FREDERICK COUNTY

DIVISION OF FIRE AND RESCUE SERVICES

FIRE – RESCUE SERVICE PLAN
CY 2023 – CY2028

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Updated December 2018
Updated February 2023

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I. INTRODUCTION

This Frederick County Fire and Rescue Service Plan is a forward look at service enhancements for fire and rescue services that will be needed to meet current and future service demand as growth continues to occur. This plan projects system needs for a five (5) year calendar period from 2023 through 2028, which for budgetary purposes spans fiscal years FY-24 through FY-28.

The Fire and Rescue Service Plan incorporates: Risk Assessment of each planning area, Emergency Medical Services, a Fire Station Location Plan, a Tactical Unit Deployment Plan, a Staffing Deployment Plan and an Implementation Plan and Timeline for projected service enhancements over the five (5) year period.

Purpose of the Service Plan

The purpose of the Fire and Rescue Service Plan is to provide the County Executive, the County Council, and our citizens an understanding of the current and future needs of the county fire and rescue system based on growth anticipated by the county comprehensive plan and to outline resource requirements for the system going forward.

In 2020 Frederick County had a population of 271,717 with a projected growth rate over the next 10 years of 8.6%, Frederick County can expect a resident population of 295,120 in the year 2030. Over the last 5 years, the Frederick County Division of Fire and Rescue Services has noted a 13% increase in calls for service. In 2022, the Frederick County Division of Fire and Rescue Services averaged 110 calls for service per day.

Adopting a fire and rescue service plan will provide a guide for current and future elected leaders to plan for future system needs that will keep pace with increasing demands for fire and rescue services as growth occurs.

Service Plan Implementation

This planning document will be reviewed by the County Executive who shall then consider adoption of the service plan or refer the plan for additional development or revision prior to adoption. The fire and rescue service plan should be adopted as a functional plan and companion document to the Frederick County Comprehensive Plan.

Budgetary decisions pertaining to the Frederick County fire and rescue system should be guided by the adopted fire and rescue service plan and as modifications to the plan are made through reassessment of service needs in the future.

VISION

To maintain and perpetuate a combined fire and emergency medical services (EMS) system for Frederick County, Maryland, that is capable of providing residents and visitors with timely, efficient and cost-effective fire protection, technical rescue service, emergency medical services and response to hazardous materials and other related life safety and property threatening incidents, utilizing state of the art equipment that is staffed by highly-trained volunteer and career personnel operating from strategically placed fire – rescue facilities 24 hours per day, seven days per week.

MISSION

"The mission of the Division of Fire and Rescue Services is to safely provide Fire, Rescue and Emergency Medical Services while educating, reducing risk and protecting our community in a professional, efficient manner with a well-trained, healthy workforce."

GUIDING PRINCIPLES OF FREDERICK COUNTY FOR FIRE AND RESCUE SERVICES

Protection of Life and Property

Provide timely, efficient, cost-effective services to the citizens of Frederick County, including effective response times, adequate staffing, effective fire and rescue incident supervision, efficient distribution of personnel, apparatus, equipment, and timely adaptation to changing service needs. All organizations and participants comprising the fire, rescue and emergency medical system shall share responsibility for continuously improving their effectiveness and efficiency.

Volunteer Participation

Maintain an organizational environment that is conducive to participation and inclusion of volunteer fire and rescue personnel. Promote continual improvement in the capabilities and job performance of volunteer members through training and operational participation.

Accountability

Maintain accountability to the citizens of Frederick County and the County Executive for effective service delivery, sound management practices and the responsible use of public funds.

Operations and Administration

Maintain effective service delivery levels while minimizing associated overhead costs and operational expenses, including apparatus, facilities, and equipment. Effectively manage career and volunteer resources, purchasing, maintenance, training, and other programs to gain maximum efficiency. Provide for the health, safety, and wellness of all operational responders to provide for a long and healthy public safety career. Ensure future facilities developed for fire and rescue services combine both fire suppression and emergency medical service into a single facility to reduce costs, eliminate duplication and provide for operational efficiencies.

Livable Frederick Master Plan

Livable Frederick, through the creation of the Livable Frederick Master Plan (LFMP), embodies a focus on policy and general growth strategy in order to articulate a clear direction for Frederick County in the face of future change. An important part of many comprehensive plans involves the charting of ideas, concepts, principles, goals, and procedures for setting a course of future actions and to establish a normative basis of action by providing benchmarks for determining outcomes that are "good" (desirable) or "bad" (undesirable). This is a central role of the LFMP, which together with the Comprehensive Plan Map, future community, corridor, large area, and functional plans, and other

important pieces of comprehensive planning in Frederick County, as a whole constitute Frederick County's Livable Frederick Comprehensive Plan. In addition, the LFMP describes approaches to communicating and structuring comprehensive planning in Frederick County that are unlike past planning efforts. Written within the Livable Frederick Master Plan there are several supporting initiatives that tie directly back to the provision of Fire and Rescue Services. These initiatives include:

- Periodically undertake comprehensive reviews of public safety needs based upon future growth projections to establish minimum standards for police and fire/rescue protection. (A Vision for our Community, Infrastructure Capacity, Needs Identification, 100)

- Revise the Adequate Public Facilities Ordinance to fully support concurrence of public facilities with development. (A Vision for our Community, Infrastructure Capacity, Capacity Expansion, 101)

- Support partnerships with municipalities for funding the design and construction of transportation and public facilities such as libraries, parks, and public safety buildings. (A Vision for our Community, Infrastructure Capacity, Capacity Expansion, 101)

- Support efficiency gains and community investiture gained through volunteerism in all forms, especially in the coordinated volunteer and professional system of fire and rescue services. (A Vision for our Community, Infrastructure Operations, Optimization, 104)

- Ensure that services are accessible to all members of the community in need. (A Vision for our Health, Support, Accessing Services, 146)

In the parenthesis behind each supporting initiative, you will find the Theme, Category, Goal, and Page Number to locate the topic within the Livable Frederick Master Plan Document.

II. CURRENT SYSTEM DESIGN

The Frederick County Fire and Rescue System is a combination service made up of both volunteer and career responders. The system includes twenty-five (25) volunteer fire and rescue corporations, and the Division of Fire and Rescue Services (hereinafter referred to as "the Division"). Currently the volunteer fire and rescue corporations consist of fourteen (14) corporations that provide both fire and ambulance service, eight (8) corporations that provide fire and medical first responder services and three (3) corporations that provide ambulance/rescue services only.

The Division of Fire and Rescue Services currently consists of 556 uniformed and 18 non-uniformed employees assigned to two sections of the Division: Emergency Services Section and Administrative Services Section. While Volunteer Fire and Rescue Services are established as a separate Division of county government, they function as an integral part of overall county fire and rescue services division.

- **Emergency Services Section**. The Emergency Services Section is responsible for all field services to include, Fire Suppression, Emergency Medical Services, Special Operations and Research & Planning, Training and Safety.

- **Administrative Services Section**. The Administrative Services Section is responsible for Fire Prevention, Logistics, Fleet Services, and Finance, Information Technology and Ambulance Insurance Billing.

- **Volunteer Services Division**. The Division of Volunteer Fire and Rescue Services is responsible for Volunteer Member Services, Volunteer Benefits (Insurance, LOSAP), Volunteer Recruitment and system wide coordination of volunteer fire and rescue companies. This section also provides staff support to the Frederick County Volunteer Fire and Rescue Association.

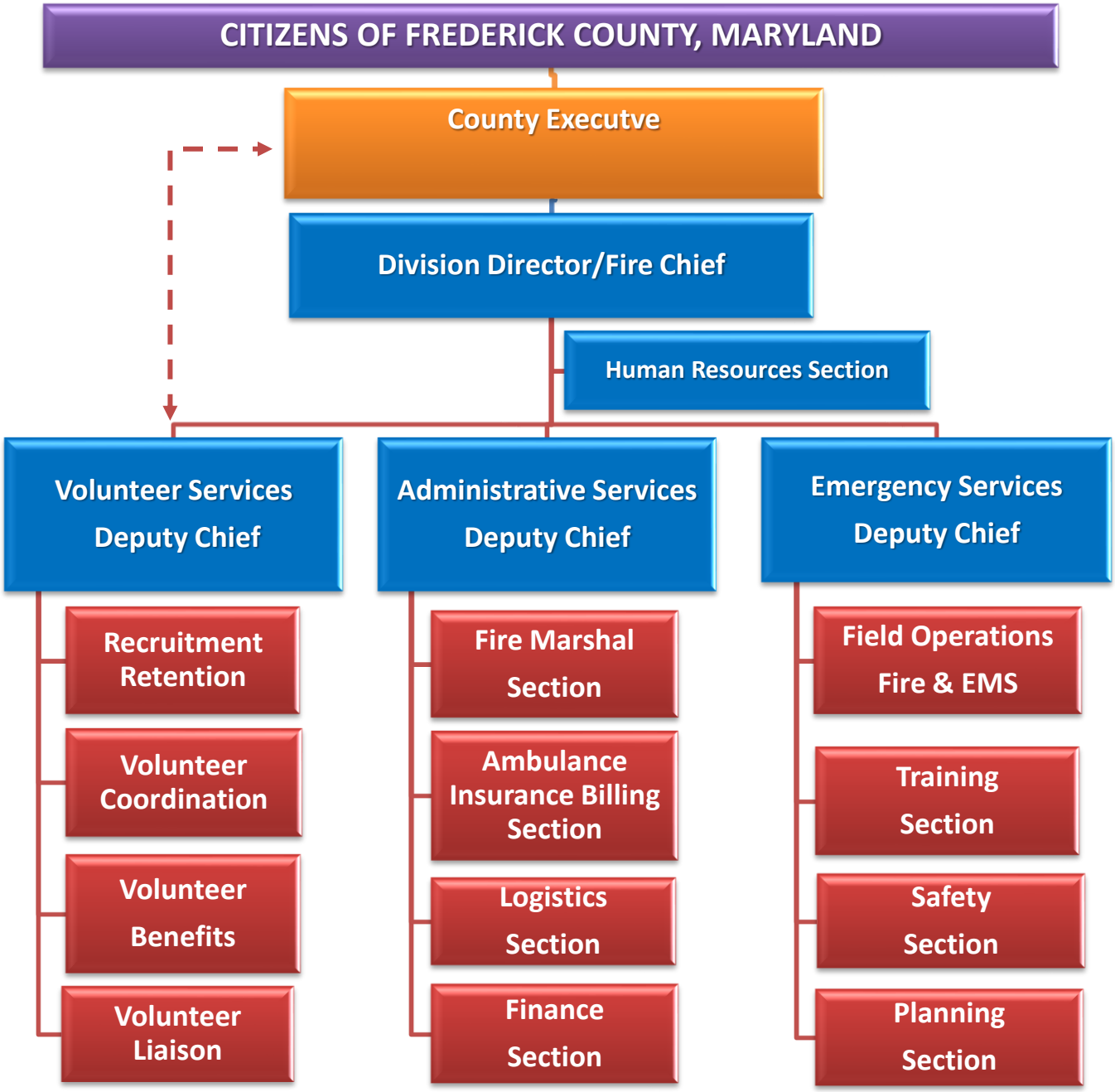
The Division of Fire and Rescue Services provides operational staffing and administrative support to the County's volunteer fire and rescue companies, special events planning, conducts all code-related fire inspections, and investigates the cause and origin of fires, explosions and hazardous materials incidents.

Under the authority specified in the Code of Frederick County, Maryland, the Director and Chief of the Division of Fire and Rescue Services is responsible for overall operations and administration of the county fire and rescue system.

Volunteer fire and rescue corporations are established as community-based organizations that affiliate in a confederation relationship through the Frederick County Volunteer Fire and Rescue Association.

The volunteer segment of the fire and rescue system is supported by four (4) fulltime positions that provide administrative support and recruitment services for the volunteer corporations. The Deputy Chief of Volunteer Fire and Rescue Services is appointed by the County Executive and is a command level officer within the uniformed chain-of-command.

DIVISION OF FIRE AND RESCUE SERVICES
ORGANIZATIONAL STRUCTURE



Frederick County Fire & Rescue Stations

COMPANY NUMBER & NAME	STATION LOCATION	STAFFING
1. Independent Hose Co.	310 Baughman's Lane, Frederick, MD	Career / Volunteer
2. Junior Fire Co.	535 North Market Street, Frederick, MD	Career / Volunteer
3. United Steam Fire Engine Co.	79 S. Market Street, Frederick, MD	Career / Volunteer
4. Citizens Truck Co.	9 South Court Street, Frederick, MD	Career / Volunteer
5. Brunswick Vol. Fire Co	1500 Volunteer Drive, Brunswick, MD	Career / Volunteer
6. Vigilant Hose Co.	25 West Main Street, Emmitsburg, MD	Career / Volunteer
7. Middletown Vol. Fire Co.	401 Franklin Street, Middletown, MD	Career / Volunteer
8. Myersville Vol. Fire Co.	301 Main Street, Myersville, MD	Career / Volunteer
9. New Midway Vol. Fire Co.	12045 Woodsboro Pike, New Midway, MD	Volunteer
10. Guardian Hose Co.	21 North Church Street, Thurmont, MD	Career/Volunteer
11. Walkersville Vol. Fire Co.	79 West Frederick Street, Walkersville, MD	Career/Volunteer
12. Braddock Heights Vol. Fire Co.	6715 Jefferson Blvd., Braddock Heights, MD	Career / Volunteer
13. Rocky Ridge Vol. Fire Co.	13516 Motters Station Rd., Rocky Ridge, MD	Volunteer
14. Carroll Manor Fire Co.	2795 Adams Street, Adamstown, MD	Career / Volunteer
15. New Market District Vol. Fire Co.	76 West Main Street, New Market, MD	Career / Volunteer
16. Woodsboro Vol. Fire Co.	2 South Third Street, Woodsboro, MD	Career / Volunteer
17. Libertytown Vol. Fire Co.	12027 South Street, Libertytown, MD	Career / Volunteer
18. Graceham Vol. Fire Co.	14026 Graceham Road, Thurmont, MD	Volunteer
19. Brunswick Ambulance Co.	200 W. Potomac Street, Brunswick, MD	Career / Volunteer
20. Jefferson Vol. Fire Co.	4603-A Lander Road, Jefferson, MD	Career / Volunteer
21. Wolfsville Vol. Fire Co.	12464 Wolfsville Road, Myersville, MD	Volunteer
22. Lewistown District Vol. Fire Dept.	11101 Hessong Bridge Road, Thurmont, MD	Career / Volunteer
23. Urbana Vol. Fire & Rescue	3602 Urbana Pike, Frederick, MD	Career / Volunteer
24. Walkersville Vol. Rescue Co.	73 Frederick Street, Walkersville, MD	Career / Volunteer
25. Green Valley	3939 Green Valley Road, Monrovia, MD	Career / Volunteer
28. Carroll Manor: Pt. of Rocks	1809 Ballenger Creek Pike., Pt. of Rocks, MD	Career / Volunteer
29. Northgate	37 Thomas Johnson Drive, Frederick, MD	Career
30. Thurmont Community Ambulance	27 North Church Street, Thurmont, MD	Career / Volunteer
31. Westview	5525 New Design Road, Frederick, MD	Career / Volunteer
33. Spring Ridge	6061 Spring Ridge Parkway, Frederick, MD	Career / Volunteer

CURRENT CAREER STAFF SUPPORT

For the most part, the assignment of operational career fire and emergency medical service personnel to staff volunteer fire and rescue stations has occurred at the request of volunteer corporations when the emergency response level provided using only volunteer staffing has fallen below the service standard established by Frederick County.

Career staff support is requested through the annual budget process for review of need and recommendation to the County Executive. Career personnel are currently assigned to one of two work schedules, based on the staffing need of the volunteer corporation, explained as follows:

- A volunteer station in a low or moderate risk area that has an adequate number of operational volunteers available weeknights and weekends may have county career personnel assigned to a 12-hour day work shift. In this case, career firefighter/EMT's staff the station from 0600 – 1800 hours, Monday – Friday. Volunteer personnel provide staffing at all other times.
- A volunteer station in a moderate or high-risk area where service demand is high and/or the number of operational volunteers available is not adequate to meet the service demand will typically have county career personnel assigned to a 24 hour work shift and career staffing will be provided 7 days a week.
- Currently, two (2) stations are career staffed on the 12-hour work schedule and 24 stations are career staffed on the 24-hour schedule.

CURRENT VOLUNTEER STAFFING

The volunteer segment of the fire and rescue system is comprised of approximately 600 operational and 1000 administrative volunteers.

While newly recruited volunteers are entering our fire and emergency medical training programs to obtain their basic certifications needed for operational service, retention of these newly recruited volunteers has been problematic.

Of the thirty (30) fire-rescue stations in Frederick County:

- Four (4) stations continue to deliver emergency services with 100% volunteer staffing.
- Two (2) stations operate with weekday career staff and volunteer staffing evening and weekends.
- Twenty-four (24) stations are provided with 24/7 career staff and volunteer staffing as available.

CURRENT FIRE – RESCUE – AMBULANCE STATIONS

There are currently thirty (30) fire and/or ambulance stations located in communities throughout Frederick County. As noted earlier:

- Nineteen (19) stations deliver both fire and ambulance service.
- Eight (8) stations provide fire and medical first responder services.
- Three (3) stations provide ambulance/rescue services only.

Volunteer fire and rescue corporations own all of the fire–rescue stations in the county with the exception of:

- Station 7 (Middletown)
- Station 25 (Green Valley)
- Station 29 (Northgate)
- Station 31 (Westview)
- Station 33 (Spring Ridge)

The map on page 14 provides a visual representation of how the fire – rescue stations are geographically located throughout the county.

MUTUAL AID RESPONSE WITH SURROUNDING JURISDICTIONS

Frederick County participates in automatic reciprocal response with all jurisdictions that surround Frederick County, as well as federal fire and rescue departments that operate both within and immediately outside of the county.

This automatic mutual aid response relationship benefits both Frederick County and all of the partner agencies that we exchange services with. This relationship allows us to automatically dispatch the closest unit of the appropriate type regardless of the jurisdiction it responds from. The dispatch of the closest unit serves the best interest of the citizens in all participating jurisdictions.

Our mutual response partners include:

Adams County, PA
Carroll County, MD
Fort Detrick, MD
Franklin County, PA
Howard County, MD
Jefferson County, WV
Loudoun County, VA
Montgomery County, MD
Naval Support Facility, Thurmont, MD
Raven Rock Complex, PA
Washington County, MD

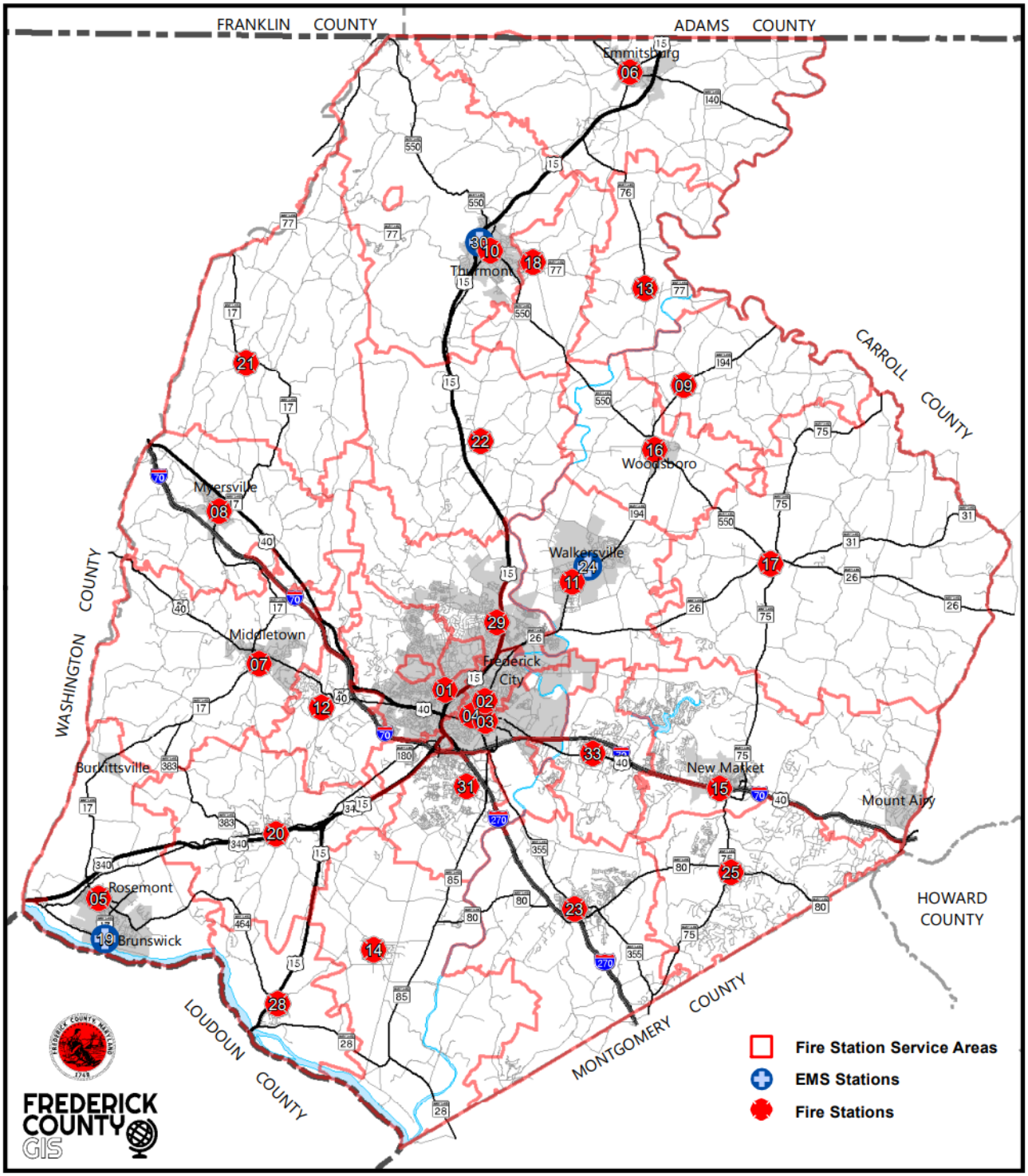
Frederick County is also a signatory to the Metropolitan Washington Council of Governments Fire – Rescue Mutual Aid Agreement, which commits to aiding and receiving aid from all other signatory jurisdictions in the Metropolitan Washington DC area.

While mutual response relationships are important to providing effective service to our citizens in border areas of the county, it is important to recognize that mutual response is only as effective as our assisting partners' ability to respond in a timely manner when dispatched. A number of jurisdictions we exchange services with remain a predominately volunteer staffed service. In situations where an adequate number of operationally qualified volunteers are not available to respond when dispatched, the value of the response is diminished.

Like Frederick County, volunteer staffed fire and rescue stations in neighboring jurisdictions are faced with the challenge of maintaining a sufficient number of operational volunteers to meet the demand for services. This is particularly true during weekday hours. This can make reliance on mutual response problematic with some of our mutual response partner jurisdictions.

Frederick County must remain mindful of this fact as we plan for our own service needs. This is particularly true in areas of the county planned for high growth in the coming years.

While Frederick County will continue to take advantage of fire and emergency medical resources from neighboring jurisdictions, this service delivery plan is centered on taking care of our own as growth continues to occur.



Current Station Locations

Division of Fire & Rescue Services
Frederick County, Maryland
October 17, 2022

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Map Scale
1 in = 5 miles 1:290,000
0 1 2 3 4
Miles

CURRENT FIRE & EMS APPARATUS AND EQUIPMENT

The fire and rescue fleet is a mix of Volunteer Corporation owned and County owned apparatus and equipment. Currently, there is a total of 157 primary fire-rescue vehicles operating within the county. Of this total, 96 vehicles are owned by volunteer fire and rescue corporations and 61 vehicles are owned by Frederick County.

Primary fire and rescue vehicles are comprised of the following types:*

- Engines
  - Volunteer Owned - 20
  - County Owned - 17
- Aerial Ladders
  - Volunteer Owned - 4
  - County Owned - 6
- Rescue Squads
  - Volunteer Owned - 9
  - County Owned - 0
- Combination Rescue/Engines
  - Volunteer Owned - 2
  - County Owned - 1
- Combination Engine/Tankers
  - Volunteer Owned - 7
  - County Owned - 0
- Dedicated Water Tankers
  - Volunteer Owned - 6
  - County Owned - 4* (with Tanker 10)
- Brush Fire Trucks
  - Volunteer Owned - 24
  - County Owned - 0
- Ambulances
  - Volunteer Owned - 24
  - County Owned - 21
- Medic Units
  - Volunteer Owned - 0
  - County Owned - 13

*List is not inclusive of all vehicles in the fleet

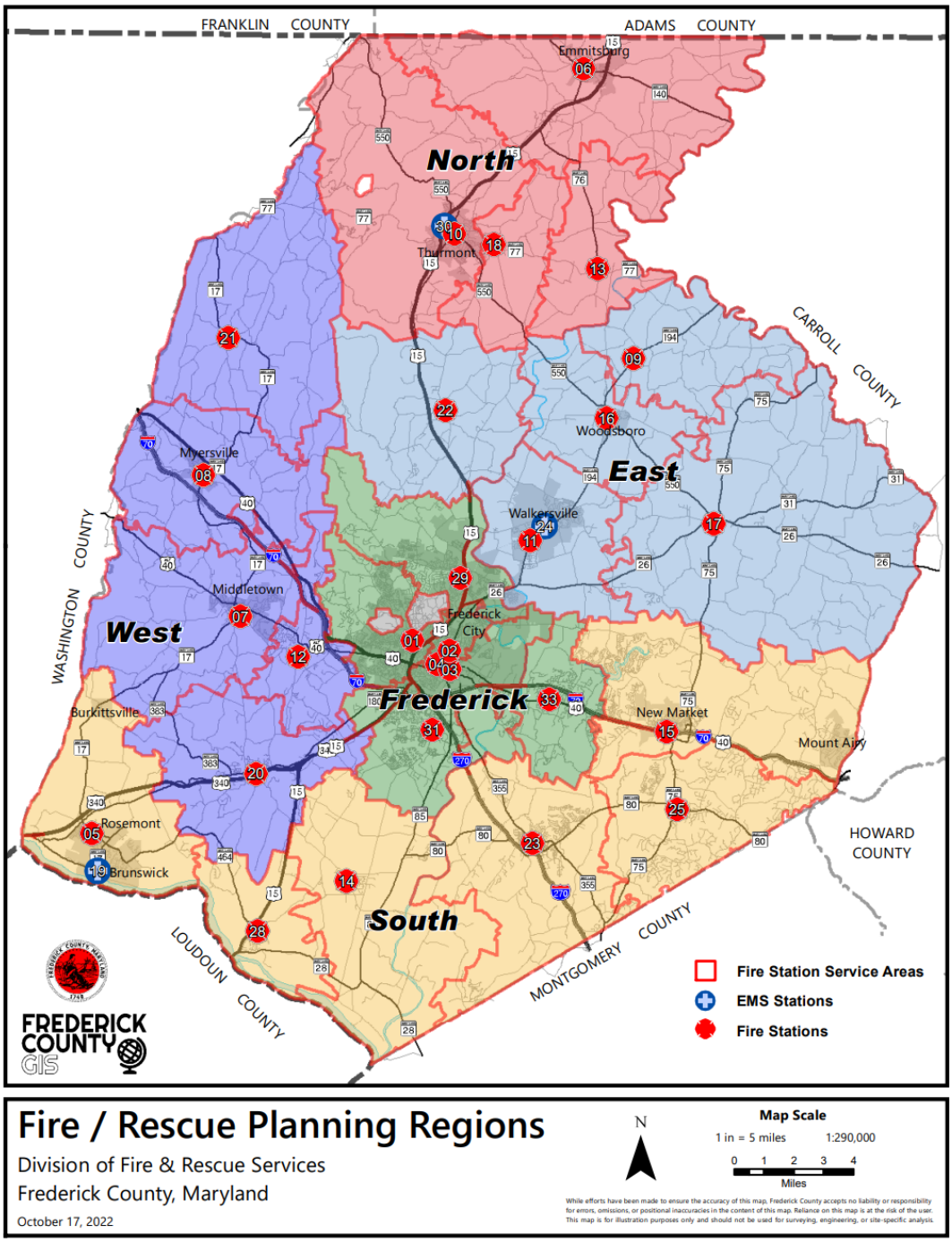
Frederick County continues to see a mix of apparatus and equipment purchases. The majority of volunteer fire and rescue corporations continue to purchase their fire and EMS response units. Several volunteer corporations have and continue to request the county to purchase fire and rescue vehicles for assignment at their stations through the fire and rescue association budget process.

Once a county owned fire and rescue vehicle is added to the fleet, vehicle repair, maintenance and replacement is managed in accordance with county fleet services policies. The county provides a contribution for apparatus maintenance and repair to volunteer corporations that own their vehicles.

The rising cost of both basic service and special service fire and rescue vehicles is an issue that threatens the financial strength of our volunteer fire and rescue corporations. As service demand increases, replacement of primary tactical vehicles will become more frequent. The ability of our volunteer fire and rescue corporations to maintain reliable fleet vehicles will need to be monitored as increasing costs of facilities, apparatus and equipment stress the finances that can be raised from local fundraising efforts.

III. RISK ASSESSMENT OF SERVICE AREAS

A jurisdiction of Frederick County's size and geographic diversity has varying levels of fire risk that require different service delivery strategies and response capabilities. Livable Frederick is a planning framework which did away with specific planning regions that encompassed the entire landmass of Frederick County. For that reason, the variables of risk and service demand within the Frederick County Fire/Rescue Service Plan has been reformatted into 5 planning regions that are consistent with the representation regions of the Frederick County Fire and Rescue Advisory Board.



Frederick Planning Region

The Frederick Planning Region includes the City of Frederick and the environs of Frederick County that immediately adjoin the City of Frederick. This planning area is currently serviced by the following fire-rescue stations:

The following response statistics are for CY2021:

- Independent Hose Company – Station 1
  - EMS - 4,961
  - Fire- 2,532
- Junior Fire Company – Station 2
  - EMS- 4,138
  - Fire- 1,633
- United Steam Fire Engine Company – Station 3
  - EMS- 4,934
  - Fire- 2,818
- Citizens Truck Company - Station 4
  - Fire- 1,008
- North Gate Fire Station – Station 29
  - EMS- Opened June 21, 2022
  - Fire- Opened June 21, 2022
- Westview Fire Station – Station 31
  - EMS- 3,086
  - Fire- 1,799
- Spring Ridge Fire Station – Station 33
  - EMS- 893
  - Fire- 935
- DFRS Medic 1 – ALS Headquarters
  - ALS- 3,411
- DFRS Medic 2 – Station 2
  - ALS- 4,398
- DFRS Medic 31 – Station 31
  - ALS- 2,586
- Planning Region Total Responses for CY2021- 36,546

This service area is an urban population center that includes a close built, high density downtown core of very diverse mixed use multi-story structures, many of which are attached residential structures and residential over street level retail structures. Much of the downtown residential development is wood frame attached and detached structures that are close built. This high density – close built arrangement of wood frame buildings presents a significant risk of rapid fire spread to the community.

The downtown core is surrounded by less dense development characterized by mixed use commercial, multi-family apartments/condominiums, single family attached, and single family detached homes in planned community environments. Recent and proposed land annexations by the

City of Frederick will continue to provide opportunity for increased mixed use development of moderate density.

This planning area also includes Fort Detrick military installation that houses a variety of biomedical research laboratories and support facilities. Similar corporate biomedical businesses operate in off-base facilities within this service area.

The northern portion of the Route 15 corridor in the Frederick Planning Area transitions from high/moderate density mixed use development to large open land areas of low-density housing and agricultural use.

With the exception of the Northern U.S 15 corridor portion, the Frederick Planning Area is a *high* risk fire-rescue service area that requires a robust level of fire and emergency medical service delivery capability to meet the current and potential service demand. The Frederick Planning area has the highest population and density of all other planning areas in Frederick County, and this generates the highest number of calls for service for the Frederick County Fire and Rescue System.

MARC commuter rail lines extend from the City of Frederick. Highway corridors include sections of I-70, I-270, U.S. 15, U.S. 40 and U.S. 340. This service area also includes the Frederick Municipal Airport as well as freight (CSX) and passenger (MARC) rail service.

The Monocacy River flows through the Frederick Planning area. The Carroll Creek Linear Park has proven time and time again to be a successful flood mitigation project in Frederick City but in times of heavy rain, Frederick City is susceptible to urban flooding.

The Frederick Planning Region encompasses 67.99 square miles with a population of approximately 125,896 and a density of 1,852 persons per square mile.

The fire and rescue companies in this planning area made a total of 36,546 fire and emergency medical responses in calendar year 2021.

West Planning Region

The West Planning Region includes the Municipal Growth Areas of the Towns of Middletown and Myersville as well as the Unincorporated Growth Areas of Fountaindale, Jefferson and Wolfsville. This planning area is currently serviced by the following fire-rescue stations:

The following response statistics are for CY2021:

- Middletown Volunteer Fire Company – Station 7
  - EMS- 611
  - Fire- 715
- Myersville Volunteer Fire Company – Station 8
  - EMS- 691
  - Fire- 519
- Braddock Heights Volunteer Fire Company – Station 12
  - EMS- 641
  - Fire- 518
- Jefferson Volunteer Fire Company – Station 20
  - EMS- 496
  - Fire- 607
- Wolfsville Volunteer Fire Company – Station 21
  - Fire- 456
- DFRS Medic 8 – Station 8
  - ALS- 689
- DFRS Medic 20 – Station 20
  - ALS- 1,540
- Planning Region Total Responses for CY 2021- 7,483

The two towns, Middletown and Myersville as well as Braddock Heights and Fountaindale comprise the population centers of the West Planning Region. Both towns have a small downtown core comprised of mixed-use properties in close arrangement. Beyond the downtown core, the communities are low density residential development in planned community arrangement. Braddock Heights is a low-density residential area with significant wildland/urban interface issues due to a residential development nestled along the forested slopes of this ridgetop community. The Fountaindale area is comprised of several low-density residential subdivision and a small commercial area.

The balance of the West Planning Region is large open land and wooded areas of low-density housing and agricultural use. There is a significant wildland/urban interface risk in this planning area.

The West Planning Region is a *low* risk fire/rescue service area that requires a basic level of fire and emergency medical service delivery capability to meet the current and potential service demand. The two downtown areas of the Town of Middletown and Town of Myersville do present a more *moderate* risk due to the close arrangement and increased population density of these downtown areas.

High volume highway corridors include sections of I-70, U.S 40 and MD 17.

The West Planning Region encompasses 141.27 square miles with a population of approximately 29,724 and a density of 210.4 persons per square mile.

The fire and rescue companies in this planning area made a total of 7,483 fire and emergency medical responses in calendar year 2021.

South Planning Region

The South Planning Region includes the communities of Adamstown, Buckeystown, Brunswick, Mount Airy, Monrovia, New Market, Point of Rocks and Urbana. This planning area is currently serviced by the following fire-rescue stations:

The following response statistics are for CY2021:

- Brunswick Volunteer Fire Company – Station 5
  - Fire - 801
- Carroll Manor Volunteer Fire Company – Station 14
  - EMS - 533
  - Fire – 476
- New Market District Volunteer Fire Company – Station 15
  - EMS - 1,150
  - Fire - 1,159
- Brunswick Volunteer Ambulance and Rescue Company – Station 19
  - EMS - 2, 065
- Urbana Volunteer Fire Company – Station 23
  - EMS - 992
  - Fire - 1,140
- Green Valley Fire Station – Station 25
  - EMS - 840
  - Fire - 530
- Carroll Manor Point of Rocks Fire Station – Station 28
  - EMS - 200
  - Fire - 171
- DFRS Medic 23 – Station 23
  - ALS - 1,360
- Planning Region Total Responses for CY 2021- 11,417

This planning region includes the urban population centers in the City of Brunswick, Town of New Market and Town of Mount Airy consists of a close built, high density downtown core of very diverse mixed use multi-story structures, many of which are attached residential structures and residential over street level retail structures. Much of the downtown residential development is wood frame detached structures that are close built. This high density – close built arrangement of wood frame buildings present a significant risk of rapid fire spread to this community.

The unincorporated area of Urbana consists primarily of planned community development of moderate and high density attached and detached residential structures. Urbana also hosts commercial and retail centers that are developing in and around the Urbana Town Center as part of the approved Villages of Urbana PUD and land area designated as the I-270 employment Corridor. Convenience retail uses have emerged along MD 80 and MD 355 to serve the growing residential and employment populations of the Urbana Community.

A significant CSX rail yard exists in Brunswick with heavy freight (CSX) and passenger (MARC and Amtrak) rail traffic that bisect and extend through the entire southern border of this planning area.

Additionally high-volume highway corridors include sections of U.S. 15, U.S. 340, I-70, I-270, MD 28, MD 75, MD 80, MD 85, MD 144, MD 355.

The South Planning Region also includes the Potomac and Monocacy Rivers which provides for a significant recreation hub for water enthusiasts.

The South Planning Region encompasses 175.91 square miles with a population of approximately 80,401 and a density of 457.06 persons per square mile.

The fire and rescue companies in this planning area made a total of 11,417 fire and emergency medical responses in calendar year 2021.

The balance of this planning area includes large open land area of low-density housing and agricultural use.

The Southern Planning Region has several different risk levels as it applies to fire/rescue service. The city of Brunswick is a *high* risk fire-rescue service area due to the age, type of construction and close arrangement of the structures coupled with the population density of the downtown core. The rapid fire spread potential presents a high risk to this community that require significant resources to control. The presence of the CSX rail yard within the downtown area of the city presents a high risk to the community as well, particularly from the threat of a hazardous materials release. The potential for the release of materials hazardous to life will require the rapid deployment of resources for large scale evacuation of this community.

Areas that include Urbana, Mount Airy, New Market and Point of Rocks are *moderate* risk fire – rescue service areas due to the close arrangement and population densities in the town along with the volume of freight rail traffic through these communities.

The remaining areas within this planning region are *low* risk fire –rescue service areas.

East Planning Region

The East Planning Region includes the Municipal Growth Areas of the Towns of Walkersville and Woodsboro as well as the Unincorporated Growth Areas of Libertytown, Lewistown and New Midway. This planning area is currently serviced by the following fire-rescue stations:

The following response statistics are for CY2021:

- New Midway Volunteer Fire Company – Station 9
  - Fire - 284
- Walkersville Volunteer Fire Company – Station 11
  - Fire - 997
- Woodsboro Volunteer Fire Company – Station 16
  - EMS - 573
  - Fire - 240
- Libertytown Volunteer Fire Company – Station 17
  - EMS - 568
  - Fire - 564
- Lewistown Volunteer Fire Company – Station 22
  - EMS - 524
  - Fire - 297
- Walkersville Rescue Company – Station 24
  - EMS - 1,603
- DFRS Medic 17 – Station 17
  - ALS - 1,273
- Planning Region Total Responses for CY 2021- 6,923

The town of Walkersville is a well-established suburban community of primarily single family detached homes built in a traditional neighborhood configuration of moderate density. This residential community includes some mixed-use retail and commercial development of the type typically needed to support a residential community. The town of Woodsboro mirrors the town of Walkersville in the type, density and arrangements of it residential and commercial development.

The unincorporated areas of Libertytown, Lewistown and New Midway are predominately low density residential, but the area lacks the population and arrangement of an incorporated town. The areas are characterized by large lot development of single family detached homes. The immediate population center does include some close built residential/retail occupancies but does not present a significant threat for rapid fire spread that would impact the greater community.

The balance of the East Planning Region is large open land of low-density housing and agricultural use.

The East Planning Region is a *low* risk fire – rescue service area that requires a basic level of fire and emergency medical service delivery capability to meet the current and potential service demand. The two downtown areas of the Town of Walkersville and Town of Woodsboro do present a more

moderate risk due to the close arrangement and increased population density of these downtown areas.

A freight rail line service passes through Woodsboro. High volume highway corridors include sections of U.S. 15, MD 194, MD 26, MD 75, MD 31 and MD 550.

The East Planning Region encompasses 164.36 square miles with a population of approximately 29,365 and a density of 178.66 persons per square mile.

The fire and rescue companies in this planning area made a total of 6,923 fire and emergency medical responses in calendar year 2021.

North Planning Region

The North Planning Region includes the Municipal Growth Areas of the Town of Emmitsburg and the Town of Thurmont and the unincorporated rural communities of Creagerstown, Foxville, Graceham, Rocky Ridge, Sabillasville and Catoctin Furnace. This planning area is currently serviced by the following fire-rescue stations:

The following response statistics are for CY2021:

- Vigilant Hose Company – Station 6
  - EMS - 1,266
  - Fire - 670
- Guardian Hose Company – Station 10
  - Fire - 946
- Rocky Ridge Volunteer Fire Company – Station 13
  - Fire - 413
- Graceham Volunteer Fire Company – Station 18
  - Fire - 310
- Thurmont Community Ambulance Company – Station 30
  - EMS - 1,368
- DFRS Medic 30 – Station 30
  - ALS - 1,299
- Planning Region Total Responses for CY 2021- 6,276

This service area includes urban population centers in the Towns of Emmitsburg and Thurmont that consist of a close built, high density downtown core of very diverse mixed use multi-story structures, many of which are attached residential structures and residential over street level retail structures. Much of the downtown residential development is wood frame detached structures that are close built. This high density – close built arrangement of wood frame buildings presents a significant risk of rapid fire spread to these communities.

Outside of the two Towns, the planning area includes small cluster community residential development, mixed use development with dispersed commercial centers and large open land and wooded areas of low-density housing and agricultural use. There is a significant wildland/urban interface risk in this planning area.

The North Planning Region is a *low* risk fire/rescue service area that requires a basic level of fire and emergency medical service delivery capability to meet the current and potential service demand. The two downtown areas of the Town of Emmitsburg and Thurmont do present a more *moderate* risk due to the close arrangement and increased population density. There is also a significant wildland/urban interface risk in this planning area due to the significant residential development within the heavily forested Catoctin Mountain region of this service area.

Freight rail passes through this planning area in the Thurmont community and includes an industrial park with mid-sized and large users of freight rail service via the Maryland Midland Railroad and high-volume highway corridors include sections of U.S. 15, MD 140, MD 77, MD 550 and MD 76.

The North Planning Region encompasses 116.55 square miles with a population of approximately 18,727 and a density of 160.68 persons per square mile.

The fire and rescue companies in this planning area made a total of 6,276 fire and emergency medical responses in calendar year 2021.

IV. EMERGENCY MEDICAL SERVICES

Demand for emergency medical services (EMS) is driven by population and is not significantly impacted by the built environment within a specific community. While there are certain property types, such as nursing homes, assisted living facilities, urgent care centers, specialty physicians, etc. that can spike EMS calls for service in specific areas, EMS response capability is planned more universally, than to a specific community.

Emergency medical services are best organized as a tiered response system that delivers a basic life support (BLS) response capable of meeting the American Heart Association response time standard of having BLS on scene within six minutes to a cardiac arrest, supported by advanced life support (ALS) unit capable of being on scene within ten to twelve minutes to a cardiac arrest.

Frederick County currently provides emergency medical services using the tiered response system. The various volunteer fire and ambulance companies located in each planning area throughout Frederick County provide BLS response capability using a combination of emergency medical technicians (EMT's) who staff basic life support ambulances and cross trained firefighter/EMT's who staff fire response units. ALS response is provided by career and volunteer paramedics who staff ALS Chase Cars that are strategically located to serve a designated region of Frederick County in support of several BLS ambulances.

Emergency medical service generates the greatest service demand on the Frederick County fire and rescue system and accounts for 78% of our total workload. While our current workload is typical of a jurisdiction of our size and population, emergency medical services is also where we will see the greatest increases in service demand as our population ages and continues to increase in number. Since the demand for emergency medical services is primarily driven by population, the current urban population centers will continue to generate the most calls for service and EMS response resources must keep pace with this demand.

A specialized service within Frederick County's Emergency Medical Services System is the ability to transport patients who are severely obese. The Walkersville Volunteer Rescue Company provides two ambulances equipped specifically with the ability to transport bariatric patients. The need for bariatric transport services needs to be monitored to determine if additional units need to be equipped to address the demand for this service.

Basic Life Support Transport Service

All future fire/rescue stations will expand our EMS service naturally by incorporating a BLS ambulance as a primary tactical unit that will operate out of each new station.

There are areas within Frederick County where increasing call volume is driving the frequency of multiple or back-to-back EMS calls. The following areas will need to be considered for additional Basic Life Support transport services over the next four years. In several of the planning regions the need for additional BLS transport units is listed as options between multiple stations. Several factors to include call volume, response time, growth in a specific service area, space for apparatus and personnel should all be taken into consideration when those decisions are finalized.

North Region – Due to increased call volume and the need to provide depth in geographic coverage, consideration should be given to an additional staffed BLS Transport Unit in the community of Thurmont or Emmitsburg.

East/Frederick Region – Increased call volume coupled with additional age specific housing will cause the need for an additional BLS Transport Unit to be in either the Walkersville, Northgate or Juniors Stations. With both the opening of the Northgate Fire Station in 2022 and the significant increase in new housing in the area, continued data monitoring will be needed to decipher the best location and number of resources between the three suggested locations.

South Region – Continued growth in this region drives a need for additional BLS Transport Units. The Fire/Rescue Service Delivery Plan calls for staffing of an additional BLS Transport Unit be added Monday through Friday 6 am until 6 pm at the New Market Fire Station in FY 25. An additional staffed BLS Transport Unit is also planned to be added to the Urbana Fire Station in Fiscal Year 2028.

Advanced Life Support

Of the 27,604 calls for Emergency Medical Services dispatched in Frederick County in 2021, 15,182 (55%) were dispatched to receive advanced life support. Frederick County currently staffs eight (8) advanced life support chase vehicles. Those regional resources are housed at Junior, Myersville, Libertytown, Jefferson, Urbana, Northgate, Thurmont, and Westview Stations. Additionally, Frederick County staffs two EMS Supervisors who are housed at the Northgate and Westview Stations.

The Frederick County ALS Deployment Plan originally written in 2015 and updated in 2023 provides recommendations to deploy additional advanced life support resources as our County grows and the demand for services continues to increase. The 2023 ALS Deployment Plan is written around two specific service goals. The first goal is to provide an Advanced Life Support Provider to the scene of a critical medical emergency in 8 to 12 minutes, 90% of the time. The second goal is to maintain a unit call volume under 3,000 calls for service annually. The 2022 ALS Deployment Plan is broken down into five (5) phases for implementation.

Phase 1 – Move Medic 100 to Station 4 (Citizens) and redesignate it to Medic 4. Staffing for the unit will be provided by volunteers or career providers available on overtime.

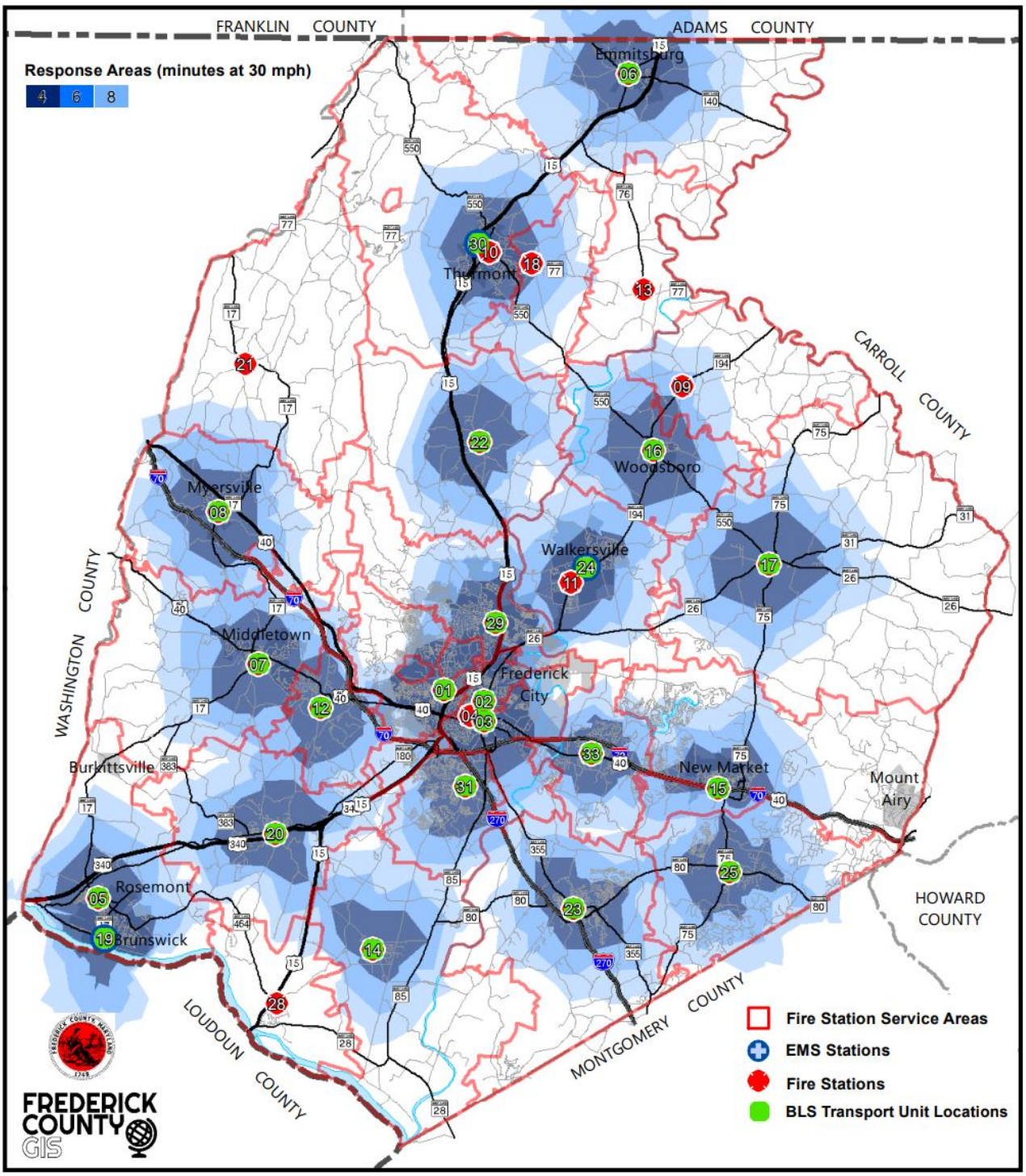
Phase 2 – Staff a Paramedic Engine Company at Station 2 (Juniors) and Station 31 (Westview).

Phase 3 – Provide 24 hour a day / 7 day a week career staffing to Medic 4 (Citizens).

Phase 4 – Staff a Paramedic Engine Company at Station 5 (Brunswick) and 10 (Thurmont).

Phase 5 – Staff a Paramedic Engine Company at Station 16 (Woodsboro) and 25 (Green Valley).

The Paramedic Engine Companies are to be staffed with 4 personnel, one of which is a Paramedic and have the capability to upgrade and transport when coupled with a BLS Transport Unit. Please see the 2023 ALS Service Delivery Plan for additional information and data.

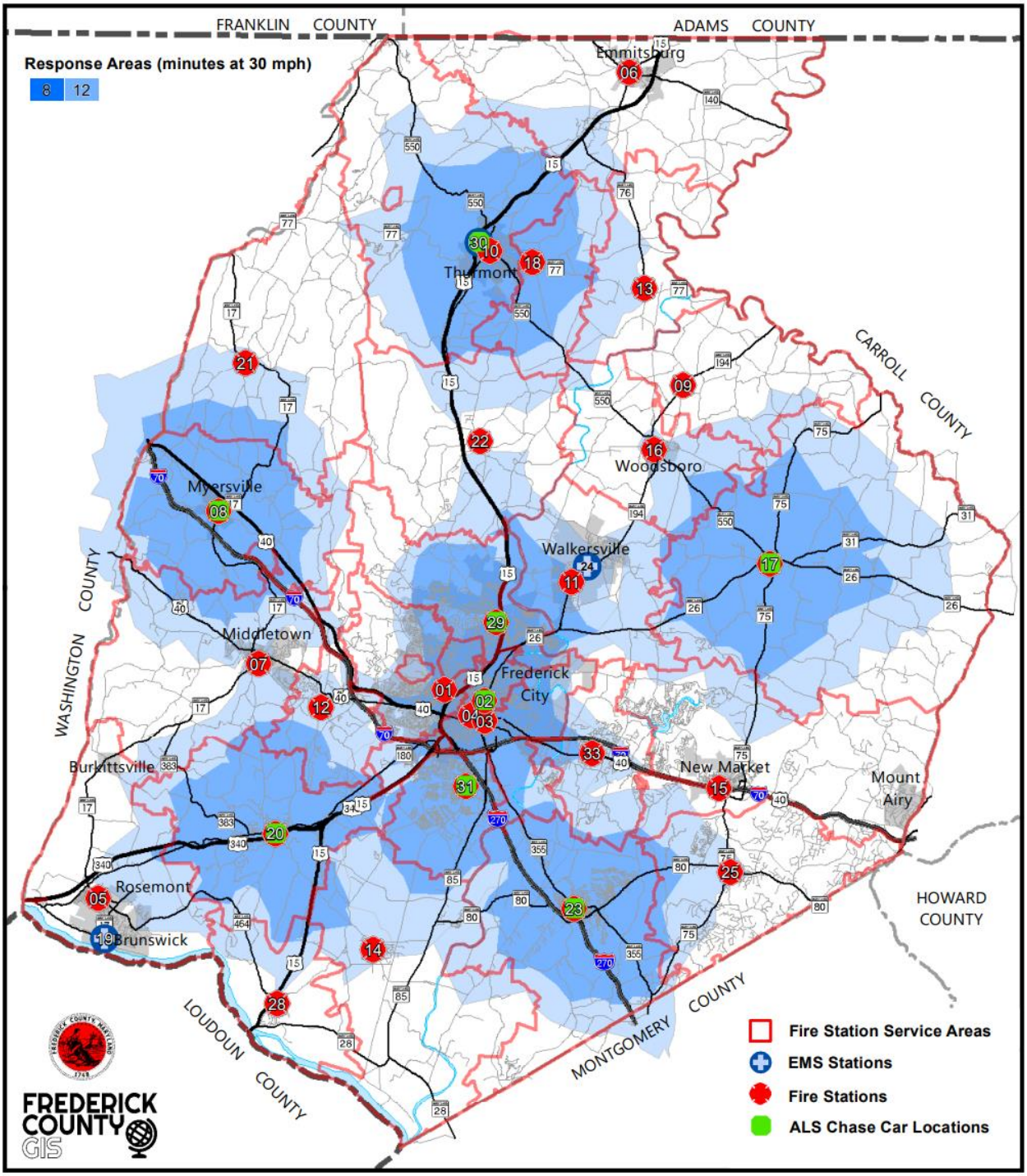


BLS Transport Unit Response Areas

Division of Fire & Rescue Services
Frederick County, Maryland
October 17, 2022

N

Map Scale
1 in = 5 miles 1:290,000
0 1 2 3 4
Miles



ALS Chase Car Response Areas

Division of Fire & Rescue Services
Frederick County, Maryland
October 17, 2022

N

Map Scale
1 in = 5 miles 1:290,000
0 1 2 3 4
Miles

Mobile Community Health Program

The Mobile Community Health Program was initiated in 2018 as a partnership between the Frederick County Division of Fire and Rescue Services, the Frederick County Health Department and Frederick Health Hospital. The initial goal of the program was to engage with our frequent system utilizers to ensure that they had access to appropriate services to manage their healthcare as to reduce the usage of both Emergency Medical Services and the Hospital's Emergency Department as the patient's primary source of healthcare. Over the last four years the program has remained nimble to adapt to the ever-changing environment. The Mobile Community Health Program engaged the Health Department and formed COAST, the Community Outreach and Support Team to pair our community paramedic with a peer support specialist to respond to substance abuse calls and engage patients and their families to offer support and resources at the time of the overdose. Additionally, the Mobile Community Health Office worked with the Health Department to provide COVID vaccinations to our homebound seniors during the COVID-19 pandemic.

In FY2023 a second mobile community health provider will be added to the office to double our agency's ability to reach out and provide needed services to our vulnerable populations. The Division of Fire and Rescue Services will continue to monitor the success the Mobile Community Health Program and work with our partner agencies to grow initiatives in the proper way to best serve the citizens of Frederick County.

Additionally, the Division of Fire and Rescue Services has partnered with the Frederick Police Department and Sheppard Pratt to provide an EMS clinician to serve on a mobile crisis car within the city of Frederick. The mobile crisis car pairs a plain clothes law enforcement officer with an EMS clinician and a behavioral health professional to provide a team-based approach to responding to behavioral health emergencies.

Alternative service initiatives like the Mobile Community Health program and the mobile crisis car allow the Division of Fire and Rescue Services to provide better service to our citizens and prevent emergencies before they occur.

V. FIRE- RESCUE STATION LOCATION PLAN

INTRODUCTION

The primary responsibility of any fire and emergency medical service agency is the timely delivery of emergency services within their jurisdiction. The delivery of these services normally originates from fire-rescue stations that are strategically located throughout the area to be protected.

To provide effective service, personnel must respond in a minimum amount of time after the incident has been reported and with sufficient resources to initiate the needed fire, rescue, or emergency medical service.

Fire-rescue station location planning must take into account a number of variables including:

- The importance of time and distance in responding to fire and medical emergencies
- The level of current and future service demand
- The response capacity of current fire-rescue stations
- Future development projected by approved changes in land use
- Transportation corridors
- Special populations
- Special hazards

REVIEW OF CURRENT FIRE-RESCUE STATION LOCATIONS

Frederick County is predominately a "community based" fire and rescue system. Our community-based system developed and grew over the years as groups of citizens located in small population centers banded together to form volunteer fire and ambulance companies throughout the county. This community-based development of fire and rescue services is not at all uncommon, but it can typically lead to fire-rescue facilities being placed in less than optimal locations or duplication of facilities.

As you review the current locations of fire and rescue facilities throughout Frederick County, it is easy to see this result. Examples include:

- A separate facility that houses only a ladder truck company in downtown Frederick.
- A fire station in the Graceham community that is located just 2.25 miles outside the Town of Thurmont, whose Guardian Hose Company could easily cover this service area.
- Separate fire stations and ambulance stations in Brunswick, Thurmont, and Walkersville. In two of these communities the fire and ambulance stations literally sit next to each other. This duplication of infrastructure increases costs and defeats the ability to easily share staffing resources.

Many communities struggle to provide financial and membership support to one volunteer corporation. Two separate volunteer organizations dilutes the resources available from the community and can weaken emergency services overall.

These examples are not a criticism of how fire/rescue stations were developed, they simply illustrate the results of the dynamics of the community-based development of emergency service facilities. As need and opportunity presents itself in the future, it should be the policy of Frederick County to eliminate the duplication of separate fire and ambulance facilities to reduce costs related to facility maintenance, repair and operations.

With a few exceptions, the current location of fire and rescue facilities throughout Frederick County provide for reasonable placement of basic engine and ambulance response resources.

The current location of special service units such as rescue squads and ladder trucks is more problematic and those issues are addressed in the tactical unit deployment section of this service plan.

FIRE/RESCUE STATION LOCATION PLANNING

Land use decisions and planned development have a direct influence on the need for additional fire stations. The adopted Comprehensive Plan for Frederick County, Maryland, provides a guide to projected growth areas that must be evaluated to determine potential risk and service demand the county will face as growth continues. When evaluating risk, numerous factors must be considered:

- Nature of the development
  - Residential (single family, multi-family)
  - Commercial
  - Industrial
  - Mixed Use
  - Specialized Hazards
  - Special Needs Population
- Density of the development
  - High density = significant exposure
  - Medium density = moderate exposure
  - Low density = little exposure
  - Cluster of special needs population = increased risk
- Type of Construction
  - Lightweight construction results in rapid fire spread /early structural failure = greater risk
  - Multiple story structures = greater hazard/risk
  - Lack of built-in fire protection = greater risk
  - Restricted access facilities = greater risk
- Environmental Factors
  - Lack of available water supply for firefighting = greater risk
  - Restricted physical access (roads, bridges) = greater risk
  - Wildland/Urban Interface issue = greater risk

When evaluating service demand a number of factors must be considered:

- Current incident response capacity of tactical companies operating from existing fire stations.
- Demographics of the population of the service area under review.
- A growth area averaging more than 600 incidents per year.
- Nature of the incidents occurring most frequently in the service area under review.

- Percentage breakdown of incident types occurring in the service area under review.
- Significant target hazards that exist or are proposed for development in the service area under review.
- Additional development currently approved or forecast in the service area under review.

RESPONSE TIME AND DISTANCE

When the need for a fire station is identified, the actual location of the fire station site should be determined by an evaluation of response time and response distance. This response time and distance analysis should result in site selection that will provide improved response to the service area under review and the greatest tactical advantage to the county fire and rescue response system as a whole.

While there are several national standards that recommend appropriate response time criteria for fire and emergency medical services, there are no federal or state standards mandated for fire and emergency medical service response. Ultimately, the desired fire and emergency medical response time goals are set by the local authority having jurisdiction.

Frederick County has adopted by ordinance a response criteria related to the maximum amount of time a fire or emergency medical unit has to respond from a station after first dispatch.

Article IV, Section 1-2-66 (C) of the Code of Frederick County, Maryland states: "*Each authorized Fire, Rescue or Ambulance company must meet the following minimum response criteria:*

(1) Urban Fire, Rescue or Ambulance companies must respond within four (4) minutes from the time of first dispatch for an emergency incident for at least 99% of the dispatches received during each calendar month.
(2) Suburban Fire, Rescue or Ambulance companies must respond within six (6) minutes from the time of first dispatch for an emergency incident for at least 90% of the dispatches received during each calendar month.
(3) Rural Fire, Rescue and Ambulance companies must respond within eight (8) minutes from the time of first dispatch for an emergency incident for at least 80% of the dispatches received during each calendar month.

While this ordinance does set some criteria, it is intended as a performance measure that must be routinely satisfied by a volunteer fire, rescue or ambulance corporation in order for the corporation to remain in good standing as a reliable emergency service provider. The intent of this ordinance is to provide a performance measure related to response staffing of an existing station and it should not be used as part of the criteria for fire station location since it is only a benchmark of initial response.

In determining the need for and location of fire stations, communities typically look for guidance from professional standards to aide their decision making and when setting their own response time criteria.

Examples of Industry Standards for Fire Suppression Response

- Insurance Services Office (ISO) grades community fire protection against a national standard established by the fire insurance industry. The ISO standards include recommendations for fire station locations based on the degree of community fire risk. Unfortunately, ISO oversimplifies fire station locations to a distance factor only by stating that properties should be 1.5 miles from an engine

company and 2.5 miles from a ladder company. While this standard would provide optimal emergency response coverage, it is not an economically viable standard.

- National Fire Protection Association (NFPA) has published NFPA Standard 1710 –Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Service Operations and Special Operations to the Public by Career Fire Departments.

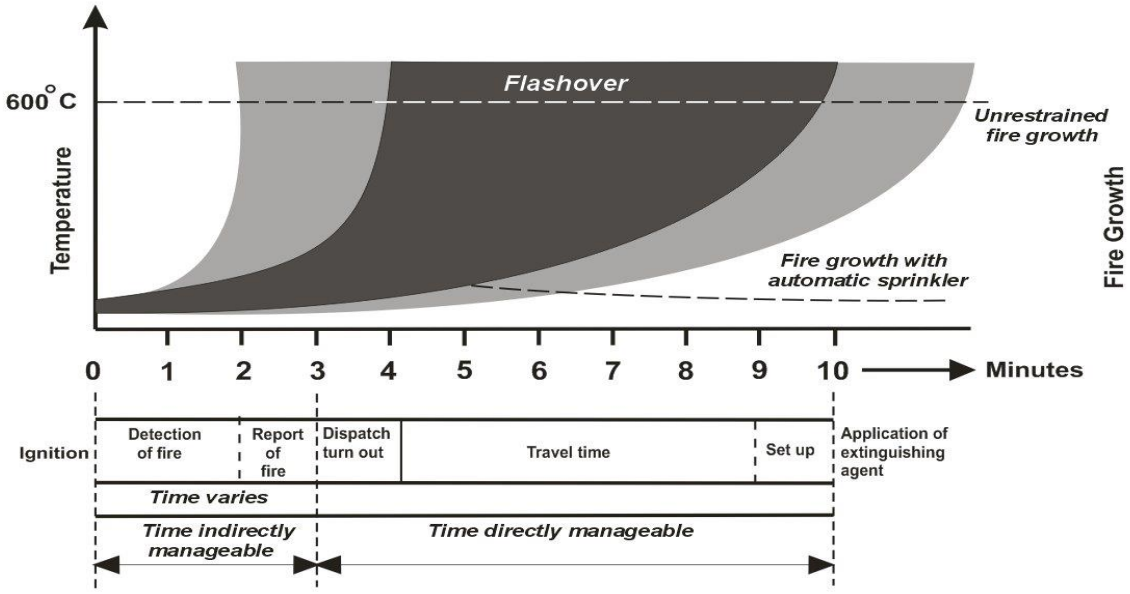
  The focus of this standard is to provide recommendations regarding the deployment of an effective operational force for emergency incidents in urban communities which are primarily staffed by career personnel.

Rationale for Fire Suppression Response Time Goals

Time is the critical element when a fire emergency is reported. Fire growth can expand at a rate of many times its volume per minute. Time is the critical factor for the rescue of occupants and the application of extinguishing agents to minimize loss. The time segment between fire ignition and the start of fire suppression has a direct relationship to fire loss.

Flashover

Regardless of the speed of growth or length of burn time, all fires go through the same stages of growth. One particular stage emerges as very significant because it marks a critical change in conditions. It is called *flashover*. Measuring the time to flashover is a function of time and temperature. Fire growth occurs exponentially; that is, fire doubles itself every second of free burn that is allowed. This can be plotted on what is known as the time and temperature curve.



Time/Temperature Curve Illustrating Flashover

There are a number of factors that determine when flashover may occur. These include the type of fuel, the arrangement of the fuels in the room, room size, available oxygen and so on. Because these factors vary; the exact time to flashover cannot be uniformly predicted.

Flashover can typically occur from less than 4 to beyond 10 minutes after free burning starts. A post flashover fire burns hotter and moves faster, compounding the search and rescue problems in the remainder of the structure at the same time that more firefighters are needed for fire attack. Flashover is the most deadly period of fire development.

Rationale for Emergency Medical Service Response Time Goals

The delivery of emergency medical services is even more time critical.

Survival rates for some types of medical emergencies are directly dependent on rapid intervention by trained emergency medical personnel. In most cases, the sooner trained fire or emergency medical personnel arrive, the greater the chance for survival.

The American Heart Association Chain of Survival outlines actions that must be taken in order to successfully resuscitate victims in an out-of-hospital cardiac arrest event. The initial consideration is how fast basic life support can be provided to citizens who suffer a cardiac arrest. American Heart Association (AHA) studies have shown that cardio-pulmonary resuscitation (CPR) must begin immediately, and in all cases no later than **four to six minutes** of a cardiac arrest.

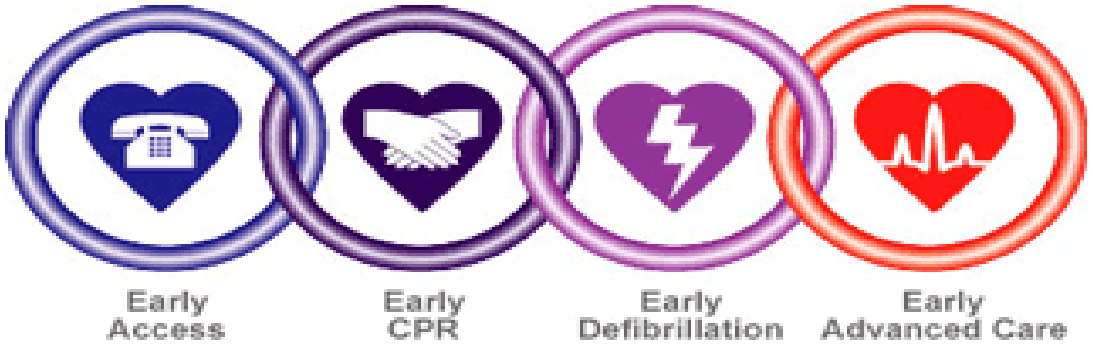
Early electrical defibrillation must then follow early CPR. According to the AHA, the chance for successful re-starting of the heart through defibrillation decreases by 10% for every minute past the initial cessation of the heart that defibrillation is not delivered. Early access to EMS, early CPR, and early defibrillation must be followed by advanced life support (ALS) in order to provide advanced coronary care. The combination of late CPR (more than four minutes) and delayed advanced life support significantly decreases the chances for survival without complications.

An additional consideration is early ALS intervention for patients that are not yet in cardiac arrest, but have a cardiac rhythm that will become lethal if not treated rapidly. According to the American Heart Association, early advanced care provided by personnel trained and certified as ALS providers at the scene serves three primary purposes in the treatment of cardiac emergencies:

1. ALS intervention is designed to prevent cardiac arrest through the use of advanced airway management, administration of medications, and other ALS interventions.

2. ALS intervention includes therapies that may help resuscitate victims of cardiac arrest who are not in Ventricular Fibrillation (VF), or who are not responding to defibrillation.

3. ALS intervention can provide defibrillation if VF develops, prevent re-fibrillation and help stabilize the patient after resuscitation.



American Heart Association Chain of Survival

FREDERICK COUNTY RESPONSE TIME GOALS

The first step to fire station location planning is the identification of the response time goals that Frederick County will strive to meet. Response goals are critical to the planning process for fire and EMS agencies, as they impact the location of fire/rescue stations, as well as the apparatus placement and staffing in those stations.

Established response goals form the basis for Geographic Information System (GIS) mapping that is used to evaluate potential fire station locations and available sites.

Frederick County Fire and EMS Response Time Goals

EMS Response Time Goals:

- Basic Life Support (BLS) – on scene in 6 minutes, 90% of the time.
- Advanced Life Support (ALS) on scene in 8-12 minutes, 90% of the time.

Fire Response Time Goals:
NFPA 1710 recommends the following deployment of resources to structure fires:

- The first due engine company on the scene of a structure fire from time of dispatch in 5 minutes and 20 seconds 90% of the time.
- The second due company on the scene of a structure fire from the time of dispatch in 7 minutes and 20 seconds 90% of the time.
- The full first alarm assignment on the scene of a structure fire from the time of dispatch in 9 minutes and 20 seconds 90% of the time.
- Staffing Recommendations
    - 4 Person Staffing on Engines, Aerials and Rescue Squads
    - 1st Alarm Staffing on a SFD < 2000 square feet =/> 17 personnel
    - 1st Alarm Staffing on an apartment building =/> 28 personnel
    - 1st Alarm Staffing on an open-air strip mall =/> 28 personnel

The response time goals reflected above rightfully vary by the level of community risk and service demand typical of each of the county planning areas previously described.

Response Time Goal for Determining Fire-Rescue Station Locations

With medical emergencies accounting for 78% of our fire-rescue service demand, the target response time goal used for locating fire-rescue stations must lean toward the Basic Life Support (BLS) response time criteria if we are to maximize the service delivery effectiveness of such a significant capital facility expense.

With a BLS response time benchmark of 4 to 6 minutes to 90% of the incidents, fire station location analysis will use the following travel time goals for each of the service areas defined above:

1. Urban Service Areas: 4 minutes of travel time to define the primary service area of a proposed fire-rescue station.
2. Suburban Service Areas: 6 minutes of travel time to define the primary service area of a proposed fire-rescue station.
3. Rural Service Areas: 8 minutes of travel time to define the primary service area of a proposed fire-rescue station.
4. Remote Service Areas: 10 minutes of travel time to define the primary service area of a proposed fire-rescue station.

Geographic Information System (GIS) mapping shall be used to plot travel time distances using predefined travel speed to identify the effective service area for proposed fire station locations and to identify overlapping coverage in relation to existing fire-rescue stations.

FIRE – RESCUE STATION LOCATION POLICIES

1. All future stations shall be combined fire and ambulance stations. Frederick County should no longer permit separate facilities for fire suppression and emergency medical service response resources unless there is a specific and targeted need for a single service facility to be operated due to a unique risk or service demand that clearly represents an exception to the standard practice.

2. Site selection for a typical fire-rescue station should accommodate a single story building of 19,000 square feet with a minimum of four drive-through apparatus bays, square footage for administrative and living spaces, adequate storage for materials, equipment and supplies, ample parking for visitors, volunteers and assigned career staff.

3. Living area size should also be constructed to house the number of personnel that would be needed to staff the amount of apparatus the station is built to house. Additional consideration should be given to allow for the housing of additional personnel, such as law enforcement and public works during severe weather or disaster related events.

4. Land acquired for a fire-rescue station should be a minimum of 4 acres to accommodate the station requirements outlined above, unless there are special conditions or additional station features that must be considered during site selection.

5. A fire-rescue station should not be located in a manner that requires emergency egress from the station directly onto a primary roadway. Land for fire-rescue stations shall be located so the building can be sited for side street egress and ingress. This configuration is an important safety configuration for both the motoring public and emergency responders.

6. The inclusion of emergency vehicle egress warning lights and/or traffic signal preemption equipment should be included in the building plan to control safe egress of emergency vehicles entering the travel way during a response.

FIRE-RESCUE STATION RENOVATIONS / RELOCATIONS

There are several fire-rescue station renovations or relocations underway or under consideration as noted below. This section also discusses several fire – rescue facility issues that should be considered going forward.

Frederick Region

Downtown Frederick – (No Site Identified)

Currently, the core downtown area of the City of Frederick is serviced by three (3) separate Fire-Rescue stations which are all located within 0.6 miles of each other. The United Steam Fire Engine Company located at 79 South Market Street, the Citizens Truck Company located at 15 South Court Street and the Junior Fire Company located at 535 North Market Street. This situation exists today primarily because the stations were constructed during the era of non-motorized fire apparatus.

The current United Steam Fire Engine Company station no longer adequately serves the needs of the career and volunteer personnel. The apparatus bays barely accommodate the fire and rescue vehicles that operate from this station. The station is land locked with no option to increase space through expansion of the station and the historic significance of the building make renovation problematic.

While the current Citizens Truck Company station is in good structural condition, it is also cramped for space for the response vehicles and personnel that operate from this station. This facility is redundant, and it does not make good economic sense to fund a facility that houses a single fire suppression response function.

The optimal solution is to locate a downtown fire station site and construct a new station that would combine the functions of the United Steam Fire Engine Company and the Citizens Truck Company into a single downtown fire-rescue station.

Due to limited land area available within the core downtown area it is highly doubtful that a 4-acre site could be obtained, therefore the site selected will more than likely dictate that a multi- story fire-rescue station be constructed to house the downtown companies.

Westview Renovation

In the CIP for Design	FY2024
Construction	FY2025

Originally occupied in 2002, the staffing and apparatus assigned to the Westview Fire Station has grown far beyond the building that was constructed. This renovation will allow the station to remain within its current four exterior walls while moving the interior walls and facilities around to better accommodate the 10 personnel and 6 units that are assigned to the facility.

Jefferson Technology Park

In the CIP for Design	FY2027
Construction	FY2029

The original proposal for the mixed-use development known as the Jefferson Technology Park included a site for a fire – rescue station to service this growth corridor between U.S. 340 and Jefferson Pike, South of I-70. At the time of the original proposal, the county had programmed a fire – rescue station in the CIP budget. With this planned development now underway, the fire station project has been returned to the CIP with a placeholder for design in FY2027. The fire station site is located off of Fair Oaks Drive.

Sanner Property – (Site Identified)

Given the current growth in the Yellow Springs/Christopher Crossing/Whitter areas in west Frederick City and the continuing requests for land annexation into the city, a parcel of land has been acquired from the City of Frederick as a placeholder for a future fire-rescue station site to serve the greater Yellow Springs area.

This area continues to see land use applications for low and medium density residential development in single family attached and detached arrangement. Small general commercial development of the type typically provided for residential support will also occur in this growth area.

With growth in the City of Frederick and environs continuing to progress to the North and West, an additional fire – rescue station will be needed to meet the service demand that this growth will generate.

The 2010 City of Frederick Comprehensive Plan reflects land use in this growth area to be designated for primarily residential development. Residential communities are where the greatest demand occurs for fire and emergency medical services.

The 2010 City of Frederick Municipal Growth Element Appendix to the City of Frederick Comprehensive Plan recognizes the need for a future fire-rescue station in the Christopher Crossing /Walter Martz Road area.

South Region

Green Valley Fire-Rescue Station Replacement –

In the CIP for Design	80% Drawings Completed
Construction	FY2024

The current Green Valley Fire-Rescue Station is located at 3939 Green Valley Road, Monrovia, MD. The Green Valley Fire-Rescue station was originally built in 1984 and was operated as a substation of the New Market Volunteer Fire-Rescue Company. Since that time, the operation of this station has become a fully career staffed station 24/7. An evaluation of fire-rescue facilities was completed as part of the fire-rescue study conducted by Tri-Data Corporation in 2007. While this evaluation rated the structural condition of the current station as EXCELLENT at that time, this evaluation did not take into consideration the functional needs, space and utilization of the facility.

The Green Valley Fire Station is currently staffed by a minimum of 5 personnel 24/7. The facility was originally constructed as an all-volunteer staffed sub-station and was not originally designed to accommodate around the clock career staffing. As career staffing increased, crude modifications were made to the living quarters. These band aid modifications remain today and the accommodations at this station are grossly inadequate for the number of personnel assigned to this facility. The apparatus bay currently houses an engine and an ambulance.

A prior study was conducted to determine the feasibility of renovating and expanding this facility, however that analysis concluded that this would not be a cost-effective alternative. The decision was made to replace the Green Valley Fire-Rescue station. This plan remains in the current CIP budget, as adopted. From a service delivery standpoint, the current Green Valley Fire-Rescue station is well positioned to serve the greater Monrovia community. The county has acquired donated land to relocate this fire station.

Carroll Manor Fire-Rescue Station 14 Relocation –

In the CIP for Design	FY2024
Construction	FY2026

The current Carroll Manor Fire-Rescue Station 14 is located at 2795 Adams Street, Adamstown, MD, and was originally built in 1953. In spite of additions and renovations that have occurred over the years, the station does not meet the needs of the number of volunteer and career personnel that routinely operate from this station.

An evaluation of fire-rescue facilities was completed as part of the fire-rescue study conducted by Tri-Data Corporation in 2007; this evaluation rated the condition of the current station as POOR.

The current Carroll Manor Fire-Rescue station 14 is approximately 3.4 linear miles from Point of Rocks Fire-Rescue station 28, which is located at 1809 Ballenger Creek Pike, Point of Rocks and 5.8 linear miles south of the Westview Fire-Rescue station 31 located at 5225 New Design Road, Frederick.

A Memorandum of Understanding exists with a property owner to donate property for the replacement fire station. The proposed site for the relocated Carroll Manor Fire-Rescue Station 14 would place the new station 5 linear miles southeast from Westview Fire-Rescue Station 31 and 5.5 linear miles Northeast of the Point of Rocks Fire-Rescue Station 28. This relocation would reduce the overlap in the current service areas and fill the void in response coverage to the lower Buckeystown Pike corridor.

New Market District Fire Station (No Site Identified)

The future need for a fire – rescue facility capable of housing the expansion of tactical capability for this planning area must be discussed jointly between New Market District Volunteer Fire – Rescue leadership and Frederick County officials.

The recent renovation of the current New Market Fire – Rescue Station and construction of their supplemental building were limited in scope and will only accommodate the needs of the current tactical service demand for this area.

In anticipation of the need for a larger facility to accommodate expansion of tactical capability for this service area, a site for a potential replacement fire – rescue station should be investigated. This site should be located east of the current facility in order to provide improved response time to the Mt. Airy corridor of the service area.

This eastward movement of the New Market fire-rescue station is supported by the location of the Spring Ridge fire-rescue station which is 4 linear miles to the west of the Town of New Market along Maryland Route 144 (Old National Pike).

Gas House Pike / Boyers Mill Area (Site Acquired)

The Gas House/Boyers Mill service area lays northwest of Lake Linganore between the City of Frederick to the west and the Town of New Market to the southeast. Land use in this area is suburban in nature with residential planned use development, low density residential and agricultural use. The New Market Fire-Rescue station located at 76 West Main Street in New Market is currently the primary service provider to this area.

The service area lies between MD 144 (Old National Pike) and MD 26 (Liberty Road), east of the City of Frederick. Land use in the Gas House Pike corridor is already beginning to change as additional rural community plans are sought and agricultural uses change to residential use. It is likely that urbanization will increase over time within the corridor bounded by Liberty Road to the north, Old National Pike to the south and Frederick City to the west.

When the 2018 update to this document was written, the “Hamptons West” planned development had received approval. As a part of this land use change, staff was able to acquire a buildable site for a fire station to service this growth corridor. In 2023, the development has been built out to include the new Blue Heron Elementary School. This project is currently not funded in the county’s CIP. Timing of this station will depend on the pace of growth in this area and the service demand generated.

South Urbana Area (No Site Identified)

Given the growth projected in the Urbana Planning Area, a site should be identified for a future fire – rescue station to serve southern Urbana in the area of I-270 and MD 355. A site in the Rt. 355/Price Road area would permit coverage to the lower Urbana area and improve coverage in this area East of I-270 as well. This need will greatly increase if Montgomery County closes the Hyattstown Fire – Rescue station. The Hyattstown station has already been down staffed in recent years and each budget year renews proposals to close the Hyattstown Fire Station.

Duplication of Facilities

Past studies and service plans presented to prior Boards of County Commissioners have pointed out these inefficiencies and past Boards have declared that the county should not support this duplication of basic services and facilities as the fire and rescue system goes forward. While this policy has been discussed, it has never been put into full effect or acted upon to reduce or eliminate the inefficiency of this duplication.

If the County Executive / County Council want to improve the efficiency of basic tactical unit deployment, this issue must be addressed at the policy level.

Frederick Region

While the two stations provide different services, the physical proximity of Stations 3 (United) and 4 (Citizens) being within a city block of each other are less than efficient. As the fire/service plans for future fire service facilities, a single new location in downtown Frederick which can accommodate both Stations 3 and 4 should be considered to achieve long-term facility cost savings and operational efficiencies.

South Region

Facilities are duplicated to provide basic unit deployment in the City of Brunswick. As separate fire and ambulance companies, the Brunswick Fire Company and the Brunswick Ambulance Company each own and operate their own station. The county provides funding for facility repair, maintenance and operating expenses through the county budget process. This duplication is more costly to the county than providing funding to support a single facility that houses both services.

North Region

Facilities are duplicated to provide basic service unit deployment in the Town of Thurmont. As separate fire and ambulance companies, the Guardian Hose Company and the Thurmont Ambulance Company each own and operate their own station. The county provides funding for facility repair, maintenance and operating expenses through the county budget process. This duplication is more costly to the county than providing funding to support a single facility that houses both services.

In addition to the separate fire and ambulance company issue in this planning area, there is also an additional volunteer fire corporation that operates a separate facility to provide basic service coverage

that is located just east of the Town of Thurmont. Graceham Volunteer Fire Company owns and operates a fire station that is located at 14026 Graceham Road, Thurmont. This station is located only 2.25 miles from the Guardian Hose Company station and the Graceham station provides the same basic services as the Guardian Hose Company station. The county provides funding for vehicle and facility repair, maintenance and operating expenses through the county budget process. This duplication is more costly to the county than providing funding to support to a single facility that can provide the same services and is located in the same immediate area. In June of 2022 the Graceham Volunteer Fire Company was operationally suspended based on response performance and availability of personnel.

East Region

Facilities are duplicated to provide basic service unit deployment in the Town of Walkersville. As separate fire and ambulance companies, the Walkersville Fire Company and the Walkersville Rescue Company each own and operate their own stations that literally sit side-by-side. The county provides funding for facility repair, maintenance and operating expenses through the county budget process. This duplication is more costly to the county than providing funding to support a single facility that houses both services.

VI. APPARATUS DEPLOYMENT PLAN

BACKGROUND

Response apparatus within the fire and emergency medical services consist of several types that each have a specific purpose in providing effective fire suppression, technical rescue, hazardous material and emergency medical service delivery within Frederick County.

The diversity of our communities drives the nature and scope of the service delivery requirements throughout Frederick County. This diversity ranges from a high-density urban core to moderately dense suburban residential communities to less dense cluster development to vast areas of open farmland to remote mountainous regions, highways, railways and waterways that provide recreational use.

The Frederick County fire and rescue service is currently configured as a community-based fire – rescue system. This system configuration is built upon independent volunteer fire and rescue corporations making individual decisions regarding the tactical unit needs of their local community and acquiring same, without specific concern for strategic deployment as a part of an overall countywide service delivery system. This method of system design is not unique to Frederick County and can be found in most jurisdictions that have naturally evolved from city and town-based volunteer fire and rescue companies.

Over the years, the inefficiencies of this individual decision making has been recognized and oversight was developed by the Frederick County Volunteer Fire and Rescue Association. This has further evolved to oversight by Frederick County through the adoption of a comprehensive fire and rescue ordinance that works in conjunction with the fire and rescue association process.

TYPES OF UNITS

The Frederick County fire and rescue system employs a variety of fire, rescue, hazardous material and emergency medical units to provide service to our community. Types and descriptions are outlined as follows:

- **Ambulance –** A patient transport vehicle equipped and staffed to the basic life support transport ambulance standard adopted by the Maryland Institute for Emergency Medical Services Systems.

- **Brush Truck –** A four-wheel drive vehicle that incorporates a fire pump, water tank, hose and equipment required by the adopted county brush truck standard.

- **Engine –** A standard triple combination vehicle that incorporates the appropriately sized fire pump, water tank, various lengths of attack hose and supply hose and tools and equipment required by adopted county engine standard.

- **Engine-Tanker –** A vehicle that fully meets the Engine criteria but has a large capacity water tank that conforms to the minimum water capacity for a Tanker and the associated tools and equipment required by the adopted county engine – tanker standard.

- **Ladder Truck –** A vehicle equipped with an extendable aerial ladder, an assortment of ground ladders, tools and equipment required by the adopted county ladder truck standard.

- **Medic –** A transport or non-transport capable vehicle equipped with advanced life support medical equipment and supplies to the advanced life support transport or non-transport standard adopted by the Maryland Institute for Emergency Medical Services Systems and staffed by a certified advanced life support provider.

- **Quint –** A vehicle that fully meets the Engine criteria, but has an aerial ladder / platform capability, an assortment of ground ladders and tools and equipment required by the adopted county ladder truck standard.

- **Rescue-Engine –** A vehicle that fully meets the Engine criteria but has a full complement of rescue tools and equipment required by the adopted county Rescue-Engine standard.

- **Rescue Squad –** A vehicle with a full complement of specialized rescue tools and equipment required by the adopted county Rescue Squad standard.

- **Special Unit –** A utility vehicle equipped with a complement of basic life support medical equipment and supplies required by the adopted county medical first responder standard.

- **Tanker –** A vehicle equipped with a large capacity water tank, fire pump, hose and other tools and equipment required by the adopted county tanker standard.

- **Tower Ladder –** A vehicle with an extendable aerial ladder that is equipped with an operator platform, an assortment of ground ladders and other tools and equipment required by the adopted county ladder truck standard.

This array of various types of fire, rescue and emergency medical tactical units fall into two broad types, Basic Service Units and Special Service Units.

- Basic Service Units are the types of tactical units that are necessary in most communities that has a fire/rescue station. Fire engines and basic life support ambulances are considered basic service units. In a service area that lacks municipal water service for fire protection, these units should be joined by a Tanker or Engine-Tanker to fill out the Basic Service complement. Given the agricultural and wildland characteristics of many areas of the county, Brush Trucks should be strategically located in stations as an addition to the Basic Service units.

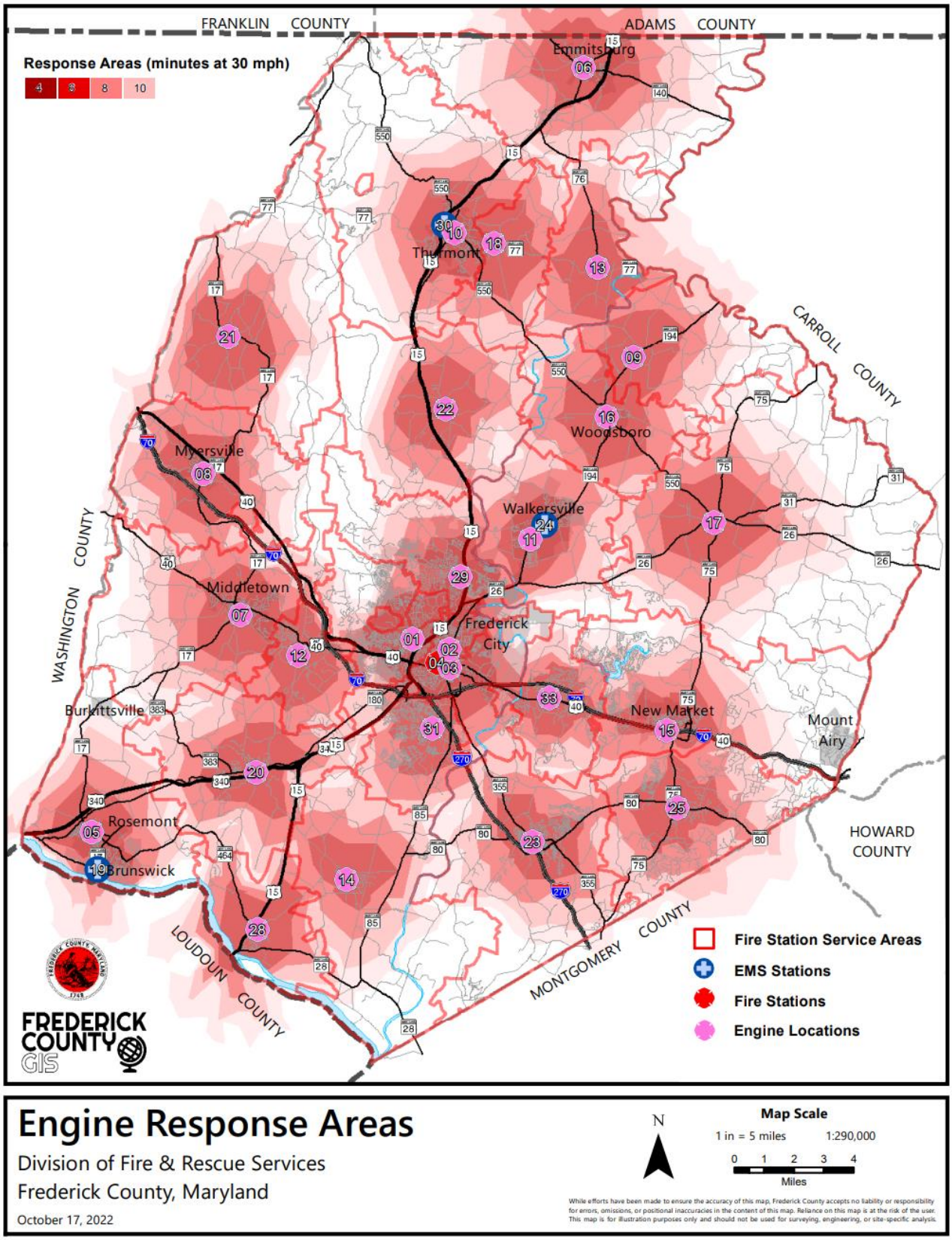
- Special Service Units are the types of tactical units that are needed to provide specialized fire, rescue, hazardous materials and advanced emergency medical services to a response area greater than a single fire – rescue station service area.

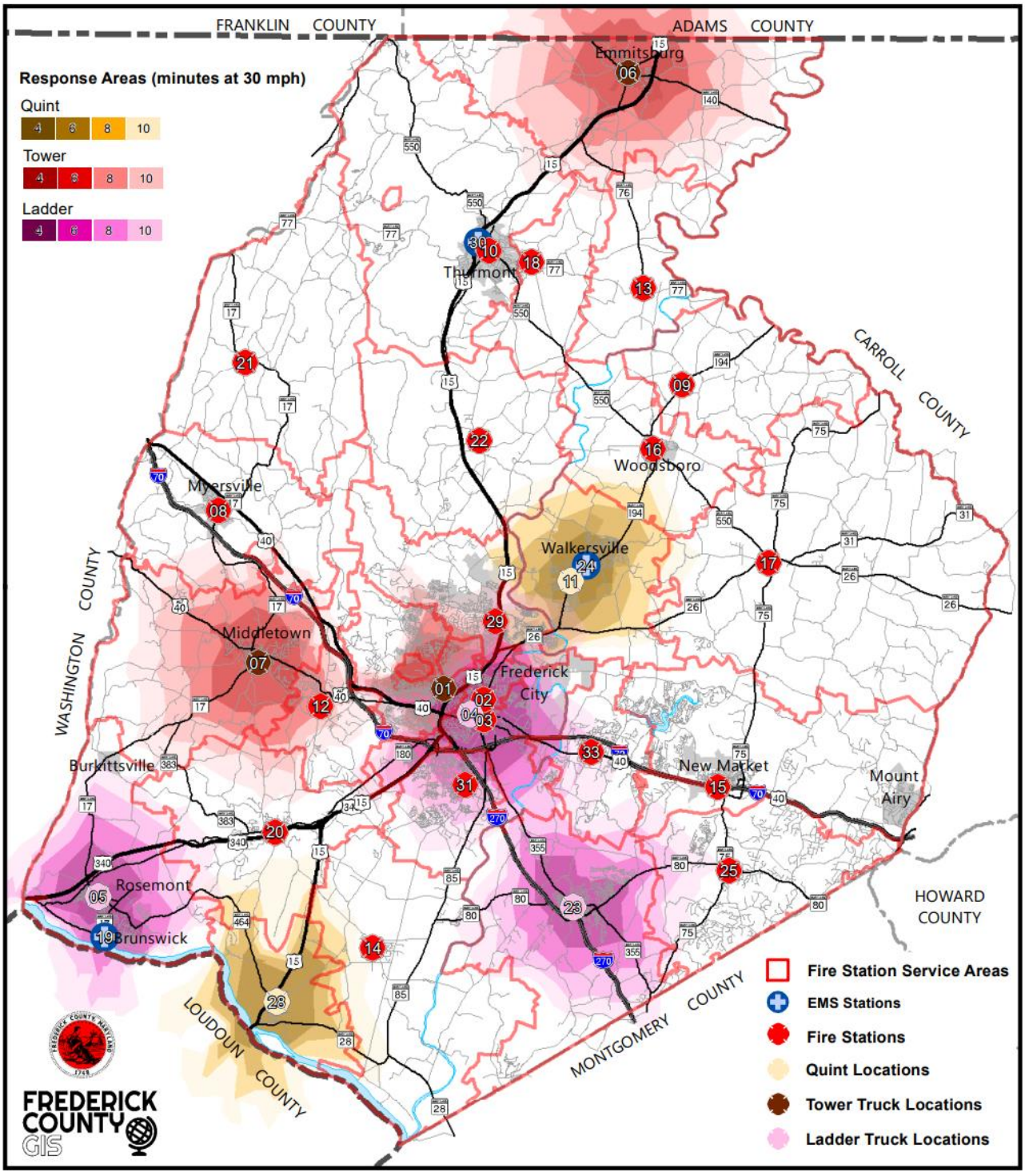
  Special Service Units include: Air Units, Bariatric Units, Aerial Apparatus, Rescue Squads, Rescue-Engines, Hazardous Material Units, Medic Units, Mass Casualty Units, Technical Rescue Units and Water Rescue Units.

  While Special Service Units are typically located to operate from stations that have a higher demand for the particular service provided by these units, planning for the location of special service units should be based on regional response coverage, as opposed to selective service to an individual community.

  The Special Service Unit deployment model should be based on response time and distance. This deployment model should reflect similar variances in response time criteria for urban, suburban, rural and remote areas.

  Since special service units are frequently needed for target hazard properties the deployment model should also consider special hazard risks of each community within a planning area when determining the location of special service units.


FRANKLIN COUNTY
ADAMS COUNTY
Response Areas (minutes at 30 mph)
4
6
8
10
Emmitsburg
Thurmont
Woodsboro
Walkersville
Myersville
Middletown
Frederick City
Burkittsville
New Market
Mount Airy
Rosemont
Brunswick
CARROLL COUNTY
WASHINGTON COUNTY
LOUDOUN COUNTY
MONTGOMERY COUNTY
HOWARD COUNTY
Fire Station Service Areas
EMS Stations
Fire Stations
Engine Locations
FREDERICK COUNTY GIS
Engine Response Areas
Division of Fire & Rescue Services
Frederick County, Maryland
October 17, 2022
N
Map Scale
1 in = 5 miles
1:290,000
0 1 2 3 4
Miles
While efforts have been made to ensure the accuracy of this map, Frederick County accepts no liability or responsibility for errors, omissions, or positional inaccuracies in the content of this map. Reliance on this map is at the risk of the user. This map is for illustration purposes only and should not be used for surveying, engineering, or site-specific analysis.

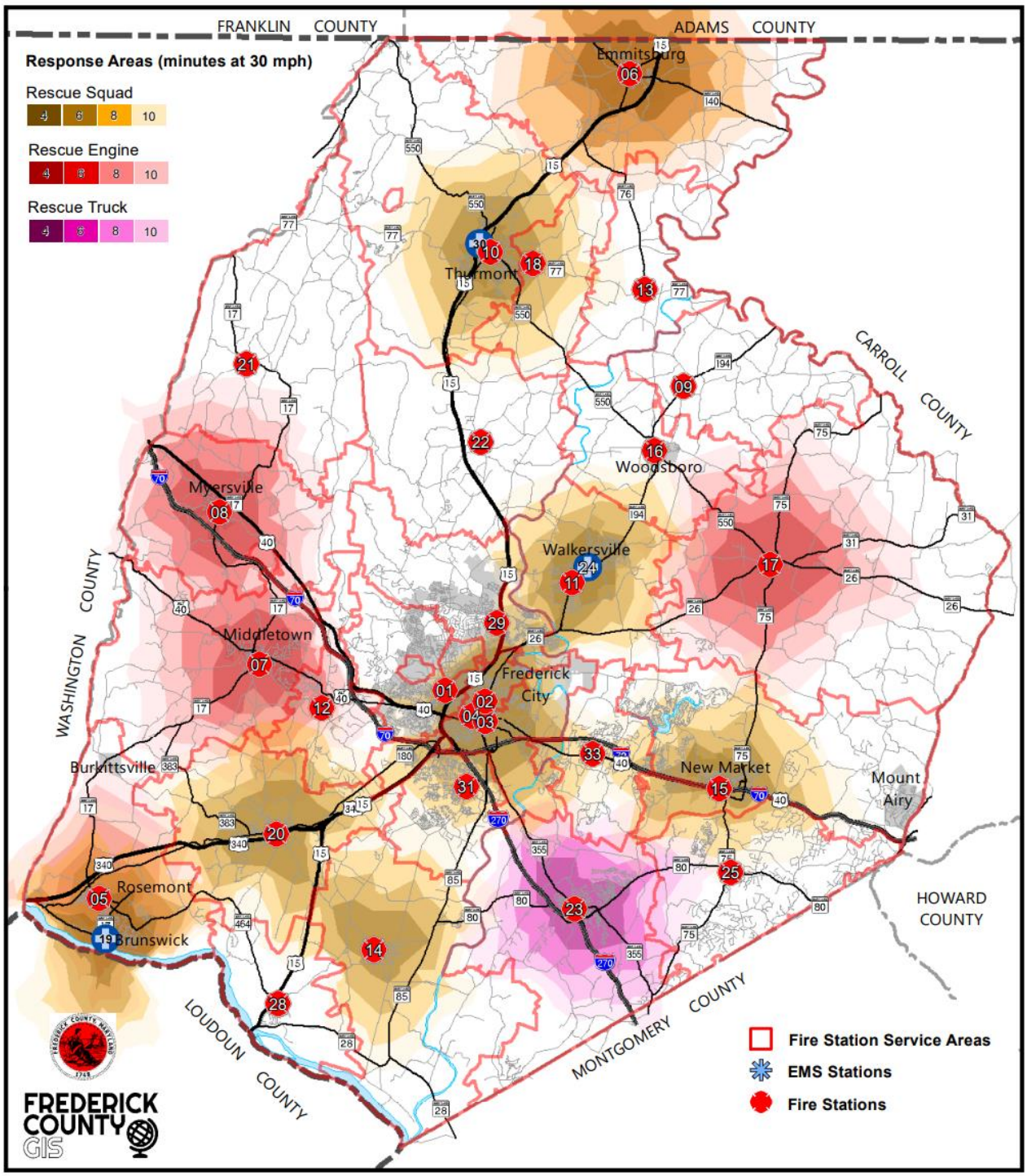


Aerial Response Areas

Division of Fire & Rescue Services
Frederick County, Maryland
October 17, 2022

N

Map Scale
1 in = 5 miles 1:290,000
0 1 2 3 4
Miles



Rescue Squad and Rescue Engine Response Areas

Division of Fire & Rescue Services

Frederick County, Maryland

October 17, 2022

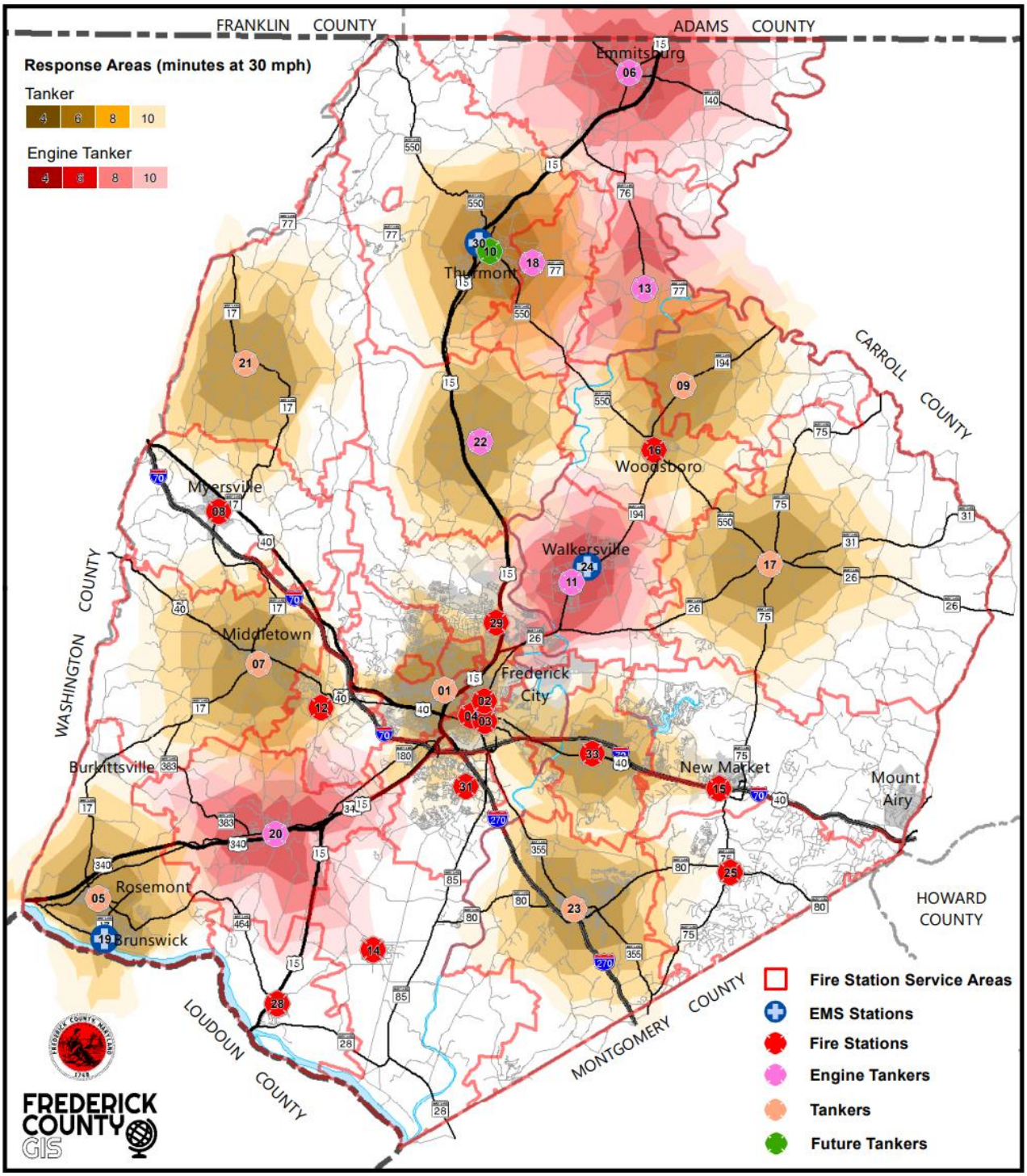
Map Scale

1 in = 5 miles 1:290,000

0 1 2 3 4

Miles

N



Tanker Response Areas

Division of Fire & Rescue Services
Frederick County, Maryland
October 17, 2022

N

Map Scale
1 in = 5 miles 1:290,000
0 1 2 3 4
Miles

BASIC SERVICE UNIT DEPLOYMENT

With a few exceptions, the current deployment of our basic service tactical units meets the current needs of the county. All fire stations in Frederick County provide Engine services and in non-hydrant service areas stations operate a Tanker or Engine-Tanker to round out their fleet of primary suppression units. Brush Trucks are also available in most communities throughout the county.

Nineteen (19) fire companies also provide ambulance service from their stations. There are three (3) communities that have a separate volunteer ambulance corporation that provides ambulance coverage for their service area. Four (4) communities have no ambulance service within their communities, but the fire company provides an EMS first response level of care, until the ambulance arrives from another community. The four (4) remaining fire companies provide emergency medical assist as dispatched when needed.

SPECIAL SERVICE UNIT DEPLOYMENT

The current deployment of special service tactical units throughout the county is more problematic. Aerial Apparatus, Rescue Squads and Rescue-Engines have been added to the fleet over the years without a countywide strategy for special service unit deployment. As noted earlier, this is not uncommon and not a criticism of community-based fire services, but this form of tactical unit deployment typically leads to both gaps and duplication in special service response coverage. This is the case in Frederick County.

Rescue Services

Frederick County has a significant number of Rescue Squads and Rescue-Engines in our fleet. This creates duplication of rescue services to a level that is rarely seen in our industry. Within the current fleet, there are ten (10) Rescue Squads, three (3) Rescue-Engines and a Truck with rescue capabilities for a total of fourteen (14) rescue units. Each of these vehicles is equipped with a similar complement of specialized rescue equipment in accordance with the adopted county rescue squad standard.

Current deployment of rescue units throughout Frederick County is as follows:

- **Frederick Planning Region** – 2 Rescue Squads (Juniors and United)
- **West Planning Region** - 2 Rescue Squads (Jefferson and Myersville)
  1 Rescue-Engine (Middletown)
- **South Planning Region** - 3 Rescue Squads (Brunswick Ambulance, Carroll Manor and New Market)
  1 Rescue-Engine (Brunswick Fire)
  1 Truck with Rescue Capabilities (Urbana)
- **East Planning Region** – 1 Rescue Squad (Walkersville Rescue)
  1 Rescue-Engine (Libertytown)
- **North Planning Region** - 2 Rescue Squads (Vigilant and Guardian)

Rescue vehicles are more costly to purchase and equip due to the extra compartmentation needed and the inventory of specialized rescue tools and equipment required to operate this special service.

The current 14 rescue capable vehicles in a jurisdiction of our size, population and call volume is excessive. The number of special service rescue units in the fleet should be reduced to the following levels:

- **Frederick Planning Region** – 1 Rescue Squad (United)
- **West Planning Region** - 2 Rescue Squads (Myersville and Jefferson)
- **South Planning Region** - 2 Rescue Squads (Carroll Manor, New Market)
  1 Rescue-Engine (Brunswick Fire)
  1 Truck with Extrication Capability (Urbana)
- **East Planning Region** – 1 Rescue Squad (Walkersville Rescue)
- **North Planning Region** - 1 Rescue Squad (Guardian)

This would right-size our special service rescue capability to 7 Rescue Squads and 1 Rescue-Engine and 1 Truck with Extrication Capability deployed countywide.

This rightsizing of our rescue response capability would require the decommissioning of the following units, through attrition:

- **Frederick Region**

  Retain – Rescue Squad 3
  Do not replace - Rescue Squad 2

- **West Region**

  Retain - Rescue Squad 20 and Rescue Squad 8
  Do not replace – Rescue Engine 74

- **South Region**

  Retain – Rescue Squads 14, 15, Rescue Engine 51 and Truck 23 with Rescue Capability
  Do not replace - Rescue Squad 19

- **East Region**

  Retain Rescue Squad 24
  Do not replace - Rescue-Engine 171

- **North**

  Retain – Rescue Squad 10
  Do not replace – Rescue Squad 6

Aerial Apparatus Resources

Aerial apparatus capability is more efficient in its current deployment with 3 Ladder Trucks, 3 Tower Ladders, and 2 Quints in the fleet. Current deployment of county aerial ladder resources is much more strategic with only minor duplication.

Current deployment of aerial ladder units throughout Frederick County is as follows:

- **Frederick Planning Region** – 1 Tower (Independent)
  1 Ladder Truck (Citizens)
- **West Planning Region -** 1 Tower (Middletown)
- **South Planning Region** – 1 Ladder Truck (Brunswick Fire)
  1 Quint (Carroll Manor- Point of Rocks)
  1 Ladder Truck (Urbana)
- **East Planning Region** – 1 Quint (Walkersville)
- **North Planning Region** – 1 Tower (Vigilant)

Aerial Apparatus Service Deficiencies

Frederick Planning Region

The Frederick Planning Region with its dense urban population coupled with its commercial and industrial base require at least two staffed aerial companies to effectively service the region. Currently those services are provided by Trucks 4 (Citizens) and 50 (Fort Detrick) with additional aerial service being provided by Tower 1(Independent) when sufficient volunteer staffing is available. In 2022, the US Army evaluated the continued provision of aerial service from Fort Detrick. Truck 50 remained in service following the evaluation and continues to provide a critically needed mutual aid service into Frederick County. If that service would become unavailable in the future, Frederick County would need to budget and staff an additional aerial company in the Frederick Planning Region.

South Planning Region

In 2022, apparatus moves, and staffing improvements were made to the Point of Rocks Fire Station to provide for a staffed fire suppression unit (Quint 28) as well as a consolidation of water rescue resources (Boat 28 and Air Boat 28). When Quint 28 meets the end of its service life, neither the Carroll Manor Fire Company nor Frederick County plan to replace Quint 28 with a unit with aerial capabilities, the intention is to replace the unit with an engine company.

Additionally, given the growth that will occur with the changes in land use in the New Market area aerial ladder service will need to be addressed in this area in the future. The re-modeled New Market fire station will currently not accommodate the housing of a ladder truck, given the current units they operate from their station. Aerial ladder service to this area must be timed to coincide with future development in this growth area and discussions with the leadership of the New Market District VFD should be initiated at a future date to determine how this service need can be provided.

RESERVE APPARATUS FLEET

Most volunteer fire and ambulance companies operate their stations with multiple basic service units, such as engines and ambulances. While these additional units are available for use when multiple incidents occur, they also serve as an immediate replacement if a front-line unit in their station goes out of service due to repair or maintenance requirements. These in-station units are fully equipped and serve in a "ready reserve" capacity. These ready reserve units also provide our system with the ability to rapidly expand our tactical capability during disaster operations when service demand increases. While replication of vehicles by each individual company is an expensive solution for providing back-up apparatus, it makes sense to have ready reserve vehicles available in strategic locations.

Another component of fleet capability is "maintenance reserve" vehicles. These units are unequipped and unassigned vehicles that are loaned to stations when their frontline units are out of service due to maintenance or mechanical breakdown. These vehicles are a shared resource for all stations countywide.

While traditionally the fleet has contained a few county owned vehicles that are designated as shared reserve units, our current reserve fire apparatus fleet includes:

- 5 reserve engines (including engines assigned to the training academy) with an additional 2 reserve engines to be added in the Spring of 2023.
- 1 reserve truck company
- 5 reserve ambulances with an additional reserve ambulance to be added in the Spring of 2023
- 4 reserve ALS chase vehicles

The current Division of Fire and Rescue Services Apparatus Replacement Plan allows for apparatus to be replaced in a timely manner and be transitioned into the reserve fleet to provide additional years of service and depth to our reserve fleet.

VII. STAFFING DEPLOYMENT PLAN

Strategic placement of fire – rescue stations and the needed complement of fire and emergency medical service response vehicles are only effective if adequate staffing is available to operate our emergency response resources.

CURRENT CAREER STAFF SUPPORT

For the most part, the assignment of operational career fire and emergency medical service personnel to staff volunteer fire and rescue stations has occurred at the request of volunteer corporations when the emergency response level provided using only volunteer staffing has fallen below the service standard established by Frederick County.

Career staff support is requested through the annual budget process for review of need and recommendation to the County Executive.

Frederick County currently provides career staff support to volunteer fire and rescue corporations using two different staffing schemes:

- 24/7 staffing - provides a minimum staffing complement of fulltime employees around the clock, seven days a week.

- 12/5 staffing – provides staffing for 12 hours during the weekday, Monday – Friday.

Current career staff support to specific stations is noted in the chart below:

Matrix of Current Career Deployment

	24hr EMS	12hr EMS	24hr Fire	12hr Fire
Station 1	4		3	
Station 2	2		3	
Station 3	4		6	
Station 4			3	
Station 5/19	4		3	
Station 6	2			
Station 7	2		3	
Station 8	2		3	
Station 9	All Volunteer Station			
Station 10			3	
Station 11				3
Station 12	2		3	
Station 13	All Volunteer Station			
Station 14	2		3	
Station 15		2		3
Station 16	2		3	
Station 17	2		3	
Station 18	All Volunteer Station			
Station 20	2			
Station 21	All Volunteer Station			
Station 22	2			
Station 23	2		6	
Station 24	2			
Station 25	2		3	
Station 28			3	
Station 29	2		3	
Station 30	2			
Station 31	2	2	3	
Station 33	2		4	
Medics	8			
Battalion Chiefs			3	
EMS Supervisors	2			
Safety Officer			1	
Total FTE by Shift	56	4	65	6

CURRENT VOLUNTEER STAFFING

The volunteer segment of the fire and rescue system is comprised of approximately 600 operational and 1000 administrative volunteers. Citizen volunteers have provided long and faithful service to Frederick County and it is our goal that the combination volunteer/career service continue to serve in partnership.

Volunteer and career members will continue to work in partnership in existing and future stations through planned recruitment and retention efforts.

While newly recruited volunteers are entering our fire and emergency medical training programs to obtain the basic certifications needed for operational service, our veteran volunteers continue to age and approach the end of their operational service. This means the retention of younger operational members to replace our veteran members will be the continuing challenge.

The same is true for volunteer corporation leadership. Volunteer fire and rescue corporations must engage in succession planning to identify and develop future leaders for their organizations. Institutional knowledge must be passed on to the next generation of leadership if volunteer corporations are to survive going forward.

Of the thirty (30) fire-rescue stations in Frederick County, four (4) stations continue to deliver emergency services with 100% volunteer staffing. These four (4) stations are fire companies that do not operate a transport ambulance service. While each provides EMS “first response” support, the lack of an ambulance keeps their call volume manageable with all volunteer staffing. Two (2) stations operate with only weekday career staff support. The remaining twenty-four (24) stations operate with 24/7 career staff support.

The county must continue to plan, develop and implement new and innovative strategies to provide greater incentives for newly recruited volunteers to fully complete their training and engage operationally in service delivery.

ADDITIONAL STAFFING REQUESTS

As with most jurisdictions that experience rapid growth, the ability of our volunteer staffed fire – rescue stations to keep pace with increasing service demand becomes very challenging. This is particularly true for staffing emergency medical services, which is the service area of greatest demand.

For the past several budgets, a number of stations have requested an increase in their career staffing due to increasing service demand and lower volunteer staff availability. These staffing requests include the following:

FY2023 Requests for Staffing from Volunteer Corporations

Frederick Planning Region	
Junior Fire Company – Staffing for Second Ambulance 24/7	9 FTEs
West Planning Region	
Wolfsville Volunteer Fire Company – Engine Staffing 12/5	4.5 FTEs
South Planning Region	
Brunswick Volunteer Ambulance & Rescue Inc. – 2 additional Staff members 24/7	9 FTEs
New Market District Volunteer Fire Company – Rescue Squad Staffing 12/5	4.5 FTEs
East Planning Region	
Lewistown District Volunteer Fire Department – Engine Staffing 12/5	4.5 FTEs
Walkersville Volunteer Rescue Company –Staffing for Second Ambulance 24/7	9 FTEs
North Planning Region	
NONE	

FY2024 Requests for Staffing from Volunteer Corporations

Frederick Planning Region	
Junior Fire Company – Second Ambulance Staffing 24/7	9 FTEs
West Planning Region	
Wolfsville Volunteer Fire Company – Engine Staffing 12/5	6 FTEs
South Planning Region	
Brunswick Volunteer Ambulance and Rescue – Rescue Squad Staffing 24/7	18 FTEs
Carroll Manor Fire Company – Station 28 – Ambulance Staffing 24/7	9 FTEs
New Market District Volunteer Fire Company – Second Ambulance Staffing 12/5	3 FTEs
East Planning Region	
New Midway Volunteer Fire Department – 2 Persons to assist with Staffing 12/5	3 FTEs
Walkersville Volunteer Rescue Company – Second Ambulance Staffing 24/7	9 FTEs
Lewistown District Volunteer Fire Department – Engine Staffing 12/5	6 FTEs
North Planning Region	
NONE	

The number of personnel requested above includes the additional leave impact positions needed to maintain these staffing levels. Leave impact positions are further defined on page 59 of this document.

GAPS IN CURRENT CAREER STAFF DEPLOYMENT

The Frederick County fire and rescue service has evolved over the years from providing supplemental career staffing for specific fire/rescue stations, as requested by each volunteer fire/rescue corporations to staffing apparatus based on the needs of the service.

Frederick Region – Continue to watch system performance and continue the transition to 4 person staffing of fire suppression units.

West Region- The Wolfsville Fire Station had an overall failure rate of 25.06% in CY2022 that extended to 40.84% during the day during the week. The need for staffing at that station during the day has been included in the FY24 budget request. We will continue to monitor the system performance and continue the transition to 4 person staffing of fire suppression units.

South Region - Continue to watch system performance and continue the transition to 4 person staffing of fire suppression units.

East Region – Continue to watch system performance and continue the transition to 4 person staffing of fire suppression units.

North Region - Continue to watch system performance and continue the transition to 4 person staffing of fire suppression units.

FUTURE CAREER STAFFING NEEDS

In addition to the gaps in our current career staff deployment and the requests for additional career staff support previously made by several volunteer corporations, several growth areas will require new fire – rescue stations to be added to our system, as noted in the station location section of this service plan.

While it may be possible for the county to obtain proffers from developers for fire station sites and funding for fire station construction and fire and emergency medical service vehicles, staffing of future fire – rescue stations will need to be provided by the assignment of career staff and volunteer personnel in the growth areas.

New Fire – Rescue Stations
New fire – rescue stations included in the fire station location section of this service plan will all provide basic service in their response area. Basic service requires an Engine and Ambulance to be staffed 24/7.

Career staffing of an Engine and Ambulance for 24/7 coverage requires a total of 27 career employees to staff 3 rotating shifts. These positions break down as follows:

- 3 Company Officers
- 3 Technicians
- 12 Firefighter/EMTs
- 9 Leave-Impact positions

In order to ensure that the needed complement of career employees are available to staff a new fire – rescue station, the hiring process for career personnel should begin one year in advance of a new station

opening, due to the lead time to recruit, train and bring new employees to the level of full operational performance.

4 Person Staffing on Fire Suppression Units

Based on the requirements of NFPA 1710 and the recommendations made in the Ball Road After Action Report, the Division of Fire and Rescue Services has begun the transition to four-person staffing on Suppression Units. Frederick County was a recipient of a Federal Fiscal Year 2021 SAFER grant through the Department of Homeland Security. That grant will fund 32 positions from January of 2023 through January of 2026 to provide four-person staffing with leave impact for 7 pieces of apparatus. The remaining transition to four-person staffing is intended to be phased in over multiple years. Future requests for additional staffing should consider use of SAFER grant to accelerate the County's ability to accomplish this goal.

Special Service Units

It will be important to monitor the response reliability of Special Service Units throughout the county in order to plan for the potential need for career staffing for aerial ladder units and rescue squads. The need for strategic staffing for Tankers must also be monitored, this staffing initiative was a specific recommendation made in the Ball Road After Action Report.

Currently, operational volunteers provide the necessary complement of personnel that for the most part, when combined with on duty career staff allow our system to meet both basic and special service unit response. This is the most desirable staffing model and we should work to continue this staffing scheme for as long as possible, wherever possible. Should volunteer availability decline, we must plan to provide career personnel to staff selected special service functions where needed.

Leave Impact Staffing

As tactical staffing needs increase, it is important that we maintain an adequate number of additional firefighters, paramedics and company officers on each shift in order to manage what will be an increasing rate of staffing vacancies. Staffing vacancies occur in many forms that include: the regular scheduled extra day off to maintain the 48 hour workweek, planned leave so fire and rescue personnel can use the annual leave benefits they earn, use of sick leave when unable to work a shift due to illness, job related and non-job related injuries, time off under the Family Medical Leave Act, military leave, bereavement leave, disciplinary actions and retirements all create shift vacancies that must be back-filled in order to maintain the minimum staffing required.

Leave impact positions allow us to manage leave use in the most economical means possible. DFRS works to maintain a 1.5 staffing ratio. This means for every one FTE position assigned for staffing, we should hire 1.5 FTE's to manage employee vacancies generated by the reasons stated above.

During the recession in FY2012, 34 vacant leave impact positions were eliminated. These positions were a combination of leave impact position vacancies and new leave impact positions that had not yet been filled. This action created a significant deficit in leave impact staffing and their elimination correlated with an increase in overtime expenditures. At the same time, management reduced planned leave opportunities in order to control overtime costs to the degree possible. This leave restriction remains today and continues to create a hardship for our career personnel and their families.

In FY2017, DFRS requested the Division of Internal Audit undertake a special project to analyze the Division's staffing and leave management practices to determine the cost effectiveness of adding

additional leave impact staffing. That study demonstrated that given the current staffing deficit, it is less costly to add additional leave impact staffing than continue to cover shift vacancies with overtime.

In 2022 DFRS identified that the organization was 66 positions shy of achieving a leave impact factor of 1.5 FTEs for every one FTE position assigned for staffing. In FY2023, DFRS was approved for 22 new leave impact positions (19 Firefighters and 3 Lieutenants). While the remaining 44 positions cannot be acquired in a single year it is imperative that DFRS works to request the positions over the next four fiscal years as well as continue to integrate the leave impact factor when requesting additional field staffing positions.

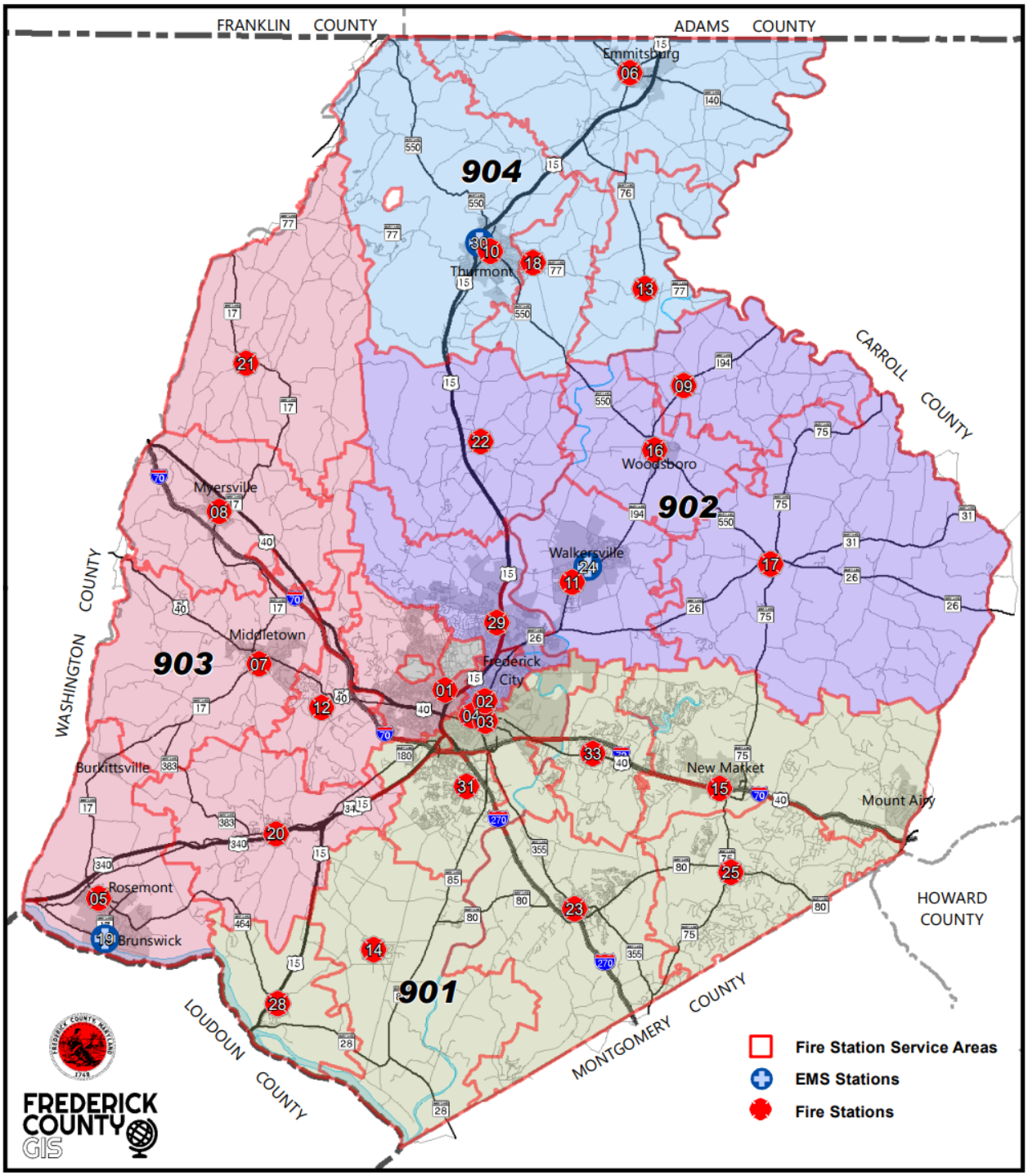
Operational Field Supervision

The need to provide a Command level officer on the scene of an emergency incident in a timely fashion coupled with the need to maintain a manageable span of control will drive the need for both a 4th Battalion Chief and a Shift Commander to oversee the four Battalion Chiefs on each shift in the future.

It is clear that the 4th Battalion Chief (Battalion 904) would be used to divide the current North Battalion Chief's (Battalion 902) area of responsibility. The intention would be for Battalion 904 to be housed in Thurmont and cover the north end of the County. The map on page 63 denotes one option on how the four-battalion structure could work to provide improved regional coverage for command officers. It should be noted that consideration of the addition of a fourth battalion chief was a recommendation of the Ball Road After Action Report.

The creation of a 4th Battalion would push limits of the managerial span of control of the Assistant Chief of Emergency Services who would then supervise 14 direct reports (including leave impact positions). A transition of the Assistant Chief of Emergency Services to a shift commander's position with one assigned to each of the three shifts would correct span of control concerns within the Emergency Service Section and provide a member of senior staff on duty 24 hours a day, seven days a week.

Call volume, response times and organizational demand will drive the timeline to implement both positions. The Division of Fire and Rescue Services will continue to work with the Fire and Rescue Planning Workgroup to monitor the data points regarding the implementation of these two positions.



Fire / Rescue Battalions

Division of Fire & Rescue Services
Frederick County, Maryland
October 17, 2022

N

Map Scale
1 in = 5 miles 1:290,000
0 1 2 3 4
Miles

Administrative Staff Support

DFRS Human Resources: The increase in career personnel for station staffing will need to be supported with an increase in administrative personnel. This will be especially critical in both the fire and rescue human resource office which manage personnel actions, performance evaluations, payroll, medical/physicals, uniforms, protective clothing, protective equipment. The responsibility of the Public Information Officer has been historically added on to the Manager of Administration and Communication (previously the Personnel Supervisor). To help provide additional hours in the human resources office and provide for the need for public outreach and notification the position of Manager of Administration and Communication should be split into two positions, Personnel Supervisor and DFRS Public Information Officer.

Training: While the Fire/Rescue Service continues to grow, the training office needs to proportionately grow. There is an immediate need for a volunteer training coordinator, and additional instructional staff to provide ALS, BLS and fire/rescue training. The current allotment of staff is not able to meet the current training needs of our personnel. To compound the problem the Maryland Fire and Rescue Institute continues to struggle to find instructors to teach core EMS training recertification courses.

Data Analyst/Planner: Strategic planning must be an ongoing process and as growth continues a staff position should be dedicated to this critical function. Our system is currently handicapped by the lack of a comprehensive planner who is able to critically analyze and package data in a usable format.

Fleet Manager: The size of the Division's fleet and the time needed to manage and track the fleet while at the same time complete the specification and acquisition of new units necessitates a stand-alone staff member as the current Support Service staff does not have the capacity to continue these tasks without additional support.

Uniformed Fire Officer in Emergency Communications: The need for a uniformed officer in the Emergency Communications Center has been increasing over the last several years. The ability to have an operational decision maker in the dispatch center can provide direction when dispatch assignments require modification as well as to ensure that resource placement is managed during times of high system usage.

VIII. IMPLEMENTATION PLAN AND TIMELINE

The implementation plan and timeline that follows is intended to illustrate how the service delivery upgrades are projected over the next four (4) years.

Factually, given the likelihood of future changes in political philosophies, land use decisions and the strength or weakness of the economy, it is not possible to set a fixed schedule of enhancements to fire – rescue service delivery.

The initial focus on implementation are the service priorities that would span FY-24 through FY-27

The actual implementation of service enhancements will remain dependent on a number of factors:

- Does the anticipated growth in development and population actually occur?
- Does service demand increase requiring the additional stations, equipment and personnel?

- Do volunteer fire and rescue corporations need additional career staff support?
- Are volunteer corporations able to provide the upgrades in facilities, apparatus and equipment at the time they are needed?
- Is funding available to support the service enhancements at the time they are needed?

These assessments must be made as a part of the budget process to ensure the actual implementation of service enhancements is driven by actual need.

In addition, service upgrades should be planned and coordinated with the respective volunteer fire and rescue corporations affected by the service enhancement. Discussions with volunteer station leadership should determine the volunteer corporations' interest and ability to provide the service enhancement identified and to determine how the county should proceed in making sure that reliable service delivery to the community and planning area is provided.

This service delivery plan is intended to inform each volunteer corporation of the county's vision for future service needs so they may factor these service enhancements into their corporation planning as a means of preparing for future discussions on the corporations' ability to meet the needs identified.

IMPLEMENTATION PLAN AND TIMELINE

FY-24 THRU FY-27 =Staffing =Station = Tactical Vehicles

	JULY 2023 TO JUNE 2027	FTEs	FY-24	FY-25	FY-26	FY-27	FY-28
	Continue transition to 4-Person Staffing (7 Units)	34 FFs					
	Add Leave Impact Personnel	22 FFs					
	Add staffing for 2nd Ambulance at New Market (D-Shift)	3 FFs					
	Add staffing for 2nd Ambulance at Juniors/Walkersville or Northgate	9 FFs					
	Add staffing for 2nd Ambulance at Thurmont or Emmitsburg	9 FFs					
	Add staffing for 2nd Ambulance at Urbana	9 FFs					
	Add Planning Officer / Data Analyst	1 Civ					
	Add Fleet Management Officer (Captain)	1 FF					
	Add Public Information Officer	1 Civ					
	Add 2 Lieutenants to Training (ALS Recert, BLS Recert, Fire)	2 FFs					
	Add Day Shift Staffing at Wolfsville	6 FFs					
	Add 2 Captains and 1 Lieutenant to the Fire Marshal's Office	3 FFs					
	Add 1 ALS Chase Unit	4.5 FFs					
	Staffing for Engine Company at Jefferson	18 FFs					
	Staffing for Engine Company at Lewistown	18 FFs					
	Transition of Staffing at Walkersville to 24/7	9 FFs					
	UFOs in Communications (5 Lieutenants)	5 FFs					
	Personnel for Jefferson Tech Park in FY28	27 FFs					
	Battalion 904	4 FFs					
	UNIFORMED / CIVILIAN		50.5/2	43	61	45	40
	STATIONS						
	BUILD THE GREEN VALLEY FIRE STATION						
	DESIGN & COMPLETE THE WESTIVEW FIRE STATION RENOVATION						
	DESIGN & BUILD PSTF POLE BARN						
	DESIGN & BUILD CARROLL MANOR FIRE STATION						
	DESIGN & BUILD THE PSTF MAINTENANCE AND GARAGE FACILITY						
	DESIGN THE JEFFERSON TECH PARK FIRE STATION						
	EQUIPMENT						
	SCBA REPLACEMENT						
	CARDIAC MONITOR REPLACEMENT						
	TACTICAL VEHICLES						
	REPLACE 1-RESCUE ENGINE, 1 -TRUCK, 2-AMBULANCES AND SUPPORT VEHICLES						
	REPLACE 2-ENGINES, 1-HAZ-MAT UNIT, 3-AMBULANCES AND SUPPORT VEHICLES						
	REPLACE 2-ENGINES, 5-AMBULANCES AND SUPPORT VEHCILES						
	REPLACE 3-ENGINES AND SUPPORT VEHICLES						
	REPLACE 3-AMBULANCES AND SUPPORT VEHICLES, ADD 1-ENGINE AND 1-AMBULANCE (JEFFERSON TECHNOLOGY PARK)						

ACKNOWLEDGEMENTS

The Division of Fire and Rescue Services would like to acknowledge and express our thanks to the following individuals and organizations for their assistance in the development and review of this plan.

As with any plan that attempts to forecast the future, there are many different views and opinions of what that future may hold and how best the fire and rescue system must plan for and react to the changing environment and service needs of Frederick County, Maryland.

The acknowledgement of the following organizations and individuals is not intended to reflect their endorsement or approval of this plan. This acknowledgement is to express the appreciation of the Division of Fire and Rescue Services for the time they took in their review and comment on the plan as stakeholders in our fire and rescue system.

Frederick County Fire and Rescue Advisory Board

Frederick County Volunteer Fire and Rescue Association

Frederick County Professional Firefighters and Paramedics Association, IAFF Local 3666

Frederick County Division of Volunteer Fire and Rescue Services

Frederick County Division of Fire and Rescue Services Senior Staff:

Frederick County Fire/Rescue Planning Workgroup

Frederick County ALS Service Delivery Workgroup

Frederick County Division of Interagency Information Technology's – GIS Office

The men and women of the Frederick County Division of Fire and Rescue Services.

The men and women of the 25 volunteer fire and rescue corporations.