

Pulaski County

FIRE & EMS STUDY

In consultation with the Virginia Department of Fire Programs, Virginia Department of Forestry, and the Virginia Department of Health's Office of Emergency Medical Services.

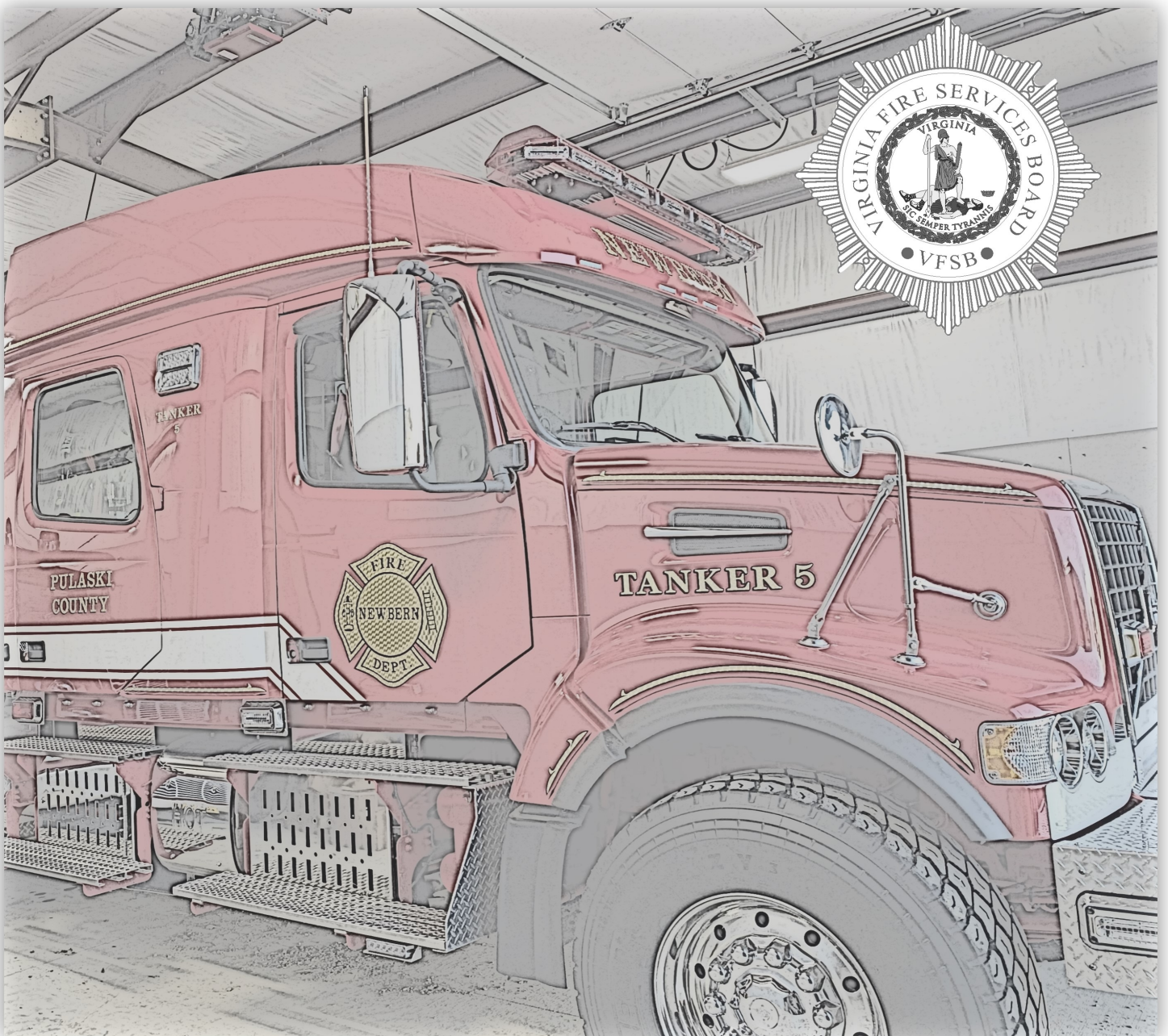


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ACKNOWLEDGMENT

The Virginia Fire Services Board would like to extend thanks to the following organizations and individuals’ for their contribution to this study:

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Twin Community Volunteer Fire Department

EXECUTIVE SUMMARY

This report documents the findings and recommendations for the Pulaski County Fire and Emergency Medical Services (EMS) Study. The document details opportunities to build on what is working well, while recommending suggestions for improvement. The information contained is not to be construed as legal advice or as binding recommendations.

It should be noted that the Study Committee was made aware of another Fire and EMS Study that was commissioned by the county. This study was independent of the commissioned study and the findings and recommendations should not be compared against one another. They are meant to stand alone and help county leadership chart a path forward as the county strives to increase its population to 40,000 by 2030 as referenced in the County's Comprehensive Plan 2030.

This study was requested by the Pulaski County Board of Supervisors to analyze several areas of responsibility within the Pulaski County Fire and EMS systems. The Study Committee was comprised of representatives from the Virginia Fire Services Board, the Virginia Department of Fire Programs, the Virginia Department of Forestry and the Virginia Department of Health, Office of Emergency Medical Services.

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

- Organization and Delivery of Services
- Budget
- Training
- Fleet Management (Equipment/Apparatus)
- Community Risk Reduction

Below is a high-level summary of the findings and recommendations, which are discussed further in the report. Additional suggestions are within the report and are not highlighted below.

Theme 1: Organization and Delivery of Services (Page 11)

- *Realign Fire and EMS as One System:* The Fire and EMS System should be combined into one system, codified by each governmental organization (county and towns), and led by a System Chief, Director or Administrator. This position would be responsible for the operational authority of the county Fire and EMS departments.
- *Develop Tactical Playbook:* Working with the Fire Protection Committee with representation from Pulaski County Public Safety, it is recommended that the county develop a tactical playbook of guidelines, such as Standard Operating Guidelines (SOGs), to ensure emergency responder safety, continuity and level of service across the county.
- *Create a Unified Office of the Pulaski County Fire Marshal:* Due to the expanding growth in both commercial and residential areas, the county should create a unified Fire

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.

Marshals office to have dedicated individuals to conduct fire inspections, enforce the Statewide Fire Prevention Code (SFPC) and conduct fire investigations in both the county and the towns.

- *Current Pulaski County Public Safety:* Public safety leadership should review the scheduling process, utilize Advanced-EMTs, review compensation, promote advanced training and incorporate the use of Fire Departments as first responders and make other noted operational improvements such as those to Squad 9.

Theme 2: Budget (Page 20)

- *Increase Investment in Fire & EMS:* Consider increasing financial support of the volunteer fire departments and Public Safety.
- *Develop a Capital Improvement Plan (CIP):* The county needs to create a Capital Improvement type plan specifically for Fire and EMS services to plan for facility renovations, replacements, and new builds and replacement of equipment and apparatus.
- *Other Budgetary Suggestions:* Pulaski County, in coordination with the two towns, should consider using a grants writer to assist with the acquisition and management of grants and strongly consider moving to centralized purchasing to realize cost savings when buying in bulk.

Theme 3: Training (Page 22)

- *Create Minimum Training Standards:* Support the creation of countywide minimum training standards to be added to the Standard Operating Guidelines in coordination with the Fire Protection Committee.
- *Create a Fire-EMS Training Division:* The county should consider creating a Fire-EMS Training Captain/Volunteer Coordinator position and a Fire-EMS training division. The Captain/Volunteer Coordinator would be responsible for scheduling training classes countywide and assisting with recruitment and public fire safety education.

Theme 4: Fleet Management (Page 24)

- *Complete Fleet Management Study and Needs Assessment:* The Study Committee recommends the county perform a fleet management study and an apparatus needs assessment to assist with implementing changes to its current apparatus replacement schedule.

Theme 5: Community Risk Reduction (Page 26)

- *Establish a focus on Community Risk Reduction:* The Study Committee offers several recommendations including ensuring fire incident reports are being reported, recruitment and retention strategies and suggests the implementation of a community paramedicine program.

METHODOLOGY

The following is an overview of the study process:

PHASE I: INITIATE PROJECT

Objectives: Initiation of Study

To initiate the study, the Pulaski County Administrator sent a letter, on behalf of the Pulaski County Board of Supervisors, to the Virginia Fire Services Board requesting a complete and thorough review of the fire and EMS system in the county (Reference Appendix A,B,C). Though not mentioned in the request, the Study Committee also met with the town of Pulaski and the town of Dublin.

The county requested the following areas of concentration:

- Organization
- Budget and Administration
- Training
- Delivery of Services/staffing
- Fleet Design and Management (Equipment/Apparatus)
- Pulaski County Fire Protection Committee
- Logistics of Apparatus and Staffing

A Study Committee was convened and the Study Committee began by reviewing county-submitted data including the self-assessment questionnaire completed by the county. The team also began collecting and reviewing existing data, memorandums of understanding and relevant policies and procedures.

As part of Phase I, the Study Committee met with leadership from Pulaski County 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 any issues and concerns central to the study.

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 opinions of department officials concerning the operations and performance of their department and county coordination;
- 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.

The Study Committee, in coordination with county leadership, developed a schedule of face-to-face interviews with the eight independent fire departments to include: Draper, Dublin (town), Fairlawn, Hiwassee, Newbern, Pulaski (town), Snowville and Twin Community.

The Study Committee also met with leadership from the town of Pulaski and the town of Dublin as well as Pulaski County Public Safety and the Pulaski County Building Official. The Study Committee did not visit the emergency telecommunications center or any of the Pulaski County Public Safety stations as neither were identified as requested areas of concentration.

All interviews were conducted during an allotted timeframe and a considerable amount of information was collected. A public hearing was advertised by the county and held on December 12, 2022 to give the public an opportunity to share feedback with the Study Committee regarding the Fire & EMS system.

During the interviews and public hearing, the Study Committee received information regarding staffing levels, service delivery, budget information, apparatus, and other information about the operation of each volunteer department and Pulaski County Public Safety. The discussion also provided an opportunity for each organization to share comments regarding service delivery of fire & EMS services in the county.

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 fire and EMS delivery 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 and critical action steps to achieve effective and uniform service levels throughout the County.

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 Pulaski County Administrator to ensure the technical content in this report 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.

COUNTY INFORMATION

Pulaski County is an evolving, rural community with plentiful amenities, agricultural roots, and advanced manufacturing options.¹ The county was developed in 1839 from portions of Montgomery and Wythe counties.

The county has 319.8 square miles of land, with two incorporated towns, and is the 63rd largest county in the Commonwealth.² Interstate 81 traverses the county and splits the county so that a little more of it is north of the highway than is south of it. Six counties and one city border Pulaski County including Montgomery, Floyd, Wythe, Giles, Carroll, and Bland counties as well as the city of Radford.³

In 2020, Pulaski County recorded a population of 33,800 people with a median age of 47.2 and a median household income of \$55,446.⁴ According to the county website, the county's population has grown to 34,332. The town of Dublin recorded a population of 2,682 with a median household income of \$53,558 and the town of Pulaski has a reported population of 8,985 with a median income of \$50,410.

The county operates under the guidance of the Board of Supervisors. Board members represent each of the five magisterial districts. The County Administrator serves as the Chief Administrative Officer and Chief Economic Development Officer.⁵ Reference Appendix D for an organizational chart of major departments.

According to the county's long-range 2030 comprehensive plan:

Emergency Management Services are provided by the Public Safety Department and Volunteer Fire Departments in coordination with the Joint 911 Call Center and Sheriff Department. The Emergency Management Coordinator works in partnership with local state and regional partners on county-wide hazard mitigation and response.

The Public Safety Department is served by professionals committed to emergency response. Currently the department has eighteen (18) full-time EMT personnel and thirty-three (33) part-time EMT personnel. The County has ten (10) ambulances, two of which provide 24 hour, 7 days a week (24/7) Advanced Life Support capacity and one ambulance is staffed for 16 hours, 7 days a week. Additionally, a fire/medic truck is staffed in Advanced Life Support within the department. These individuals covered 6,221 calls in 2018.

The County-wide 90th percentile emergency medical services response time is 14 to 15 minutes. Staffing and response time standards as recommended by National Fire Protection Association (NFPA) are met county-wide, however there are growing

¹ Pulaski County Website

² United States Census Bureau, Pulaski County (2020)

³ Ibid

⁴ Ibid

⁵ Pulaski County 2030 Comprehensive Plan, Community Facilities & Public Services

concerns about future demands. In the last nine years the department's emergency medical calls have increased by 20%.

Eight volunteer fire [departments] operate across the County. Two of the fire stations are located within the Towns of Dublin and Pulaski. Because the County's fire departments are volunteer based, the recruitment and retention of fire department volunteers is a growing need for the County [and the two incorporated towns].

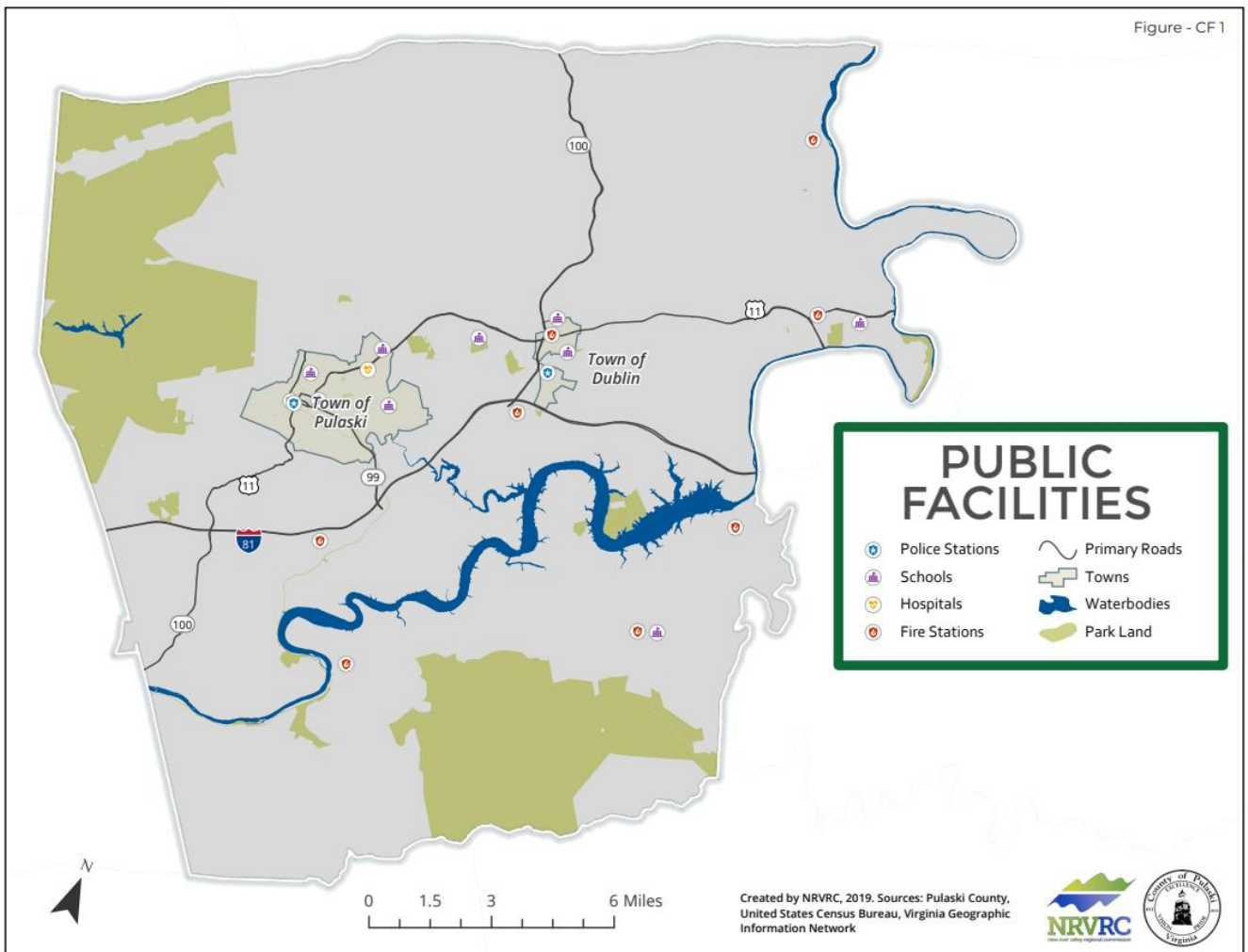
According to the county's comprehensive plan 2030, the Board of Supervisors developed vision statements and guiding principles which served as the foundation for the comprehensive plan including:

- *To grow a younger and more diverse population of 40,000 citizens by 2030 (40 by 30)*
- *To see infrastructure built out that facilities investments within development corridors*
- *To be a place that attracts and retains distinct talent that desires to contribute culturally and civically of their time, energy and emotions*
- *To see our Towns progress and develop to their full potential*
- *To be a community that raises, invests in and equips our next generations of leaders*
- *To be a community that raises and praises volunteers and instills a sincere heart for community service*
- *To enjoy mutually respectful and rewarding relationships with our county and community partners that are centered firstly around advancing our common goals*
- *To take the County, its assets and all its offerings to the next level...*

The Study Committee heard several of these principles reiterated during interviews with leadership and used these eight guiding principles as a basis for the recommendations in this report.

FIGURE 1: PULASKI COUNTY EXISTING FIRE & RESCUE FACILITIES

A snapshot of Figure CF-1 from the Pulaski County comprehensive plan 2030, approved in 2019, shows the location of each fire station in the county. EMS stations are not shown.



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.

FINDINGS AND RECOMMENDATIONS

After gathering information during the interviews and subsequent review of additional documentation, it is clear to the Study Committee that Pulaski County leadership and the town leadership are full supporters of the Fire and EMS service.

The Study Committee reviewed the county's goals, objectives and policies for public safety in the Comprehensive Plan 2030:

- *Policy 1.1.1: The Emergency Management Coordinator shall continue to maintain a complete and current evaluation of fire stations and fire protection services.*
- *Policy 1.1.2: Support and facilitate a comprehensive training program for all fire response teams.*
- *Policy 1.1.3: Evaluate staffing resources and consider employing a full time Fire Marshal.*
- *Policy 1.1.4: Continue to prioritize improvements and development of water supply in accordance with the PSA Capital Improvement Program.*
- *Policy 1.1.5: Ensure availability of alternate water supply sources by developing and maintaining inter-local agreements with other municipalities, particularly for emergency situations.*
- *Policy 1.1.6: Amendments to the Future Land Use Map and Zoning Map shall consider availability of an adequate water supply.*
- *Policy 1.2.1: Evaluate and fund equipment replacement program.*
- *Policy 1.2.2: Support efforts that continue the close collaboration between Emergency Medical Services (EMS) and Fire Departments.*
- *Policy 1.2.3: Implement the recommendations of the adopted Hazard Mitigation Plan. Continue emergency preparedness programs and continue efforts to mitigate common hazards such as flooding, power outage, and wildfire events.*
- *Policy 1.2.4: Encourage businesses, residences and community organizations to coordinate with the Emergency Management Department to prepare for natural disasters and emergencies.*
- *Policy 1.2.5: Explore options to provide more capacity for the Joint 911 Call Center. Ensure that this service continues to meet the community demands.*
- *Policy 1.2.6: Increase the recruitment of volunteer firefighters by marketing and highlighting this need across the County.*

- *Policy 1.2.7: Attract new volunteers by offering training opportunities in entry-level firefighting and EMS. Consider adding Firefighter 1 and/or EMT Training as part of the High School CTE Program and partner with New River Community College to provide this training as a qualified course elective or certificate program.*
- *Policy 1.2.8: Retain skilled volunteers by offering benefits, advanced skills training, leadership, management training and by offering other incentives to volunteer.*
- *Policy 1.2.9: Explore innovative approaches to enhance efficiency in use of EMT resources such as; Community Para-medicine program, Emergency Medical Dispatch program and/or other opportunities to respond to those incidents which are not life threatening. Utilize the advanced life support services for life threatening incidents.*
- *Policy 1.2.10: Enhance integrated emergency response that address improving communication and coordination between agencies (Police, Fire and Emergency Medical Services and Virginia Department of Transportation).*

While many of the recommendations may already align with the policies above, some recommendations may require the County to consider amendments or alternative solutions to the list above.

It is important to note that the recommendations below are not a play-by-play of recommendations for the county to implement. The recommendations are to be used as a guideline of potential solutions that will help the county excel in the future as it strives to increase its population to 40,000 by 2030. The purpose of the study is to take perceived weaknesses and provide recommendations to change them into strengths.

Many of the recommendations below refer to NFPA 1720: Standard on Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Volunteer Fire Departments. NFPA 1720 was first issued in 2001. According to chapter 1 of NFPA 1720, the standard, “was the first organized approach to defining levels of service, deployment capabilities, and staffing levels for substantially volunteer fire departments. It contains minimum requirements for deploying fire suppression and EMS for service delivery, response capabilities and resources. It also contains requirements for managing resources and systems such as health and safety, incident management, training, communications, and pre-incident planning. It addresses the strategic and system issues involving the organization, operations, and deployment of a volunteer fire department.”

THEME 1: ORGANIZATION AND DELIVERY OF SERVICES

Realign Fire and EMS Services as One System

Pulaski County has eight independent volunteer fire departments, plus Pulaski County Public Safety for EMS and some fire response support capability.

During the interviews, it became clear to the Study Committee that the county is at a point in its growth that there are organizational changes that should be considered to ensure delivery of both

fire and EMS services continue to meet the need of the residents and the individual fire and EMS stations.

Organizational change is a broad term which is defined as a company, organization or government evolving its strategies, policies, and procedures from what has always been done to a new, updated way of doing business.⁶

Recommendation:

1. Realign Fire and EMS service into one county-wide system, such as the Public Safety Administration Department, to deal with the aspects of operations, administration of policies and procedures and decision making. The Study Committee has drawn an organizational chart to be used as a visual for this recommendation while the county reimagines what Pulaski Fire and EMS looks like and how it functions as one system (see Appendix E).
 - a. The Public Safety Administration Department should be codified jointly by each governmental organization (county and towns).
 - b. The Fire and EMS Department should be led by a System Chief, Director or Administrator that, within the codification, has the operational and administrative authority to resolve issues, oversee the development and implementation of policies and procedures, and oversight of the development of a budget for all the independent organizations to operate under.
 - i. This recommendation should not be construed as to rid the volunteer departments of their leadership structure but instead the ability for the volunteer departments to receive even more support than what is available now.
 - c. If implemented, the Study Committee, suggests the county consider splitting the new unified department into four operational branches, each with a Branch Chief at the helm. The four branches could be Fire, Emergency Management, EMS and Communications.
 - i. The Fire Branch is foreseen to be broken down into divisions consisting of the Fire Protection Committee representing the individual volunteer fire departments, Squad 9 Division, and the Office of the Fire Marshal.
 - ii. The EMS Branch could also have three divisions consisting of Response, Training and Personnel/Purchasing
 - iii. The Emergency Management Branch is suggested to be broken into at least two divisions consisting of Planning and the Local Emergency Planning Committee.
 - iv. The Communications Branch could be broken into at least two divisions consisting of the Communications Center Operations and Fire/EMS Reporting.

Should the county choose to implement this recommendation, the rest of the recommendations can be tasked to the various branches as appropriate. If not selected, the rest of the recommendations can still be implemented individually.

⁶ *Organizational Behavior* – University of Minnesota Libraries Publishing, 2010

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.

Fire Protection Committee

Codification of the Fire Protection Committee would not be necessary if the recommendation to realign as one system is implemented and the entire system is codified.

However, the Fire Protection Committee has been operating as a quasi-governmental organization.

Recommendations:

1. It is recommended that if the entire system is not codified that the Fire Protection Committee be codified outlining specific responsibilities and expectations to improve organizational cohesiveness and efficiency.
2. The county should review whether representation – with a vote – from Pulaski County Public Safety should be added to the Fire Protection Committee. Currently, it is the Study Committee’s understanding that Pulaski County Public Safety attends the meetings but are not recognized as a voting member.

These recommendations ensure that the Chiefs from each of the volunteer fire departments have a say in the creation of policies and procedures and on all decisions impacting the delivery of Fire and EMS services in the county.

Create Tactical Playbook and Certify Memorandums of Understanding

It was noted that Standard Operating Procedures or Guidelines were not present or incomplete during the interviews.

Standard Operating Guidelines (SOGs) are written guidelines that explain what is expected and required of fire service personnel in performing their jobs.⁷ SOGs are, in their simplest form, a “how-to” guideline to follow in order to achieve a desired goal. SOGs should not be viewed as rules and regulations, but rather as a roadmap to achieve specific goals and objectives. Standard Operating Procedures, however, are formal policies that specify a course of action, thereby ensuring efficiency, predictability, consistency, and safety.

Additionally, the status of mutual aid agreements and/or memorandums of understanding with the towns, the county and surrounding areas should be reviewed and updated, as necessary.

Recommendations:

1. Working with the Fire Protection Committee, with representation from Pulaski County Public Safety, it is recommended that the county develop a tactical playbook of guidelines, such as Standard Operating Guidelines (SOGs). This will help improve coordination, safety and set a documented level of service for emergency response in the Pulaski County delivery system.

⁷ Standard Operating Procedures: The First Step to a Safer Fireground

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.

- a. This recommendation ensures the county is following NFPA 1720.4.1.1 which states, “the authority having jurisdiction (AHJ) shall promulgate the fire department’s organizational, operational, and deployment procedures by issuing written administrative regulations, standard operating procedures (SOPs), and departmental orders.”
 - b. Based on the interviews, the Study Committee recommends that the county review the need for an operational capability SOG. It is suggested that a means of standardization of helmet marking, or color, be used to distinguish the level of training the firefighter has obtained to make it easier for Incident Commanders to appropriately task personnel. It is recommended that the Fire Protection Committee work on this initiative.
2. The Study Committee recommends that the county review and/or establish mutual aid agreements and/or MOUs with the surrounding towns, counties, emergency response agencies and industrial fire-EMS response brigades.
 - a. The agreements should ensure there a clear delineation for liabilities, cost of service, authorization to respond as well as staffing and equipment.
 - b. The Study Committee recognizes that should the county decide to codify the entire fire and EMS system, this may supersede the need for some mutual aid agreements at the discretion of counsel.
 - c. This recommendation is in line with NFPA 1720 standard 4.8 regarding intercommunity organization which states, “mutual aid, automatic aid and fire protection agreements shall be in writing to address issues such as liabilities for injuries, disabilities, and deaths; cost of service; authorization to respond; staffing; and equipment, including the resources to be made available and the designation of the incident commander.”⁸
 - d. The ability to communicate between mutual/automatic aid units and incident command should also be addressed (NFPA 1720 4.8.3).⁹

Long-Range Planning

As noted earlier in the study, the Study Committee is pleased with the county’s guiding principles and the goals detailed in the county’s comprehensive plan 2030 but more can be done in the way of planning for the future specifically for the delivery of Fire and EMS services in the county.

Recommendation:

1. Working with the Fire Protection Committee with representation from Pulaski County Public Safety, the county should implement a long-term, strategic plan regarding Fire and EMS services as a roadmap for sustaining and improving countywide fire and EMS services.
 - a. The long-term plan should identify immediate, intermediate, and long-term goals with specific deadlines. These measures will serve as the basis for the strategic

⁸ NFPA 1720 – 4.8.1

⁹ Ibid

plan and allow the Board of Supervisors and town leaders to routinely evaluate service delivery.

- b. As part of the plan, the Study Committee recommends that a unified vision statement be written for the Pulaski fire and EMS delivery system to aid in creating a direction for everyone to move towards.
- c. The plan, like a comprehensive plan, would provide the vision of how fire and EMS will grow to support the county's vision of increasing its population to 40,000 by 2030 and be used to support budgetary and other decisions related to the delivery of fire and EMS services.
- d. The county should consider using a neutral party to facilitate the development of such strategic plan.

Creation of the Office of the Pulaski County Fire Marshal

The Study Committee was informed that there is no local Fire Code Official in the county except for the fire marshals within each of the towns.

While the Pulaski building department prides itself on enforcing the Virginia Statewide Building Code to the highest standards, there is no local fire marshal within the county actively enforcing the Virginia Statewide Fire Prevention Code (SFPC).

In accordance with § 27-98 of the Code of Virginia, the State Fire Marshal has the authority to enforce the code when local governments do not enforce the SFPC.

Recommendation:

- With the county expanding growth both commercially and residentially and an already large stock of buildings and manufacturing plants, the Study Committee recommends that the county create a Fire Marshal office, overseen by a newly created county fire marshal position, in order to have dedicated individuals to conduct fire inspections, enforce the SFPC and conduct fire investigations.
 - a. Section 104.1 of the SFPC provides provisions for the County to enforce the SFPC following official action by the Board of Supervisors.
 - b. The county may adopt provisions of the SFPC in its entirety or with respect only to those provisions of the SFPC relating to open burning, fire lanes, fireworks and hazardous materials and assign enforcement responsibility to the local agency or agencies of its choice.¹⁰
 - c. The county fire marshal should also be appointed as the fire official.
 - d. The county should work with the towns to ensure all codifications are completed so that all three fire marshals (county and towns) have jurisdiction to conduct fire inspections, enforce the SFPC and conduct fire investigations in the towns and county.

¹⁰ Statewide Fire Prevention Code (2018) – Section 104.1 Enforcement

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.

Pulaski County Public Safety (EMS)

According to data received from the department, the average response time from alarm to arrival at the scene for the last 12 months was 8.58 minutes and the 90th percentile response time for the same period was 17.87 minutes.

As noted in the county's comprehensive plan, the countywide 90th percentile EMS response time was noted to be 14-15 minutes when the plan was approved in 2019 but there is noted concern about being able to meet NFPA response standards as call volume increases. The rise in response time is already trending upward as seen in data from 2020-2022. Reference NFPA 450: Guide for Emergency Medical Services – Annex B: Time Intervals and Components for more information about response percentiles.

Pulaski County Public Safety has a well-documented quality assurance program. According to information received, 100% of charts are reviewed for basic accuracy for items such as billing, disposition, mileage, facility, procedure documentation and signatures. Then, the peer review QA committee reviews charts according to criteria established by the Operational Medical Director (OMD) and department leadership.

Recommendations:

1. The Study Committee recognizes recruitment and retention is a problem nationwide, but Pulaski County Public Safety leadership needs to ensure there is adequate staffing daily in the county and operations are consistent with NFPA 450 – Chapter 10.
 - a. It is strongly advised that the schedule be based around three defined 24-hour shift periods to provide for at least three staffed ambulances and a quick response vehicle/EMS supervisor.
 - b. Consider moving to a scheduling software to make it easier for staff to be assigned or sign-up for shifts.
 - c. The EMS supervisor needs to be used as a supervisor for proper supervision of field personnel and should not be placed on a response unit unless deemed operationally necessary.
 - i. Ensure policy is in place to provide a maximum number of consecutive hours an employee can be on duty without a mandatory rest period.
 - d. It is imperative that Pulaski County Public Safety be given the resources from the county to be able to keep up with call demand and growth. The Study Committee recommends that a compensation review be performed to ensure salaries are competitive and staff are adequately compensated and rewarded for higher or additional certifications. This is a two-fold solution for recruitment and retention but also meets many of the guiding principles noted in the comprehensive plan.
 - i. Consider compensating and encouraging advanced training with an hourly rate for training hours in an off-duty status.
 - e. Further, the Office of Emergency Medical Services is recommending the immediate staffing of four ambulances with a long-term goal of staffing five units as call volume increases. While EMS patient transfer times at hospitals is not a

new problem, staffing issues and bed capacity have presented new challenges for EMS agencies.¹¹

- f. OEMS updates this page almost daily with new information for EMS providers. It should be consulted regularly for updates:
<https://www.vdh.virginia.gov/emergency-medical-services/education-certification/>
2. The Study Committee was pleased to hear Pulaski County Public Safety leadership is exploring innovative ideas regarding staffing to include considering a staffing model utilizing Advanced-EMTs with a paramedic quick response vehicle on-shift. This and other proposals should be given strong consideration for implementation by county leadership.
 - a. The Study Committee proposes another idea to explore the opportunity of working with the town of Pulaski and its Fire Chief to add an ambulance in the town of Pulaski. This unit should match the scheduling model referenced above (1.a) and is envisioned to have a call response area that extends into the county.
3. The county should ensure the County EMS agency, whether that be Pulaski County Public Safety or the combined system described above (Pulaski County Administration), is an “umbrella agency” in which all first responders and EMS members are also a member of the County’s EMS Agency.
 - i. This would allow fire departments, if they chose, to implement first responder status and assist the rescue squad with EMS calls more easily.
 - ii. The Virginia Department of Health’s Office of Emergency Management – Regulation and Compliance Division is the point of contact for this process.
4. Consider using volunteer personnel to supplement EMS
 - a. Fire Departments should be consulted to determine interest in becoming first responders and assisting EMS.
 - b. Pulaski County Public Safety leadership should consider recruitment of driver only roles for volunteers to be paired with career staff. This recommendation may require further updates to the scheduling model for EMS.
 - c. The tactical playbook discussed earlier should outline how the career and volunteer members, first responders and driver-only members will be utilized. The playbook will identify and respect the unique strengths and differences of each of these groups of responders.
5. Utilize the Virginia OEMS Standards of Excellence Program
 - i. The purpose of the Virginia Standards of Excellence program is to identify and recognize EMS agencies that strive to operate above the standards and requirements of the Virginia EMS Regulations (12VAC5-31). The evaluation addresses several areas that collectively make up the operations of an EMS agency from several perspectives.¹²

¹¹ EMS Agencies Combat Patient Offload Delays Due to COVID-19, March 2021

¹² OEMS: Virginia Standards of Excellence Program

- ii. A link to the site is provided here and in the references:
<https://www.vdh.virginia.gov/emergency-medical-services/virginia-standards-of-excellence-program/>

Squad 9 Program Improvements

The Study Committee applauds the county and Public Safety leadership for implementing this innovative “floater” unit.

Recommendations:

1. Since the staff on Squad 9 is already cross-trained, the Study Committee recommends that they be used to respond to both fire and EMS calls for service. This will ensure skill degradation does not occur.
2. County leadership should consider working with the county garage to determine feasibility in attaining a mechanic with Emergency Vehicle Technician (EVT) certification that is solely employed for maintaining the county’s emergency apparatus. Reference NFPA 1071 – Standard for Emergency Vehicle Technician Professional Qualifications, 2020 Edition for more information. This recommendation is designed to lessen the burden on Squad 9 so while they may still float around to the volunteer fire departments to assist with vehicle maintenance, they will also be more often available to respond to a fire or EMS call.
 - a. Long-term, a second EVT mechanic may be needed in a mobile capacity to assist volunteer departments with required maintenance and vehicle checks.
3. It is strongly encouraged to increase this program to 24-hour operations with two 12-hour shifts. The expansion of Squad 9 would also provide more interaction and training time between the volunteers and Squad 9 personnel.
 - a. The Study Committee recommends this expansion in an effort to help the county more easily achieve NFPA 1720 standard 4.3.2 regarding staffing and response time and 4.3.4 regarding initial attack within two minutes of necessary resources arriving on scene.
 - i. NFPA 1720 4.3.2 requires a minimum staff of six personnel on scene within 14 minutes 80% of the time for rural demand zone sections of the county and minimum staffing of 10 personnel on scene within 10 minutes 80% of the time in suburban demand zone sections of the county.
4. Consideration should be given of returning Squad 9 to a certified EMS transport vehicle which could provide a staffed ambulance on fire scenes which would leave EMS duty crews available for other calls (Reference NFPA 1720 4.9).
 - a. The cross-trained staffing model has many advantages according to the International Association of Fire Chiefs, including:
 - i. Continuity of patient care between first responders and ambulance personnel who are part of the same organization
 - ii. Continuity of administration
 - iii. Continuity of the same medical training

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- iv. Continuity of the same medical equipment
 - v. Continuity of Medical Direction
 - vi. Unity of Command
 - vii. Ability to deliver medical care while performing specialized rescue in such cases as auto extrication, marine rescue, high-angle rescue, collapse rescue environments and hazardous material events¹³
- b. Many of the volunteer fire departments do not have enough daytime personnel because county residents travel to other areas for work. Cross-trained career staff would help fill the void of available personnel during the day.

Pulaski County Dispatch

The Study Committee was not tasked with reviewing the Emergency Communications Center (ECC). But, during the interviews, several issues were brought to the attention of the Study Committee including:

1. Problems with adequate radio coverage where some departments cannot connect to the County radio system in parts of their response areas and must change to another department's channel to make contact with the ECC.
2. Departments are dispatched on their assigned channel and respond on the same channel. However, if they are assisting another department, they must change to the first-due department's channel. This has, in some cases, led to units being on the wrong channel and unable to communicate with each other.
3. The Study Committee noticed priority dispatching was not in place while listening to calls dispatched during the interviews.

Upon further inquiry, county staff reassured the Study Committee that the radio system is in the process of being upgraded and is anticipated to be completed by the end of the first quarter of 2023.

The system will be a seven site, simulcast, trunked, digital radio system with four fire channels. According to county staff, when a department is dispatched, the dispatcher will assign a channel for operations for that incident.

The Study Committee is satisfied that this upgrade should resolve the existing issue today of each fire department having its own channel with some outage areas leading to confusion of which channel is being used for the call when units are responding to assist other departments.

The Study Committee was informed that Emergency Medical Dispatch should also be fully operational in the first quarter of 2023. County staff also reported priority dispatching for EMS calls will be rolled out on the same timeline and fire call priority will follow once coordination is worked out with the fire chiefs.

¹³ IAFC: Fire-based Emergency Medical Services, May 2009

As emergency medical dispatch (EMD) evolves, the Office of Emergency Medical Services offers the following for consideration:

Recommendations:

1. Ensure EMD instructions are in conjunction with county/regional EMS protocols and not out of sync.
 - a. Use OEMS as a resource during EMD implementation:
<https://www.vdh.virginia.gov/emergency-medical-services/other-ems-programs-and-links/communications/>
2. Use the same OMD as the county EMS system.
3. Pursue EMS Accreditation with the Office of EMS Emergency Operations Division¹⁴

THEME 2: BUDGET

A recent study from the NVFC found that 86% of volunteer fire departments have been adversely impacted by inflation and high gas prices.¹⁵

With expenses rising for both the cost of apparatus and operational expenses for the volunteer fire departments and Pulaski County Public Safety, the Study Committee offers a few recommendations to help find costs savings while maintaining a high level of service delivery.

Budgeting and Creation of Fire-EMS Specific Capital Improvement Program

Recommendations:

1. The first step to budgeting and planning is understanding the risks which generate the most calls for service and/or injuries. Pulaski County should complete an annual risk assessment to determine the impact on the delivery of fire and EMS services which will justify the base funding allocation to each department based on the results of the risk assessment and quantitative data.
2. The Study Committee recognizes that the county provides a lot of financial support to the individual fire departments. From the apparatus replacement program to the annual funding in addition to the ATL distribution, the county is providing a great amount of resources. In the same study from the NVFC referenced above, when asked what might help the volunteer fire departments, over 41% said cooperative buying agreements with negotiated lower rates for equipment, gear, and technology.¹⁶
 - a. For the county to achieve its goal of having infrastructure to support the increase of its population to 40,000 by 2030, it is strongly recommended that the county

¹⁴ OEMS: PSAP & 911 Center Accreditation Program

¹⁵ NVFC: NPPGOV Provides Cooperative Purchasing Options, October 2022

¹⁶ Ibid

review and consider increasing its financial support of the individual fire departments and Pulaski County Public Safety.

- i. One example to consider is funding the cost of fuel for all emergency response vehicles titled by the county.
3. The Study Committee is aware that the county already has a Capital Improvement Program (CIP) in place and would encourage the addition of a Fire and EMS specific CIP-type plan.
 - a. Based on the community risk assessment, the county working in coordination with the Fire Protection Committee and the towns should develop a plan for facility renovations, replacements, and new builds.
 - b. Additionally, the Study Committee encourages the county to work with the Fire Protection Committee and Pulaski County Public Safety to determine the minimum standards for all facilities. This would include items such as paved surfaces around stations, backup power generation, station maintenance, etc.
 - c. The county should work with the Fire Protection Committee and Public Safety to add a funding source and plan for the replacement of major life safety equipment such as hoses, turnout gear and self-contained breathing apparatus (SCBA).
 - d. According to NFPA 1720 standard 4.7.2, a dependable water supply is critical to fire suppression efforts. The Pulaski County Public Service Authority (PCPSA) reports it provides water through one primary and three smaller water distribution systems which consist of approximately 160 miles of varied diameter water line, 16 storage tanks and eight pump stations.¹⁷ The current average demand of the PCPSA water system is approximately 2.2 million gallons per day or 47% of the current pumping capacity.¹⁸
 - i. As the county continues to grow, the Study Committee recommends tasking the Fire Protection Committee with working with the Virginia Department of Forestry to identify and install dry hydrants. As noted below, VDOF has a grant program available for this initiative. When strategically located, dry hydrants can supplement the public water system. The Tanker Task Force concept which is already in place for water shuttle operations would be enhanced with properly installed and maintained dry hydrants.
 - e. Financial audits should be completed to ensure fiscal responsibility with the financing provided to the departments. This process can be streamlined to reduce the amount of paperwork involved.
4. Pulaski County should consider using a grants writer to assist the organizations with the acquisition and management of grants. This individual should research and consider the availability of all federal, state and private grant programs, including:
 - a. Virginia Department of Forestry Grants
 - i. Volunteer Fire Assistance (VFA) Grant
 - ii. Firewise Virginia Community Hazard Mitigation Grant
 - iii. Dry Hydrant Grant

¹⁷ Public County Utilities – Public Service Authority

¹⁸ Ibid

- b. Federal Emergency Management Agency Grants
 - i. Assistance to Firefighters Grant (AFG)
 - ii. Fire Prevention & Safety (FP&S)
 - iii. Staffing for Adequate Fire and Emergency Response (SAFER)
- c. Virginia Department of Health-Office of Emergency Medical Services' Squad Assistance Fund (RSAF) Grants
- d. Virginia Fire Services Board Grants, administered by the Virginia Department of Fire Programs including the Live Fire Structure Training Grant discussed in the training section.
- e. Various private grant programs:
 - i. <https://www.grants.gov/>
 - ii. <https://www.emsgrantshelp.com/>

Centralized Purchasing

Recommendations:

1. As part of the CIP-type program described above, the Study Committee recommends the county pursue moving to a centralized purchasing system to potentially lead to cost-savings countywide.
 - a. Should the county implement the recommendation to realign Fire and EMS as one system, a purchasing coordinator could be given this responsibility for the combined system.
 - b. Centralized purchasing would allow the county to leverage purchasing power and reduce operational expenses with each department ordering their own supplies.
 - i. Standardizations and central purchasing is necessary for delivering cost-effective and efficient fire and rescue services.
 - ii. Items, including medical supplies, can be bulk ordered, centrally stored and distributed, as needed. This reduces waste through supply sharing and bulk order discounts
 - c. The Study Committee is not endorsing this program but provides the information below for informational purposes for county consideration.
 - i. The National Volunteer Fire Council has partnered with NPPGov, a cooperative purchasing organizations that offers one of the largest selections of public safety agreements focusing on fire and emergency medical products and services. NVFC members can use NPPGov's competitively bid agreements to purchase products and services at national tier pricing without having to conduct their own RFP process.¹⁹

THEME 3: TRAINING

When the citizens in Pulaski County call for help, they expect and deserve the very best service. The importance of training in the fire and EMS service cannot be overstated.

¹⁹ NVFC: NPPGOV Provides Cooperative Purchasing Options, October 2022

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Many, but not all, of the fire departments in the county try to schedule relevant and quality training for their membership. The lack of regular training allows a situation to exist where personnel who do not have sufficient training respond to emergency incidents.

Currently, Pulaski County Public Safety has a part-time training officer responsible for scheduling and coordinating only EMS-related training.

Recommendations:

1. To ensure the highest level of service to the community, the Study Committee recommends that departments consistently train to enhance the knowledge, skills, and abilities of the members of the fire and EMS service.
2. The Study Committee supports the creation of countywide minimum training standards. While working on the creation of SOGs, discussed in Theme 1, the Fire Protection Committee and Public Safety personnel should add these to the document.
3. Consider Creation of Fire-EMS Training Captain/Volunteer Coordinator Position overseeing a Fire-EMS training division
 - a. If the county decides to combine the fire and EMS services into one system, the Training Division within the EMS Branch could serve as the training organization for the combined system.
 - b. The position will schedule county-sponsored training for the fire and EMS services. It is recommended that trainings be held in varied locations where multiple departments can attend to encourage members from each department to interact and work together as one team.
 - c. This position should work with VDFP Division 4 staff to determine local training opportunities.
 - d. Additionally, this person should be responsible for coordinating continuing education (CE) classes for EMS personnel and fire and life safety education. This division could also be the liaison between the fire and EMS services and community groups. This position could also be responsible for working with local schools, the New River Community College and other educational facilities to establish fire and EMS curriculums and expand the newly-developed basic training academy program.
 - e. This division should be responsible for the oversight, coordination and upkeep of the live fire training facility.
4. Regarding Pulaski County Public Safety, it is recommended they utilize the Office of Emergency Medical Services' Resources
 - a. The Office of EMS with the State EMS Advisory Board Workforce Development Committee has created an EMS Officer Program that can be implemented in EMS agencies to help boost leadership and help develop and maintain quality leaders in the EMS Community. The program covers topics like human resource management, community and government relations, administration and more.

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- i. Additional EMS Leadership resources can be found here:
<https://www.vdh.virginia.gov/emergency-medical-services/chatr/leadership-management/>
- b. The Office of EMS provides programs and services including technical assistance and other resources that EMS agencies, leaders and localities can use to support EMS in their communities. Learn more about recruitment and retention, EMS system development, and leadership and management:
<https://www.vdh.virginia.gov/emergency-medical-services/agency-technical-assistance-resources/>
- c. EMS E.V.E.N.T. Reporting tool for EMS Near Miss Reporting:
<https://www.vdh.virginia.gov/emergency-medical-services/emergency-operations-2/ems-event-notification-tool-e-v-e-n-t/#:~:text=This%20reporting%20system%20is%20called%20the%20EMS%20Voluntary,over%20EMS%20on%20a%20quarterly%20and%20annual%20basis.>

THEME 4: FLEET MANAGEMENT (EQUIPMENT/APPARATUS)

As referenced earlier, the county already provides a significant amount of funding and resources to the fire departments including a new apparatus rotation procedure where fire departments receive funding to purchase new apparatus.

During the interviews, the Study Committee learned the county provides funding for a new piece of apparatus to each department in a yearly rotation. The rotation results in a new piece of apparatus for each department about every 7-8 years. The county has a more than adequate amount of apparatus. This program has been reported to be on hold pending the outcome of the Fire and EMS studies.

The Study Committee applauds this financial commitment from the county but offers some advice for improvement below.

Recommendations:

1. Review the apparatus replacement program by conducting a fleet management study.
 - a. Evaluation of the county's existing fleet is the foundation of a good apparatus plan. The evaluation should include variables such as age, mechanical condition, repair and maintenance costs, inspections of all components, etc.²⁰
 - b. As part of the fleet management study, the county, towns and Fire Protection Committee need to determine what the adequate number of each category of response vehicle is within the limits of each area. The referenced category of response vehicle is 1) engine/pumping apparatus 2) aerial devices 3) tanker and 4) brush vehicles.
 - i. The engine/pumping apparatus criteria should be based on the number of personnel (career and volunteer) available to adequately staff the

²⁰ Firehouse – Apparatus Replacement

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apparatus 75% of the appropriate responses. If apparatus cannot be regularly staffed, it should be considered excess apparatus.

- ii. Excess apparatus can be utilized as reserve apparatus. It may be possible to reduce the reserve apparatus to three reserve engines strategically placed throughout the county. This would eliminate the need for back-up apparatus at each station.
 - iii. Once the number of adequate vehicles by category have been determined, the vehicles with the oldest manufacture date should be listed as the first vehicles to be replaced. Next, the fleet records, discussed in A above, should be reviewed and the order of vehicle replacement should be modified based on this review.
 - iv. Once the timeline of “adequate vehicle” replacement has been established, it is suggested that the Fire Protection Committee recommend if a vehicle rotation schedule is desired. The rotation schedule would establish the frequency that vehicles in busier response districts be switched to less busy response districts to extend their service life.
 - v. The three jurisdictions should also codify the apparatus replacement and rotation plans even if the new Public Safety Administration Department is implemented. This would provide a means of identifying the annual amount each jurisdiction must contribute into the plan. The need of joint titling of all or certain vehicles should also be discussed.
- c. The Study Committee offers these two published fleet managements plans as samples but does not endorse any of the information contained in the reports:
- i. Tuolumne County, Cal Fire:
<https://tuolumnecounty.ca.gov/DocumentCenter/View/20010/2022-TCFD-Fleet-Replacement-Plan-FINAL?bidId=>
 - ii. City of Rogers, Arkansas:
<https://www.rogersar.gov/DocumentCenter/View/2752/RFD-Fire-Apparatus-Replacement-Plan-2014-PDF>
- d. There are multiple NFPA Standards that should be reviewed for compliance including but not limited to:
- i. NFPA 1911: Inspection, Maintenance, Testing, and Retirement of In-Service Emergency Vehicles
 - ii. NFPA 1901: Standard for Automotive Fire Apparatus which is soon to be combined into NFPA 1900: Standard for Aircraft Rescue and Firefighting Vehicles, Automotive Fire Apparatus, Wildland Fire Apparatus, and Automotive Ambulances
- e. A fleet management plan will allow the county to better budget and allocate resources especially because of the delay vehicle vendors are experiencing from the time an order is placed until it arrives.

2. As part of the fleet review, the Study Committee recommends the Fire Protection Committee and Public Safety conduct an apparatus needs assessment.
- a. The apparatus needs assessment allows the county to purchase apparatus based on community-specific needs and not personal wants.²¹

²¹ *Firehouse Magazine* – Conducting an Apparatus Needs Analysis

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- i. Community-specific needs include variables such as population density, zoning, development, previous call data, etc.²²
- b. Performance specifications should be developed for each category of response vehicle. These specifications reduce the need to have specific training and knowledge of each piece of apparatus. This will allow each volunteer organization to customize/personalize apparatus which supports the volunteer system.
 - i. These specifications does not limit the volunteer fire departments to brand the apparatus with their department logo.
- c. As part of this process, it is advised that the county, in consultation with the Fire Protection Committee, work toward a standardization of equipment specifications (hose size, thread type, etc.). This will ensure interoperability between departments without needing hose adapters and additional equipment.
 - i. This suggestion will assist the county with implementing the central purchasing option for supplies because all supplies will be uniform across the county.

THEME 5: COMMUNITY RISK REDUCTION

Community Risk Reduction (CRR) is not just the fire marshal's office and public education. Instead, it is a whole-organization approach to providing programs and services to best meet community needs. By embracing this broader view and applying the models of CRR, fire suppression, EMS, technical rescue, recruitment, incident command, functional fitness and other such elements all exhibit ties to improved community outcomes.

CRR efforts are a process to identify and prioritize local risks, followed by the integrated and strategic investment of resources to reduce their occurrence and impact. Risk is often influenced by economic and social data. Therefore, the CRR process must address socioeconomic issues as well as correcting unsafe actions and processes.

Evaluate the need for a Mobile Integrated Healthcare/Community Paramedicine (CP) Program

The Study Committee was pleased to hear that a CP program has been considered and recommends it for implementation.

A CP program is designed to alleviate the burden on existing medical, social services, and emergency services by misappropriated requests for resources. While all CP programs share this mandate, they differ in the execution of the services provided based on local need. Reference NFPA 451 – Guide for Community Health Care Programs as a resources for this recommendation.

Disparities in access to healthcare exist across the system and involve many factors – location, race, gender and income. Due to the inability of some Americans to obtain effective healthcare, patients will turn to one resource that is always available – EMS, supported by hospital-based

²² Ibid

emergency medicine. Inability to access appropriate care leads to activation of the EMS system as it is the only assistance some people can rely on.

An effective CP program must be data-driven. A common reason programs fail is that their creation and intent differ from the needs of the community. An effective CP program must be a root cause and data-driven process. Root causes may consist of geographic locations of frequent EMS calls, spikes in call volume at a particular location or for a person, and/or repeated requests for service for another individual. A common reason programs fail is that their creation and intent differ from the needs of the community.²³

The worth of community paramedicine is measured not only in reduction of financial burden to health systems, but more importantly, it may reduce the frequency of unnecessary non-emergent transports.

Consult the Office of Emergency Medical Services' website for more information and important documents: <https://www.vdh.virginia.gov/emergency-medical-services/community-paramedicine-mobile-integrated-healthcare/>

Community Risk Assessment (CRA)

Recommendation:

1. Complete a Community Risk Assessment (CRA)
 - a. The entire CRA process is based on the collection and review of community profile information comprised of a loss /event history profile and the response environment. The response environment looks at the type of incidents to which public safety organizations in the community respond, and the capabilities of these organizations. The loss/event profile looks at past experiences and trends in response, losses and causes.
 - b. The VDFP CRR Coordinator, upon request, can return to assist the county with this process.

Virginia Fire Incident Reporting System (VFIRS)

The basis of any CRR effort is the systematic collection and review of community profile information. A loss /event history profile describes the community's past and trends and how the community's experience compares to local, regional, and national trends.

Currently all of the fire departments indicate they are completing fire reports and submitting them to Emergency Management. However, VFIRS shows only four departments have submitted some reports for the last three years with four not submitting any at all.

²³ *Community Paramedicine: What, why and how?*, 2022

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.

Recommendation:

1. The current process should be examined to determine if the reports are being transmitted directly to the National Fire Incident Reporting System or if they are not being submitted. Submitting the data to the VFIRS Manager at the Virginia Department of Fire Programs will allow for the reports to be submitted to NFIRS. Not only does this process provide insight into the county's emergency responses and trends, it can provide a means of comparing the local trends to regional and national trends. As stated above, this information is critical for the identification and mitigation of any community risks.

Recruitment and Retention

Volunteerism has been a part of the community tradition of the United States since the beginning of colonization. At the origin of volunteer fire departments, volunteers were often the political leaders in a community. Today, the volunteer labor force consists of citizens who are more technologically savvy and driven by an entirely different set of criteria. It must be accepted that the "culture" of the fire service is acquired over time. A simplistic definition of culture is "the way we do things around here." The average age of a volunteer member in the fire service today is above 50 years old. This "culture" tends to subscribe to the belief that all members should "be able to do all things." This strategy may not be successful in today's culture. Today, a more productive belief is a fire department should be viewed as a football team with several different groups of individuals being responsible for specific functions.²⁴

Recommendations:

1. The Fire Protection Committee should encourage a modification of the "how we do things culture." Each department should do an assessment to determine what the main operational areas are for their organization. This would allow for the targeted recruitment of individual members to handle emergent response and non-emergent functions such as fundraising, entering fire reports, marketing/social media initiatives, fire & life safety education and community programs, human resource management, station & apparatus maintenance, and in-house training.
 - a. By utilizing these specialized groups to achieve specific tasks, it works to free up the demands on those members that are interested in responding to emergencies and maintaining the necessary training. Thus, this type of "culture" addresses retention needs by ensuring all members attain a sense of achievement and being a part of the community.

²⁴ *Why firefighting is like football*, 2015

2. The “culture” should become more inclusive. It appeared that white male members far outnumbered all other members. It is difficult to recruit members from citizens receiving services if they don’t “see people like me.” It should be a goal of the Fire and Rescue Association to have the membership which reflects the race and gender demographics of the county which are approximately:²⁵

White – 91.6% Black – 5.1% Other – 3.2%
Male – 49.7% Female 50.3%

3. The county is encouraged to utilize the National Volunteer Fire Council’s “Make Me A Firefighter” recruitment tool which features a department portal filled with resources and tools for implementing a local recruitment campaign as well as a public web site to allow potential volunteers to find local opportunities. There are step-by-step guides and resources on marketing and planning events to engage prospective recruits. It will allow a posting of volunteer opportunities by entering them into a database which is searchable to potential volunteers who can connect directly with the department through Make Me A Firefighter. It is possible to customize outreach materials for each individual department to use in the community. The MMAFF program can track recruits and send reminders of where they are in the recruitment process.²⁶

Incentive/Awards Program

It is recommended that Pulaski County establish an incentive / award program to show continued support, recognition, and appreciation of the county volunteer members. Examples of programs would be: personal property tax reduction, pay per call, local business discounts, years of service awards, annual picnic or banquet and the VOLSAP retirement program.

Recommendation:

1. Consider offering VOLSAP (Volunteer Service Award Program).
 - a. Virginia has a state VOLSAP retirement program administered by the Virginia Retirement System. This program is a service award program established to provide a financial incentive and monetary award to eligible volunteer firefighter and rescue squad workers. The program allows eligible volunteers, local departments, squads and localities to contribute money that is then invested alongside the VRS pension trust fund. Contributions must be quarterly and be either \$30, \$60, or \$90 per quarter in addition to any matching contributions by the department or locality. Members will continue earning service credit for each month of volunteer service until the member reaches the age of 60 at which point fund distribution begins.

²⁵ Discovery Data Hub, 2021

²⁶ NVFC: *Make Me a Firefighter Program*, 2021

Safety Practices: Cancer

As stated in the Lavender Ribbon Report,²⁷ developed by the NVFC and IAFC, cancer is the leading health risk facing firefighters, largely due to the chemicals and carcinogens they are exposed to while engaged in response activities. Chemically-based plastics are in use in nearly every product in our homes, business and vehicles and when they burn they change their chemical composition.

Recommendations:

1. It is generally accepted that occupationally caused cancer is something that can be prevented by wearing protective gear properly, gross removal of fireground contamination while on scene, washing of turnout gear after returning from incident engagement, establishing a fire hood exchange program and showering as soon as possible, are just some of the basic best practices. These best practices should be incorporated into the county's updated tactical playbook discussed in Theme 1.
2. The Firefighter Cancer Registry Act of 2018 mandated the Centers for Disease Control and Prevention (CDC) to create a voluntary registry of firefighters to collect health and occupational information to determine cancer incidence in the U.S. fire service. In response to this mandate, CDC's National Institute of Occupational Safety and Health (NIOSH) established the National Firefighter Registry (NFR):
<https://www.cdc.gov/niosh/firefighters/registry.html>
 - a. It is recommended that all fire response members registers and all three jurisdictions facilitate this process
3. In addition to the Firefighter Cancer Registry Act, in support of the Virginia Line of Duty Death Act, it is recommended that the county work with the Fire Protection Committee to ensure each volunteer fire department maintains a roster of members and submits the roster to the clerk of the circuit court as detailed in Code of Virginia § 27-42.²⁸

²⁷ NVFC: Lavender Ribbon Report

²⁸ *Code of Virginia* – Chapter 4

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APPENDIX A

Pulaski County Comprehensive Analysis Study of Fire/EMS System Request

PULASKI COUNTY VIRGINIA

Jonathan D. Sweet
County Administrator
143 Jr d. Street NW
Pulaski, Virginia 24301
jsweet@pulaskicounty.org



Office Phone (540) 980-7705

Website: www.pulaskicounty.org

January 26, 2022

Chief Brook Pittinger
Assistant Chief of Administration &
Risk Reduction
Virginia Department of Fire Programs
1005 Technology Park Drive
Glen Allen, VA 23059-4500

RE: Comprehensive Analysis Study of Fire/EMS System Request – Pulaski County

Chief Pittinger

This is to request the services of the Virginia Fire Services Board (VFSB) in conducting a complete and thorough review of the fire and EMS system in Pulaski County.

This study has the support of the Pulaski County Board of Supervisors and County Administration as shown by the attached resolution adopted at the Board's January 24, 2022 meeting.

The requested areas of concentration of this study include:

- Organization
- Budget and Administration
- Training
- Delivery of Services/staffing
- Fleet Design and Management (Equipment/Apparatus)
- Emergency Medical Advisory Committee
- Pulaski County Protection Committee.
- Logistic of Apparatus and Staffing

It is the Board's and County Administration'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 Pulaski County.

Your consideration of this request at the next available opportunity would be great appreciated.

I am available to respond to any questions you might have regarding this request
I can be reached by phone at 540-980-7705 or by email at jsweet@pulaskicounty.org

Sincerely,

Jonathan D. Sweet
County Administrator (CMA-CM)

APPENDIX B

Resolution requesting the Virginia Fire Services Board conduct a comprehensive analysis of the Pulaski County Fire and Rescue (EMS) System



**RESOLUTION
REQUESTING THE VIRGINIA FIRE SERVICES BOARD
CONDUCT A COMPREHENSIVE ANALYSIS OF THE
PULASKI COUNTY FIRE AND RESCUE (EMS) SYSTEM**

WHEREAS, fire and rescue (EMS) is among the highest priorities demanded and expected by our citizens who deserve a prompt and professional response every time they call 9-1-1; and,

WHEREAS, over 240 volunteers give unselfishly of their time from 8 fire departments and 1 EMS department located in Pulaski County, Virginia, responding to 8,829 service calls within the Calendar Year 2021; and,

WHEREAS, the Pulaski County Board of Supervisors demonstrates its genuine commitment to the County's fire and rescue departments by appropriating more than \$2,825,000.00 for normal operating needs and more than \$908,000.00 for fire and rescue capital needs annual; and,

WHEREAS, the Pulaski County Board of Supervisors desires to have an independent comprehensive analysis performed on the County's fire and rescue departments' services due to the growing demands and everchanging environment, and to continue to improve upon and strengthen these vital services.

NOW, THEREFORE, BE IT RESOLVED, the Board of Supervisors of the County of Pulaski, Virginia hereby formally expresses our desire to complete a comprehensive analysis of Pulaski County's fire and rescue departments' services, and directs the County Administrator to take the necessary actions to request and effectuate such a comprehensive analysis be performed and provided by the Virginia Fire Services Board.

Adopted this 24th day of January 2022, in Pulaski County, Virginia.

By:

Laura W. Walters, Chair
Pulaski County Board of Supervisors

Attest:

Jonathan D. Sweet, County Administrator
County of Pulaski, Virginia

APPENDIX C

Scope of Agreement between the County of Pulaski and the Virginia Fire Services Board



Scott Garber
VIRGINIA FIRE SERVICES
BOARD CHAIR

Virginia Department of Fire Programs
Virginia Fire Services Board

Virginia Fire Services Board
c/o Virginia Department of Fire Programs
1005 Technology Park Drive
Glen Allen, VA 23059-4500
Phone: 804/371-0220
Fax: 804/371-3405

Scope of Fire and EMS Study Agreement

between the

County of Pulaski

and the

Virginia Fire Services Board

PURPOSE AND SCOPE

The purpose of this agreement is to establish mutually accepted duties, responsibilities, and expectations between the Virginia Fire Services Board, its designated Fire and EMS Study Committee and the locality which has requested the Fire and EMS Study/Technical Assistance from the Virginia Fire Service Board. The agreement is provided to help define activities and expectations between both parties.

AGREEMENT

- Study results/recommendations shall be comprehensive in nature and shall be consistent with and organized according to a final revised scope of work as negotiated between the Study Committee and the locality prior to the formal commencement of the Study. *****Refer to Self-Assessment Questionnaire for Scope of Study.***
- While questions of staffing ratios, response time, capital equipment purchases, etc. are relevant to the Study process, the locality should not expect detailed recommendations in these areas beyond system-wide recommendations.
- Study Results will be openly presented to the elected/appointed governing body, the requesting agency as well as any additional requesting organization(s);


- The time frame noted for technical assistance will be accepted;
- All relevant organizational data will be made available to the study committee; and,
- Locality will provide to the Virginia Department of Fire Programs a central point of contact. Please ensure the contact is available Monday – Friday from 9 am to 5 pm, and nighttime and weekends as needed.
- Within 6 to 9 months of the Study completion, the Department of Fire Programs will email the locality a feedback follow-up survey. It is requested that the locality complete the survey so the Agency and Board can gain valuable in-sight into the success and areas of improvements for future studies. Your participation in the feedback survey is important to the Agency and Board.

REVIEW AND TERM

This agreement shall be in effect until the end of the Fire and EMS Study.

SIGNED

We do hereby acknowledge and agree to abide by the provisions of this Memorandum of Understanding.


 Chairman of Virginia Fire Services Board
 Virginia Department of Fire Programs

Date Signed

12-6-2022
 Keith H. Johnson

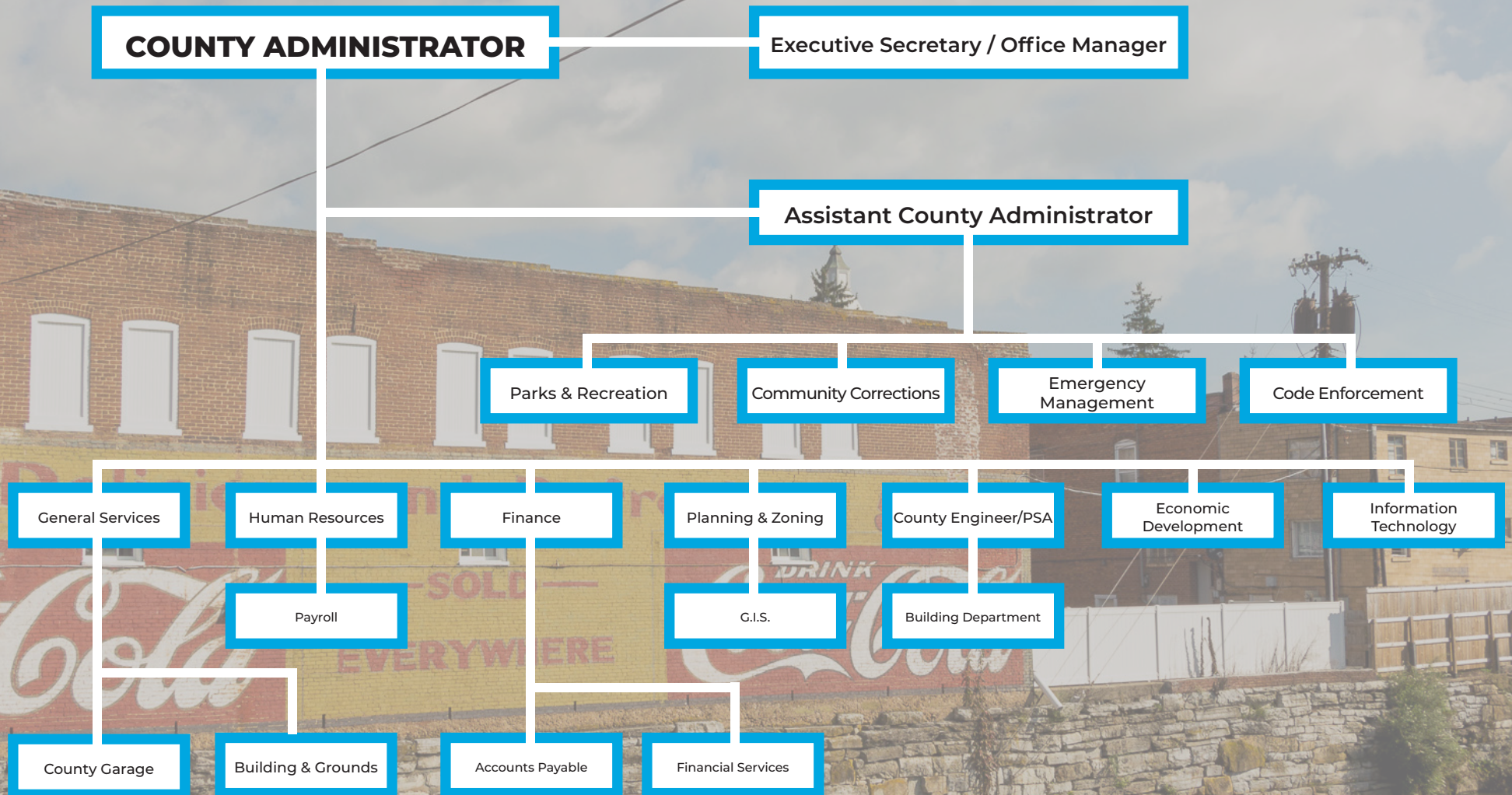

 Authorized Locality Representative

Date Signed

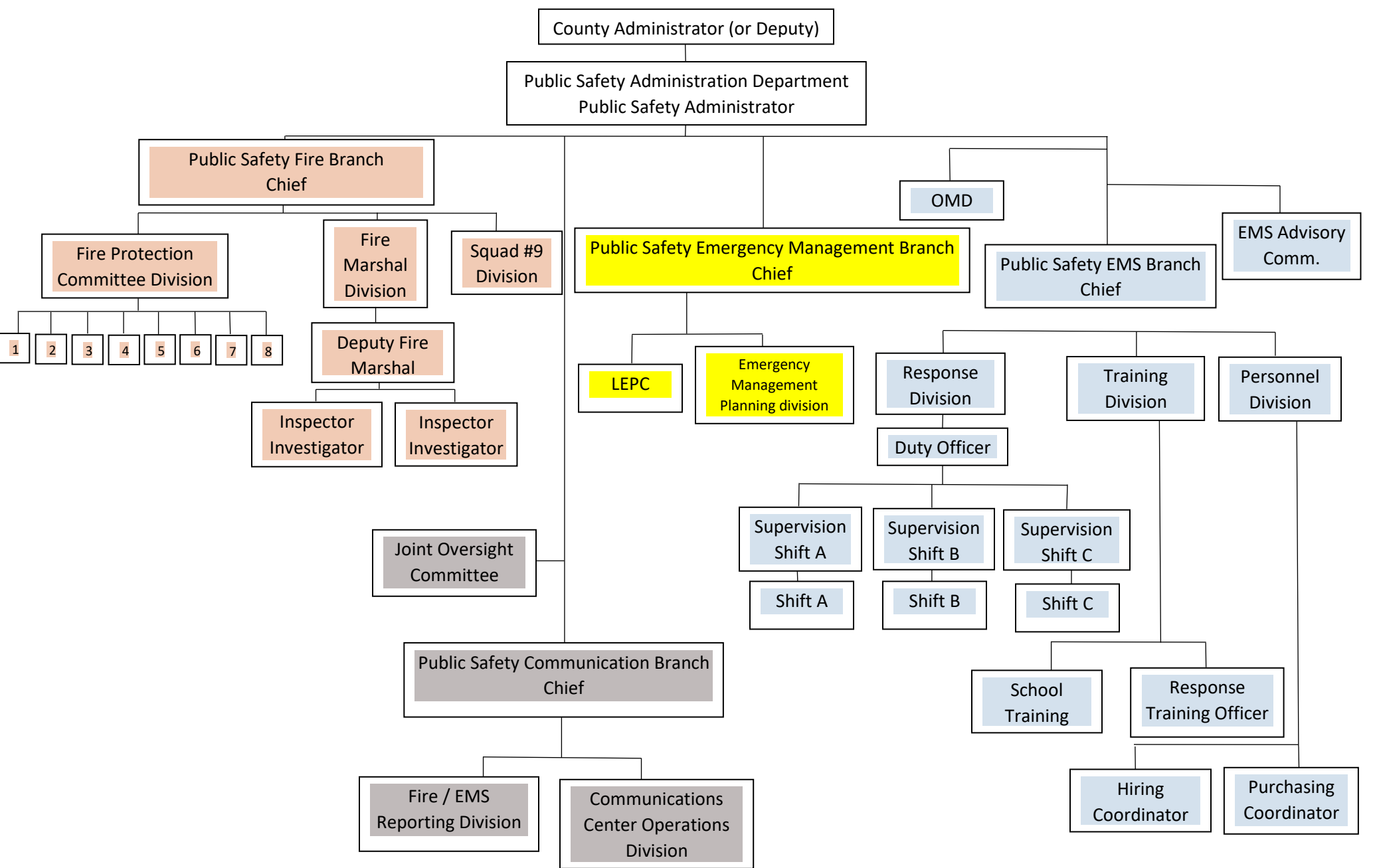
2/26/22

COMMUNITY FACILITIES & PUBLIC SERVICES

Pulaski County Administration - Major Departments



Appendix E: Realignment of Fire & EMS as one combined system **Not all positions are shown; Chart developed for visual purposes only*



Appendix F



Community Risk Assessment Data Sheet

PULASKI COUNTY

General

333 square miles

Claytor Lake 4,500 acres

Location

Surrounding Counties:

Giles, Bland, Wythe, Carroll, Montgomery, Floyd

Interstate 81 runs through it ____ miles

Population

2019- 35,066

Race

White	Black	Hispanic/Latino	Other
91.6%	5.1%	2%	0.6%

Gender

Male	Female
49.7%	50.3%

Appendix F

Age

18 and under	65 and over	Median
17.1%	23.3%	47 yrs. old

Education

High School or Higher	Assoc. Degree or Over
82%	31%

Housing

Housing Units	Average households	Owner Occupied	Vacant
14,475	2.3 persons	62.5%	14.4%

Income

Median Household Income	Per Capita
\$52,543	\$28,304

Unemployment

County	VA	US

Government

County Seat	Board of Supervisors	County Administrator	Director of Emergency Coordinator	Emergency Services Coordinator
	5	Jonathan Sweet		Brad Wright

Real Estate

Real Estate Tax Rate	Personal Property Tax Rate
\$0.74/100	\$2.35/100

Utilities

Appendix F

Number of Schools 8

High Schools 1

Pulaski High School

Middle Schools 2

Pulaski Middle School

Elementary Schools 5

Critzer Elementary

Dublin Elementary

Pulaski Elementary

River lawn Elementary

Snow Ville Elementary

New River Community College

Fire Departments 1 Dept. per 2452 persons 1 Dept per 22 sq. miles

Draper VFD	4380 Academy St	Draper VA
Dublin VFD	159 Trinkle Ave.	Dublin VA
Fairlawn VFD	7358 Peppers Ferry Blvd.	Radford VA
Hiwassee VFD	2273 Julia Simpkins Rd.	Hiwassee VA
Newbern VFD	5297 Wilderness RD.	Dublin VA
Pulaski VFD	117 Jefferson Ave. North	Pulaski VA
SnowVille #1	4855 Lead Mine Rd.	Hiwassee VA
Snowville #2	4739 Shelburne Rd.	Radford VA

Appendix F

Twin Community VFD	8011 Church Hill Lane	Parrott VA
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Fire Brigades

TMD Friction Incipient F.B.

Volvo-White Motor Company F.B.

Ethan Allen	4825 Cleburne Blvd.	Dublin VA
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Rescue Squads 1 EMS Squad per 5,7221 persons 1 EMS Squad per 53 sq. miles

Pulaski Emergency Services	412 Jefferson Ave. North	Pulaski VA
Regional EMS Station #1	221 Broad St	Dublin VA
Regional EMS Station #2	7364 Peppers Ferry Blvd.	Fairlawn
Regional EMS Station #3	4851 Lead Mill Rd.	Hiwassee VA
Regional EMS Station #4	2273 Julia Simpkins Rd.	Hiwassee
Regional EMS Station #5	438 1 st Street Southwest	Pulaski VA

Other

Ambulance Services 1 Amb. Service per 11,443 persons 1 Amb. Service per 106 sq. miles

Medical Transport of Pulaski	Pulaski VA
Regional EMS Ambulance of Dublin	Dublin VA
Regional EMS Ambulance of Radford	Radford VA

Code Red System

GIS

Joint 911 – Dispatches for County and Towns of Dublin and Pulaski

Appendix F

Fire Call Types

Top Reported Fire Type: Building Fire

Top Fire Incidents by %

Building	Vehicle	Forest	Woodland	Chimney	Other
20%	12.5%	10%		12.5%	10%

Top Fire Incidents Action Taken by %

Extinguished By Fire Service	Investigate Fire Out on Arrival
24.3%	8.1%

Top Fire Incident Locations by %

1 or 2 Family Dwelling	Forrest/Woodlot	Multifamily
19.5%	4.9%	4.9%

EMS Call Types

Top EMS Incident Types by %

Medical Assist	MVA w/Injuries	MVA w/o Injuries	Accident w/ Injuries	Other
24.2%	24.2%	18.2%	12.1%	9.1%

Top EMS Incident Actions Taken by %

Manpower	EMS Other	Assistance Other	BLS
22.5%	12.5%	10%	10%

Top EMS Incident Locations by %

1 or 2 Family Dwelling	Highway	Multi Family	Other
19.5%	9.8%	9.8%	9.8%