Virginia Fire Services Board

A Report of Findings and Recommendations:

City of Bristol Fire & EMS Study

March 2018
The foregoing is a recommendation authorized pursuant to Va. Code 9.1-203.A.4 and is not to be construed as legal advice or as a binding recommendation.

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Fire and EMS Departments
Bristol Fire Department
Bristol Life Saving Crew
EXECUTIVE SUMMARY

This report documents the findings and recommendations for the City of Bristol Fire and Emergency Medical Services (EMS) Study. The information contained is not to be construed as legal advice or as binding recommendations. This report is intended to provide guidance for the City of Bristol City Council and its fire and rescue stakeholders to build on what is working well, while observing opportunities for improvement. Strategic focus in these areas will enhance the overall quality and coordination of fire-rescue service delivery to residents of the City of Bristol.

The study was requested by the City of Bristol’s City Council in order to analyze several areas of responsibility within the City’s Fire and Rescue Services. The Study Committee was comprised of representatives from the Virginia Fire Services Board, the Virginia Department of Fire Programs, and the Virginia Office of Emergency Medical Services.

The findings and recommendations are organized into five working themes to include:

- Organizational Development
- Communication
- Training
- Budget and Administration
- Delivery of Services

These working themes provide a central focus for prioritizing the study’s recommendations. They serve as a guide for the Study Committee to identify and evaluate measures that ultimately will improve the quality and coordination of Fire and EMS Services within City of Bristol.

Below is a high-level summary of the findings and recommendations, which will be discussed further in the report.

**Theme 1: Organizational Development (Page 10)**

- **Strategic Plan & Unified Vision**: The City of Bristol should develop a unified strategic plan for Fire and EMS Services to improve performance and service delivery.

- **Accountability Practices**: The Fire Chief should continue enhancing the City’s Standard Operating Procedures (SOP) for the fire department while also establishing one for EMS.

**Theme 2: Communications (Page 14)**
• *Levels of Interdepartmental Communications:* The City should host a strategic communication session to resolve existing and future challenges and barriers between the City Council and the City’s Administration.¹

• *Improved Dispatch System:* City of Bristol must upgrade its entire communication system to ensure consistent accessibility and reliable critical communications between the Emergency Communications Center and operational units in the field.

**Theme 3: Training (Page 17)**

• *Coordinated Training Program:* The City should continue its effort to provide access to structured and coordinated training programs to address the comprehensive training needs of the Locality.

**Theme 4: Budget and Administration (Page 18)**

• *City Funding and Capital Improvements:* City of Bristol should restructure its current funding structure so it is able to achieve an equitable and performance based funding model.

• *Standardization and Central Purchasing:* City of Bristol should initiate efforts to utilize centralized purchasing with an emphasis on enhancing the process and reducing costs for all agencies.

**Theme 5: Delivery of Services (Page 21)**

• *Recruitment and Retention:* City of Bristol should adopt a citywide recruitment and retention plan.

¹ City Administration includes all departments and the City Manager’s Office
METHODOLOGY

For each task of the work plan, the Study Committee identified objectives, performed specific activities, and delivered project products. The following is an overview of the study process:

**PHASE I: INITIATE PROJECT**

**Objectives: Initiation of Study**

To initiate the study, the Study Committee began by gaining a comprehensive understanding of the project’s background, goals, and expectations. This was carried out by identifying in detail the specific objectives for the review, and assessing how well the work plan would accomplish the objectives. In addition, the Study Committee set out to establish a mutually agreed project work plan, timeline, deliverables, and monitoring procedures that would support the accomplishment of all project objectives. The final study initiation step consisted of collecting and reviewing existing operational data and information on agreements along with relevant policies and procedures. Many of these review materials are included in the appendix of this study.

As part of Phase I, the Study Committee met with City of Bristol leadership to establish working relationships, make logistical arrangements, and determine communication lines. During these meetings, the Study Committee discussed the objectives of the project and identified policy issues and concerns central to the study.

The meetings also allowed the Study Committee to obtain pertinent reports and background materials relevant to the review, such as current and historical staffing data, as well as a description of the current service delivery system and organization.

Based on this course of action, the Study Committee concluded this section of the study with a revised project work plan/timeline deliverable.

**PHASE II: OBTAIN STAKEHOLDER INPUT**

**Objectives: Conduct Leadership Interviews & Capture Input from the Departments**

The second phase of the study consisted of leadership interviews and department evaluations. The expectations were as follows:

- Identify expected service levels;
- Identify opinions of department officials concerning the operations and performance of the department;
- Identify issues and concerns of officials regarding fire and rescue services;
- Identify perceived gaps in existing service levels and new priorities in mission; and,
- Identify strengths and weaknesses as perceived by departmental personnel.

Each goal was realized with the support of City of Bristol’s study project manager and Fire Chief, Mike Armstrong. Chief Armstrong assisted in finalizing the interview list and
establishing a schedule that was reasonable, but more importantly convenient for the interviewees. All interviews were conducted during an allotted timeframe and a considerable amount of information was collected. Face-to-face interviews were conducted with majority of City of Bristol’s Fire and Rescue organizations as well as City leadership including City Manager Randall C. Eads and Vice Mayor, Kevin Wingard.

The Study Committee received descriptions of staffing and deployment responses in meeting service demands at targeted service levels. The discussions also provided a snapshot of personnel management contentions as well as concerns regarding service delivery. It is also important to note that the Study Committee visited all fire and rescue stations that were staffed throughout City of Bristol in an effort to support their research of the City’s organizational functioning.

The deliverable for this section of the study work plan consisted of a thorough evaluation of the site visit data and the development of working themes to capture the team’s assessment.

**PHASE III: PREPARE ANALYSES AND DEVELOP CORE STRATEGIES**

**Objectives: Evaluate Current Trends and Prepare a Report**

The third phase of the study work plan involved further investigation and understanding of the organizational structures, operations, limitations, achievements, and opportunities for improvement within the volunteer and career system. The activities that supported this process consisted of additional requests for information not already obtained in Phase I and II of the work plan. Data requests, made in this phase of the study, attempt to address any issues that emerged from the interviews, and further evaluate implications of the operational issues cited. Data obtained during the study process also assists the Study Committee in identifying issues influencing the current levels of service.

After receiving and critically evaluating information from the interviews and all supporting materials, the Study Committee began identifying the necessary critical action steps to achieve exceptional organizational functioning and uniform service levels throughout City of Bristol.

Each action step was selected to identify the changes in policies, facilities, apparatus, and equipment to ensure that the City would be capable of providing fire-rescue services at the desired level going forward.

The deliverables achieved in Phase III involved drafting a report that evaluated current trends in the services, recommended action steps for improvement, and the assignment of responsibility.
PHASE IV: PREPARE FINAL REPORT

Objectives: Prepare and Present Final Report

The final phase of the study involved documenting the results of all previous tasks into a written report with critical components, such as an executive summary, methodology, background, and findings and recommendations. Once completed, a draft report was shared with the designated locality project manager, Chief Mike Armstrong to ensure the technical content is accurate. Upon receiving corrections, the Study Committee revised the draft report, as needed, to assist in the preparation and issuance of the final report.

The deliverables for the final phase of the work plan consisted of 1) a draft report, and 2) the final report.
The independent city of Bristol is located in far southwestern Virginia and lies directly on the Virginia-Tennessee state line. Washington County surrounds the city to the west, north, and east. The City of Bristol has excellent transportation network, utilities, and a complete array of supporting services that make the community attractive for continued economic expansion. Roanoke, Virginia via Interstate 81 is 143 miles east; Knoxville, Tennessee is 118 miles west; Atlanta, Georgia is 300 miles south and the Port of Norfolk is 397 miles east. The community is part of the Johnson City-Kingsport-Bristol Combined Statistical Area (CSA).²

The locality’s median age is 42 years old with gender distribution of 48% male and 51.3% female.³ According to the Virginia Economic Development Partnership, the region including its neighbor Washington County has an industrial base consisting of autos, electronics, compressors, mining machinery, textiles, IT, and food products.

Bristol Regional Medical Center provides a comprehensive regional medical center with 337 beds and 24-hour emergency room care. The Center provides a complete general hospital service with modern laboratory, surgical, and clinical facilities. Lastly, over 100 doctors and 60 dentists practice in the region.⁴

According to the Bristol Fire Department, the department is an all-hazards agency providing fire-EMS services twenty-four (24) hours a day. The department has 45 sworn positions (currently staffed at 39 with 6 vacancies), and one non-sworn support staff member for a total of 46 members.

The mission of the fire and rescue service in City of Bristol is to provide the highest level of protection and to preserve lives, property, and the environment from fire, medical emergencies, hazardous materials, and other natural and man-made disasters.⁵ First responders responsible for fire suppression provide an array of additional emergency services to the residents of City of Bristol. They include light and heavy rescue, vehicle extrication, water rescue, hazardous materials, and other non-emergency activities. The rescue squads within the City provide basic life support (BLS) and advanced life support (ALS) rescue ambulance services to all areas of the City.

² Virginia Economic Development Partnership
³ U.S. Census Bureau
⁴ Ibid
⁵ City of Bristol – Mission Statement
FINDINGS AND RECOMMENDATIONS

This section provides a summary of the five working themes for this study report. The summary is based on areas of concern that were repeatedly cited in the face-to-face interviews and observed during the site visit. Following this section is an in-depth examination of each theme, to include findings and recommendations.

Theme 1: Organizational Development (Page 10)
  - Strategic Plan and Unified Mission
  - Accountability Practices

Theme 2: Communications (Page 14)
  - Levels of Interdepartmental Communications
  - Improved Dispatch System

Theme 3: Training (Page 17)
  - Coordinated Training Program

Theme 4: Budget and Administration (Page 18)
  - City Funding and Capital Improvements
  - Standardization and Central Purchasing

Theme 5: Delivery of Services (Page 21)
  - Recruitment and Retention

City of Bristol's fire and rescue service providers and administration should utilize the national consensus standards. The standards were developed by the National Fire Protection Association (NFPA) with the input and support of fire and emergency services personnel, businesses, industry and other stakeholders, as guidance documents and resources to address several of the findings identified in this report.6

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6 For a complete listing of the national consensus standards developed by the National Fire Prevention Association, visit: http://www.nfpa.org/aboutthecodes/list_of_codes_and_standards.asp
According to the City's website, the Bristol Fire Department is an all-hazards organization providing fire-EMS services twenty-four hours a day. The department has the budget capacity to employ 45 sworn firefighters, and one non-sworn support staff member for a total of 46 members. The Department is committed to the safety of the citizens and visitors of Bristol, Virginia by providing high quality emergency and non-emergency services.

**Fire Department**: The Fire Department’s core services include: Fire Suppression, Emergency Medical Services, Fire Investigation, Code Enforcement, Regional Haz-Mat and Regional HTR. The Fire Department also provides hazardous materials response and mitigation and heavy-technical rescue response for the City. In 2016, City-wide emergency management responsibility was transferred to the Fire Department without any resources to manage the additional responsibility. The Fire Chief now serves as the City of Bristol Emergency Management Coordinator in addition to serving as Fire Chief.

**Emergency Medical Services**: The Bristol Life Saving Crew is a non-profit, emergency medical services organization serving Bristol, Virginia, Bristol, Tennessee, and surrounding communities. The organization is managed by volunteers, but when volunteers are unable to respond, they are supplemented by paid personnel. According to the entity, the crew staffs two advanced life support ambulances twenty-four hours a day, 365 days a year.

**Observation**: During the site visit, the Study Committee discovered the City’s Fire Department has sufficient process in place that is capable of delivering both fire suppression and emergency medical services. Additionally, the Bristol Life Saving Crew’s role appears to be secondary while the City’s Fire Department continues to be the primary response entity during fire and rescue efforts. It is imperative for local government and constituents to become aware of the capacity of their fire and rescue. Lastly, there were a number of fire department employees who were serving as staff for the Bristol Lifesaving Crew during their off days.

**Awareness**: The City Council appears to lack sufficient knowledge and comprehension of their respective City Ordinance as it pertains to EMS services. According to Sec. 34-29 of the city ordinance, each ambulance must be equipped with at least two persons consisting of a driver and an attendant. However, during the interview with both city council and representatives of the Life Saving Crew, there appears to be gap in the service coverage. The Crew’s leadership notes that the City is covered but fails to note that the coverage is relying on mutual aid and they avoid admitting their units are not adequately staff at all time. Therefore, it assumed the crew is in fact responding in violation of EMS regulations with a single provider as an ALS crew.

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7 Bristol Fire Department will be interchangeably referred throughout this report as Fire and Rescue or Fire and EMS
8 City of Bristol Fire Department Background
9 Bristol Life Saving Crew will be interchangeably referred throughout this report as the EMS Agency or BLSC
10 Bristol Life Saving Crew
Recommendations:

1. The City Government should pursue efforts to restructure the current Fire Chief’s work profile so the role can serve as the centralized entity responsible for all fire and rescue throughout the City of Bristol.

   a. This will provide a unified command structure to effectively utilize and coordinate resources of a needs-based allocation structure, which will improve the quality of services rendered.

   a. The City Government must ensure additional command staff such as a “deputy chief” is hired to ensure the department continues to deliver a superior quality of service while maintaining adequate span of control.

2. The Locality must explore an opportunity to create an entity such as a Fire and Rescue Association which must serve as a steering committee for the City Manager and City Council.

   a. **Role:** The entity would provide valuable contribution on decision-making efforts relating to emergency services operational and administrative procedures in City of Bristol.

   b. The entity must functions as a voice for all fire and EMS entities within City of Bristol. It is therefore incumbent on City Government to encourage its service providers to pursue the effort.

3. The City should evaluate the performance of the Life Saving Crew.

4. This study should be used as a starting point for continuously reexamining and developing the most efficient and effective Fire Rescue System to meet the community’s needs.

5. Further evaluation of Fire Department staff members working as EMS providers for the Bristol Life Saving Crew should be further evaluated by the City Attorney and Human Resources. This may be a violation of the Federal Fair Labor Standards Act (FLSA) as it relates to pay and compensation for hours worked. Given the job responsibilities of each position are nearly identical, overtime pay may be warranted under the existing rules of the FLSA.

**Strategic Plan and Unified Vision**

There should be a long-term plan for the provision of Fire and EMS services in the city, to include emergency communications, emergency management, and the level of system performance. There is a lack of formal documented plan for required levels of service. The long-term plan must be able to address growth in service demands, and how the system will work to limit service interruptions. The 2017 Goals as created by the Bristol Fire Department should be used as a guide. However, the goals do not take into account other mitigating factors such as the service delivery of the Bristol Life Safety Crew.
Consequently, in order for such continuous improvement to occur, City of Bristol should pursue efforts to establish one, unified Strategic Plan. Presently, the Fire Department has clear mission and vision statements, and as cited above clear goals. Nevertheless, the statements do not appear to be consistent with the Bristol Life Saving Crew. Thus, any future strategic plan should represent the collective efforts of City of Bristol's leadership and service providers so it is able to identify the critical challenges it faces and clearly defined performance goals. Such evaluation will allow the locality to identify specific initiatives they must undertake so it is capable of delivering quality service to their citizens.

The Plan should build upon the commitments of the Fire Department’s vision and mission. Strategic planning must become institutionalized as an integral part of fire and rescue department and community resource allocations. The City should explore hiring a professional facilitator with strategic planning experience to guide them through this process.

Recommendations:

1. City of Bristol government should adopt and implement a citywide strategic plan for its Fire and EMS Services to improve performance levels and achieve lower cost of service delivery.
   a. Stakeholders from the Fire Department, the Life Saving Crew, the Emergency Communications Center, and City leadership must each play an integral part in the development of this strategic plan in order to meet stakeholder’s expectations and foster commitment.
   b. Parties involved in the strategic planning process should analyze the gap between where the City is and where it wants to be in the future and identify strategies to close this gap.
   c. It is suggested that a neutral party facilitate this process.

2. Collaboratively Fire and EMS along with City Government must establish a system of measurable performance goals and objectives. These measures will serve as the basis for the strategic plan.
   a. Strategic plans should identify immediate, intermediate and long-term goals with reasonable target deadlines.
   b. The City Council should routinely review the achievement of these performance measurements and alleviate any barriers to their completion.

3. In developing its strategic plan, the City of Bristol should continue their commitment to using incident analysis and reporting, to include the Virginia Fire Incident Reporting System (VFIRS) and the Virginia Pre-Hospital Information Bridge (VPHIB).

11 Preserving and Improving the Future of the Volunteer Fire Service, March 2004
a. The City of Bristol’s commitment to reporting will ensure that they have reliable data to appropriately assess performance and develop a plan to address operational and capital funding needs, or equipment, apparatus and facility needs.

b. By analyzing fire and rescue incident data and potential community hazards, a plan can be developed to improve deployment of resources, placement of sub stations, and the number of personnel needed for response and prevention efforts.

c. Access to the data collected should be provided to the rescue squad and fire department so they are able to get a comprehensive understanding of their performance.

d. The use of data such as VFIRS and VPHIB can be contributing factors to performance measurement and can further enable stakeholders to assess the effectiveness of the strategic plan.

4. In developing its strategic plan, City of Bristol’s Fire and EMS should continue their commitment to using incident analysis and reporting, to include the Virginia Fire Incident Reporting System (VFIRS) and the Virginia Pre-Hospital Information Bridge (VPHIB).

e. City of Bristol’s commitment to reporting will ensure that they have reliable data to appropriately develop a plan to address operational and capital funding needs, or equipment, apparatus and facility needs.

f. By analyzing fire and rescue incident data and potential community hazards, a plan can be developed to address deployment of resources, placement of sub stations, and the number of personnel needed for response and prevention efforts.

g. Access to the data collected should be provided to rescue squads and fire departments so they are able to get a comprehensive understanding of their performance.

h. The use of data such as VFIRS and VPHIB can be contributing factors to performance measurement and can further enable stakeholders to assess the effectiveness of the strategic plan.

In City of Bristol, performance measurements will enable the City Council to evaluate the performance of fire and rescue entities tasked with accomplishing the goals and objectives of the strategic plan. The performance measurement will exhibit clear association between performing, planning, spending and results. The City of Bristol will have the opportunity to evaluate its mission, vision and performance objectives through three perspectives: financial accountability, constituent priorities and internal processes.
Accountability Practices

According to the National Fire Protection Association (NFPA), a standard operating procedure is “an organizational directive that establishes a standard course of action.” Standard operating procedures (SOPs) are written guidelines that explain what is expected and required of fire service personnel in performing their jobs.

Bristol Fire Department: The City of Bristol Fire Department is commended for their efforts to create and utilize a set of comprehensive Standard Operating Guidelines. Based on observation, the guidelines are consistent with the intent of NFPA 1561: Standard on Fire Department Incident Management Systems. Future efforts to enhance would be beneficial and has the potential further improve service delivery and operational safety.

Bristol Life Saving Crew: The Study Committee was not able to get a copy of the Standard Operating Guidelines for the Bristol Life Saving Crew. Therefore, the Study Committee is unable to evaluate the quality of such plan. City leaders should make a more detailed evaluation of these guidelines outside of this study.

Unified SOP: It is critical for the City to implement and follow one citywide version of SOPs to coordinate service delivery throughout Bristol. It is imperative that all members thoroughly understand their responsibilities and expectations. Organizations that lack SOPs are increasingly vulnerable to accidents, lawsuits, preventable costs, personnel problems, and damage to their professional image. Given the clear connection of services delivered by the City’s Fire Department and the Bristol Life Saving Crew – it is highly recommended to utilize a unified SOP. The Study Committee further recommends to use the current SOP version as created by the City of Bristol Fire Department.

Theme 2: Communications

In order to develop a cohesive Fire-Rescue System in City of Bristol, the City Council and the City Manager must foster positive internal and external communication among the City's fire and rescue organizations along with members of the general public. An effective communications process between all of these entities will improve the strategic plan and clearly define expectations for the community.

Levels of Interdepartmental Communications

During the site visit, the study committee observed and documented inconsistent communication system among the fire stations, the City’s EMS and rescue personnel, and the Emergency Communications Center. There is a clear delineation of lines of authority between these agencies, but a common mission which requires clear and effective communications. It is clear that there needs to be a formalized group for sharing information across police, EMS, and fire agencies. There should be monthly face to face

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12 Developing Effective Standard Operating Procedures for Fire and EMS Departments, December 1999
13 Ibid
meetings, planning, and communications with the leaders of all of the public safety agencies in the city to improve interoperability across organizations. The burden lies with the City Manager and the City Council to encourage an open and honest dialogue as it relates to the present system-wide modifications. All relevant parties must work together to provide the highest quality level of service.

**Recommendations:**

1. The City should host a strategic communication session with a skilled mediator to assist in developing effective communications in and between the fire department, Bristol Life Saving Crew, the Emergency Communications Center and the City of Bristol Administration and its City Council.

   a. The objective of this work session should be to develop strategies to overcome any identified barriers to the implementation of an effective communication system, both within departments and with the general public.

   b. The City must develop an efficient and effective communication model to ensure all stakeholders within the public safety community have input into long-term plans and decisions.

   c. This communication model must ensure reliable documentation related to public safety strategic planning and development. It must be disseminated and received by all public safety stakeholders.

2. The City should strengthen its fire and life-safety communication activities with the residents of City of Bristol.

   a. Increased efforts to promote the positive attributes of the Fire and EMS Services in City of Bristol can raise morale and attract more volunteers. Some options include producing an annual report, developing a quarterly newsletter and utilizing social networking avenues.

3. The City should take advantage of pre-existing fire and life-safety information available through state and federal organizations. Public fire and life-safety education resources are available at the following locations:

   i. Virginia Department of Fire Programs: http://vafire.com/fire_safety_education
   
   
   
   
   v. Virginia Department of Forestry: http://www.firePowhatanvirginia.org
The Study Committee observed the presence of an isolated Emergency Communications Center and processes with a Police focus and inadequate communications for EMS and Fire Services. The Communication Center has two communications officers on duty 24/7, who both act as dispatchers. According to staff, dispatch covers all city departments including, public works, public safety, etc. Furthermore, Dispatch does not monitor fire ground channels during emergency incidents. The Study Committee also observed the lack of proper dispatching processes for EMS – via radio communications – where dispatchers would utilize land line telecommunications for notifying the Bristol Life Saving Crew of emergency calls for service.

The Fire Department and Bristol Lifesaving Crew are dispatched on two different frequencies and methods. According to interviews, the Fire Department are “toned out” while the Life Saving Crew is “rung down.” The ring down procedure causes a time delay of service and does not allow for accurate and complete system performance documentation and monitoring. As a result, there appears to be critical information missed by other agencies who may be responding to the same incident. Lastly, there are no time stamps or recordings of the conversations between EMS units and the dispatchers.

The lack of monitoring of the fire ground radio frequencies during major fire related events poses a significant safety threat to firefighters. The inability to call for help directly to the Emergency Communications Center, or have those radio transmissions recorded, poses a significant safety risk.

**Recommendations:**

1. City of Bristol needs to upgrade its entire communication system, including radios in the truck and handhelds.
   
   a. City of Bristol should incorporate a needs assessment for not only the equipment and the platform, but also personnel to operate the system.

2. The City should continue its efforts to improve the fire and rescue dispatch protocols to ensure a consistent service delivery across the City.

   a. Identify specific criteria regarding what qualifies a BLS or ALS call through the City’s Operational Medical Director.

   b. Establish a single radio frequency for dispatching all fire and EMS incidents and a single dispatch process for dispatching those incidents over the radio rather than a ring down line.
3. Accounting for call volume and complexity, City Council should examine the feasibility of increasing dispatch personnel.
   a. Additional staff will likely improve the overall quality of dispatch operations by affording each dispatcher sufficient time to document all pertinent information and efficiently relay it to first responders.
   b. The City should consider improving the use of emergency medical dispatch program.
   c. The following resources are provided as a means of analyzing staffing to ensure adequate dispatch coverage:
      i. The Association of Public Safety Communication Officials (APCO) – Project RETAINS Toolkit 2.0;
      ii. The National Fire Protection Association’s (NFPA) Standard 1221 – Standard for the Installation, Maintenance and Use of Emergency Services Communications Systems; and,

4. Bristol City Council should appoint a Communications Advisory Committee to analyze the City’s overall dispatch system.
   a. The Committee should meet at least quarterly, more often if needed.
   b. Membership shall include representatives from fire, rescue and law enforcement.
   c. The Committee should review dispatch protocols, procedures, staffing and equipment upgrades and provide recommendations to City Manager.

5. Based on the guidance from the Communications Advisory Committee, the City should enhance the current dispatch protocols and procedures.
   a. The level of response should be consistent across each department and throughout the day.
   b. Standardization of dispatch protocols will improve the overall effectiveness and efficiency of City of Bristol’s fire and rescue response.
   c. Response times should be continuously evaluated for effectiveness.

**THEME 3: TRAINING**

The Fire Department has designated two individuals, one fire trainer and one EMS trainer who in addition to responding to service calls also provide in-house training. Thus, there is no dedicated training officer. All Fire Department personnel are hired pre-trained/certified. Training staff work to maintain existing skills and do not have the capacity to offer entry-level basic training. From the Study Committee’s perspective, the
locality has to sufficiently ensure members are engaged in numerous trainings thus enabling them to competently perform their duties.

**Coordinated Training Program**

Development of important skills is the basis for safety and improving services received by the citizens. The Fire Department in City of Bristol works hard to ensure the sufficient offerings of mandated and relevant training. The City should pursue aligning its strategic planning efforts to a Citywide coordinated training program. Lastly, efforts to enhance training should include providing access for the BLSC and/or designated EMS provider.

**Recommendation:**

1. City of Bristol should consider hiring a full-time training officer. This individual could be assigned additional responsibilities.

2. City of Bristol should continue to improve its comprehensive training program and assess it annually. Such assessment will enable the adoption of warranted changes.

   a. The City Council should appropriate all the necessary resources to fulfill the City's identified training challenges and fully train existing firefighters and rescue personnel.

**Theme 4: Budget and Administration**

The Bristol Virginia Fire Department utilizes grant funds to enhance the services provided to the citizens of Bristol, Virginia. Various Fire Department personnel serve as grant writers and reviewers in addition to their primary roles as first responders and often conduct this work on their days off. Grants are managed through a cooperative arrangement between the Fire Department and the Finance Department.

The grant funding improves and updates fire equipment, promotes public awareness, and to provides for education and training opportunities. In FY2017, City of Bristol received a total of $57,877 from the Commonwealth of Virginia’s Fire Programs Fund. Additionally, the City of Bristol received approximately $14,000 from the Office of Emergency Medical Services in Four-for-Life funds, which are utilized to fund training, personnel and equipment expenses. The Fire Department’s overall operating budget for FY17 was approximately $3,628,823. Lastly, for FY18, City of Bristol has allocated about $3,628,823 for the Fire Department. According to the budget, expense areas included education and training, medical supplies, building and equipment repair, motor fuel and other miscellaneous expenses.

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14 FY17 City of Bristol Budget  
15 VDFP Aid to Localities FY 2017 Allocation Report  
16 City Budget – FY15 and FY16  
17 Ibid
Bristol Life Saving Crew uses a hard billing system to recover expenses. The Study Committee was advised that at times, it does hard billing on a case by case basis, depending on whether or not the agency believes that the patient has the financial resources to pay over what insurance covers. Lastly, the entity indicated that they have about 65% recovery rate.

**City Funding and Capital Improvements**

Interviewees advised that a capital improvement plan is needed to ensure the aging equipment is replaced in a reasonable timeframe. Therefore, long-term budget planning should be taking place to ensure the capital equipment in the fire department remains serviceable for many years to come. There is a lack of a long range budget or a plan to address an aging apparatus fleet. For example, the current aerial ladder truck protecting downtown businesses is 19 years old and has over 100,000 miles. The truck suffers frequent mechanical issues. It failed the most recent annual aerial certification test. With the current construction of new hotels downtown, the aerial ladder does not offer adequate protection. Additionally, all current fire stations are an average of 45 years old and have male-only accommodations. Consequently, there is a need to immediately remodel existing facilities to accommodate female members.

**Recommendations:**

1. City of Bristol must pursue efforts to modernize the current fire stations. The age of the buildings endangers asset and human capital.

2. The fire services in Virginia and across the nation are diversifying. City of Bristol presently has male-only accommodation in all its fire stations. Therefore, it is imperative to expand accommodation.

3. Long-term budget planning should be taking place to ensure the capital equipment and apparatus in the fire department remains serviceable for many years to come.

4. City of Bristol should complete a yearly citywide needs assessment for the delivery of Fire and EMS Services and develop a base funding allocation system based upon the priorities set through the needs assessment and quantitative data.
   
   a. Monies should be allocated based on the most critical needs and the highest call volume data.
   
   b. It is recommended that the City continuously evaluate whether it is getting the appropriate return on its investments.

5. With input from the fire and rescue community, the City Council should enhance its capital improvement plan for upgrading its fire and rescue stations and equipment.
   
   a. City of Bristol should share their current capital improvement plan to its service providers.
b. Citywide equipment replacement policy should focus on rotational equipment replacement based on prioritized needs.

c. City Councils should also consider leasing of apparatus or big ticket items as an option.

6. The City of Bristol City Councils should consider the feasibility of hiring a Grants Coordinator to assist the fire and rescue organizations with the acquisition and management of grants. This individual could also be assigned additional areas of responsibility within the organization. This individual should research and consider the availability of all federal, state and private grant programs, including:

   a. The Department of Forestry’s Volunteer Fire Assistance (VFA) grants: http://www.dof.virginia.gov/financing/grants.htm

   b. The Department of Forestry’s Firewise Virginia Community Hazard Mitigation grants: www.dof.virginia.gov/financing/mitigation.htm

   c. The Department of Forestry’s Dry Hydrant grants: http://www.dof.virginia.gov/fire/dryhydrant/index.htm

   d. The Federal Emergency Management Agency’s Assistance to Firefighter Grant (AFG): http://www.firegrantsupport.com/content/html/afg/

   e. The Staffing for Adequate Fire & Emergency Response Grant http://www.fema.gov/media-library/assets/documents/101125


   g. The grant programs offered by the Virginia Fire Services Board (VFSB) through the Virginia Department of Fire Programs (VDFP).18

   h. Various private grant programs.19

**Standardization and Central Purchasing**

City of Bristol’s Fire Department and Bristol Life Saving Crew have several outdated pieces of equipment with limited finances for replacements or upgrades. It is important to ensure all apparatus are NFPA 1901 compliant. Moreover, the City can potentially have cost-savings if there is standardization of future equipment and apparatus purchases, specifically for the Fire Department. Standardization and Central Purchasing will not be

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without difficulty, but is necessary for delivering cost-effective and efficient fire and rescue services. Group purchasing is highly recommended by the City of Bristol.

The City could utilize group purchasing for obtaining a new aerial ladder apparatus for the downtown station. During the site visit, the Study Committee observed a 19 year old quint aerial ladder apparatus with over 100,000 miles. The age of equipment has the potential to impact the first responders’ capacity to effectively respond to some of the locality’s new construction projects such as hotels.

**Recommendation:**

1. The City should continue its efforts in identifying specifications for future apparatus purchases (considering the cost-effectiveness of regional contracts), refurbishment and replacement using the following national consensus standards:
   
   a. NFPA 1901 - Standard for Automotive Fire Apparatus  
   
   b. NFPA 1911 – Standard for Inspection, Maintenance, Testing and Retirement of In-Service Automotive Fire Apparatus
   
   c. NFPA 1912 – Standard for Fire Apparatus Refurbishing

2. The City should consider utilizing group purchasing to acquire a new aerial ladder for the downtown fire station.

**THEME 5: DELIVERY OF SERVICES**

Several outside factors are affecting the fire and rescue personnel in City of Bristol. Similar to many other jurisdictions, the City lacks adequate personnel to address call volume and growing administrative requirements. Interviewees cited they could not afford to live in the City. Therefore, some appeared to be looking for employment elsewhere due to lack of raises and other compensation. Additionally, according to the 2017 Virginia Fire Service Needs Assessment, City of Bristol reported that the present call volume warranted 5 additional career personnel to sufficiently staff their stations. During the site visit, interviewees indicated that the City lacks adequate personnel for call volume such as the current 6 vacancies that could have provided reasonable staffing.

**Fire:** The Study Committee was advised by government officials of the aspiration of utilizing volunteer firefighters Citywide. However it is imperative that such pursuit is not a realistic option given the aging demographics of the community and demands for those who provide public fire protection. The training requirements alone would necessitate more than 12 months of the most basic of training, and the ongoing training would be extensive to establish them on an equal footing with career staff. Lowering training

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standards to allow volunteers to be a part of the basic fire unit would create a potential unsafe environment with lesser skilled and experienced providers.

One volunteer does not equal one career firefighter. A more formal analysis should be made to fairly evaluate the actual cost savings (or costs) associated with a partially voluntary fire force. If each volunteer filled one 24 hour shift per month (a typical volunteer requirement), the city would need more than 13 volunteers to eliminate one full time position (calculating the typical 1.3 staffing factor). The additional costs associated with insurance, health screenings, protective equipment, and uniforms, are not being considered.

**EMS:** According to the City Manager’s Office, its main concern is the reduced capacity for the volunteer EMS agencies to respond to service calls. There is further concern about the EMS staff’s ability to maintain required certifications to successfully serve as active responders.

The City should continue to explore the use of volunteers in support positions. City of Bristol must consider volunteers as supplemental to the career staff and not a replacement. Doing so will create staffing problems as volunteers cannot be quickly plugged into vacancies given the required start up training timeline.

**Recommendation**

1. City of Bristol should pursue formal analysis of its personnel.
   a. Fairly evaluate the actual cost savings (or costs) associated with a partially voluntary fire force.
2. The City should continue to explore the use of volunteers in support positions.
   a. Volunteers should be considered as supplemental to the career staff and not replacement for the staff.

**Recruitment and Retention**

A major concern brought up during the site visit was the need to see a volunteer recruitment and retention program facilitated by the City Government. This program would be one that will provide personnel Citywide. The lack of consistent assistance from the City to help recruit personnel has placed some level of stress on service providers. Consequently, City Government must become more actively involved in assisting with recruitment and retention efforts. Interviewees shared that it would like to see the City offer an incentive program for firefighters such as pay per-call, or offer some type of tax incentive.

**Recommendations:**

1. The City Government should identify the needs for additional fire and rescue personnel to meet the service demands and citizen expectations.
a. Through improvement of fire and rescue incident data analysis and strategic planning, City of Bristol should be able to determine fire and rescue personnel needs, equipment needs and deployment.\(^{24}\)

2. Hire an official Recruitment and Retention Officer. This individual could be assigned additional responsibilities.

3. Adopt an official Citywide recruitment and retention program.
   a. This recruitment and retention program should take into consideration the needs of current volunteers and identify motivational factors to keep this population engaged and committed to the fire and rescue service.
   b. The City should set annual recruitment and retention goals and concentrate its efforts and resources to achieving these benchmarks. The plan should be included in the strategic plan.

4. Find low-cost methods to enhance public-education efforts such as open houses and creating PSAs.\(^{25}\)
   a. Improve the visibility of the City of Bristol Fire and EMS Services in the community.
   b. Continued use of word-of-mouth recruiting is effective. Each volunteer should be encouraged to inform their respective community network about City of Bristol fire and rescue services’ training and educational opportunities.

5. In addition, City of Bristol’s fire and rescue organizations should take advantage of pre-existing recruitment and retention information. Resources may be downloaded at the following locations:
   a. Emergency Medical Services (EMS)

\(^{24}\) International Association of Fire Chiefs (IAFC) - “Make Better Decisions: Put Your Data to Work” http://www.iafc.org/MemberCenter/OnSceneArticle.cfm?ItemNumber=5840. This article provides an example of how multiple sources of data can be incorporated into fire and rescue department planning.

\(^{25}\) Fire Service Image Task Force Report: Taking Responsibility for a Positive Public Perception 15

REFERENCES


Code of Virginia. Title 27, Chapter 1, § 27.3: Contracts of cities or towns to furnish fire protection; emergency medical services. Retrieved on December 18, 2017 from http://lis.virginia.gov/cgi-bin/legp604.exe?000+cod+27-3


The foregoing is a recommendation authorized pursuant to Va. Code 9.1-203.A.4 and is not to be construed as legal advice or as a binding recommendation.


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APPENDIXES

**Appendix 1**: City of Bristol Letter of Request – June 2017

**Appendix 2**: City of Bristol - Virginia Fire Incident Reporting System Report Summary

**Appendix 3**: City of Bristol – Virginia Pre-Hospital Information Bridge Report Summary

**Appendix 4**: City of Bristol 2016 Needs Assessment Summary Statistics

**Appendix 5**: City of Bristol FY2017 Aid-to-Localities Allocation Report

The foregoing is a recommendation authorized pursuant to Va. Code 9.1-203.A.4 and is not to be construed as legal advice or as a binding recommendation.
June 1, 2017

Mr. Mohamed G. Abbamin, MPA
Policy Manager
Virginia Department of Fire Programs
1005 Technology Park Drive
Glen Allen, VA 23059

Re: Comprehensive Analysis Study of Fire/EMS System Request – City of Bristol

Dear Mr. Abbamin;

This letter shall serve as a request for the Virginia Fire Services Board (VFSE) to conduct a comprehensive review of the fire and EMS system in the City of Bristol, Virginia. This study has the support of the Bristol, Virginia City Council and the City Manager.

The requested areas of concentration of this study include:

- Organization
- Communication
- Training
- Budget and Administration
- Delivery of Services: Fire and Emergency Medical Services

It is the City’s proposal to have a complete and thorough review of the aforementioned areas of concentration and a comprehensive list of recommendations to enhance the delivery of services to the citizens of the City of Bristol.

Your consideration of this request at the next available opportunity is greatly appreciated. I am available to respond to any questions you might have regarding this request. I can be reached by phone at 276-645-7333 or by email at tcrowder@bristolva.org.

Sincerely,

Tabitha Crowder, P.E.
City Manager
APPENDIX 2: BRISTOL – VIRGINIA FIRE INCIDENT REPORTING SYSTEM REPORT

The Virginia Department of Fire Programs manages the Virginia Fire Incident Reporting System (VFIRS). VFIRS is the statewide system for tracking all emergency responses with fire departments in Virginia. By reporting their incidents to VFIRS, fire departments document the details of their incidents for legal purposes and documenting the overall activities of their fire department.

**Incident Type Summary, Bristol, Virginia 2012-2016**

<table>
<thead>
<tr>
<th>Incident Type</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>Total</th>
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<tr>
<td>Fires</td>
<td>136</td>
<td>121</td>
<td>93</td>
<td>97</td>
<td>93</td>
<td>540</td>
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<td>EMS/Rescue</td>
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<td>1,444</td>
<td>1,569</td>
<td>1,272</td>
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<td>6879</td>
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<td>Hazardous Condition</td>
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<td>70</td>
<td>52</td>
<td>51</td>
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<tr>
<td>Service Calls</td>
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<td>142</td>
<td>162</td>
<td>178</td>
<td>194</td>
<td>799</td>
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<tr>
<td>Good Intent</td>
<td>533</td>
<td>369</td>
<td>384</td>
<td>192</td>
<td>112</td>
<td>1590</td>
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<tr>
<td>False Alarm</td>
<td>257</td>
<td>280</td>
<td>285</td>
<td>272</td>
<td>300</td>
<td>1394</td>
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<tr>
<td>Other</td>
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<td>22</td>
<td>27</td>
<td>18</td>
<td>19</td>
<td>112</td>
</tr>
<tr>
<td><strong>Total Incidents</strong></td>
<td>2,507</td>
<td>2,448</td>
<td>2,572</td>
<td>2,080</td>
<td>1,970</td>
<td>11577</td>
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<td>Aid Given</td>
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<td>164</td>
<td>103</td>
<td>77</td>
<td>73</td>
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<td>Exposures</td>
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<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
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<td><strong>Grand Total</strong></td>
<td>2,698</td>
<td>2,612</td>
<td>2,676</td>
<td>2,157</td>
<td>2,043</td>
<td>12,186</td>
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</table>

**Fire Dollar Loss Summary, Bristol, Virginia 2012-2016**

<table>
<thead>
<tr>
<th>Year</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
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<tr>
<td>Dollar Loss</td>
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<td>$734,945</td>
<td>$523,275</td>
<td>$462,650</td>
<td>$223,715</td>
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**Casualty Loss Summary, Bristol, Virginia 2012-2016**

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<th>Incident Type</th>
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<th>2015</th>
<th>2016</th>
<th>Total</th>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Fire Service Injuries</td>
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<td>0</td>
<td>0</td>
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<tr>
<td>Fire Service Deaths</td>
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<tr>
<td><strong>Total</strong></td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>8</td>
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</table>

*Taken from VFIRS Incident Summary Report 2012-2016*

The foregoing is a recommendation authorized pursuant to Va. Code 9.1-203.A.4 and is not to be construed as legal advice or as a binding recommendation.
*VFIRS Participation By Fire Department, Bristol, Virginia 2012-2016*

<table>
<thead>
<tr>
<th>Fire Department</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
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<tr>
<td>Bristol Va Fire Dept</td>
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<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<td>Total Fire Departments</td>
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<td>1</td>
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</table>

| Percent Reporting | 100% | 100% | 100% | 100% | 100% |

Note: Data is compiled from NFIRS web-based reports and reflects all incidents reported for 2012-2016 as of 10/3/2017.

**Total Incidents By Fire Department, Bristol City, Virginia, 2012-2016**

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<tr>
<th></th>
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<td>52000</td>
<td>Bristol Virginia FD</td>
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<td>2,448</td>
<td>2,572</td>
<td>2,080</td>
<td>1,970</td>
<td>11,577</td>
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<td></td>
<td>Total Incidents</td>
<td>2,507</td>
<td>2,448</td>
<td>2,572</td>
<td>2,080</td>
<td>1,970</td>
<td>11,577</td>
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</tbody>
</table>
APPENDIX 3: BRISTOL – VIRGINIA PRE-HOSPITAL INFORMATION BRIDGE REPORT SUMMARY

The Virginia Department of Health’s Office of Emergency Medical Service manages the Virginia Pre-Hospital Information Bridge (VPHIB). VPHIB is the statewide system for tracking all emergency medical services (EMS) responses with EMS organizations in Virginia. In accordance with the Code of Virginia, “Maintaining a comprehensive emergency medical services patient care data collection and performance improvement system. (32.1-111.3)"

<table>
<thead>
<tr>
<th>Agency Name</th>
<th>Year</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
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<td>1595</td>
<td>1576</td>
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</table>

The foregoing is a recommendation authorized pursuant to Va. Code 9.1-203.A.4 and is not to be construed as legal advice or as a binding recommendation.
APPENDIX 4: CITY OF BRISTOL – 2017 NEEDS ASSESSMENT SUMMARY STATISTICS

The Fire Service Needs Assessment is an annual survey conducted by the Virginia Department of Fire Programs. Fire departments complete a survey questionnaire designed to identify their critical needs. Results are compiled and published in a comprehensive report available each January.

<table>
<thead>
<tr>
<th>Fire Department Personnel</th>
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<th>Need Reported**</th>
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<td>Career Firefighters</td>
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<td>5</td>
</tr>
<tr>
<td>Volunteer Firefighters</td>
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<tr>
<td>Paid-Per-Call</td>
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<td>0</td>
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<tr>
<td>Total Firefighters</td>
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<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Civilian-Volunteer</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total Civilian Personnel</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

*Taken from Supplemental Table 1 of the 2017 Virginia Fire Service Needs Assessment.
**Taken from Supplemental Table 7 of the 2017 Virginia Fire Service Needs Assessment

<table>
<thead>
<tr>
<th>Apparatus Owned</th>
<th>Current*</th>
<th>Need Reported**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerial Apparatus</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Ambulance/Other Patient Transport</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Command Support Unit</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Command Vehicle (SUV)</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Engine/Pumper</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Fire/Rescue Boat</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Hazardous Materials Vehicle</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Heavy Technical Rescue Vehicle</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Logistical Support Apparatus</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Quint Combination Vehicle</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Tanker</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Wildland Brush Truck</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Other Apparatus</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*Taken from Supplemental Table 2
**Taken from Supplemental Table 5
## APPENDIX 4: CITY OF BRISTOL – 2017 NEEDS ASSESSMENT SUMMARY STATISTICS

<table>
<thead>
<tr>
<th>Equipment Owned</th>
<th>Current*</th>
<th>Need Reported **</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-Gas Monitors</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Map Coordinate System – GPS</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>Mobile Data Terminals</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Personal Alert Safety Systems</td>
<td>34</td>
<td>0</td>
</tr>
<tr>
<td>Personal Protective Equipment</td>
<td>45</td>
<td>45</td>
</tr>
<tr>
<td>Radios with Emergency Alert Button</td>
<td>26</td>
<td>0</td>
</tr>
<tr>
<td>Radios without Emergency Alert Button</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Self-Contained Breathing Apparatus (without integrated PASS)</td>
<td>34</td>
<td>34</td>
</tr>
<tr>
<td>Self-Contained Breathing (with integrated PASS)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Thermal Imaging Cameras</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Other Equipment</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

* Taken from Supplemental Table 3
** Taken from Supplemental Table 6
The foregoing is a recommendation authorized pursuant to Va. Code 9.1-203.A.4 and is not to be construed as legal advice or as a binding recommendation.

APPENDIX 5: CITY OF BRISTOL FY2017 AID-TO-LOCALITIES ALLOCATION REPORT

<table>
<thead>
<tr>
<th>Description</th>
<th>Population (2010 Census)</th>
<th>FY2017 Allocation</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Bristol</td>
<td>17,835</td>
<td>$52,089</td>
</tr>
<tr>
<td>Total</td>
<td>17,835</td>
<td>$52,089</td>
</tr>
</tbody>
</table>

** VDFP ATL Annual Report