Hendersonville
North Carolina

City of Hendersonville, North Carolina
Fire Department
2016 Strategic Plan Peer Review Report

February, 2017

A Progressive Local Government Initiative Compiled and Presented by:

FACETS CONSULTING

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EXECUTIVE SUMMARY

The City of Hendersonville has a rich fire protection history of service delivery and dedication. That tradition is being honorably upheld today by the men and women of the department who desire to provide an exceptional level of service to the people that they are sworn to protect.

This positive attribute is evidenced by both community leaders and Hendersonville firefighters. Community leaders recognize the priority of fire suppression, rescue and emergency medical responses and articulate the importance of response timeliness to positive outcomes. Their responses indicate that they are pleased with their fire and rescue department and have strong confidence in the organization. The firefighters within the fire department positively recognize that their greatest strength is within their people. They identify the high ability, great talents and diverse skills as cornerstones of their strengths. They also identify with a culture that embraces being very adaptive to the needs at hand by being innovative and consistently going above and beyond what is expected. They feel supported overall by city administration.

It takes a strong city government and a progressive fire department to step forward and proactively invite a third-party review of their organization for the purposes of continuous improvement. The leadership at the City Manager level and the embracement at the Fire Chief level of this process has been remarkable. The City of Hendersonville has boldly demonstrated their commitment to serving the people of Hendersonville by calling for this review and has set a positive example for other cities of excellence in continuous improvement by engaging an innovative peer review team process to improve their fire and rescue services. The fire department leadership is eager to engage and move their city forward in a positive direction. Many public organizations do not venture into strategic planning to find themselves years later wishing that they had made that investment.

This intricate process has reviewed the department's operations, conducted an analysis of the membership of the department, listened to community leaders and has benchmarked Hendersonville in contrast to other North Carolina communities and against industry standards. This peer review team report identifies forty-two (42) specific recommendations that are designed and intended to strengthen, improve and advance the City of Hendersonville Fire Department. ALL the components of the report are focused on strengthening the service delivery to the people of Hendersonville. The report is based upon fire service best practices and industry research and is intended to help both the City and fire department to professionally shape their strategic plan. Unless you know your destination, it is difficult to successfully plot a course forward. This initiative is to help the Hendersonville Fire Department set a course for the coming years.

The report outlines some short-term, immediate need areas of concern that should be given attention as well as longer term issues and solutions. Included are recommendations for change. Change is often challenging and difficult for all of us. However, change is necessary for progress to occur. With the world around us changing so quickly, so must the fire service change to be able to meet the needs of the people that are to be served and that need to be protected.

Hendersonville has grown in recent years, not only in population and in land mass, but also in workload of the fire department and in hazards and risks that are protected by the fire department. One potentially unintended or underestimated outcome of successful marketing for Hendersonville as a tourism destination as well as an attractive retirement region is that growth has produced a heavier workload and increased risks to serve and protect.

The highest priority area that the peer review team identified as needing immediate attention was daily minimum staffing of the department. Regardless of how the City desires to accomplish the task, a minimum of fourteen (14) firefighters should be deployed first alarm on moderate level structure fires occurring within the City, such as a typical single family home. Higher risk structures, such as commercial properties, including strip shopping centers, apartments and certain retail businesses, require more firefighters on initial dispatch. High hazard occupancy locations such as the downtown area and certain industrial properties require more still. Response data demonstrates that with all on duty Hendersonville firefighters responding along with automatic aid firefighters from neighboring departments, the City is currently falling short of consistently assembling fourteen (14) firefighters on the scene of a moderate risk structure fire – the most basic house fire.

In addition, the City's current mode of operation with two firefighters assigned on the ladder truck would be considered inefficient and less than effective in contrast to fire and rescue industry standards and industry research.

Furthermore, the availability of firefighters to respond to multiple emergencies occurring simultaneously within the City (reliability) is less than ideal due to the call volume and workload of the on-duty response crews. Data demonstrates the need for another response company for the city as soon as conditions will allow.

Short term priority attention should be given to all components of the daily minimum staffing issue and recommendations are offered within the report to systematically improve those conditions in the days ahead. For short term or immediate attention, the peer review team recommends prioritizing the daily minimum staffing levels and response issues in the following order, as conditions will allow:

1. Engage any necessary measures to deploy at least fourteen (14) firefighters first due to moderate structure fires, more firefighters to larger fire events.

2. To best begin addressing the need identified in #1, increase the daily minimum staffing on the current ladder truck to a minimum of four assigned firefighters for safety, effectiveness, and efficiency.

3. Plan to add an additional crew and company for the city as soon as conditions allow to address reliability concerns.

The short term needs list also includes prioritizing further evaluation of the emergency communications dispatch system, bolstering the training program and preparing for the next upcoming insurance rating evaluation. Delivery of effective fire and rescue services is very time oriented. Every second really does count because of the rapid speed of fire growth as well as the very limited window of opportunity to save a life during a critical medical crisis. Oftentimes, lifesaving seconds can be gained by enabling firefighters to begin rolling towards the emergency more quickly. The report recommends that further review of the emergency communications component is needed. Also, the department will soon be facing a review of the city's fire insurance (ISO) rating, which will directly impact the insurance premiums of the commercial properties within the City. Because of the long-term economic development effects of this rating, the team recommends a high emphasis on this effort, including a greater investment on department training, which is valued at 9% of the overall score. A dedicated departmental training officer is recommended for consideration.

Interwoven and integral to these short-term priority needs, the peer review team also developed strategic long-term observations and recommendations in four specific dimensions. The first area that the team addressed was standard of cover issues, or identifying and defining the levels of service for the department. Priority attention is needed to address the staffing issues noted under the short term needs, but work is also needed to develop dynamic response plans, conduct a citywide hazard risk analysis and set departmental performance goals and standards. Aligning resources with tasks and those with outcomes in sync with deployment in a more measured way will enable the Fire Chief and City Manager to better understand what level of service they are capable of on a day-to-day basis and how changes in the inputs will result in changes to the outcomes. Furthermore, elected officials need to understand what level of service the department is providing citywide and what geographical areas of the city have service delivery levels that fall below identified standards. This improved understanding will enable the City to determine the optimal timing of a third fire station.

The second dimension is training and career development. The need for a comprehensive career development plan, live burn facility, company officer training and strengthening the department's safety and training program are highlights that the team identified and developed specific recommendations to address.

Third, further recommendations follow related to emergency communications. In most communities, fire officials struggle with emergency communications systems because they are generally law enforcement based and the majority of calls processed are of a different nature than fire calls. However, changes that can be made at the emergency communications center can often be the most overall efficient changes that can occur with improving overall response times at the lowest cost possible. Review is needed to examine the work flow processes in place, look at technologies, both used and available, and make some modifications to ensure that the emergency fire calls are being processed as quickly as possible, practical and reasonable for Hendersonville.

In the fourth area, some operational recommendations are offered to continue to allow the department to advance including the use of traffic signal pre-emption devices and identifying the value that strengthening the City's investment in fire and life safety education and prevention programs could bring to the Hendersonville community.

Next steps for this process is for the Fire Chief and City Manager to receive the input from this report and allow it to be contributory towards their overall strategic plan for the city and/or fire department. With a continued commitment to continuous improvement demonstrated by the city and the department throughout this process, the peer review team is confident that the Hendersonville Fire Department can achieve the desired outcomes and with implementation of this report's recommendations could lower the city's insurance (ISO) rating, thereby benefitting businesses in Hendersonville economically as well as strengthening public safety.

The members of this peer review team sincerely appreciate the opportunity to provide this report contributory to the department's strategic plan for the people of Hendersonville. This group of fire and rescue professionals were sincerely impressed with the dedication of the firefighters in the department and the commitment of the City Manager's Office to set a positive course forward to improve and sustain the Hendersonville Fire Department for many years to come.

The peer review team desires to sincerely thank everyone who supported this progressive initiative and express our honor to serve in this beneficial capacity of continuous improvement. FACETS Consulting, LLP is proud to have been able to assist in efficiently finalizing this project to improve service delivery in the City of Hendersonville.

BACKGROUND/PROCESS:

Initial request from City Manager Connet was made to the NC Office of State Fire Marshal (OSFM) on March 8, 2016. Response from OSFM was provided on April 15, 2016 and subsequently updated on June 7, 2016.

Request to focus work to **evaluate seven (7) core areas**:

1. Calls for Service
2. Staffing Levels
3. Alternative methods of response (Apparatus vs. QRV)
4. Organizational structure
5. Future station locations
6. Automatic and mutual aid agreements
7. Alternative funding methods

Cornerstones of the project. These are, in no particular order:

- Strategic Planning (SOC, Resource Deployment, Community Risk, Hazard Analysis)
- Pre-planning
- Staffing
- Effects on the Public Protection Classification
- Assist in developing Requests for Qualifications (RFQs) for more detailed work

Peer Review Team –

A team of highly experienced professionals from throughout the State of North Carolina representing a diverse background and applicable experience was assembled:

External Members:

- Todd Wright, Morrisville Fire Chief
- Ken Briscoe, Lenior Fire Chief
- Jake Whisnant, Shelby Assistant Fire Chief and Executive Director of NC Fire Chiefs
- Susanna Williams, Carrboro Fire Chief
- Dave Coker, Greensboro Fire Captain and Local IAFF President
- Bo Fitzgerald, Davidson Fire Chief and Charlotte Fire Captain
- Dan Jones, Chapel Hill Fire Chief (Ret.) and owner of Chief Dan Leadership, LLC

Internal Members:

- Justin Ward, Hendersonville Fire Captain
- Hendersonville Councilman Ron Stephens
- Assistant to the City Manager Brian Pahle

Materials Reviewed by Peer Review Team – Include, but not limited to:

- Organizational charts and operating guidelines
- Past three fiscal year approved budgets
- Maps of station locations
- Apparatus and other response capabilities
- Dispatch guidelines for various incident types
- Some level of hazard risk analysis
- Commercial building summary information via pre-plans or Fire Marshal
- Planned capital improvements, such as apparatus or stations
- Descriptions of current levels of service as compared to North Carolina adjusted national standards for first unit arrival as well as full complement arrival
- Planning data on trends on population, demographics, growth, etc.
- Fire loss data and NFIRS data reports, along with RMS response data
- Automatic and mutual aid agreements and/or policies
- Communication center operational materials
- Previous ISO rating evaluation data points when Class 4 was earned
- Recent ISO reviews within Henderson County which use the same communications center
- Local insurance agent comparative information on rate impacts
- Other materials as deemed necessary

Business and Community Leaders Feedback Session – A public feedback session to gain a better understanding of the acknowledged expectations of residents and business owners across the City of Hendersonville, focused on business leaders within the community was held on June 24, 2016 at 11:30am. A total of 19 business and community leaders attended the session. An additional session was held for the general public on Thursday, June 30, 2016 at 7:00pm. However, there was no public attendance at this session. The session was advertised by the City of Hendersonville.

Firefighter SWOT - Group feedback session with emphasis on a) internal strengths, b) internal weaknesses, c) internal opportunities/perceived external opportunities, and d) perceived external threats. This session was conducted with eight (8) Hendersonville firefighters representing a cross section of rank, experience and demographics at Hendersonville Station 1 on June 30, 2016.

- Jon Ward, Engineer
- John Herring, Firefighter
- Dwayne Maynard, Firefighter
- Boyce Hamlin, Engineer

- Charles Womack, Firefighter
- Jared Morgan, Engineer
- Christopher Martin, Engineer
- Michael Pearson, Firefighter

A subsequent, follow up session was held in July, 2016 with a group of three (3) company officers to review the feedback of the initial group and to offer additional input and help identify priorities.

- Timothy Cagle, Captain
- Christian Miller, Lieutenant
- Jonathan Ward, Captain

Peer Review On Site Session – A full day interactive session with the entire peer review team was held on site in Hendersonville along with the Fire Chief on August 26, 2016 from 09:00am – 4:00pm in Hendersonville.

Report Compilation and Review with Team Members – Conducted during the fall. Due to Hurricane Matthew and wildfires in Western North Carolina, fire service personnel were deployed and tasked with managing large scale emergencies affecting North Carolina.

North Carolina voters elected a new Insurance Commissioner/State Fire Marshal in the November election. The new Commissioner/State Fire Marshal abruptly ended the Local Government Technical Services program immediately upon entering office, releasing the entire Technical Services staff.

In early 2017, the City of Hendersonville contracted with FACETS Consulting, LLP to complete the significant work that had been conducted in 2016 and to make the report to the City of Hendersonville. FACETS is a national fire and emergency services consulting firm with extensive management consulting experience.

Final Report submitted to the Hendersonville City Manager and Hendersonville Fire Chief - January 31, 2017

Report slated for initial Hendersonville City Council review – February 9, 2017

Summary of Recommendations

Short Term Needs

Staffing

- Ladder Company Staffing
- Engine Company Staffing

Operations

- Emergency Communications
- Reliability – Additional Company
- Training and preparation for next insurance rating

Strategic Actions

Standard of Coverage:

1. HFD should take measures to ensure that an adequate number of firefighters are responding to structure fires, beginning with moderate hazard – typical residential structure fire responses.
2. Evaluate the effectiveness of the HFD two-person ladder company
3. Begin ramping up to minimum four person companies as soon as conditions will allow
4. Consider establishing an additional company to improve HFD's reliability
5. HFD should firmly develop and drill a second and third alarm dynamic response plan
6. Conduct a Citywide Hazard Risk Analysis
7. Establish critical task analysis for fire services
8. Establish critical task analysis for medical services
9. Review and confirm HFD's daily staffing levels and deployment are in alignment with the critical task analysis
10. Establish a goal of confining fire to the room of origin for moderate risk residential house fires
11. Define Citywide Service Delivery Standards
12. Establish a level of service for first unit response as well as full complement response for fire responses

13. Establish a level of service for first unit response as well as full complement response for responses to non-fire emergencies
14. Review the HFD Standard of Coverage Statements with the elected officials
15. From the data and information formulated above, HFD should determine a timeline for implementation of a third fire station
16. Establish shift Battalion Chiefs when conditions require that level of enhancement

Training and Career Development:

1. Evaluate and establish a rank and structure plan that will be effective and adaptable for the HFD for the next five plus years
2. Develop a written career development plan for HFD
3. Evaluate implementing a career development incentive plan for HFD
4. Evaluate constructing a live burn facility for HFD
5. Diversify /Expand HFD's Company Officer Training Program
6. HFD should continue to prioritize safety and training programs and strengthen the effort at every available opportunity
7. HFD should establish and designate a departmental safety and training officer as soon as conditions will allow
8. HFD should conduct targeted recruitment and harness opportunities with High School fire programs
9. HFD should consider piloting an over-hire of firefighters to conduct a cost-benefit analysis

Emergency Communications:

1. Review is needed to examine the potential for improved response times to citizens by re-evaluating and possibly re-engineering components of the 9-1-1 emergency communications dispatch systems
2. HFD should implement an emergency communications user group in conjunction with Henderson County fire service providers
3. HFD should work with Henderson County EMS to conduct a quality review of medical calls from a call processing perspective for medical calls occurring within the City of Hendersonville.
4. HFD should ensure that they are being dispatched only on life threatening medical emergencies, or situations where EMS is not available
5. Conduct a call flow analysis of 9-1-1 calls, with a goal of shaving time off the alarm processing component of total response time
6. Additional Telecommunicator training would be beneficial
7. Initiate the use of a mobile application for HFD firefighters to immediately and automatically know of call dispatches

8. Install CAD monitors in HFD fire stations
9. HFD should explore use of a tablet or MCT device on response apparatus
10. If operational enhancements cannot be achieved, Hendersonville should evaluate dispatching HFD units by the city from the secondary PSAP

Operations:

1. Investigate the use of traffic signal pre-emption devices on major corridors
2. Harness the Use of Retired Personnel for specialty service positions
3. HFD should place a lower priority on implementing quick response vehicles
4. Work is needed on the HFD firefighter total compensation package
5. Continue forward with Fire and Life Safety Education efforts, including a civilian Fire and Life Safety Educator
6. HFD should consistently reinforce core services
7. HFD should pursue becoming an accredited agency

Short Term Needs

A. Staffing

1. Ladder Company Staffing

   The current minimum two-person ladder company presents both operational challenges and safety concerns. This aspect needs priority attention.

2. Engine Company Staffing

   With a daily minimum staffing of eight firefighters total in Hendersonville, with the addition of two firefighters coming into the city through automatic aid and a chief officer (or even two) responding back into the incident, does not provide an adequate number of personnel to safely confine and contain a typical residential structure fire to the room or origin for interior attack in accordance with industry standards and research. Priority attention is needed to strengthen daily staffing by some methodology to ensure that at least fourteen (14) firefighters are responding to typical residential structure fires if the desire of the city is to make effective interior fire attacks.

B. Operations

1. Emergency Communications

   Alarm processing times are reportedly much higher than industry standard and continuously reviewing viable options for more expedient dispatch of apparatus and personnel is also a high priority related to service delivery objectives.

2. Reliability – additional company

   Reliability, or the availability of Hendersonville engines to respond to a subsequent emergency is lower than typically desirable. This situation is a result of workload for 2 engine companies and one ladder company. Short term attention should be given to the creation of an additional company, such as a rescue company, to provide additional firefighters within the city as well as better handle reciprocal automatic aid responses, while maintaining a reasonable level of coverage within the city.

3. Training and preparation for next insurance rating

   A dedicated department safety and training officer is also a high priority given that the department is encroaching upon an upcoming public protection classification rating from the Insurance Services Office (ISO), which will affect property insurance rates of residents and businesses within Hendersonville based upon credit of 50% from the fire department itself, 40% from the water supply and distribution system and 10% from the emergency communications system, with consideration for community risk reduction and divergence.

Strategic Actions

A. Standard of Coverage

An initial observation and concern is daily staffing shift strength. With an eight (8) person daily minimum staffing, the HFD is dependent daily upon automatic and mutual aid to assemble the necessary number of firefighters to contain and control a typical residential house fire and very dependent upon automatic and mutual aid to contain and control fires in commercial properties.

An equal concern is reliability. With the call volume that HFD is answering, some HFD units are on other emergency calls as much as 40% of the time, meaning that they are not available for response to the next emergency. Generally, when front line, first due fire engines and ladder companies are not available for more than 10% of the time for additional emergency response calls, concern is raised about reliability within the service delivery system. If that availability increases to 20%, it is a strong indicator that the people served by that system have reliability issues that need to be addressed from their fire protection provider, generating a need for an improvement plan.

A third concern is concentration with Station 1 Downtown when those crews are out on an emergency call creating a time delay in getting backfill into the core or heart of the city.

A fourth concern is the level of automatic aid that is coming to the City of Hendersonville on a consistent basis. The four private non-profit fire departments that are providing reciprocal automatic aid by contract to the City of Hendersonville typically send one apparatus and two firefighters into the City to assist the HFD. When HFD responds in reciprocity, they send an engine company into the unincorporated area. A call for additional assistance through mutual aid will typically bring one additional apparatus and two additional firefighters, with an often-delayed response.

To begin addressing these concerns, several standard of coverage related enhancements are recommended.

1. **HFD should take measures to ensure that an adequate number of firefighters are responding to structure fires, beginning with moderate hazard – typical residential structure fire responses.**

    - The City of Hendersonville should develop a proactive plan to strengthen the

number of firefighters responding to structure fires, beginning with typical residential fires. A minimum of fourteen (14) firefighters should be deployed to all structure fires. This assembly is based upon industry research for safety, effectiveness and efficiency.

- It is not necessary that the fourteen firefighters are all Hendersonville firefighters. It is possible to Assemble this minimum number using automatic aid firefighters as well. However, some important considerations that need to be made if using automatic aid firefighters in your minimum contingency include consistency, reliability and qualifications. In addition, the travel time and capabilities of the automatic aid firefighters should also be considered.

- Some North Carolina municipalities contract with neighboring fire departments to enable them to compile enough firefighters on scene to meet the needs of the hazards to be protected. An illustrative example of such a contract can be found as Appendix "K" of this document.

- In following recommendations, more specific details will entail how the city should plan beyond the typical structure fire. However, as noted in the Short-Term Actions section, ensuring that a base number of firefighters are deployed to all structure fire calls is foundational and essential and should occur as soon as possible, by whatever method(s) the City chooses to use.

2. **Evaluate the effectiveness of the HFD two-person ladder company**
   - Currently, the HFD is operating a ladder company minimally staffed with two firefighters. This methodology presents safety as well as operational concerns that should be further considered and re-evaluated for effectiveness.

   - Industry standards and research have demonstrated the effectiveness of crew size. If it is determined that a two-person crew is appropriate for the ladder company in Hendersonville, the scope of duties and responsibilities of these personnel would need to be clearly defined so that they did not have the expectations to carry out the work of a full crew. In addition, a plan to affiliate other firefighters to this crew of two so that they could morph into a full four-person crew is needed.

3. **Begin ramping up to minimum four person companies as soon as conditions will allow**
   - As noted earlier, industry standards and research clearly indicate that four person companies are significantly more effective at carrying out fire ground duties and responsibilities. Currently, HFD operates with minimum three person companies and this one dynamic receives one of the higher priorities

from the peer review team, given the limited daily staffing that HFD operates with.

- The City desires to provide equitable service citywide and acknowledges that some growth in recent years coupled with growth that is projected in coming years presents the opportunity to strengthen the fire department in a positive and meaningful way.

- If the desired outcomes are to contain fire to the room of origin a high percentage of time and the desired outcomes are to assemble firefighters in a timely manner to perform critical tasks on the fire ground, additional firefighters are needed for Hendersonville. An additional benefit of this investment in public safety infrastructure will be improving the points earned for the city's insurance (ISO) rating, which has a direct impact on the economic development impact on the city.

- Obviously, this strengthening of service level can be accomplished in a singular, unified way. However, it can be done incrementally as well and often take a longer term (3-5 year) period to implement. The reason that cities often use incremental steps is to stair-step into the adding these new positions over a couple or few budget years to better manage and sustain the fiscal impact of the additional expense of personnel and potentially capital expenditures. Incremental changes have been used more frequently in recent years due to statutory changes with annexation laws in North Carolina.

- In an earlier recommendation, this report recommended re-evaluating the two-person ladder company and recommended evaluating the creation of a rescue company to increase reliability while providing automatic aid to neighboring fire departments. This would be two initial steps towards adequate staffing consistent with the standard of coverage and the department's strategic plan.

- Seek federal SAFER grant funding for positions to aid in the initial costs of implementing new firefighter positions. Adding a new engine company should necessitate the addition of at least fifteen (15) new career firefighter positions.

- Effectively, the City of Hendersonville has fewer firefighters than 25 years ago. The city's fire demand, work load, risk, call volume, population, density and other demographics have obviously significantly increased in that period.

4. **Consider establishing an additional company to improve HFD's reliability**
    - Given that HFDs minimum staffing resources are stretched and that the department will continue to be dependent upon reciprocal automatic aid for the foreseeable future, consideration should be given to establishing a rescue type company that could respond to emergencies within the City of Hendersonville. The key value of this methodology is maintaining a higher level of minimum daily staffing located within the City to respond to fire and rescue emergencies, while continuing to provide needed automatic aid to neighboring fire departments.
        - One potential avenue to make this company even more efficient is to consolidate SCBA breathing air system on this singular unit.
        - If it was determined not feasible to initially operate this company concept on a 7/24 basis, it could be implemented during peak hours as an initial or interim measure to help improve reliability during HFD's peak response times.

5. **HFD should firmly develop and drill a second and third alarm dynamic response plan**
    - 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. "Appendix G" outlines these terms. A summary is as follows:

        - **Single-Family Dwelling — minimum of 14 members (15 if aerial device is used)**
            - The initial full alarm assignment to a structure fire in a typical 2000 ft_2 (186 m_2), 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 ft_2 to 196,000 ft_2 (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).
- 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.

  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 City. 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 downtown Hendersonville major structure fire.

- The level of firefighter staffing in the City may necessitate revisiting the city's automatic aid contracts until the City can assemble the firefighters necessary to respond, manage and mitigate the fire risks and hazards that are in Hendersonville.

- It is unlikely that contract fire service would be less expensive than providing services internally since you already have a structure and system in place. However, a cost-benefit analysis should be conducted to ensure that internal personnel would be the best use of public funds. Timeliness in response in service delivery should be a key factor of consideration. Also, the level of training for the contract personnel should be evaluated.

6. **Conduct a Citywide Hazard Risk Analysis**
    - The core of professionally protecting risks is to identify those risks and to plan for those risks accordingly. Throughout this process, it was identified multiple times by multiple groups that the downtown Main Street area was the highest fire hazard risk that Hendersonville faced. This is due to the mixed-use occupancy of the buildings and the age and type of construction as well as the occupants and use of the buildings. However, other areas also present challenges such as the large retirement community near Four Seasons Boulevard.

    - To best grasp the overall fire risk for the city, 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.

    a. Establish fire demand planning zones
        - Each geographic area of the city has features that distinguish themselves from others regarding fire hazards. General residential areas may group together. More mountainous areas may present special challenges. 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. These 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.

    b. Identify all high hazard occupancies
        - 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 rise buildings. HFD would need to determine specifically what buildings within their jurisdiction demanded a high risk or high hazard response and adjust the initial response accordingly.

7. Establish critical task analysis for fire services

- Although the fire and rescue industry has established many industry standards in the past few decades and the scientific data produced through the National Institute of Standards and Technology (NIST) has established landmark research to determine fire behavior and the effectiveness of firefighting efforts, each fire department has unique abilities and resources. In order to determine the capabilities of the HFD, it is recommended that the department establish critical task analysis for defined performance deliverables.

- The most core issue is to determine what resources are necessary for a typical residential structure fire in Hendersonville. An analysis to determine the necessary tasks on a typical structure fire might include, but are not limited to:
    - Initial Attack -
        - ✓ Size up and command
        - ✓ Accountability
        - ✓ Offensive fire attack
        - ✓ Pump operations and water supply
        - ✓ Search and Rescue
        - ✓ Ventilation
        - ✓ Aerial device operator
    - Initial Support -
        - ✓ Rapid intervention team
        - ✓ Back up lines
        - ✓ Salvage and overhaul
        - ✓ Rehabilitation
        - ✓ Designated safety officer

- From this critical task analysis, integrated time and performance objective standards can be established. These parameters can be used to model deployment for both distribution and concentration in determining standards of coverage. An example of what an integrated time and performance objective standard may look like is:

- ❖ Structure Fire, Moderate Risk

  Goal: An initial effective response force of eight personnel deployed via two engine companies, one ladder company, and one chief officer shall respond, along with two firefighters through automatic aid.

  Measure: The first unit shall arrive within six minutes from 9-1-1 call receipt until first unit arrival, for 90% of all requests for emergency service. Remaining units shall arrive in ten (10) minutes total time, for 90% of all requests for emergency service.

  Full Complement: The balance of the effective response force will be supplied by reciprocal automatic aid with neighboring fire departments.

- ❖ Performance Objective: To stop the escalation of a moderate fire where found. Typically, this means conducting search and rescue for any victims, confining the fire damage to the room of origin, plus limiting heat and smoke damage to near the room of fire origin. The first arriving unit is capable of starting rescue work or advancing a first line for fire control. The second engine and ladder company provide additional personnel for tasks already started plus ventilation, salvage and other work as necessary.

- o This same work can be carried out for other fire situations, such as low risk, high risk, special risk, etc.

An illustrative example of a critical task analysis can be found as Appendix "H" of this document, produced by the Asheville Fire Department.

An illustrative outline of this staffing model may resemble:

Tasks/Staffing Needed at a MODERATE RISK Structure Fire

Task	Firefighters
Attack line	3 personnel
Pump operations	1 personnel
Water supply	1 personnel
Search and rescue	2 personnel
Utility control	1 personnel
Ventilation	2 personnel

Incident Commander/Safety	1 personnel
Back-up line	3 personnel
Rapid Intervention Team	2 personnel
Accountability	1 personnel
TOTAL:	**17 firefighters**

8. **Establish critical task analysis for medical services**
    - As described above, additional and separate measures should be established for response to medical emergencies, in collaboration with EMS. An analysis to determine the necessary tasks on a typical cardiac arrest might include, but are not limited to:
        - ✓ Patient assessment
        - ✓ Airway management and intubation
        - ✓ Cardiac defibrillation
        - ✓ CPR
        - ✓ EKG monitoring
        - ✓ IV/Pharmacology
        - ✓ Patient lifting/packaging
        - ✓ Medical information collection
    - It is recommended that critical task analysis be done for the most common and typical medical emergencies that the department responds to.

9. **Review and confirm HFD's daily staffing levels and deployment are in alignment with the critical task analysis**
    - Once the critical task analysis has been completed for both fire and medical emergencies, the department should assess the apparatus and resources that are being sent to those types of emergencies. There should be an alignment with the critical tasks that need to be complete and the resources that are responding to the emergency. For example, if the critical task analysis identifies that the HFD needs seventeen (17) firefighters to mitigate a moderate residential house fire, HFD should be responding that number of firefighters to those types of incidents, with their own personnel and potentially with supplemental resources from neighboring fire departments if that response is automatic aid and does not require individual incident intervention.

- The tasks that are intended to be carried out should match the personnel and apparatus that is being automatically sent to that type of call. If the two do not reasonably match, adjustments should be made to the methods of response.

- In sizing companies for response, research and data from the National Institute of Standards and Technology (NIST) will verify the following:

Primary Findings

Of the 22 fire ground tasks measured during the experiments, results indicated that the following factors had the most significant impact on the success of firefighting operations. All differential outcomes described below are statistically significant at the 95 % confidence level or better.

Overall Scene Time:

The four-person crews operating on a low-hazard structure fire completed all the tasks on the fire ground (on average) seven minutes faster—nearly 30 %—than the two-person crews. The four-person crews completed the same number of fire ground tasks (on average) 5.1 minutes faster—nearly 25 %—than the three-person crews. On the low-hazard residential structure fire, adding a fifth person to the crews did not decrease overall fire ground task times. However, it should be noted that the benefit of five-person crews has been documented in other evaluations to be significant for medium- and high-hazard structures, particularly in urban settings, and is recognized in industry standards.

Time to Water on Fire:

There was a 10% difference in the "water on fire" time between the two- and three-person crews. There was an additional 6% difference in the "water on fire" time between the three- and four-person crews. (i.e., four-person crews put water on the fire 16% faster than two person crews). There was an additional 6% difference in the "water on fire" time between the four- and five-person crews (i.e. five-person crews put water on the fire 22% faster than two-person crews).

Ground Ladders and Ventilation:

The four-person crews operating on a low-hazard structure fire completed laddering and ventilation (for life safety and rescue) 30 % faster than the two-person crews and 25 % faster than the three-person crews.

Primary Search:

The three-person crews started and completed a primary search and rescue 25 % faster than the two-person crews. The four- and five-person crews started and completed a primary search 6 % faster than the three-person crews and 30 % faster than the two-person crew. A 10 % difference was equivalent to just over one minute.

Hose Stretch Time:

In comparing four-and five-person crews to two-and three-person crews collectively, the time difference to stretch a line was 76 seconds. In conducting more specific analysis comparing

all crew sizes to the two-person crews the differences are more distinct. Two-person crews took 57 seconds longer than three-person crews to stretch a line. Two-person crews took 87 seconds longer than four-person crews to complete the same tasks. Finally, the most notable comparison was between two-person crews and five-person crews—more than 2 minutes (122 seconds) difference in task completion time.

Industry Standard Achieved:

As defined by NFPA 1710, the "industry standard achieved" time started from the first engine arrival at the hydrant and ended when 15 firefighters were assembled on scene. An effective response force was assembled by the five-person crews three minutes faster than the four-person crews. Based on the study protocols, modeled after a typical fire department apparatus deployment strategy, the total number of firefighters on scene in the two- and three-person crew scenarios never equaled 15 and therefore, the two- and three-person crews were unable to assemble enough personnel to meet this standard.

10. **Establish a goal of confining fire to the room of origin for moderate risk residential house fires**
    - One commonly used method of outcome measurement in North Carolina municipal fire protection is confinement of fire to the room of origin. This is important because it reflects the containment of the fire to a smaller space and thus reduces fire loss and hopefully reduces the possibility of injury and fatality. It can be reflective of the comprehensive fire protection delivery system of prevention, education, response, operations and suppression.

    - It is recommended that HFD measure confinement of the room of origin and compare their data to the measurement of similar size fire departments throughout the state to determine effectiveness. This is an outcome based measurement. This measure is also a component of the annual benchmarking project conducted by the North Carolina School of Government.

11. **Define Citywide Service Delivery Standards**
    - From the critical task analysis described above, HFD can establish the level of service delivery that is provided citywide.

    - 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.

- Like many North Carolina cities, Hendersonville has been reporting response times 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.

- Much of the fire service industry has moved away from using averages and uses response times at the 90% percentile. This fractile 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 90% 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 90% percentile is recognized as the most solid best practice in the fire and rescue industry.

12. Establish a level of service for first unit response as well as full complement response for fire responses

- Expectations of the department regarding the level of performance should be more clearly defined. The Hendersonville City 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 HFD. City 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 90% 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 along with at least four (4) adequately trained firefighters should arrive within ___(determined by City of Hendersonville)____ 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 fifteen (15) adequately trained firefighters (including automatic aid responses) should arrive within __(determined by City of Hendersonville)___ 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.

A further analysis of this component can be found in Appendix "I" of this report as a guide to City Managers for fire protection systems. This document is designed to provide reasonable guidance to local governing officials in establishing what are credible response times.

13. Establish a level of service for first unit response as well as full complement response for responses to 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 HFD, city management, local elected officials and the general public to know what to expect when they have an emergency and need the HFD. Additional measures that are typically used include, but are not limited to:
  - ✓ Life threatening emergency medical calls
  - ✓ Hazardous materials calls
  - ✓ Technical rescue calls

- HFD 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.

- Also, HFD may need to invest in software or programming that can report data at the 90th percentile so that reporting can be readily accessed and defined as conditions warrant.

14. <u>Review the HFD Standard of Coverage Statements with the elected officials</u>

- Once the standard of coverage statements has been developed as noted above, it is recommended that the Hendersonville elected officials be advised of the level of service that the Hendersonville Fire Department can provide the citizens and businesses 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 City Manager or any other format that that is deemed most appropriate.

15. <u>From the data and information formulated above, HFD should determine a timeline for implementation of a third fire station</u>

- Key indicators are that Hendersonville is now at or will soon be nearing the point of investing in the critical infrastructure of a third fire station location to address the service levels for the City. After carefully constructing and evaluating the information from all the standard of coverage points, the City will be able to make a well-informed decision as to the timeline that is appropriate to construct a third fire station. This information will allow the city to program the third station into the City of Hendersonville Capital Improvement Plan (CIP) within a three to five-year period to determine funding mechanisms and make appropriate plans for expansion.

- The City of Hendersonville should secure property for the third fire station as soon as conditions will allow. With property secured, the City can plan accordingly for design and construction of the station and potential bond use within a five-year period. Station design is difficult without the site selected. Once the site is selected and land is secured for the fire station, the RFQ for architectural services can be prepared and the package can be prepared for construction. Should the City be considering any bond packages in the next five years, the third fire station would be an excellent addition to this bond package.

16. <u>Establish shift Battalion Chiefs when conditions require that level of enhancement</u>

- As the City grows and expands and as the service delivery system becomes larger and more complex, there will be a need for a shift Battalion Chief to serve as the on-duty Chief of operations and lead incident commander. The incident commander is a key role on the fire ground and is essential to the proper fire ground operations. Long-term, an on-call chief officer is not a sustainable practice and is not healthy for the persons filling that role for a department the size and call volume of Hendersonville.

- Many cities have determined that a shift Battalion Chief is an excellent method to establish a clear chain-of-command for on duty personnel and provide a shift incident commander on scene immediately. The shift Battalion Chief allows the Company Officers to do company officer work and keeps them from being pulled away to perform the essential incident command function. Therefore, the shift Battalion Chief enables the City to get the most functionality out of the daily minimum staffing. It is also recognized as an effective strategy to mitigate risk management for the City.

- Many models of cities similar to Hendersonville exist to evaluate that have been using shift Battalion Chiefs for many years, such as the City of Shelby – which operates three fire stations.

- The shift Battalion Chief enables the Fire Chief and Deputy Chief to better focus on administrative matters of the department and allow the most day-to-day routine type calls to be answered by the shift Battalion Chief. However, in all significant incidents, additional persons are needed to immediately respond and support the command system structure. Therefore, the Fire Chief and Deputy Chief (and Safety/Training Officer) would continue to play vital roles in the overall emergency response system using the shift Battalion Chief model.

- It is typical that most jurisdictions with three or more stations add the Battalion Chief level for operational and accountability purposes. Hendersonville will be needing a third station in the not distant future and this reports recommends planning of that station. Until the third station is in place, the addition of a Battalion Chief would be an efficient way to effectively increase daily minimum staffing and improve the City's level of service delivery, especially at night and on weekends when minimum and available staffing is at the lowest levels. Therefore, the peer review team supports the addition of the shift Battalion Chief in Hendersonville prior to the implementation of the third station as soon as resources will allow.

B. Training and Career Development

Providing fire and rescue services is very labor intensive. Providing these critical services requires hands on work from people with a very well developed skill set that is diverse and adaptable to many challenging environments.

HFD has recognized that their firefighters are their greatest strength and has recognized the implicit need for advanced training, continuing education as well as advanced education, all within the ever important context of experience.

1. **Evaluate and establish a rank and structure plan that will be effective and adaptable for the HFD for the next five plus years**
    - A core building block for most career development models will be to firmly establish the rank structure that will accommodate the HFD for approximately the next five years with the best information that is available at this time.

    - Providing a clear understanding of the rank structure is essential to building a successful career development plan and allowing firefighters to best prepare themselves for success within the department. Beyond the formal levels, attention must also be given to persons who serve in temporary or acting roles.

    - Most cities in the size range of Hendersonville have found that the following general structure is effective and efficient:
        - Fire Chief
        - Deputy Chief
        - Chief Officers (Training Chief, Fire Marshal, Battalion Chief)
        - Company Officers (Fire Captain, Fire Lieutenant, Deputy Fire Marshal)
        - Fire Engineer (Fire Inspector)
        - Firefighters (Firefighter I, Firefighter II, Senior/Master Firefighter)

2. **Develop a written career development plan for HFD**
    - A clear succession plan and/or career development plan is needed for the department that clearly articulates the requirements for each rank within the organizational structure so that members of the department can understand what is expected on their part to earn or achieve to be qualified or eligible for promotion.

    - Care and attention to detail should go into this plan to make sure that it is achievable and sustainable. Once the plan is instituted, the department should

not wavier from the plan unless the plan is revised. Therefore, it will need to be kept current and the city and department follow the plan accordingly.

- A successful career development plan demands a commitment from both the department/City and from the employees that engage and involve themselves in the process. Most "win-win" situations occur when "opportunity meets preparedness" so that the department will promote firefighters to higher ranks who have prepared themselves for that promotion.

- A portion of this career development plan should outline requirements for fill in roles, such as for Engineer or Company Officer to define what minimum requirements must be met for someone to operate in one of these capacities.

- An important component of this plan should address how HFD personnel will attend classes on duty and off duty and a clear plan should be articulated for what the department will sponsor and will not sponsor. Sponsoring the training in this way will most likely create or prompt firefighter hire back and generate the need for additional funds to pay overtime. As a part of the development of this plan, additional funding or budgetary considerations may need to be made in order to make reasonable accommodations for expected training opportunities.

3. **Evaluate implementing a career development incentive plan for HFD**
   - In association with the career development plan, most cities find it essential that an appropriate incentive plan be paired with the development plan. Incentive plans enable firefighters to identify the organizations priorities and clearly articulate in a tangible way some of the organizational desired outcomes.

   - Most firefighters also desire a level of predictability in pay and performance. Many cities use a step plan type system for paramilitary structure departments such as fire and police, to accommodate the rank structure and the special needs and issues with certain exemptions from the Fair Labor Standards Act (FLSA 7(k)). While equity for other city employees serving in other city departments is always an important consideration, there are some distinguishing characteristics for firefighters that federal law has clearly recognized and some cities choose to further that distinction at the local level.

   - Appendix "D" provides an example of the Lenoir Fire Department's Career Development Incentive Plan. This plan acknowledges some length of service integrated with professional certifications and equates those into pay increases. College degrees are also recognized. Step pay plans are available as well.

Examples include Asheville, Charlotte, Greensboro, Raleigh and Others. Obviously, there is a wide range of available options. HFD will need to construct a plan that is appropriate for HFD and one that can be sustained. This item is closely connected to compensation concerns that are noted under section E – Other.

4. **Evaluate constructing a live burn facility for HFD**
    a. The department currently pays $10,000 annually to the Henderson County Firefighter's Association for the use of the County Training Center. While collaborative effort is excellent, an evaluation needs to occur as to what costs would be to construct a live burn facility within the city. This type facility would more easily allow on duty personnel to participate in live fire training evolutions than traveling to the county community college facility. Furthermore, the facility located within the city limits would provide a higher number of points under the public protection classification rating system for the Insurance Services Office (ISO) schedule.

    b. Should the department determine to build their own facility and pull away from the annual fee from the County Association, it is recommended that transition occur over time to allow both parties opportunity to plan accordingly. Also, Hendersonville may desire to continue to use the County Association facility to some level and therefore some cost associated with that use.

    c. When evaluating costs, it is important to not only consider land acquisition and construction costs, but also annual operating costs for this type facility. Many models across North Carolina can provide illustrative examples of live burn facilities where municipalities may conduct smaller scale live burns at their own facility and larger scale operations at regional facilities.

    d. Due to the HFD daily work load, firefighters expressed concern that it is often difficult to conduct full scale "hoses on the ground" training evolutions. This type of training is essential to positive outcomes. A live burn facility within the city will support that endeavor. In addition, planning to carry crews over or carry over personnel on a regularly scheduled day off through proactive budget planning periodically could help fill that void as well.

5. **Diversify /Expand HFD's Company Officer Training Program**
    - Interpersonal and personnel management skills, sometimes referred to as "soft skills" are vitally important in the fire and rescue services. A compelling reason is the twenty-four-hour shift schedule that most firefighters work, which stresses the work environment by people living and working so close to one another. Strengthening the company officer's soft skill set is important to the HFD and will provide positive returns for years to come.

    - Traditionally, company officer training is focused heavily on strategy and tactics. Within the Hendersonville system of decentralizing many administrative duties to company officers, it is important that company officers receive training and experience beyond strategy and tactics to include diversity of managing projects, prioritization of work, administrative decision making, goal setting and other related skill sets that are typically associated with Battalion Chief ranks in larger fire departments.

    - A valuable method to provide experience to company officers who provide services beyond typical company officer roles and responsibilities is to mentor with other colleagues in other fire departments in the region and state with similar roles. We recommend that HFD company officers be paired with officers from similar fire departments to learn from their best practices and procedures. This can be as simple as an HFD company officer spending one day or one shift with a mentor working with them in their host city.

    - A core element to officer training essential in today's environment is to emphasize the value of being culturally inclusive and gaining a better understanding of the cultures of all the persons that are served and protected. A special attention and focus with company officers on this level of sensitivity and better understanding will pay long-term dividends for the department and for the City.

6. **HFD should continue to prioritize safety and training programs and strengthen the effort at every available opportunity**
    - The core of many progressive fire departments can be found to be solid training and career development programs. Not only can these programs provide technical proficiency, they can also provide cohesiveness within the department and can unify processes across shifts and stations and personnel.

- Beyond that, training initiatives pull together neighboring fire departments and create a common denominator on which all firefighters can build upon and which the entire fire protection service delivery system can be strengthened for the region.

- Training programs directed by the Fire Chief will bring value for unity between the three operating shifts. Firefighters expressed opportunities for improvement in consistency across the three shifts. Structured, focused training programs, specifically for company officers and those that aspire to be company officers, is the key to that successful transition.

- For the current HFD personnel, attention and emphasis is needed on career development to build and prepare the future leaders of the department at all levels. This career succession includes technical skills, but just as importantly includes interpersonal skills, management skills and leadership skills. Continuing focus in these areas is of particular importance with less experienced personnel and less experienced company officers. As a best practice, this emphasis is sound risk management for the city to embrace.

- Most progressive fire departments also identify safety as their top operational priority and the desire to send all firefighters home safely at the end of their shift. Safety weaves seamlessly with training at every level and in every task.

- HFD should encourage the practice of firefighters moving up into the role of company officers to learn the role and to gain the experience under the watchful eye of the usual company officer. This is regarded as a best practice for many departments to help long-term career development.

7. **HFD should establish and designate a departmental safety and training officer as soon as conditions will allow**
   - Consistency in training across the operating shifts is imperative to the department continuing to progress as well as ensuring that personnel throughout the department are embracing new technologies and research and applying that learning and knowledge in daily responses. Most fire departments of HFD's size have solidly established the value and importance of a singular person in the department to be responsible for core training efforts and programs.

- In addition, all training records would be managed by this singular person, enabling a high level of consistency and ensuring that professional credentials and certifications are current and valid for all the sworn members of the department. This aspect will become particularly important when the department is being evaluated next for their Insurance Services Office (or ISO) rating public protection classification. Approximately 9% of the overall available points are in the training category and much importance is placed not only in properly conducting the training, but properly recording that training. One of the concerns with the current methodology is that several people are involved in the overall training effort and training records. Hence, the level of accountability may be diminished from one singular person being responsible for all training programs as the department's training officer.

- Moreover, this person should also be the department's designated safety officer and perform some important logistical functions for the department. Safety and training are integral to any effective and efficient fire department operation. The safety officer would have a key role in the response to all significant emergency incidents, such as structure fires. However, they would also play a key role in the day-to-day safety role for the department in all aspects of safety such as blood borne pathogens, confined spaces, protective clothing and specialized equipment. Some municipalities extend certain aspects of this type position into overall city government as a city safety officer as well.

8. **HFD should conduct targeted recruitment and harness opportunities with High School fire programs**
   - Recruiting and retaining the best and brightest firefighters possible is critically important for the vitality and sustainability of any progressive fire department. Also, the need to diversify fire departments across our state has never been greater.

   - One of the strongest tools currently available to fire departments in our state is the high school fire programs for recruitment and for targeted recruitment of women and minorities. These programs help educate youth about a career in the fire service and provide experiential learning as well as some college level credits to those that take advantage of those opportunities. Within North Carolina, there are approximately 45 high school programs operating successfully. These high school programs operate under the requirements of the North Carolina Department of Public Instruction in partnership with guidance from the North Carolina Department of Insurance - Office of State Fire Marshal.

- In Henderson County, Balfour Education Center operates a fire program. This would be an excellent opportunity for the HFD to partner with the high school for instruction as well as recruitment.

- In other communities in our state, cities have also found that engaging a student to serve as a recruiter has proven beneficial. The student learns the basics about the department and then serves as a peer recruiter at the school in an ambassador format, working to recruit other students, with special attention to women and minorities. See Appendix "E" for an example of the program that is used by the Asheville Fire Department.

- Another potential method of increasing diversity and recruitment may be to explore a resident program for students in colleges or universities in the area where they would serve as firefighters in exchange for being able to stay in the fire station. An example of such a program from the Pinecroft-Sedgefield Fire Department can be found as Appendix "F".

- HFD currently hires firefighters who come to the department with basic Firefighter I and II certifications as well as Emergency Medical Technician certifications. While this methodology is very cost effective, most communities have found that it does not typically produce a high level of diversity in terms of race and gender. To more aggressively address the need of race and gender diversity, the city would need to consider hiring firefighters without certification and providing their basic training. This decision is a policy decision for the city, because the costs of using this alternative methodology are significantly more. However, city governments who have set employee diversity as a goal have established the need to make that investment in many cases.

9. **<u>HFD should consider piloting an over-hire of firefighters to conduct a cost-benefit analysis</u>**
   - The department currently hires full time personnel only up to the number of allocated full time equivalent (FTE) positions approved within the city budget. Many cities across the state have waived from this practice for fire and police to over-hire personnel when they conduct hiring processes. Generally, this is because hiring is conducted only at annual or bi-annual intervals and the hiring process to become a firefighter is so extensive and so expensive to conduct.

   - The over-hire concept provides a reasonable buffer for new hires that do not complete initial training as well as provides the ability to cover unanticipated service retirements, disability retirements, leaves of absences, and other voids that create significant challenges when striving to establish minimum daily

staffing levels. Hendersonville would need to decide what is a reasonable buffer for over-hire for their situation at the time.

- This recommendation is to pilot an over-hire and evaluate if that decision was cost effective and efficient in comparison to voids that the over-hire was able to fill, part-time costs, and other factors – including, but not limited to – operational enhancements that were produced as a result of the over-hire. Generally, a one-year period would allow Hendersonville to make a reasonable evaluation of this proposed pilot program. Obviously, paying 1.0 hourly rates is less expensive than paying 1.5 hourly rates for overtime.

C. Emergency Communications

Most people calling 9-1-1 in their time of emergency do not distinguish all the components of the emergency communication dispatch process. However, each component is important in the outcomes. "Mrs. Smith" values the time that she dials 9-1-1 until a fire engine arrives at her address with trained/equipped firefighters ready to perform their job. Within that continuum, there are several cascades of time increments - call processing time, dispatch time, turn out time, travel time, and set up time.

Traditionally, much investment is focused into the travel time of the cascade. However, seconds saved in call processing and dispatch are just as valuable as travel time and to Mrs. Smith equal service being delivered. Many service delivery systems have learned through experience that improvements made in emergency communications systems can effectively reduce overall response times often more cost effectively than by other methods. At a minimum, this component should be evaluated closely in assessing any fire protection service delivery system to seek methods of improvement.

Another key component of quick call processing times is firefighter safety. The quicker that firefighters can arrive at structure fires, typically, the less likely there is a chance of flashover, which can deteriorate the stability of the structure significantly and create substantially more damage to the structure that is on fire.

While this peer review team is not comprised of emergency communications specialists, several items were noted by the peer review team in this category that deserve further review and evaluation.

1. **Review is needed to examine the potential for improved response times to citizens by re-evaluating and possibly re-engineering components of the 9-1-1 emergency communications dispatch systems**
    - Henderson County currently operates with one (1) public safety answering point (PSAP), operated by Henderson County Government. From this PSAP, the Henderson County Sheriff, Henderson County EMS and 13 contracting fire departments are dispatched. The City of Hendersonville Police operates a separate communications center (PSAP) with one telecommunicator on duty at all times and a second at peak times.

    - One of the key advantages of this current emergency communications system is interoperability on the fire side. HFD can communicate directly with other fire departments based in Henderson County. However, several

key components typically found in municipal fire and rescue delivery systems are not in place. These include, but are not limited to:

- ✓ The fire ground tactical channel is not recorded
- ✓ Issuing a pre-alert with an address is not standard protocol
- ✓ Station vs. Company dispatch protocol is generally followed
- ✓ Response times for only the first two units checking enroute to incidents is recorded by the communications center; thereby not capturing response times for all HFD units responding to incidents

- o To review and examine the current emergency communication system from a regional perspective, it is recommended that the City of Hendersonville and Henderson County reach out to the Regional Council of Governments (COG) for further review. Options that may need further exploration include, but are not limited to:
  - ✓ leaving the system as is,
  - ✓ moving the HFD dispatch to the Hendersonville Police Department,
  - ✓ an incremental splitting of HFD dispatch to Henderson County EMS and others.

- o An important concern expressed by firefighters was the lack of ability of HFD firefighters to be able to communicate directly to City of Hendersonville Police Officers. Firefighters advise that they are communicating often through cellular phones and other methods. Interoperability should be global with all public safety and not just fire. Attention should be given to this component for remediation as well.

2. <u>HFD should implement an emergency communications user group in conjunction with Henderson County fire service providers</u>

- o Municipal based fire operations and rural based fire operations could be best bridged by constructing a compromised "bridge" system utilizing a user group approach whereas fire users from both the city and county departments would meet periodically with Henderson County leadership to discuss issues and conflicts and strive to develop or construct operational compromises that would reasonably meet the needs of both the City and the County contracting departments.

- o Several North Carolina counties use this model and it has worked effectively. However, there must be buy in from the communication center management and a commitment from all parties to compromise from the onset of the effort.

3. **HFD should work with Henderson County EMS to conduct a quality review of medical calls from a call processing perspective for medical calls occurring within the City of Hendersonville**
    - There is a perception of delays occurring dispatching first responders to medical calls within the City of Hendersonville. A periodic review by the County Medical Director would enable some valuable insight to any abnormalities that may be occurring and could be an avenue to help expedite any possible changes to the emergency communications system, which would help process calls more quickly, thereby help HFD firefighters arrive to the scene of medical emergencies more quickly.

4. **HFD should ensure that they are being dispatched only on life threatening medical emergencies, or situations where EMS is not available**
    - Concern was expressed to the peer review team that there was inconsistency with the type of medical calls that HFD was dispatched to. Most cities utilize the Emergency Medical Dispatch System, whereas only calls with the highest two or three levels necessitate a fire department response.

    - 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.

    - Many communities have determined that medical dispatch protocols better enable 9-1-1 emergency communications centers to consistently send fire based resources to medical emergencies that necessitate medical first responders.

    - There is often a delicate balance of responding to medical emergencies and maintaining resources available for fire emergencies. As a best practice, the medical dispatch protocols generally help communities in maintaining the reliability needed for fire response while responding to medical emergencies where the fire department can provide the most benefit to the person needing immediate medical attention.

    - This end result can best be achieved through review of protocol and collaboration with the 9-1-1 center personnel, as well as other methods suggested in this section of the report.

5. **Conduct a call flow analysis of 9-1-1 calls, with a goal of shaving time off the alarm processing component of total response time**
    - It is recommended that the City of Hendersonville chart and analyze how emergency calls are routed and processed to the HFD to evaluate any potential steps that could be altered or re-engineered to better expedite the time of the 9-1-1 call being received and wheels turning on fire apparatus.

    - As an output measure, a specific goal could be established, such as to reduce the call processing time by 30 seconds, if so desired. Actual performance should be compared to national industry standards as identified by the National Fire Protection Association (NFPA) and others.

    - Confer with 9-1-1 telecommunicators as to what processes could be changed or initiated that would help to expedite fire and medical emergency calls to the HFD. Input from all components of the process would enable a more holistic look at what is happening currently and enable the most meaningful system changes moving forward.

6. **Additional Telecommunicator training would be beneficial**
    - HFD should continue and expand where possible training for telecommunicators so that they better understand the operational needs of the department. Provision of fire and rescue services is very different than law enforcement services in many dynamics. A better operational understanding from telecommunicators about how the fire department operates differently than police would result in smoother operations.

    - In addition, HFD should integrate training for firefighters, with a priority on company officers and above, to spend time with the telecommunicators so that the HFD personnel gain a better understanding of what occurs at the 9-1-1 communications center.

    - Collectively, these measures will provide avenues for better understanding and collaboration between the agencies. Due to the typical high turn-over rates for telecommunicators within the industry, this interaction will need to be ongoing and it is suggested that a systematic method be set up for some set frequency, such as annual or bi-annual review.

7. **Initiate the use of a mobile application for HFD firefighters to immediately and automatically know of call dispatches**
    - Many jurisdictions find that a mobile app helps keep their firefighters informed of calls for service and provides some level of redundancy. These apps are automatic and immediate from the computer aided dispatch (CAD) system and provide information about the call as well as directions, if those features are enabled on a firefighter's mobile phone. One of the most commonly used products in North Carolina for this purpose is "Active 9-1-1". There are others available on the market as well.

8. **Install CAD monitors in HFD fire stations**
    - Many NC jurisdictions have found that installing CAD monitors in the fire stations help firefighters stay abreast of calls occurring throughout the city and enable firefighters to often see calls being built before they are dispatched. To install the monitors is generally a rather low cost in order to help get wheels on fire apparatus turning more quickly and therefore get emergency responders to citizens needing help more quickly.

9. **HFD should explore use of a tablet or MCT device on response apparatus**
    - Receiving detailed data and specific information from the emergency communications center by radio alone can often be less than ideal, especially given the challenging circumstances of noise, weather, and other extremes. Many fire departments have found it a solid and worthwhile investment to install and use tablets or mobile computer terminals (MCTs) in fire apparatus. This equipment allows the firefighters to post routine status information electronically as well as see information in the computer aided dispatch (CAD) system that may not be transmitted by radio. The end result is a more informed firefighter and more informed company officer, who can make more responsible operational and tactical decisions. In addition, there is typically a higher level of accuracy of information on enroute times and arrival times than when given by radio. Generally, the use of tablets and MCTs is found to be cost effective, even with evolving technology.

10. **<u>If operational enhancements cannot be achieved, Hendersonville should evaluate dispatching HFD units by the city from the secondary PSAP</u>**
    - The above recommendations are focused on improving the system that is in place currently with the primary PSAP, albeit several concerns duly noted. However, the importance in consistently immediately dispatching firefighters and fire apparatus in a timely manner is critical to the success of the overall fire protection service delivery system. In the event that performance measures in alignment with national standards, such as NFPA 1221 and others, cannot be achieved in the current system, the City should give further consideration to restructuring their dispatch system.

    - Taking a higher level of responsibility for the dispatch system will require additional telecommunicators to properly manage the workload. In addition, significant consideration will need to be given to the process used to integrate with automatic and mutual aid departments as well as with Henderson County EMS. Redundancy and back-up systems must also be constructed and evaluated. Furthermore, as part of due diligence, an evaluation should be conducted to determine how the City of Hendersonville will rate in the ISO system conducting dispatch differently compared to the current system whereas the dispatches are provided by Henderson County. After all factors are evaluated, the City could make an informed decision about what would be in the best interest to the service delivery and outcomes to the people of Hendersonville.

D. Operations

1. **Investigate the use of traffic signal pre-emption devices on major corridors**
    - Traffic signal pre-emption devices placed on traffic signals near fire stations and located on major transportation corridors can efficiently reduce travel times and reduce the risks to firefighters traveling to emergency calls for service.

    - This program would promote limited intersection crash liability and would be in collaboration with the city's transportation department. Some funding may be available through transportation venues to help initiative traffic pre-emption equipment. An on-going analysis of traffic patterns and emergency response corridors can yield improved response times and safety to both firefighter and the public.

    - Additions of traffic signal pre-emption equipment can be incremental. Some North Carolina cities have large, complete systems and have had them in place for many years. However, other cities are just beginning to install and implement such systems. As an example, the City of Burlington has recently installed their first signal pre-emption equipment and plan to expand that system as funding is available to improve response times and safety on major transportation corridors.

    - Application of this type system would be most beneficial along Four Seasons Boulevard due to traffic congestion, which impedes response times for emergency vehicles. Beyond fire apparatus, the traffic pre-emption equipment can also be added to EMS and law enforcement vehicles. The result is generally considered a safer outcome for both citizens and first responders.

2. **Harness the Use of Retired Personnel for specialty service positions**
    - Under the North Carolina Local Government Employee Retirement System (NCLGERS), a retired employee can work up to a maximum of 1,000 hours in a calendar year for a North Carolina Local Government after they have retired. The Local Government is not required to provide retirement or health care benefits for these persons. Many cities and counties hire retirees to help fill gaps with service delivery and harness the experience that these individuals can bring to the workplace. Local governments can do this very cost effectively and it is often a "win-win" for both the employee and the employer.

- In the fire department setting, it is recommended that utilizing retired part-time firefighters be evaluated for fire inspections, prevention, public education, fire training, emergency management, safety, public information and other non-emergency response work. Beyond firefighters, retired teachers may also be able to serve as public fire educators.

- In some communities, this is an untapped resource that can dramatically improve the effectiveness of the overall fire protection service delivery system at a very low cost, hence an excellent return on investment.

- The department already effectively utilizes approximately fifteen (15) part-time personnel for supplementing the career firefighters to meet minimum daily staffing needs. That methodology should be re-evaluated periodically to ensure that it is still the most cost effective approach as opposed to adding full time equivalent (FTE) positions. This specific recommendation is generally focused on specialty type functions and not minimum staffing firefighter positions.

3. <u>HFD should place a lower priority on implementing quick response vehicles</u>

- Some cities do effectively utilize quick response vehicles within their overall fleet system. There are advantages to these units in accessing some area of difficult terrain and in some cases, improving response times.

- However, data will also support that there is little financial savings in operating quick response vehicles rather than fire apparatus. Operationally, there is a large disadvantage in separating crews of personnel. If quick response vehicles are implemented, they should be implemented to enhance services and not to reduce costs, because data does not support sustained costs savings and there are operational downfalls.

- In Hendersonville's current situation, the priority of addressing ladder company staffing, full complement engine company minimum staffing and the consideration of a rescue company to supplement city services and provide automatic aid services would, in the peer review team's perspective, hold a much higher priority in improving and strengthening the overall fire protection service delivery system than implementing quick response vehicles now. It is a viable option for future consideration; however, not suggested as a priority now.

- Hendersonville's high volume of calls for this size delivery system is placing an unusually heavy workload on the City's fire apparatus. While most front line apparatus in larger cities will have a 10-12 year life span, the sustainability or life expectancy of a front line fire apparatus in Hendersonville may be shorter due to the high volume workload.

4. <u>Work is needed on the HFD firefighter total compensation package</u>

- Firefighters are particularly concerned about the growing cost of health care and the cost of providing health care for their families under the City's current benefit plans. This was identified as a top issue with employees within the department, connected to a competitive market based pay study. Firefighters expressed their fears of the cost of $884 per month from their checks that is going to health care for them and their families.

- There is concern that Hendersonville has become a training ground for other departments due to the overall compensation (including health care insurance benefits). The Regional Council of Governments (COG) may be able to assist with a more comprehensive compensation study and provide some valuable resources to the City of Hendersonville. Locally, Hendersonville firefighters are most likely to make comparisons to Henderson County Government benefits and those in Asheville/Buncombe County, as a starting point.

- In addition, there has been a loss of holiday pay and benefits in recent years and the pain of that loss is continuing to have an adverse impact on the department. A re-evaluation of this situation should occur as soon as conditions will allow. Firefighters typically work 212 hours in a 28-day period as opposed to most city employees which work 160 hours in that same 28-day period. This is enabled by the FLSA. However, that enabler also provides an opportunity to give special consideration for some pay incentives such as holiday pay.

- Some examples that other cities take relative to holiday pay are:
  - ✓ Morrisville – 12 hours of additional pay on the holiday itself
  - ✓ Greensboro – ½ time additional pay on the holiday for non-exempt personnel, Flat $200 per holiday for FLSA exempt personnel

- Although state statutes only require cities and counties to contribute 5% 401(k) to sworn law enforcement officers, many cities and counties have extended that benefit to firefighters as well, at least on a matching basis.

5. **Continue forward with Fire and Life Safety Education efforts, including a civilian Fire and Life Safety Educator**
    - The department has made effective long-term commitments to fire and life safety education and injury prevention. This component is a very effective and critically important part of the overall fire protection service delivery system. Everyone benefits when fires and injuries are prevented in the first place and the general public is more educated about safety and prevention.

    - Key target groups such as young, old and at risk populations are essential to reach on a continual and re-occurring basis. It is the understanding of the peer review team that the HFD is working to establish a full-time fire and life safety educator civilian position. The team fully supports this endeavor and this model has been effectively embraced by many North Carolina cities, including but not limited to Shelby, Gastonia, Wilson, Boone, Wilmington, Rocky Mount, Kannapolis, Leland, Cary, Greenville, Durham.

    - This is a very positive contribution from the City to the people of Hendersonville and will improve the quality of life in Hendersonville. In addition, work performed by this specialist, located within the HFD will positively credit towards the City's insurance rating (ISO) evaluation in the community risk reduction category. The insurance industry has recognized the great value that civilian fire and life safety educators bring to communities and rewards that excellent work with additional points on the overall community public protection classification rating.

6. **HFD should consistently reinforce core services**
    - Fire and Rescue services have properly emerged and evolved as all hazard mitigation, emergency management agencies. This natural progression has served the people that firefighters are sworn to protect well and has been mutually beneficial to most communities. The challenge in expanding the scope of public safety services in today's environment where there are fewer occurrences of active, working structure fires yet more dangerous and volatile fires is that firefighters can become less proficient in mitigating fires, especially in high risk – low frequency fires.

    - Firefighters expressed that a healthier balance could exist for the department in being a service provider and being integrally involved in community activities. An evaluation of call volume staffing, needs, demands, and challenges will need to occur and frequently be re-visited to ensure that the balance is an appropriate one for the mission of the department.

- As the HFD moves forward, a constant emphasis or focus on the core mission of being the city's sole provider of comprehensive fire protection and rescue services, then supporting the county EMS system, then supporting regional response systems such as hazardous materials and search and rescue services will serve the department well.

- This prioritization tier will also enable the men and women of the department, especially the company officers to make stronger decisions in the field regarding the use and deployment of the resources available to them on a daily basis.

- Tightening scope is often difficult for leaders to do and moreover often difficult for administrators and elected officials to embrace. However, some of the most effective fire service leaders are those that keep a strong and steady focus on their primary mission and vision and often need to say "no" to requests that come along to keep their personnel operationally ready and mission focused. This department is obviously very community oriented. It is a strength and in no way does this peer review team recommend changing that level of involvement. However, with a growing level of competing interests and demands, the department should consistently reinforce and prioritize core services.

- Many municipalities have found that engaging the professional services of an outside entity to review their safety procedures and serve as a constructive yet critical review of operations is very beneficial, especially to the fire department. This overall safety audit and consult goes well beyond the fire department itself and usually extends into the entire city government operation including utilities, water treatment and other municipal functions. Some similar sized municipalities that report the effectiveness and efficiency of a third- party private safety consultant are Mebane, Graham, Elon and others. Providing fire and rescue services is inherently dangerous and firefighters are sent into immediately dangerous to life and health environments. Safety of the firefighters is an essential core internal service that needs attention and priority in any organization, regardless of size or scope.

7. **<u>HFD should pursue becoming an accredited agency</u>**
   - The country's most progressive communities embrace the accreditation continuous improvement process. The process ensures taxpayers that they are receiving the services that they are paying for and adds a third party

method of accountability. Just as it is important for hospitals, educational institutions and law enforcement agencies to have this external review, it is also important for fire departments to pursue this professional endeavor.

- A general overview outline of the fire department accreditation process can be found as Appendix "L" of this report. Near Hendersonville, Asheville, Shelby and Gastonia have achieved this level of performance. In North Carolina, more than twenty cities are accredited agencies and more than 200 nationally.

- For Hendersonville, the priorities outlined in this report deserve first attention. In order to pursue accreditation, the department must meet all core competencies as outlined by the Commission on Fire Accreditation. The peer review team was impressed that the City of Hendersonville is well on its way to achieving many of the core competencies, including aspects of this report such as strategic planning, community feedback, third party review and the overall commitment of continuous improvement.

- However, another essential element of the accreditation process is that the department's level of service delivered to the people that they are charged to protect must be "credible" in comparison to similar size communities. As is outlined in Appendix "I", the City should identify the level of service and strive to deliver that service on a consistent basis. This performance measurement must demonstrate that the City and the fire department are achieving the desired and stated level of service. This includes deploying enough firefighters on structure fires in the city for all types of fires and emergencies in an acceptable time frame.

- Though accreditation may be some distance out for the City of Hendersonville Fire Department, the strong commitment to continuous improvement along with enhanced resources in the years to come will enable the HFD to achieve this tremendous goal for the community that they serve and protect.

APPENDIX A – FIRE SERVICE PEER REVIEW TEAM MEMBERS & FACETS STAFF

DAVE COKER

Dave Coker began his fire service career in 2005 with the City of Greensboro Fire Department where he currently holds the rank of Captain. In his career, he has served as a member of the North Carolina Task Force 6 and holds several technical rescue discipline certifications including swift water, structural collapse, and FEMA communications specialist.

Captain Coker serves as President of the Professional Fire Fighters of Greensboro- IAFF Local 947, is a Partnership Education Program (PEP) Instructor as well as a and District Field Service Representative for the International Association of Fire Fighters.

Captain Coker currently resides in Greensboro with his wife and is active in lobbying for occupational cancer protections for North Carolina's Firefighters.

REUBEN FITZGERALD

Reuben "Bo" Fitzgerald began his fire service career 21 years ago while a freshman at Davidson College. Shortly after graduating, he was hired by the Charlotte Fire Department (CFD) , where he has served since. During his tenure with the CFD, Fitzgerald has served in numerous roles, including nearly 4 years as a Training Captain. While assigned to the Training Academy, he managed the Charlotte Fire Department's Company and Chief Officer Development programs. Fitzgerald has many years of experience in the "Uptown" Charlotte area, and currently serves as a Captain at Fire Station 5, located just west of Charlotte's high rise district in the Wesley Heights Community.

In addition to his full-time career, Fitzgerald has continued his service with the Town of Davidson, which is located just north of Charlotte in Mecklenburg County. In 2015, he became the first town-appointed Fire Chief, and currently manages a rapidly growing department that employs nearly 60 part-time firefighters, along with 16 volunteers. Fitzgerald holds a Bachelor of Arts degree from Davidson College and a Master's Degree in Public Administration from UNC-Charlotte. He is a certified Fire Officer IV, and currently serves as an assessor for the North Carolina Fire Officer IV program.

DANIEL L. JONES

Dan Jones entered the fire service in February 1974 and rose through the ranks to retire as a Fire Chief in 2015. Jones served for over 16 years in the Pinellas Park, Florida Fire Department before relocating to Chapel Hill, North Carolina in 1990 to become Fire Chief. Jones now works under his own company, "Chief Dan Leadership, LLC" doing consulting and instruction.

Chief Jones has served on a variety of committees, councils and boards at the local, state and national levels. Jones is the former Editor-in-Chief of National Fire & Rescue Magazine and is a Past-President for the International Society of Fire Service Instructors. He is a special on-air commentator for CNN Headline News Network on breaking fire and rescue stories. He is a frequent emergency services conference speaker. He is a guest lecturer at the University of North Carolina and has taught or presented in thirty-one states, Canada, England, Germany, Botswana and Scotland. Jones is the recipient of numerous awards including Florida Fire Instructor of the Year, IAFC Presidents Award, National Fire Sprinkler Person of the Year and North Carolina's highest civilian honor, The Order of the Log Leaf Pine.

Chief Jones attended St. Petersburg College, Alamance Community College, the National Fire Academy, the National Staff & Command program at the University of Maryland, and the Institute of Government at the University of North Carolina. Jones has held up to twelve emergency services technical certifications. He currently resides in Chapel Hill with his wife of 40 years in a home they built with fire sprinklers.

SUSANNA WILLIAMS

Susanna Schmitt Williams has 18 years' experience in the fire service, serving as fire chief for Carrboro Fire-Rescue since August 2015. In her career, she has served as firefighter, master firefighter, firefighter/driver, administrative captain, volunteer program coordinator, and Division Chief of Training. She has a variety of experiences having worked at career and combination departments from the Triangle to the coast.

Chief Williams holds several academic degrees including Bachelor of Arts, Bachelor of Science in Education, and a Master of Public Administration. She is finishing up her final year in the National Fire Academy Executive Fire Officer Program. Chief Williams is a graduate of the International Association of Fire Chiefs Fire Service Executive Development Institute (cohort 2) and a member of the IAFC Human Relations Committee. She has presented at the IAFC annual conference, Fire Rescue International, as a facilitator for the Chiefs Edge program. Chief Williams holds many fire service certifications and is currently on the advisory committee for Durham Tech and Alamance Community Colleges. She serves as co-chair for the North Carolina Accreditation Support Consortium and is a founding coordinator for the NC FireHouse Software Annual Conference.

TODD WRIGHT

Todd Wright started his public service as Volunteer Firefighter 1984. Todd was a career firefighter for 29 years of which he served as the Town of Morrisville Fire/Rescue Department Fire Chief for eleven years. He led the Fire Department through international fire service accreditation in 2011. Todd was promoted to Assistant Town Manger in July 2016.

Todd received an Associate degree in Fire Protection Technology from Durham Technical Community College, Durham NC; his Bachelor of Arts degree in Public Administration from Shaw University, Raleigh NC; his Master of Science degree in Executive Fire Leadership from Grand Canyon University, Phoenix AZ. Todd completed the North Carolina Fire Executive Leadership Development program in 2005, completed the Municipal Administration course from the Institute of Government, Chapel Hill NC in 2008, completed the National Fire Academy Executive Officer Program, Emmitsburg MD in 2008, received his Chief Fire Officer designation from the Center of Public Safety Excellence, Chantilly, VA in 2013 and completed the Public Executive Leadership Academy from the Institute of Government, Chapel Hill NC in 2015.

Todd lives in North Raleigh with his wife Renee. They have three sons, two daughters and two dogs.

BRIAN PAHLE

Brian Pahle works for the City of Hendersonville and serves as the Assistant to City Manager/Budget & Evaluation Director. He has been with the City for close to three years. His primary duties include budget formulation and execution, policy analysis and program evaluation, project management, and representing/serving as the City Manager in his/her absence. Brian also serves on various boards and committees within the City.
Brian Pahle received his Master of Public Administration degree from Appalachian State University in 2014 and his Bachelor of Science in Political Science in 2012. He has completed the North Carolina Local Government Budget Association's course and testing requirements to be considered as a Certified Budget and Evaluation Officer in North Carolina and will be recognized next summer. He is a member of and is active in the Appalachian State University Local Government Alumni Association (ASULGAA), the North Carolina Local Government Budget Association (NCLGBA), and the North Carolina City & County Management Association (NCCCMA).

FACETS – PROJECT MANAGEMENT – KEVIN ROCHE

Kevin Roche is a FACETS partner that recently retired as Assistant to the Fire Chief for the Phoenix Fire Department in Arizona. Kevin has over 30 years of fire service management and consulting experience. Kevin serves as the primary FACETS project contact for this project. Kevin has experience as a leader and member of multiple management consulting projects in large and small fire departments. During his career in Phoenix, Kevin managed the fire department's planning, fire prevention, and logistics operations.

This experience, coupled with his formal education in fire protection technology has allowed Kevin to be a nationally recognized authority in fire service administration, operations and planning. He is nationally known for his expertise in fire service deployment and firefighter health and safety standards development and related initiatives.

FACETS LEAD ASSOCIATE – GREGORY H. GRAYSON

Greg Grayson has more than 34 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.

Chief Grayson is boldly focused on continuous improvement in direct service delivery and is very outcome oriented. His unique, diverse combination of extensive county, municipal and state government experience, solid background of education, training and professional credentials coupled with his long-term demonstrated work performance and professionalism have earned him recognition throughout the state and across the nation as a subject matter expert in the fire and rescue industry.

APPENDIX B – BUSINESS AND COMMUNITY FEEDBACK

HENDERSONVILLE BUSINESS FEEDBACK SUMMARY
July 27, 2016

RANKINGS - 13 respondents

Fire Suppression
- High = 100%

EMS
- High = 100%

Rescue - Basic and Technical
- High = 86%
- Medium = 14%

Hazardous Materials
- High = 71%
- Medium = 29%

Domestic Preparedness
- High = 71%
- Medium = 29%

FIre Prevention
- High = 64%
- Medium = 36%

Public Fire Education
- High = 64%
- Medium = 29%
- Low = 7%

Fire Investigation
- High = 57%
- Medium = 43%

EXPECTATIONS

- Contain fires
- Assist medical emergencies
- Put out fires promptly
- Protect human life that is in immediate danger
- Protect property that is in imminent danger of significant damage
- Minimize the possibilities of emergencies by using training and inspections
- Put out a fire with no loss of life
- Keep chance of fire low
- All of the services identified
- Quick response times
- State of the art equipment and technology
- Effective inspection and prevention procedures
- Regular, current training for personnel

- Fiscal responsibility and efficient operations
- Response to emergency calls (Fire and EMS)
- Community public education
- Fire Department exposure - special events to educate the community on who HFD is and their services
- Customer Service - a point of contact who is available during business hours to help customers, such as an administrative assistant
- Health and wellness of firefighters - preventing firefighter deaths through focused training and lifestyle initiatives
- Prompt response, city-wide 24x7
- Life -saving equipment available 24x7
- Training of life saving medical techniques, even if overlapping with EMS
- A professional, well-trained force to respond to emergencies
- Timely response
- Prevention and education activities
- Respond quickly to any emergency
- Well trained firefighters
- Dependable
- Fire suppression
- Emergency Medical Services
- Fire Prevention
- Public Fire and Life Safety Education
- Rescue - Basic and Technical
- Competent Fire Department to respond to emergencies
- Fiscal management to ensure "value"
- Appropriate planning to anticipate growth
- Mass casualty/terrorism preparedness
- Response time
- Education
- Fire Prevention
- Community Outreach and Education
- Fire Suppression
- Preservation of life
- Preservation of health
- Fire Suppression and Fire Prevention
- Cost conscious
- Education and Outreach

STRENGTHS

- I think you are doing a great job
- My personal experience with the fire department is that their service was prompt and professional
- I feel good about our fire department
- Strong partnerships

- Response times
- Professionalism from all the staff that we have encountered
- I do appreciate the attention to prevention programs for Hendersonville's aging buildings
- Customer service excellence - personnel are very professional when dealing with the public, whether on a call or not
- Training and standards improvements for positions within the fire department
- Over the past six years, there has been a great improvement in the leadership and direction throughout the department as well as the support of the City Council and the City Manager
- My elderly mother received wonderful and fast service from the fire department when needed - thank you!
- I feel that the department provides excellent service to citizens
- Professionalism on the fire ground and in EMS operations
- Routine interactions with the public
- Interactions with volunteer fire departments around the City of Hendersonville
- Working relationship with county EMS and rescue squads
- Training opportunities for all members locally, state-wide and nationally
- Impressed with the professionalism and leadership
- Engaged and visible- highly regarded
- Voice of experts - our staff should be heavily weighted in future planning
- Responsiveness
- Passion for the citizens
- Conscious of cost to do business
- Professional disposition
- This study is appreciated and important

CONCERNS

- Additional fire inspections fees being passed onto businesses
- As technology for this field improves, are we able to buy it on a timelier basis?
- Bureaucracy and regulation tends to go overboard - will inspections and associated fees be common sensed?
- EMS Overlap with fire department - public needs to understand
- Reducing the number of calls/responses to one business
- Want to know if educating our business staff could reduce the number of responses
- My only interaction with the fire department has been with the downtown inspections program. While I FULLY support this process, I find it difficult to relate to. Specifically, the report form provides no info on the follow up process (for violations) - NO phone number, and ONLY email addresses for the Inspector - sometimes incorrect and never responded to.
- Dispatch procedures need to be looked at - there are a small/medium amount of EMS calls that the fire department gets dispatched on that they have no need to be on. These calls take crews away from more important calls and may delay response to fires, collisions, etc.
- New fee for business inspections is a burden on top of city and county taxes, which should cover inspections - must be stopped as county did promptly
- While I support adequate resources for the department, I think the impact on costs of taxpayers must be weighed because Hendersonville has a significant tax burden

- How quickly the department can respond
- Increase staffing levels on apparatus
- Need new fire station on South end of town
- Lack of noise protection on apparatus - communications system
- Better public education on fire department operations and why some policies are in effect
- Combined cost of city and county emergency services - is it efficient and cost effective - is being delivered with the greatest value?
- Question whether city codes and regulations fully support fire prevention and safety on Main Street
- Staffing
- Education
- Lack of staffing
- Appropriate number of staff and equipment levels
- Cost
- Continuity with County EMS and 911 Center
- Do we need separate dispatch from County 911 Center?
- Fire Rating

GENERAL COMMENTS

- Trying to lower the ISO rating to benefit the community and potentially lowering insurance rates - how can we get to an ISO Class 1 or 2?
- Interesting and informative presentation - thank you!
- I feel that all the fire departments in the county need to be under one control!
- I feel good about the future training that the department has planned
- This is a good process
- I have a problem with additional fees for fire inspections
- Plan for potential student housing on Pardee Campus
- The HFD are a great bunch of folks who have great passion for what they do.
- The responsiveness of the department is very good and the citizens are well served by the department.

APPENDIX C – HFD EMPLOYEE SWOT ANALYSIS

HENDERSONVILLE SWOT ANALYSIS SUMMARY
July 13, 2106

COMPONENT
As a part of a department peer review to enable the Hendersonville Fire Department to construct a viable strategic plan, the NC Office of State Fire Marshal was asked to facilitate a feedback session with employees of the Hendersonville Fire Department (HFD) focused on organizational strengths, weaknesses, opportunities and threats, or SWOT analysis. Eleven (11) members of the HFD were selected by the Fire Chief to be the voice of all the members of the department with representation from all shifts and stations.

Members of this group were contacted beforehand to let them know what to expect during the feedback session and to solicit feedback from their colleagues. Eight (8) members attended the first session which was held without department administration present and was conducted in an informal environment at the Headquarters Station. This session lasted for approximately two hours. Some members of the group were called away on emergency calls during the session, but all the group members were offered the opportunity to provide additional feedback electronically afterwards.

Separately, three company officers assembled to review the listing from the initial group and offer their feedback and audits. This two-hour session produced some minor tweaks to the original listing.

OVERALL OBSERVATIONS
The HFD members participating in this feedback session were very positive, engaged and invested in the betterment of their fire department. Rather than use this format as an opportunity to voice negativity, the group harnessed the opportunity to make proactive suggestions for enhancement. The group very much grasped why they were employed - to serve people. There was strong support for the Fire Chief demonstrated with enthusiasm over innovations that he will bring to the department, including this strategic planning process. Impressively, there was also strong support for the City Manager and City Council for their demonstrated level of support and commitment.

From this session, several resounding issues emerged as needing immediate attention and review including minimum staffing, pay and compensation inequities, the County 9-1-1 Center service levels and funding for personnel to attend outside training sessions.

There was good camaraderie among the group and behavior evidenced a good working relationship between the firefighters present. The overall tone and feel from the group was very encouraging about the bright future of the City of Hendersonville and the Hendersonville Fire Department.

Below are the general feedback points from the participants as well as a brief summary of responses under each category.

STRENGTHS

Personnel, Services, Customer Focus, Organizational Support, Progressiveness

- Professionalism - delivering service above and beyond what is expected
- High quality of career personnel
- Wide variety of background and experience
- Young department
- Full services - salvage, overhaul, damage control
- Providing really good customer service
- Only career department in the County
- Ability to handle a high call volume
- Backed by department admin and City when firefighters do what they truly believe is right for citizens
- Supported by City Manager and Council funding and facilities
- City Manager demonstrated a strong commitment through his ride along with fire
- Overall, strong benefits package to help attract and retain personnel - NCLGERS
- Openness to additional training is well supported, including outside opportunities
- Progressive Fire Chief - willing to think and act "outside the box"

WEAKNESSES

Equitable Pay and Total Compensation, Funding and Flexibility to Better Support Training, Alarm Processing Times at Communications, Emergency Communications medical dispatch, Evaluation, Improved SOPS to help consistency and unity

- Need for competitive market based pay study
- Need for a clear career advancement ladder
- Need to formally recognize personnel in significant relief/fill in roles
- Attention is needed in the Lieutenant position
- Concern over the adverse organizational impact on the loss of holiday pay and benefits from about 4 years ago
- Family benefits are very costly and difficult, especially in comparison with Henderson County career counterparts/colleagues - creating challenges with recruitment, retention and morale
- Immediate attention is needed to address funding to support training
- Some personnel are attending outside training on their own time and expense
- Daily workload and limited daily staffing creates significant challenges to conduct meaningful on duty "hoses off" hands-on training
- Because the HFD is a comparatively young department, the need for hands on training is high
- Significant concern was expressed about the 9-1-1 call center demonstrated performance related to call processing times. Delays at this point of the emergency response cascade result in additional loss as well as more dangerous conditions for firefighters
- Perceived difference in prioritization of HFD calls at the Communications Center
- Communications often sends the department on alpha type calls and at best is inconsistent in the dispatch protocol based upon who is working
- In order for fire personnel to communicate with police, they do so through cell phones

- All fire departments in the county do not collaborate as much as they could, especially in administrative matters
- Joint use of the Headquarters training room is often challenging to accommodate the variety of groups that use it on a daily basis
- Need for improved annual evaluations and improved performance review processes
- Need for increased consistency among the three operating shifts
- Need to revisit and review the department standard operating procedures
- Balancing the need to sometimes say "NO" to some non-emergency situations because the members of the organization are not able to operate at full throttle all of the time given the call volume of emergency calls that the department is responsible for managing
- Need to transition personnel through career development

OPPORTUNITIES

Community and department growth, Stronger alliance with partners at EMS and Sheriff Communication, Improved Training and Enhanced benefits to be the very best

- Potential growth for the community in coming years, both residential and commercial
- Growth potential for the department
- Stabilize management and leadership for the department
- Working through some of the growing pains from recent years with leadership changes
- Need for a third station on the southern end of the City
- County EMS seems to be under-resourced to meet the call demand
- Better coordination and service with the County dispatch center under command of the Sheriff
- To be the best - both within Henderson County and regionally for our size community
- Need for strong and consistent leadership from the new Deputy Chief
- Need for training to increase through a regional training center in Henderson County and/or more use of the Buncombe facility
- Improved compensation and benefits to attract and retain the best, including pay/class as well as benefits such as family coverage and holiday pay
- Seizing the opportunity with the Fire Marshal
- Seizing the opportunity with customer service
- Developing people to prepare for promotion because rapid growth has not provided internal promotional opportunities

THREATS

Staffing levels, Benefit issues harming recruitment and retention, QRV use, Downtown fire risk, Balancing community service and emergency services

- Although service demand has steadily and robustly increased, staffing has not stayed in alignment - fewer firefighters on duty today than in 1990s
- This mis-alignment presents service delivery and serious firefighter safety concerns
- Population served continues to grow in demographics of people who will have a high need for public safety services

- Lack of appropriate considerations for firefighters working the FLSA 7(k) schedule of 212 hours in a 28- day period as opposed to most other city employees working 40-hour work weeks - need to revisit recently modified city policies, such as holiday, for equity
- Concern that the perceived (not actual) savings from a quick response vehicle (QRV) will outweigh firefighter safety and fire service delivery needs and issues
- High fire conflagration risks downtown; escalating the importance of prevention elements, pre-plan, staffing and response resources
- Public understanding of departmental services and fire risks
- Consistently keeping a healthy balance between community service and the core emergency service delivery demands
- Saying “NO” to requests when the balance is reasonable

APPENDIX D – LENOIR CAREER DEVELOPMENT PLAN MODEL

Purpose: To recognize the importance of higher education, the City of Lenoir Fire Department will pay an incentive to members in the public safety pay plan. Upon completion of certification courses listed below, members of the department shall receive incentives from the career development incentive plan.

Procedures: Incentives will be awarded on basis of completed courses, certificate verification, and member's eligibility determined by years of service. Employees can obtain the certifications in any order but obtaining raises for the certifications will be done in order.

- At the end of six months of employment (probation period end), upon completion of NC Firefighter – pay raise according and set by the City of Lenoir Pay Plan for this position, which is Grade 18.
- At the end of two years of employment, upon completion of Rescue Technician – pay incentive set at 2% of current salary
- At the end of three years of employment, upon completion of Driver/Operator Pumps – pay incentive set at 2% of current salary
- At the end of four years of employment, upon completion of Fire & Life Safety Educator – pay incentive set at 2% of current salary
- At the end of five years of employment, upon completion of Fire Instructor or Fire Inspector – pay incentive set at 2% of current salary
- At the end of six years of employment, upon completion of Fire Officer I – pay incentive set at 2% of current salary
- At the end of seven years of employment, upon completion of Fire/Arson Investigator, - pay incentive set at 2% of current salary (must maintain certification)

College Degrees: After employees surpass probation period and completion of NC Firefighter, they will receive incentives for college degrees earned. College degree incentives will be distributed at the time of degree completion. However, the City of Lenoir will only give one incentive raise a year per employee, which means if you are seeking college degree incentives, your years for certification career development will be pushed back accordingly.

- Upon completion of a 2-year degree, pay incentive set at 2% of current salary
- Upon completion of a 4-year degree, pay incentive set at 2% of current salary
- Upon completion of a 6-year degree, pay incentive set at 2% of current salary

Note: Career Development Incentive Plan is separate from and in addition to the City of Lenoir COLA raise that may/may not occur annually

APPENDIX E – ASHEVILLE STUDENT MENTOR EXAMPLE

CAYLA 2016 WORKPLAN

I. General Responsibilities

Asheville Fire Department's intent is to introduce the CAYLA student to each function in AFD's organization.

- ✓ The CAYLA student will be assigned a day to shadow each of AFD's departments. The student will be assigned a task associated with that particular division.
- ✓ Student will ride along with engine companies, safety officers, chief officers and fire marshals.
- ✓ Review and update shift assignments.
- ✓ Filing documents from fire marshal's office.
- ✓ Fire Code/ Prevention projects.

II. New Skills and Competencies

- ✓ The student will learn about firefighting, patient care, code enforcement and fire prevention skills, along with administrative organizational and communication skills.
- ✓ Student will be exposed to the stress and challenges that firefighter's face daily.
- ✓ Student will become an ambassador for AFD and will prepare and present a program to peers.

III. Agency Understanding

The CAYLA student will have the opportunity to interact with AFD personnel from every level of the organization, from entry-level firefighters to seasoned veterans and Chief Officers.

Supervisor Contact Information:
Kelley Klope
Public Information Officer
Asheville Fire Department
828-251-4011 office
kklope@ashevillenc.gov

APENDIX F – FIRE STATION RESIDENT PROGRAM EXAMPLE PINECROFT –SEDGEFIELD

Resident Rules & Regulations

Needs:

In the interest of public safety and an effort to reduce response times to emergency incidents, PSFD will provide adequate facilities for resident purposes at no cost to the member. In return for the use of the facilities, resident firefighters will provide services to the fire department as described below.

PSFD Resident Rooms by Station:

Station 22 – 1 Residents Rooms
Station 23 – 0 Resident Rooms
Station 24 – 3 Full-Time Resident Rooms / 1 Shift Resident Bunk Room
Station 25 – 3 Full-Time Resident Rooms / 1 Shift Resident Bunk Room
Station 46 – 2 Resident Rooms

Duty:

In addition to responding to incidents, residents should be available to write burning permits, give traffic directions, check blood pressures and provide the public with general assistance. All routine duties such as cleaning of the station and checking the trucks shall be done while on duty.

Visitors are not allowed in the resident quarters between the times of 2200 and 0700. Doors will remain open in resident quarters while visitors are present.

Parking of personal vehicles shall be in designated parking areas only.

Residents shall wear proper dress when outside of quarters.

Residents shall give the immediate supervisor a two-week notice before they terminate their residency. Rooms shall be cleaned and all personal belongings removed upon your termination date.

Full time Residents will notify the immediate supervisor when they are going to be gone on weekends and vacation or when they are going to be gone for over a week at a time.

All residents should respond to all critical calls that could be demanding on man power. (Structure fires, Fire Alarms, MVA with pin in etc...)

Residents are encouraged to assist in outside functions when possible. (Training with other departments, Hot Dog & BBQ sales etc.…)

Residents should follow the assigned riding assignments when one is in place.

Types of Residents:

Full time Resident- This resident lives at the fire station just like an apartment and has His/her own room. Resident is required to pull a Minimum of 40 hrs. Per week at the Fire station. Residents are required to help staff stations on days when career staffing is short because of sickness, classes or any other occasion when manning is impacted. While filling in for career staff the resident shall be up by 0730 and dressed properly to respond on calls and perform daily duties

Shift Resident- This resident type is assigned to a shift (A, B or C). It is the resident's responsibility to be at the Fire station on his/hers assigned shift just like the paid staff, Resident shift are from 1800-0700. If for any reason the resident cannot be at the fire station on the assigned shift it is the resident's responsibility to make sure the shift is cover by another resident. Swapping of shifts between residents is allowed, if approved in advance.

Fire/Medical Certifications:

Resident should have completed classes for 1403 Live Fire including Fire Control unless an exception is made by the Fire Chief.
Shall be PSFD probationary driving status certified within 4 months of Residency.
Medical responder or EMT is beneficial but not required.

Training Requirements:

Resident shall successfully complete the department's entry level training within 2 month.
Resident shall attend a minimum of 36 hours of **PSFD** Fire training per year.
Resident shall attend the annual Infections Control class.
Resident shall participate in training at their assigned station when on duty.

Duty Sheets:

Duty sheets shall be completely filled out monthly.
These sheets are to be turned in by the 3rd working day of each month.

Living Quarters:

Living Quarters are subject to inspection by station supervisors.
Shall be kept clean and neat at all times.

Any potentially offensive materials shall be kept in closet areas and out of sight.
Any alterations or modifications of the resident quarters need prior approval by the Chief.

Extra keys to each resident room will be kept in the Chiefs office.

BENEFITS FOR MEMBERS

1. Life Insurance, Accident Insurance, Workers Compensation.
2. Retirement plan through the NC Firefighters and Rescue Squad Pension Fund
3. Hepatitis B vaccinations (should they be needed)
4. Free annual physical after 1 year of service

Failure to follow the above rules & regulations will result in disciplinary actions that also may include the loss of resident status.

All residents will be given a copy of these Policies and Rules and are required to read them carefully and sign the acknowledgement.

Resident Name (Printed)	Resident Signature	Date

Chief's Name (Printed)	Chiefs Signature	Date

APPENDIX G –1710 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 14 members (15 if aerial device is used)

The initial full alarm assignment to a structure fire in a typical 2000 ft^2 (186 m^2), 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 ft^2 to 196,000 ft^2 (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 fie 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.

NOTE: Even though fireground 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, S*tandard 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.

APPENDIX H – CRITICAL TASK ANALYSIS

EXECUTIVE SUMMARY OF THE ASHEVILLE REPORT ON RAPID INTERVENTION OPERATIONS

Note – this is only the executive summary of a more comprehensive 95 page report.

Executive Summary

To ensure credible data for Rapid Intervention Operations, and to identify best practices for Rapid Intervention Team (RIT) staffing, training, and deployment, the Asheville Fire Department conducted a Critical Task Analysis for Rapid Intervention Operations. This was performed by measuring 16 fire companies across three shifts with an overall participation of 48 companies and 196 active participants. The conclusions from the compiled data resulted in two key findings. Those two key findings are:

- **The crucial need for staffing**
- **The significance of training**

The data significantly demonstrated that technician level training is essential, along with proper staffing, in order to successfully mitigate a complex RIT deployment. Five Critical Tasks were evaluated for each scenario: Locate, Extricate, Air, Package, and Removal. The cumulative average completion time from mayday called to removal of a viable firefighter for the analysis was 37:40. The internal findings are described in detail within the report.

It has been determined by this analysis that an average of 15 firefighters, 4 from a RIT Company trained to technician level, are needed to remove a single compromised firefighter from a complex rapid intervention situation.

It has also been determined that a technician level trained RIT Company is able to deploy, locate, extricate, provide supplemental air, package and remove a compromised firefighter much quicker than an operations level trained or untrained rescuer and that a technician level trained RIT Company declares less personal emergencies during a rescue. Any reduction in staffing or of properly trained RIT personnel shows dramatic reduction in performance. A RIT Company must be personally familiar with their equipment and proficient in utilization of that equipment. This can only be accomplished through technician level training and proper staffing of all RIT Companies.

The Asheville Fire Department has determined that RIT is an essential program for their department. To support this program based on the RIT Operations Analysis, AFD is committed to sending a RIT Company to every dispatched fire. Once a structure fire is confirmed, an additional two engines and one ladder company is also dispatched to perform as a RIT Group, ensuring the full staff of 15 personnel are on scene to successfully rescue a possible compromised firefighter.

APPENDIX I - CITY 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

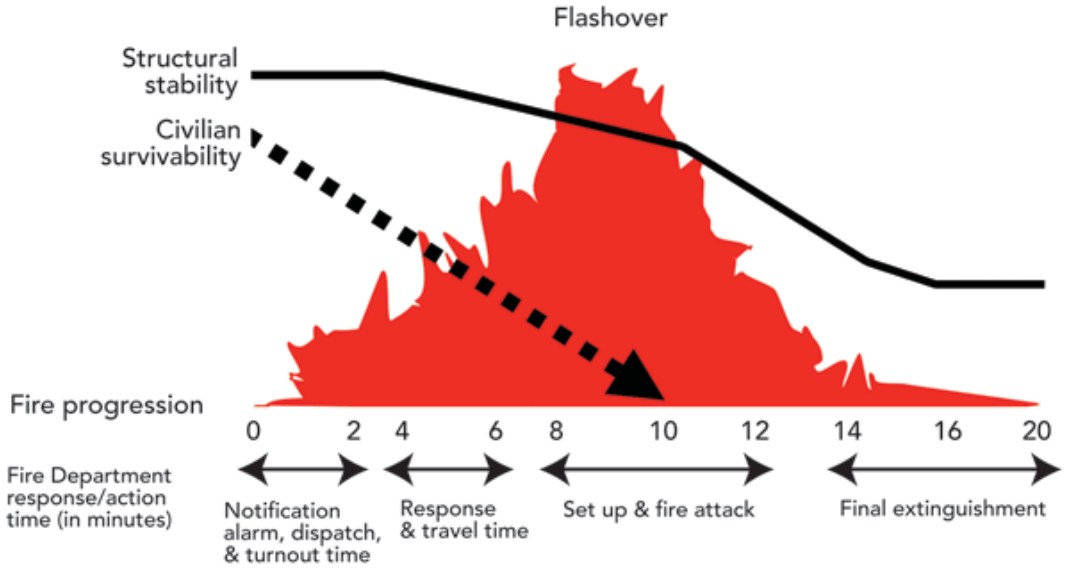
BACKGROUND:

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



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 along with at least four (4) adequately trained firefighters should arrive within ___***(determined locally)***___ minutes total response time and be prepared to take immediate action in accordance with department protocols.

Approximate Range of Credible Response Time Within State Rated Fire Insurance Districts

Area	Density per Sq. Mile	Fire Station	Prevalent ISO Rating	Total Response Time
URBAN	>2,000 people	within 2 miles	1-3	5-8 minutes
NON-URBAN	500-1999 people	within 4 miles	4-6	7-12 minutes
RURAL	<500 people	within 6 miles	6-9	12-17 minutes

TYPICAL RESIDENTIAL MODEL - ARRIVAL OF EFFECTIVE RESPONSE FORCE:

For 90% of all typical residential structure fire incidents, an effective force of at least fifteen (15) 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

Area	Density per Sq. Mile	Fire Station	Prevalent ISO Rating	Total Response
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

APPENDIX J – ISO RATING SYSTEM OVERVIEW

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

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)

Example Illustrations of ISO Rating Impact on Annual Insurance Premiums:

Rating	*$90K Home Avg.*	*$275K Business Avg.*	*$275K Restaurant Avg.*
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:

Rating	*Frame, Non-Combustible*	*Masonry, Non-Combustible*
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

APPENDIX K – MUNICIPAL AUTOMATIC AID CONTRACT WITH PRIVATE NON-PROFIT FIRE DEPARTMENT

STATE OF NORTH CAROLINA
GUILFORD COUNTY

SUPPLEMENTAL FIRE PROTECTION
FIRE DISTRICT #13, Inc.

THIS AGREEMENT, made and entered into this the 1st day of July, 2013 by and between City of Greensboro, a municipal corporation of Guilford County, North Carolina, hereinafter referred to as the "City," and Fire District #13, Inc., a corporation existing under the laws of the State of North Carolina, hereinafter referred to as the "Fire District".

WITNESSETH

THAT, WHEREAS, the Fire District has operated a combination volunteer/paid firefighting department in Fire District #13 and, as such, owns firefighting equipment suitable for use in such area.

WHEREAS, the Fire District has provided supplemental fire services in areas of the city under other supplemental fire services agreements.

WHEREAS, it is deemed to be in the public interest of the parties hereto that the Fire District render assistance in fire protection within the area as hereinafter defined to supplement fire defenses, as well as providing reserves needed to assure the community of adequate protection.

NOW, THEREFORE, in consideration of the premises and mutual covenants contained herein by and between the parties hereto, it is hereby agreed as follows:

1. That the Fire District shall furnish supplemental fire protection service to the areas hereinafter defined and shall respond to fire calls with not less than one pumping apparatus with a minimum average of three personnel.

2. That the pumping apparatus shall carry all equipment as described in the current ISO Public Protection Rating Schedule.

3. Before response can begin, all personnel utilized to meet the requirements of this agreement shall be certified to a minimum level of Fire Fighter Level I by the North Carolina Fire Commission and Emergency Medical Responder with defibrillator certification. The operator of the pumping apparatus shall be certified by the Fire Chief of the "Fire District" as qualified to operate the apparatus.

4. That the contracted unit will respond to all fire, medical, and other responses in its assigned district and in support of other units per normal operational procedures.

5. That the defined area to which this Agreement shall apply includes response areas presently identified and illustrated. See attached map of the areas identified as Exhibit A, incorporated herein by reference.

6. That the City of Greensboro shall pay to the Fire District the amount of $430,200.00 in two equal installments paid in advance by the thirty-first of August and the thirty-first of January.

7. That the term of the agreement shall be for a period of thirty-six (36) months, provided appropriate funding is allocated by the City of Greensboro in fiscal years 2014-2015 and 2015-2016. The City of Greensboro and the "Fire District", at the end of the thirty-six (36) month period, may extend or renegotiate this Agreement.

8. That should either party decide to terminate this agreement, written notice shall be given to the other party at least 180 days prior to termination.

9. When the contracted unit is out of service due to normal or unavoidable circumstances, the City will attempt to cover the service areas defined by both the City and the Fire District by relocating a City unit to the Fire District's Station #55. During this fill in time, the City unit will respond to all calls for service in both agency service areas.

10. When the contracted unit responds on calls in the City service area, the unit will operate per the City General Operating Guidelines applicable to the terms of the agreement, report directly to, and operate as assigned by the incident commander or supervisor.

11. When a GFD unit responds on calls in the Fire District service area, the unit will operate per the Fire District General Operating Guidelines applicable to the nature of

the response, report directly to, and operate as assigned by the incident commander or supervisor.

12. That the contracted unit will be responsible for hydrant and preplan maintenance programs, per City General Operating Guidelines, within the service area.

13. That the Greensboro Fire Department shall provide incident reporting capability as currently being used by the Greensboro Fire Department on which to report activity in the above-mentioned area.

14. That in the event of an existing emergency operating in the Fire District, and where the apparatus and crew is committed to the emergency operation, no response by the Fire District will be required. The Fire District shall notify the Guilford Metro 911Communications Center of such an event and inability to respond.

15. That each party to this Agreement shall assume all liability and responsibility for the death and/or injury to any personnel of their own command responding per this Agreement.

16. That the "Fire District" shall assume all liability and responsibility for damage to its own apparatus and/or equipment. The "Fire District" shall also assume all liability and responsibility for any damage caused by its own apparatus while in route to or from a specific location.

17. That the City of Greensboro shall in no way be deemed liable or responsible for the personal property of the members of the "Fire District" which may be lost, stolen, or damaged while performing their duties under the terms of the Agreement.

18. That each party to this Agreement shall assume all cost of salaries, wages, bonuses, or other compensation, including coverage under Workers Compensation Laws, for its own personnel responding under the terms of this Agreement.

19. That the "Fire District" shall assume all costs involving the use of its own apparatus, equipment, and tools used specifically in response under the terms of this Agreement.

20. In the event the Fire District utilized specialized dry chemical or AFFF extinguishing agents to extinguish a fire or use such agents in preventive or safety actions within the corporate city limits, the City of Greensboro shall replace or reimburse Fire District for cost of extinguishing agents. Memorandum or invoice to be forwarded through Greensboro Fire Department.

21. That the Greensboro Fire Department shall provide, and the Fire District shall participate in at least four multiple company training sessions annually with those units normally assigned to the described area. The Fire District shall participate in other training sessions as provided by the City and at the discretion of the Fire District Shift Supervisor.

IN WITNESS WHEREOF, City of Greensboro has caused this instrument to be signed in its corporate name by its City Manager, attested by its City Clerk and its corporate seal affixed, and Fire District 13 Inc., has likewise caused this instrument to be signed in its corporate name by its President, attested by its Secretary and its corporate seal affixed, all on the day and year first above written, and this Agreement is executed in triplicate.

ATTEST: FIRE DISTRICT #13 INC.

_____By: _____
Secretary President

RECOMMENDED BY:_____
Greensboro Fire Chief

ATTEST: CITY OF GREENSBORO

_____By: _____
City Clerk City Manager

Approved as to form:

_____

City Attorney

"This instrument has been pre-audited in the manner required

by the Local Government Budget and Fiscal Control Act."

_____

Finance Officer

APPENDIX L – ACCREDITATION CORE ELEMENTS

CFAI ACCREDITATION PROCESS

Performance Evaluation Categories

The Commission on Fire Accreditation International (CFAI) accreditation model includes these performance evaluation categories:

- Assessment and Planning
- Essential Resources
- External Systems Relations
- Financial Resources
- Goals and Objectives
- Governance and Administration
- Human Resources
- Physical Resources
- Programs
- Training and Competency

Each category includes a measure or index on which a judgment or division can be based, as well as indicators that define the desired level of ability to perform a particular task.
The Accreditation model includes a comprehensive research and information collection guide with checklists, exhibits, benchmarks, references, and activities broken down by category. Several appendices address additional topics including defining the elements of response time, creating standards of response coverage, and developing master or strategic plans.

Four Steps to Accreditation

The process of achieving accreditation includes four steps or levels:

Step 1. Becoming a Registered Agency

Any fire or rescue agency may become a Registered Agency. This status allows a department to be involved with the Accreditation process at a low cost for three years. Registered Agencies gain access to the CFAI network, receive the CPSE monthly newsletter, and obtain a copy of the latest edition of the Fire & Emergency Service Self-Assessment manual, the resource on which self-assessment and accreditation is based. This is the time for an agency to send its fire chief and accreditation manager to the CFAI basic workshop training.

Step 2. Becoming an Applicant Agency

Agencies that are ready to make the commitment to accreditation use the Applicant Agency Status Form to notify the CFAI program manager and submit the appropriate fee. The agency then receives an Applicant Agency packet of the materials needed to proceed. While holding this status (18 months for career agencies and 24 months for volunteer agencies) an Applicant

Agency is assigned a volunteer mentor via the CFAI SharePoint website to serve as a resource. A SharePoint site is created for the agency so the mentor can review document drafts and offer feedback and advice.

Step 3. Becoming a Candidate for Accreditation
Following the self-assessment process (including the community risk analysis, standards of cover, and strategic planning components) a Candidate Agency's completed documents are uploaded to the CPSE SharePoint site for peer review. When the Candidate Agency's documents are approved, an on-site peer assessment is conducted. The peer assessment team submits a final report on its recommendation for accreditation to the agency and the commission.

Step 4. Achieving Accreditation
The commission hears the candidacy report from the peer assessment team leader in the presence of the Candidate Agency's representatives during the commission's spring or fall meeting. At this point, the commission grants, denies, or defers accreditation. Accreditation is valid for five years.

Maintaining Accreditation
At least 45 days prior to the anniversary date of accreditation, an Accredited Agency must submit to the commission an Annual Compliance Report (ACR) with the annual accreditation fee.

Renewing Accreditation
To renew accreditation, an agency follows the process outlined in Steps 3 and 4 in accordance with current CFAI Policy and Procedure.

CFAI Information Technology Specifications
This document identifies the spatial and numerical data, records, and policies referenced in the CFAI accreditation model.

DISCLAIMER:

This project has been conducted upon the written request of Hendersonville City Government. The sole intent of this project is to improve, advance and strengthen the fire protection service delivery system in Hendersonville 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 City 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.