EnviroSafe reached out to Greensboro personnel and they are willing to help Wake Forest with this initiative. IAFF Local 947 leadership is willing to share materials with Wake Forest to be helpful if so desired. See Appendix H.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

10. Firefighting is an inherently dangerous function. Because safety is of paramount importance to not only the WFFD, but to Wake Forest, **the Town of Wake Forest should consider establishing a safety compliance and audit program.** Often, local governments that are not yet large enough to have their own dedicated safety officer efficiently outsource this function through a third-party provider who can review policies and practices as well as conduct OSHA required training to all Town employees to ensure a higher rate of compliance with federal and state safety requirements.

Examples can be provided where North Carolina municipalities and counties similar in size to Wake Forest have effectively outsourced their safety programs to effectively and efficiently ensure OSHA compliance and make the workplace safer for their employees. In many of these examples, the third-party provider comes in one day per month to assist town staff in this endeavor through a retainer system. The provider must be well versed in the array of local government functions. Given the impact the WFFD has on Wake Forest Town Government, it is recommended that the provider have specific fire service experience should the Town choose to implement this recommendation.

**Town of Wake Forest Fire Department Feasibility Analysis
August, 2019**

APPENDIX D – NFPA 1710 SUMMARY/HIGHLIGHTS

NFPA 1710

Fireground Staffing Levels for Career Fire Departments

NFPA 1710 provides the minimum requirements relating to the organization and deployment of fire suppression operations, emergency medical operations, and special operations to the public by career fire departments.

For the 2016 edition of the standard, subsection 5.2.4 on fire department service deployment was revised to include three new occupancies, along with the appropriate response staffing levels for each. The minimum staffing level for each occupancy is listed below. *(For the full breakdown of staffing requirements by position, refer to the subsections specific to each occupancy in 5.2.4.)*

Single-Family Dwelling — minimum of 16 members (17 if aerial device is used)

The initial full alarm assignment to a structure fire in a typical 2000 ft² (186 m²), two-story, single-family dwelling without a basement and with no exposures must provide for a minimum of 14 members (15 if an aerial device is used).

Open-Air Strip Mall — minimum of 27 members (28 if aerial device is used)

The initial full alarm assignment to a structure fire in a typical open-air strip shopping center ranging from 13,000 ft² to 196,000 ft² (1203 m² to 18,209 m²) in size must provide for a minimum of 27 members (28 if an aerial device is used).

Garden-Style Apartment — minimum of 27 members (28 if aerial device is used)

The initial full alarm assignment to a structure fire in a typical 1200 ft² (111 m²) apartment within a three-story, garden-style apartment building must provide for a minimum of 27 members (28 if an aerial device is used).

High-Rise — minimum of 42 members (43 if building equipped with fire pump)

The initial full alarm assignment to a fire in a building with the highest floor greater than 75 ft (23 m) above the lowest level of fire department vehicle access must provide for a minimum of 42 members (43 if the building is equipped with a fire pump).

Other: Fire departments that respond to fires in occupancies that present hazards greater than those found in 5.2.4 shall deploy additional resources as described in 5.2.4.5 on the initial alarm.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

NOTE: Even though fire ground staffing levels have changed, NFPA 1710 continues to require that engine companies be staffed with a minimum of 4 on-duty members, as stated in subsection 5.2.3. In addition, paragraph 5.2.2.2.1 requires that the fire department identify minimum company staffing levels as necessary to meet the deployment criteria required in 5.2.4 to ensure that a sufficient number of members are assigned, on duty, and available to safely and effectively respond with each company.

Material used in this summary is taken from the 2016 edition of NFPA 1710, *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments*. This reprinted material is not the complete and official position of the NFPA or its Technical Committees on the referenced subject, which is represented solely by the standard in its entirety. That standard can be accessed online at www.nfpa.org.

**Town of Wake Forest Fire Department Feasibility Analysis
August, 2019**

APPENDIX E



**NORTH CAROLINA MUNICIPAL MANAGER 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:

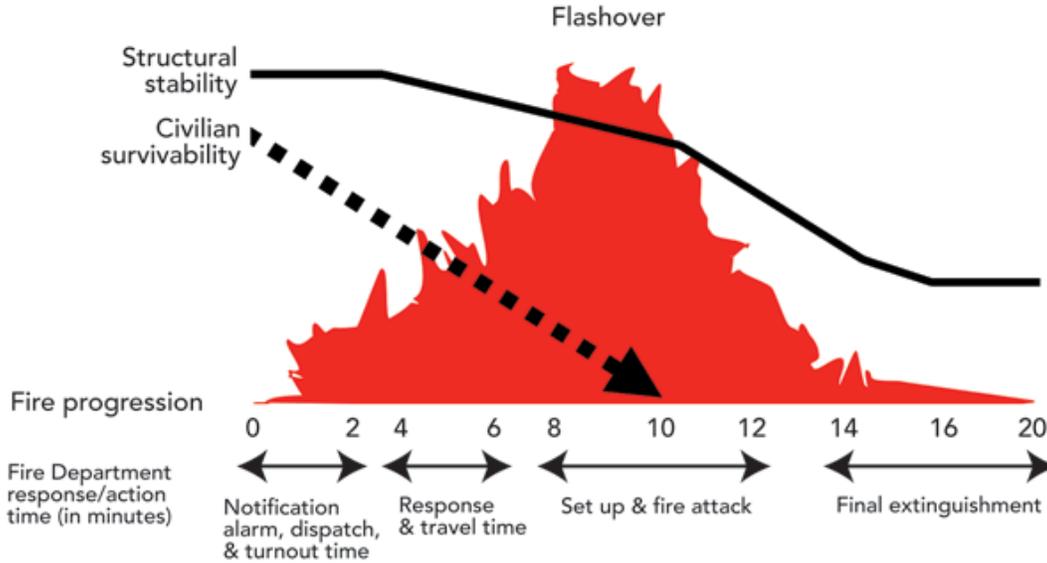
Inputs influence outcomes. Within the effective delivery of fire and rescue services, response time elements are directly proportional to expected outcomes. In recent years, significant scientific research has substantiated the correlation of response times and number of trained firefighters necessary 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.

In order to strengthen fire protection service delivery systems and to empower local jurisdictions to more clearly determine 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

**Town of Wake Forest Fire Department Feasibility Analysis
August, 2019**



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

<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	5-8 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

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

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</u>
URBAN	>2,000 people	within 2 miles	1-3	5-10 minutes
NON-URBAN	500-1999 people	within 4 miles	4-6	9-19 minutes
RURAL	<500 people	within 6 miles	6-9	19-29 minutes



Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

APPENDIX F – FIREFIGHTER PERFORMANCE REVIEW EXAMPLE

Greensboro Fire Department
Firefighter Performance Evaluation Summary for FY 12-13

Part 1. General Information							
Date of Review		Employee's Name					
Evaluator's (Rater) Name		Position Lawson #					
Position Title	Firefighter	Department	Fire				
Review Period [From]	7/1/2012	Branch [Mark with a "X"]					
Review Period [To]	6/30/2013	Emergency Services	<input type="checkbox"/>	Support Services	<input type="checkbox"/>		
Part 2. Assessment Summary							
In the box area, to the right of each dimension, indicate the assessment of the employee's performance by marking an "X".							
"A"=Outstanding, "B"=Good Performance, "C"=Average, "D"=Improvement Need, "E"=Poor Performance							
<i>Rater "R" - Use White Row</i>							
<i>Employee "E" - Use Shaded Row</i>							
		A	B	C	D	E	
Station Duties -Taking part in keeping the station clean and always staying busy doing productive work. Performing chores as needed, showing initiative and doing as much as he/she can without being asked or ordered. Joining in work activities that others have initiated.	R						
	E						
Teamwork -Keeping morale and team harmony up and participating and arranging group activities. Avoiding conflict and taking initiative to decrease tensions when they arise. Being able to provide constructive feedback at the appropriate times.	R						
	E						
Customer Service -Taking a positive and respectful approach with the community, being customer service oriented, showing respect towards all groups of people and being respectful of cultural differences. Constantly working towards positive outcomes.	R						
	E						
Behavior in Difficult Situations -Maintaining emotional self-control during difficult situations, inspiring to other department members by retaining composure and remaining calm around victims, patients and bystanders. Staying focused on assigned tasks. Showing respect even when it isn't returned and avoiding dysfunction whenever plausible.	R						
	E						
Sensitivity to Diverse Groups -Being sensitive to diverse groups of individuals, dealing with all people empathetically and understanding of cultural differences. Using professional approach, showing comfort with all groups and working to communicate and understand all groups.	R						
	E						
Relations with Supervisors and Management -Maintaining good relations among ranks, working with management cooperatively and effectively, contributing to a positive environment and following department policies. Supporting all final decisions by management. Accepting of all advice and criticism.	R						
	E						
Problem Solving -Adapting, Improvising-Solving problems creatively, handling issues in a calm fashion, finding alternate solutions when necessary. Being able to solve problems quickly.	R						
	E						
Systems Analysis -Understanding and knowledge of systems, identifying weaknesses in systems, adapting known principles to new problems and being able to take parts and assemble a unified whole.	R						
	E						
Understanding the Physical World -A high level of comfort with physical and mechanical processes. Showing an understanding of tools, equipment, maps, nozzle reaction, diagrams, electrical circuits, blueprints, gauges, controls, etc.	R						
	E						
Safety Orientation -Demonstrating attention to safety, following department safety policies, reading labels, having a clear understanding of how to avoid accidents, being aware of dangerous materials and avoiding risky behavior around hazardous materials.	R						
	E						
Emergency Response -Being able to apply concepts to actual emergency incidents, remaining calm at emergency scenes, following orders, completing assigned tasks and demonstrating competence.	R						
	E						
Drill Performance -Being upbeat and actively engaging in drills and taking a positive approach towards drills. Learning from own experiences, showing initiative in regard to drills and working towards improving areas of weakness.	R						
	E						
Work Habits -Setting a positive tone for the entire department's outlook on work habits. Performing tasks correctly and efficiently, keeping gear ready, checking all equipment for proper functioning and showing up to assigned shifts on time or early.	R						
	E						
Professionalism -Having professional behavior and bearing, presenting a good professional image for the department, showing care for appearance and demonstrating integrity both inside and outside of the department.	R						
	E						
Communicating Verbally and in Writing -Communicating clearly and concisely, listening actively, demonstrating professionalism in regard to communication and communicating at an appropriate level. Providing clear and concise written reports that are void of grammatical errors and inaccuracies.	R						
	E						
Persistence in Learning and Keeping Up-to-Date -Studying regularly both at work and at home, working hard to stay up-to-date, attending classes when necessary to improve skills and abilities, volunteering to teach new skills and quickly understanding new procedures.	R						
	E						
Physical Skill -Demonstrating respect and understanding about the importance of physical fitness; maintaining fitness and encouraging others to do the same.	R						
	E						
Part 3. Overall Performance Rating							
Indicate the overall performance level of the employee by entering the appropriate level [A,B,C,D or E]							
Employee's Self-Rating	<input type="text"/>	Evaluator's (Rater) Rating	<input type="text"/>				
Part 4. The Demonstrated Performance Level							
The evaluator (Rater) will indicate performance level of the employee by marking the appropriate level with a "X."							
Exceptional	<input type="checkbox"/>	Exceeds Expectations	<input type="checkbox"/>	Proficient	<input type="checkbox"/>	Needs Improvement	<input type="checkbox"/>

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

APPENDIX G – TEAM CHARTER EXAMPLE

CITY OF ASHEVILLE FIRE AND RESCUE DEPARTMENT APPARATUS SPECIFICATIONS COMMITTEE COMMITTEE CHARTER – BRUSH UNIT

Purpose: The apparatus specification committee has the responsibility of providing recommendations regarding the technical specifications for a truck to serve as the department's primary brush fire unit.

The committee is expected to 1) make a determination if a demo unit will NOT meet the needs of the department (yes or no). If it will meet the needs of the department, the committee is expected to 2) outline specific changes that are necessary to the demo truck in order to properly meet our needs. In addition, the committee is asked to 3) determine the necessary loose equipment needed on this unit. Last, the committee is asked to 4) assist in placing this unit in service for AFR.

Structure: Chairperson
The committee will be chaired by Captain Mike Quinones. He will have the responsibility of calling meetings as necessary, leading the group through the process and working with the Chief and Assistant Chiefs in the procurement process. He will also serve as the primary contact with any vendors that we may seek technical advice from. The committee chairman has one vote on the committee. The vice chairperson of the committee is Jeremy Knighton, who also has one vote on the committee.

Primary Members:
Each response shift has a primary representative. These are:
A shift – Brian Metts
B shift – Johnny Honeycutt
C shift – Wes Rogers
The shift representatives will have responsibility for soliciting responses on issues from their respective shifts. Each shift representative will have one vote on the committee.

Fleet Operations and logistics will also have primary representation. These are:
Logistics – Gordon Silvers
Fleet Operations – Bill Huskey
These representatives will have primary responsibility for the power plant and drive train of the vehicle as well as issues that will make maintenance of the unit easier in the future. Each above representative will have one vote on the committee.

Alternate Members:
Alternate members will serve as general technical members of the committee and are to give input on all aspects of the apparatus. These members are:
A – Scott Hare
A – Darren Gillespie
B- Jason Robeson
B – Brian Lawrence
C – Eddie Wyatt
C – Herman Olson
Alternate members do not hold a vote on the committee. However, in the absence of any of the three shift members who do hold a vote, the alternates present can vote on issues, by seniority order.

In addition, six personnel are identified to assist the committee as the committee deems necessary for research or advice.

Voting: If consensus is gained from the committee members, there should not be a need to vote on issues. However, the committee may choose to vote on items when a consensus cannot be gained. Before taking a vote, the committee MUST review shift input on the issues at hand. There will be a total of seven votes. If a vote is a tie, the Chief of the department will make the deciding vote on an issue.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

- Meetings:** The Chief or the chairman of the committee can call meetings as necessary of the committee. Committee members who come back on their scheduled time off are entitled to compensation per city and department policy.
- Timing:** Time is of the essence in completion of this project. It is desired to have the brush fire unit in operation for spring fire season.
- Funding:** A maximum budget of \$96,000.00 is allocated for this particular unit. Loose equipment may be recommended for purchase in addition to the procurement cost.
- Guidelines:** Changes are needed to the emergency lighting and warning systems of the demo unit if it is deemed acceptable by the committee. Additional emergency lighting should be added. The current electronic siren should be replaced with the Federal electronic Q siren. The focus of the group should be on the technical specifications and needs of the department. Compartment configuration is also needed. The standard, new AFR striping and marking scheme should also be used on this vehicle.
- Delivery:** After the apparatus is delivered, the committee will be asked to review the truck and assist in placing it in service.
- Changes:** Modifications to this charter may be made as necessary by the chief of the department as necessary through the process.

This committee charter is approved as of _____:

Fire and Rescue Chief

**Town of Wake Forest Fire Department Feasibility Analysis
August, 2019**

APPENDIX H – QUALITY OF SERVICE AWARD EXAMPLE

CITY OF ASHEVILLE

PERSONNEL POLICY

Quality of Service Award Program Effective October 15, 2004 Policy # 56 Revision #1

QUALITY OF SERVICE AWARD REQUEST FORM

The purpose of the City’s Quality of Service Program is to recognize employees in a timely manner for their contributions to the organization. These contributions go above and beyond the normal scope and responsibilities of the performance of job duties. This policy supersedes any other policies related to recognition and critical incident bonuses.

Policy A. Level I

1. Procedure and Examples:

a. Requests for recognition items of less than or equal to \$20.00 in value shall be submitted in writing to the employee’s department director. Should the department director find that this employee is deserving of a recognition item, he/she shall either award the appropriate recognition item (i.e. gift card), or forward the request to the City Manager who will then award the appropriate recognition item (i.e. mug, pen, etc.).

b. Some examples of actions by employees which may result in a Level I award are:

Customer satisfaction with general services provided.

Customer satisfaction with or response to a specific experience in which services were provided.

Customer satisfaction with or responsiveness to getting complaints or inquiries resolved in a timely fashion.

2. Guidelines: a. The employee who is to receive the award must be in good standing (i.e. not on disciplinary probation) and must be at least an average performer.

b. Department directors wanting to recognize employees in other departments should consult with employee’s respective department director before making a recommendation to the City Manager.

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

Level II

1. Procedure and Examples:

Requests for monetary awards of between \$20.00 and \$250.00 in net value shall be submitted in writing to the employee's department director. Should the department director find that this employee is deserving such recognition and upon approval of the Human Resources Department, the employee shall receive a monetary award in an amount determined by the department director.

Some examples of actions by employees which may result in a monetary award are:

Delivery or improvement in customer service:

- (a) \$20.00-\$50.00 for recognition **within** the scope of employee's job;
- (b) \$20.00 - \$75.00 for recognition **outside** the scope of employee's job; or
- (c) \$75.00 - \$150.00 for **exceptional work within or outside** the scope of employee's job.

Innovation resulting in cost savings or greater operational efficiency: (a) \$50.00-\$100.00 for moderate cost savings **or** operational efficiency; (b) \$100.00 - \$150.00 for significant cost savings **or** operational efficiency; or (c) \$150.00-\$250.00 for significant cost savings **and** operational efficiency.

Performance which impacts project status or goal attainment:

- (a) \$50.00 - \$100.00 for performance which impacts **individual** project status **or** goal attainment;
- (b) \$100.00 - \$150.00 for performance which impacts **departmental** project status **or** goal attainment; or
- (c) \$150.00 - \$200.00 for performance which impacts **organizational** project status **and/or** goal attainment.

Special team achievement:

- (a) \$20.00 for successful completion of team goal(s) that positively impacts **department**;
- (b) \$100.00 for successful completion of team goal(s) that positively impacts **several departments**; or
- (c) \$250.00 for successful completion of team goal(s) that positively impacts **organization**.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

Improvement to the quality of services provided: (a) \$25.00-\$50.00 for **moderate** improvement to quality; (b) \$50.00 - \$100.00 for **significant** improvement to quality; or (c) \$100.00-\$200.00 for **exceptional** improvement to quality.

Educational achievement:

- (a) \$50.00 for completion of courses of study or certification(s) of **standard** complexity;
- (b) \$150.00 for completion of courses of study or certification(s) of **significant** complexity; or
- (c) \$250.00 for completion of courses of study or certification(s) of **high** complexity.

2. Guidelines:

The employee who is to receive the award must be in good standing (i.e. not on disciplinary probation) and must be at least an average performer.

Department directors wanting to recognize employees in other departments should consult with employee's respective department director before making a recommendation to the City Manager.

Any employee receiving a base pay increase in recognition of an accomplishment through a career plan advancement, supplement (i.e. advanced Law Enforcement Officer's Professional Certification, participation on the Fire & Rescue Department Haz-Mat Team, etc.), and/or promotion will not be eligible to receive an award as it relates to this program.

Processing of the award should generally take no longer than three (3) work days to correspond with performance-reward goals.

Checks and balances shall consist of departmental budget management and Human Resources approval.

Level III

1. Procedure and Examples:

- a. Requests for monetary awards more than \$250 in net value will be submitted to the employee's department director. Employees who significantly add to the efficiency and effectiveness of City operations by saving money, time, supplies or significantly affect the manner in which a service is provided to the public so that the service is more efficient, effective or costs less may be eligible for a monetary award.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

2. Guidelines:

The employee who is to receive the award must be in good standing (i.e. not on disciplinary probation) and must be at least an average performer.

Department directors wanting to recognize employees in other departments should consult with employee's respective department director before making a recommendation to the City Manager.

Any employee receiving a base pay increase in recognition of an accomplishment through a career plan advancement, supplement (i.e. advanced Law Enforcement Officer's Professional Certification, participation on the Fire & Rescue Department Haz-Mat Team, etc.), and/or promotion will not be eligible to receive an award as it relates to this program.

The monetary reward may be awarded as follows:

Development of new programs that result in significant financial savings or improvements in City services.

Extraordinary contributions to a particular field or activity that draws state or national recognition or acclaim.

Development of management or operational programs that may be applied in department and/or divisions other than the one in which the employee works.

Willingness to accept a management or special assignment responsibility that may be atypical of what is customarily assigned.

Significantly exceeding the performance standards established for a specific project or program.

The monetary amount will range from \$250.00 to \$3,000.00 in net payment.

The department director will choose the appropriate amount based on the merits of the action of the employee being recognized.

The monetary award is a lump sum payment and will not be added to the employee's base salary.

Lump sum monetary awards should generally be requested within thirty (30) days of the conclusion of the incident or special project assignment. The monetary award will be requested on the appropriate Human Resources form. In addition to completing the appropriate form, a memorandum to the City Manager explaining how the incident being rewarded meets the criteria, examples of which are outlined above, will accompany the other documentation and will be routed directly to the Human Resources Director. Upon receipt and review of the

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

material, the Human Resources Director will make a recommendation to the City Manager regarding its approval or disapproval.

D. Years of Service

City of Asheville employees shall be recognized for their years of service with the City through the award of a designated gift or a lapel pin dependent on the number of years of service. Years of service shall be recognized in 5-year increments (i.e. 5, 10, 15, 20, 25, and over 25 years of service).

All questions regarding this policy and other related issues should be directed to your respective department director and/or the Human Resources Department.

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

APPENDIX I – CITIZENS ACADEMY MODEL

Academy Schedule



<u>Week</u>	<u>Class</u>
1	Intro to Class/Department Overview- 9/12/17
2	Monthly Dept. Meeting-9/19/17
3	Station Two Tour/ Rural Water Supply Operations-9/26/17
4	Station Three Tour/Incident Command Operations-10/3/17
5	Board of Directors Meeting-10/10/17
6	Ride Along-Week of 10/16/17
7	Station Four Tour/Fire Prevention & EMS Overview- 10/17/17
8	Live Burn & Graduation-10/28/17



Garner Fire-Rescue

P.O. Box 441
Garner, NC 27529
Phone: 919-772-1550
www.garnerfire.com

Garner Fire-Rescue



Citizens' Fire Academy

Fall of 2017

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

2017 Citizen Fire Academy



Mission Statement

We are dedicated to protecting life and property of our community by building our future on a foundation of our past.

Our Vision

To become the best possible fire service organization through well trained and developed personnel, modern resources and equipment, and institute an active role in our community. We will continue to meet the ever-changing needs of the citizens we serve.

GVFD History

- Chartered on August 14, 1952
- 10 Charter Members
- We are still a non-profit organization today that contracts fire service with the Town of Garner and Wake County.

1st truck purchased by GVFD (\$1000)



Where the 1st Fire Truck was parked in 1952



Town of Wake Forest Fire Department Feasibility Analysis
August, 2019

APPENDIX J – FIRE OPS 101 MODEL



FIRE OPS HELPS DECISION-MAKERS Feel the Heat!

As an IAFF member, you know what a dangerous job fire fighting can be. You also know what equipment, training and staffing levels are needed to do your job safely and effectively.

But the government officials who make the decisions that affect your ability to do the job and determine public safety budgets often have no idea what fire fighters and paramedics do every day. The media who cover politics and public safety have never felt the heat, the adrenaline rush, or the physical stress and strain fire fighters face when responding to an emergency.

"The ability to build an emergency response system that delivers an effective, timely and trained response to a citizen's call for help is probably the single most important role of an elected official," says General President Harold Schaitberger. "We developed our Fire Ops 101 program to give decision makers a better

understanding of the challenges of the job."

The first Fire Ops event — then called Fire Operations Orientation — was conducted for EMS medical directors in conjunction with Tucson, AZ Local 479 and the Tucson Fire Department. Following that event, the program was further developed and renamed Fire Ops 101. The first official IAFF Fire Ops 101 was held in conjunction with the 2001 IAFF EMS Conference in Hollywood, Florida, at the Broward County Fire Academy and supported by Broward County Local 4321.

Participants in this first event experienced many of the scenarios still featured in Fire Ops programs today, including a live burn, vehicle extrication, search and rescue and a medical emergency.

The IAFF then developed the program further to include evolution criteria, event agendas, medical forms and waivers, talking points and other resources for

delivering a successful program.

Broward County Local 4321 now holds a Fire Ops event every other year. "We want to ensure that all decision makers are educated about the importance of fire service resources, including staffing levels and equipment," says Walt Dix with Broward County Local 4321.

Locals in the IAFF's 7th District make Fire Ops an annual event. For 11 consecutive years, the district-wide event has been held at the Volpentest Hazardous Materials Management and Emergency Response (HAMMER) Federal Training Center in Richland, Washington.

Using the resources developed by the IAFF, and learning from their own experiences, the 7th District Fire Ops runs like clockwork.

"Our main focus is reinforcing our message that fire fighting is 'highly technical, time critical and labor intensive' at every station," says 7th District Vice President Ricky Walsh. "We've had close to 400 policy makers through our program who left with a better understanding of 'the job.'"

In the IAFF's 5th District, Minneapolis, MN Local 82 is also seeing results because of the Fire Ops events it has hosted. In 2014, Local 82 conducted a Fire Ops 101 in conjunction with the National Conference of State Legislators (NCSL).

"There's a lot of participation in election years for obvious reasons, but it is also a good opportunity to educate elected officials before they take office," says Local 82 President Mark Lakowsky. "What they experience is not arguable or debatable."



Helpful Hints

- Start early. Planning takes longer than you think it will.
- Visit other locals' Fire Ops events for ideas.
- Ask a local that has done it before to help.
- Make sure everyone who is guiding the participants stays on message.
- Give participants something to take home, such as a helmet or T-shirt or a photo from the event.
- When inviting the media, think globally: print, television, radio, bloggers, weekly papers and social media.



Town of Wake Forest Fire Department Feasibility Analysis August, 2019

APPENDIX K – ISO RATING SYSTEM OVERVIEW and TOWN OF WAKE FOREST DEPARTMENT RATINGS

Insurance Services Office, Inc. (ISO) is an independent company that provides information to insurance companies, municipalities and fire departments. Their statistical data offers a relationship between quality fire protection and the ability to limit fire losses. By classifying communities' ability to suppress fires, ISO helps the communities evaluate their public fire-protection services and in turn helps secure lower fire insurance premiums for communities with better public protection. ISO provides a third-party critical review of municipal fire departments.

ISO provides information to insurance companies about fire protection in communities. ISO collects information on a community's public fire protection and analyzes the data using the Fire Suppression Rating Schedule (FSRS). They then assign a Public Protection Classification (PPC) from 1 to 10. Class 1 represents exemplary public protection, and Class 10 indicates that the area's fire-suppression program doesn't meet ISO's minimum criteria.

The three primary areas that are examined by ISO are:

- 1) Fire alarm and communication systems (the number of telephone lines available, the dispatching system and staffing of the dispatch center),
- 2) the Fire Department (equipment, staffing, training and geographic distribution), and
- 3) the water supply system (condition, hydrants and availability).

Ten (10) percent of the overall grading is based on how well the fire department receives fire alarms and dispatches its fire-fighting resources.

3 points – Emergency Reporting

4 points – Telecommunicators

5 points – Dispatch Circuits

Fifty (50) percent of the overall grading is based on the number of engine and ladder companies and the amount of water a community needs to fight a fire. ISO reviews the distribution of fire companies throughout the area and checks that the fire department tests its pumps regularly and inventories each engine company's nozzles, hoses, breathing apparatus, and other equipment. ISO also reviews the fire-company records to determine:

- type and extent of training provided to fire-company personnel
- number of people who participate in training
- firefighter response to emergencies
- maintenance and testing of the fire department's equipment

Town of Wake Forest Fire Department Feasibility Analysis August, 2019

- 6 points – Engine Company equipment*
- .5 point – Reserve Engine(s)*
- 3 points – Pump Capacity*
- 4 points – Ladder and Service Company equipment*
- .5 point – Reserve Ladder/Service unit(s)*
- 10 points – Deployment Analysis*
- 15 points – Staffing of the Fire Department*
- 9 points – Training of the Fire Department*
- 2 points – Operational considerations and procedures*

Forty (40) percent of the grading is based on the community's water supply. This part of the survey focuses on whether the community has sufficient water supply for fire suppression beyond daily maximum consumption.

- 30 points – Capacity and Distribution of Water*
- 7 points – Hydrant Inspection and Condition*
- 3 points – Size type and Installation of Hydrants*

Last, up to 5.5 bonus points can be added for community risk reduction efforts, such as through fire prevention activities.

- 2.2 points – Fire Prevention Code Adoption and Enforcement*
- 2.2 points – Public Fire Safety Education*
- 1.1 points – Fire Investigations*

In addition to the safety benefits, the ISO rating has the potential for financial benefits as well with the reduction of business and homeowner's insurance premiums. Insurance companies utilize the PPC to determine the premiums that individuals pay on their homes and commercial buildings. Generally, the lower the PPC classification, the lower the insurance premium.

(Illustrative examples follow on the next page)

**Town of Wake Forest Fire Department Feasibility Analysis
August, 2019**

Example Illustrations of ISO Rating Impact on Annual Insurance Premiums:

<i>Rating</i>	<i>\$90K Home Avg.</i>	<i>\$275K Business Avg.</i>	<i>\$275K Restaurant Avg.</i>
10	694.14	6,903	2,505
9	547.27	5,867	2,331
8	506.95	5,341	2,033
7	454.36	5,278	1,997
6	367.59	5,015	1,964
5	367.59	4,764	1,915
4	367.59	4,527	1,857
3	367.59	4,165	1,830
2	367.59	4,040	1,808
1	367.59	3,900	1,783

Example Illustration of Commercial Building Protection Class Annual Insurance Premium Multipliers, separated by construction classification:

<i>Rating</i>	<i>Frame, Non-Combustible</i>	<i>Masonry, Non-Combustible</i>
10	1.98	1.98
9	1.42	1.37
8	1.30	1.27
7	1.18	1.17
6	1.06	1.05
5	1.00	1.00
4	0.98	0.98
3	0.91	0.91
2	0.88	0.89
1	0.85	0.86

**Town of Wake Forest Fire Department Feasibility Analysis
August, 2019**

APPENDIX L – WAKE FOREST FIREFIGHTER PROJECT COMMUNICATION

March 19, 2019

To All Members of the Wake Forest Fire Department,

Thank you for your dedicated public service to the people of Wake Forest. The Town of Wake Forest has made a progressive decision to contract with EnviroSafe as an independent, third-party agency to conduct some strategic analysis and planning services in preparation for decisions regarding potentially unifying the Wake Forest Fire Department, Inc. and the Town of Wake Forest. The outcome of this effort will be a compilation of information and recommendations to enable decision makers to have solid data to use. Our work will also assist in determining the highest fire service priorities for the Town of Wake Forest to consider moving forward. We have very successfully conducted these type projects in many North Carolina municipalities and counties.

There will be multiple ways in which to provide your constructive feedback towards this project. One of the first foundational components of this work will be to offer group interview sessions with members of the Wake Forest Fire Department. We plan to conduct two sessions per shift along with two sessions for volunteer members over the next few days and will be asking some simple, but very important, questions of each group. Hopefully most members of the department can attend one of these eight scheduled sessions.

During this time together, we will be asking for your input and feedback on your department's strengths, weaknesses, opportunities and threats as you perceive them. This feedback will be used to gather and analyze data to identify key issues, trends, and the core themes. There are no right or wrong answers, just your honest feedback. We will use the information from the group meetings to help better identify the issues and needs for the department. Finally, we also will have a dedicated and private email to which only EnviroSafe will have access. This email is to be used for any additional comments or questions over the next ten days. The email is WakeForest@EnviroSafe.com

We are planning to hold feedback sessions at Wake Forest Station 1 on the following days:

Tuesday, April 9, 2019	13:30	15:30	18:00 (volunteers)
Wednesday, April 10, 2019	13:30	15:30	
Tuesday, April 16, 2019	13:30	15:30	18:00 (volunteers)

There is nothing special that you will need to bring or necessarily be prepared with. We would encourage you to think about the following kinds of questions before our session so that we can have the most productive time possible.

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

Wake Forest Firefighters
March 19, 2019; Page Two

- 1. What are Wake Forest Fire Department's greatest strengths? At what are we the very best?**
- 2. What does the Wake Forest Fire Department need to work on the most as an organization? Where are our greatest areas for needed improvement?**
- 3. What external opportunities are out there that we are not currently taking advantage of that could make us a better organization?**
- 4. What dynamics present threats to us as an organization that could hold us back from being all that we could be for the people that we serve and protect?**

There will be additional methods for you to provide input throughout the process as well. We look forward to personally meeting you and working together with you on this important endeavor. Thank you in advance for your participation, input and interest in advancing and improving the Wake Forest Fire Department. It is an honor to be able to work with you on this proactive and progressive effort.

Town of Wake Forest Fire Department Feasibility Analysis

August, 2019

DISCLAIMER:

This project has been conducted upon the written request of Wake Forest Town Government. The sole intent of this project is to improve, advance and strengthen the fire protection service delivery system in Town of Wake Forest and in the State of North Carolina. Persons involved in this report have contributed for the purposes of providing information, professional observations and recommendations to the Town 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 particular 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.