FREDERICK COUNTY

DIVISION OF FIRE AND RESCUE SERVICES

FIRE – RESCUE SERVICE PLAN

CY 2019 - CY2029

Prepared September 2012
Updated December 2018

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

THIS PAGE INTENTIONALLY LEFT BLANK

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 ten (10) year calendar period from 2018 through 2028, which for budgetary purposes spans fiscal years FY-19 through FY-28.

The Frederick County Comprehensive Plan identifies land use throughout the county as a means of planning future development and growth. Since fire and rescue service demand is directly related to growth in population, this fire and rescue service plan is written in the style of the county comprehensive plan and addresses risk assessment and service needs within the eight (8) county planning areas.

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 ten (10) 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.

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 protect life, property, and the environment by providing professional, efficient, and quality service."

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 County Executive and citizens of Frederick County 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. Ensure future facilities developed for fire and rescue services combine both fire suppression and emergency medical service into a single facility to reduce costs and eliminate duplication.

Public Facility Goals of the Comprehensive Plan

General

SC-P-01 Place major facilities such as schools, libraries, fire/rescue facilities and senior centers within community growth areas with an emphasis in the central portion of community growth area, preferably adjacent to commercial centers.
SC-P-02 Prioritize funding for those capital projects, which correct existing deficiencies.
SC-P-03 Prioritize land acquisition for capital facilities as part of a land banking program well in advance of the need for new facilities and acquired through the development review process.
SC-P-04 Work collaboratively with all of the municipalities in Frederick County to adopt an Adequate Public Facilities Ordinance (APFO) which complements the County's APFO.
SC-P-05 Consider joint use of County facilities, including but not limited to libraries, senior centers, health clinics, schools, and public safety facilities.
SC-P-06 Employ Leadership in Energy and Environmental Design (LEED) and Low Impact Development (LID) standards in County facilities.

Goals Specific Fire and Rescue Policies

SC-P-22 Support a coordinated volunteer and professional system of fire and rescue services.
SC-P-23 Locate new fire/rescue facilities within community growth areas and outside of hazard areas as described in the Hazard Mitigation Plan.

II. CURRENT SYSTEM DESIGN

The Frederick County fire and rescue system is a combined volunteer and career staffed system that consists of the 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 430 uniformed and 12 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 Bureau is responsible for Fire Prevention, Logistics, Fleet Services, and Finance, Information Technology and Ambulance Insurance Billing.

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

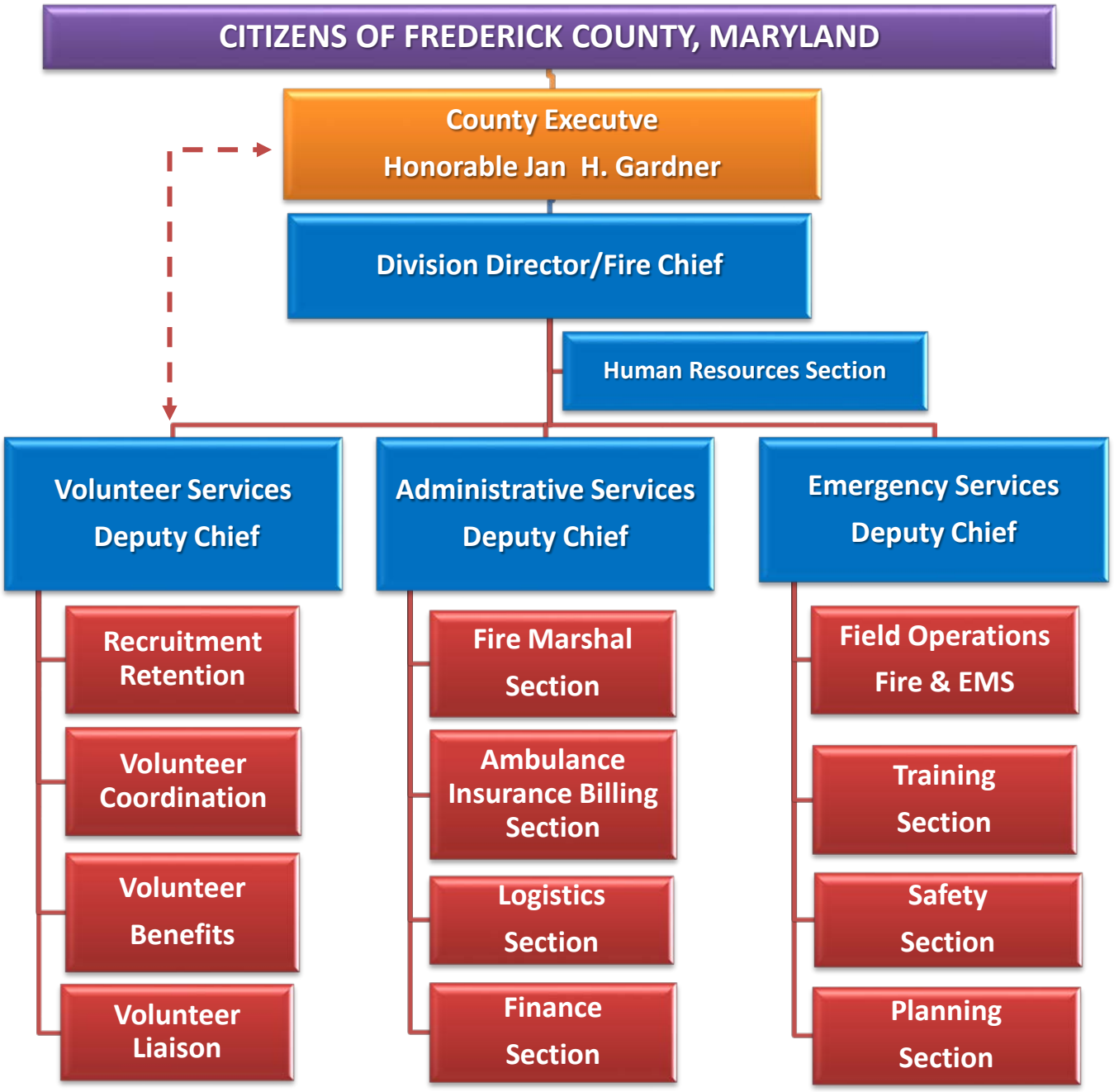
The Division of Fire and Rescue Services provides operational staffing and administrative support to the County's volunteer fire and rescue companies, special events planning, conducts all code-related fire inspections, and investigates the cause and origin of fires, explosions and hazardous materials 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 Fire and Rescue Association is a recognized advisory group to the County Executive. This organization works to maintain a countywide approach to fire and rescue service delivery through a consensus process among the twenty-five (25) volunteer fire and rescue corporations.

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.

FREDERICK COUNTY
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 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	Volunteer
11. Walkersville Vol. Fire Co.	79 West Frederick Street, Walkersville, MD	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 Vol. Fire Co.	11101 Hessong Bridge Road, Thurmont, MD	Career / Volunteer
23. Urbana Vol. Fire Co.	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
30. Thurmont Ambulance Co.	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

The assignment of career fire and emergency medical service personnel to staff volunteer fire and rescue stations has historically occurred at the request of a volunteer corporation when the emergency response level provided with only volunteer staffing has fallen below the service standard established by Frederick County. Career staff support can be requested through the annual budget process of the Frederick County Volunteer Fire and Rescue Association for their review and recommendation to the Director and Chief of Fire and Rescue Services.

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, one (1) station is career staffed on the 12-hour work schedule and 22 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.

As a result of a successful federal SAFER grant applied for by the Division of Fire and Rescue Services, an aggressive volunteer recruitment program was initiated in August 2011. The stated goal in the grant was to recruit 400 new fire – rescue volunteers within the four year period of the grant program. This goal was met with slightly more than 400 volunteers recruited and trained to at least the firefighter 1 level.

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 twenty-nine (29) fire-rescue stations in Frederick County:

- Six (6) stations continue to deliver emergency services with 100% volunteer staffing.
- One (1) station operates with weekday career staff and volunteer staffing evening and weekends.
- Twenty-two (22) stations are provided with 24/7 career staff and volunteer staffing as available.

CURRENT FIRE – RESCUE – AMBULANCE STATIONS

There are currently twenty-nine (29) fire and/or ambulance stations located in communities throughout Frederick County. As noted earlier:

- Eighteen (18) 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 31 (Westview)
- Station 33 (Spring Ridge)
- ALS quarters at 340 Montevue Lane.

The map on page 13 provides a visual representation of how the fire – rescue stations are geographically located throughout the county.

MUTUAL RESPONSE WITH SURROUNDING JURISDICTIONS

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

This automatic mutual 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.

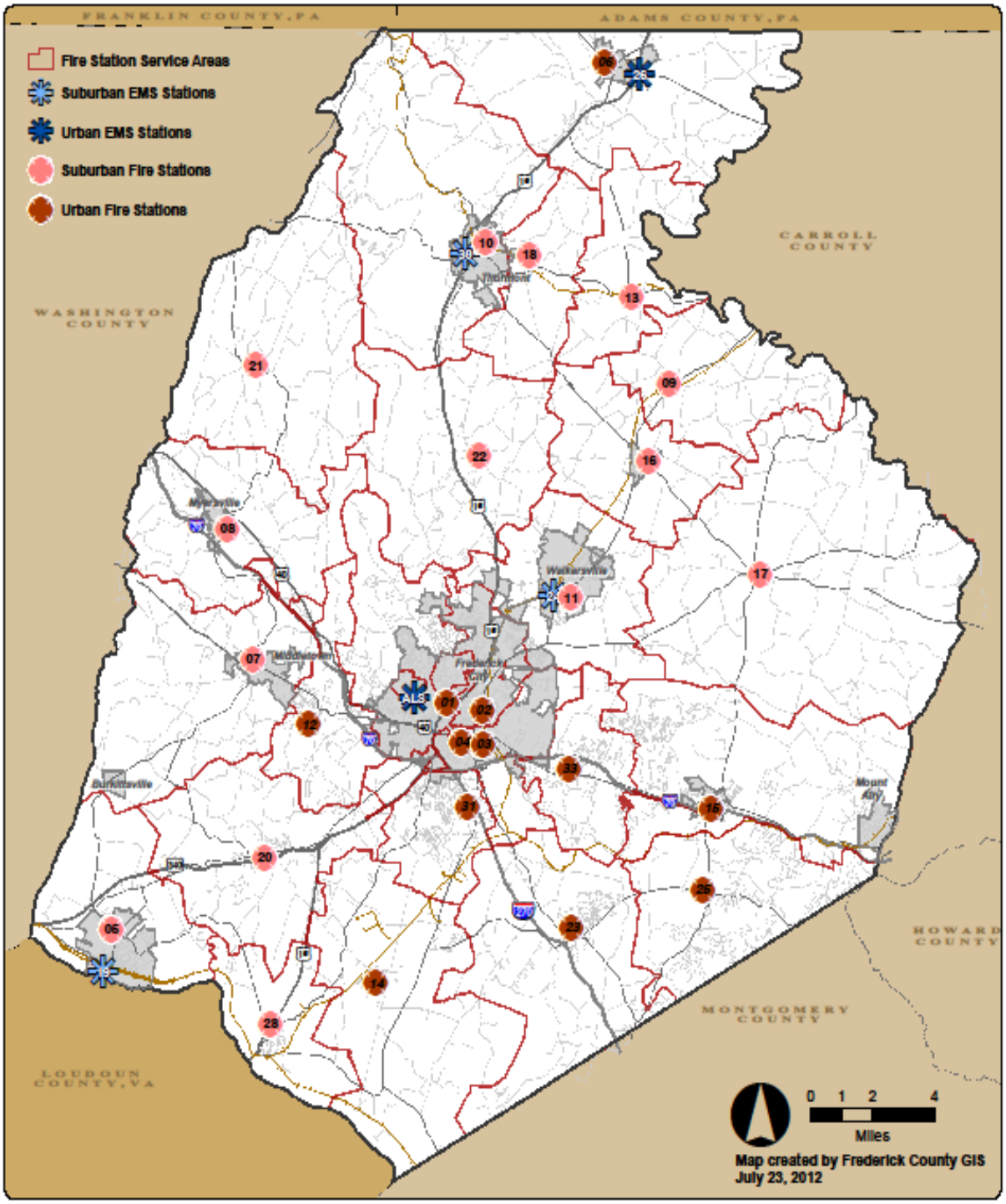
While mutual response relationships are important to providing effective service to our citizens in border areas of the county, it is important to recognize that mutual response is only as effective as our assisting partners' ability to respond in a timely manner when dispatched. A number of jurisdictions 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 mutual 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



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 258 primary fire-rescue vehicles operating within the county. Of this total, 167 vehicles are owned by volunteer fire and rescue corporations and 91 vehicles are owned by Frederick County.

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

- Engines
  - Volunteer Owned - 22
  - County Owned – 15

- Aerial Ladders
  - Volunteer Owned - 5
  - County Owned – 4

- Rescue Squads
  - Volunteer Owned - 9
  - County Owned – 0

- Combination Rescue/Engines
  - Volunteer Owned - 3
  - County Owned - 1

- Combination Engine/Tankers
  - Volunteer Owned - 8
  - County Owned - 1

- Dedicated Water Tankers
  - Volunteer Owned - 5
  - County Owned - 2

- Brush Fire Trucks
  - Volunteer Owned - 24
  - County Owned – 1

- Special Operations Vehicles
  - Volunteer Owned - 3
  - County Owned - 4

- Operational Command Officer Vehicles
    - Volunteer Owned - 29
    - County Owned/Volunteer Operated - 3
    - County Owned/ County Operated – 3

- Utility Vehicles
    - Volunteer Owned - 26
    - County Owned - 6

- Special Response Trailers
    - Volunteer Owned - 11
    - County Owned – 20

- Ambulances
    - Volunteer Owned – 22
    - 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.

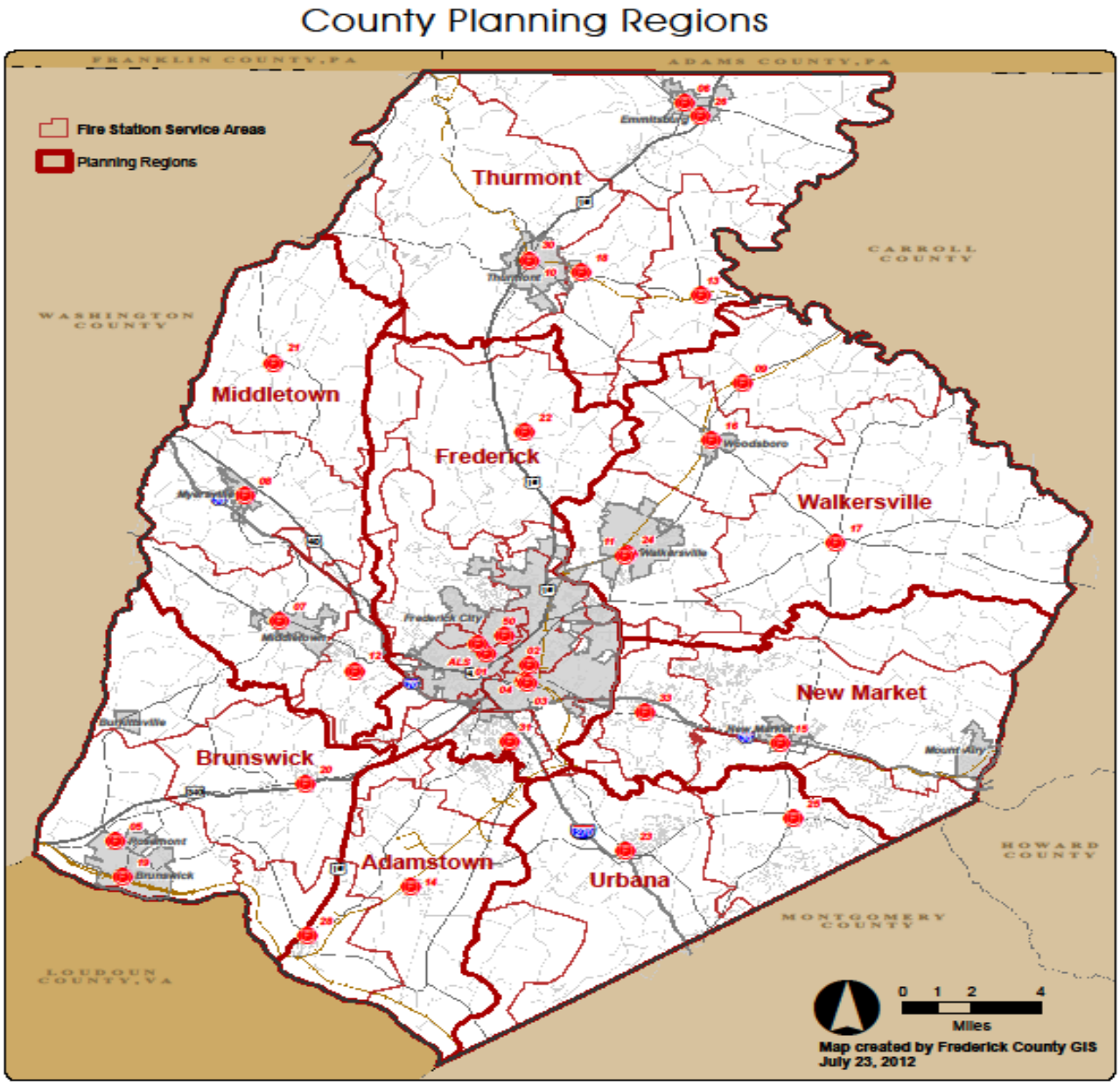
Once a county owned fire and rescue vehicle is added to the fleet, vehicle repair, maintenance and replacement is managed in accordance with county fleet services policies. The county provides a contribution for apparatus maintenance and repair to volunteer corporations that own their vehicles.

The rising cost of both basic service and special service fire – 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 – 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.

THIS PAGE INTENTIONALLY LEFT BLANK

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. The variables of risk and service demand will be discussed using the established planning areas identified in the Frederick County Comprehensive Plan.



Adamstown Planning Area

The Adamstown Planning Area includes the Community Growth Areas of Adamstown, Buckeystown, and Point of Rocks as well as a significant land area planned for general industrial use. The balance of the Adamstown Planning Area is large open land area of low density housing and agricultural use. This planning area is currently serviced by the following fire – rescue stations and noted is the fire and EMS service demand for calendar year 2017.

- Carroll Manor Volunteer Fire Company – Station 14
  - EMS – 597
  - Fire – 574
- Carroll Manor Point of Rocks Station – Station 28
  - EMS – 202
    Fire – 153
- **Planning Area Total – 1,526**

The service area is primarily an agricultural area with low & medium density residential development. Planned growth areas in Adamstown, Buckeystown and Point of Rocks include medium density residential development of single family attached and detached dwellings and mixed use development in the village center.
The East Alco Employment Area includes the largest land area in Frederick County designated for general industrial development.

CSX Rail and MARC Commuter rail lines bisect and extend through the entire southern border of the service area. High volume highway corridors include sections of U.S. 15and U.S. 340

The service area encompasses 45.7 square miles with a population of approximately 10,800 and a density of 236 people per square mile, with a projected population of 11,400 and density of 250 people per square mile by the year 2020.

The fire and rescue companies in this planning area made a total of 1,526 fire and emergency medical responses in calendar year 2017.

With the exception of the East Alco Employment Area, the Adamstown Planning Area 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 industrial development in the East Alco Employment Area is a *moderate risk* development zone, but in and of itself, does not generate a significant service demand at this time.

The Point-of-Rocks section of this planning area is a *moderate risk* area due to the freight rail line that passes through this growth area transporting significant quantities of hazardous materials.

Brunswick Planning Area

The Brunswick Planning Area includes the Municipal Growth Area of the City of Brunswick, the Unincorporated Growth Area of Jefferson and the Rural Communities of Burkittsville, Rosemont,

Knoxville and Petersville. The balance of the Brunswick Planning Area is large open land area of low density housing and agricultural use.

This planning area is currently serviced by the following fire – rescue stations:

- Brunswick Volunteer Ambulance Company – Station 19
  - EMS/Rescue – 1,232
- Brunswick Volunteer Fire Company - Station 5
  - Fire - 836
- Jefferson Volunteer Fire Company – Station 20
  - EMS – 623
  - Fire - 573
- DFRS Medic 20 – Station 20
  - ALS – 1,354

Planning Area total – 4,618

This service area includes an urban population center in the City of Brunswick that 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 presents a significant risk of rapid fire spread to this community.

Outside of the City of Brunswick, the service area includes planned community residential development, mixed use development in the village center of Jefferson and large open land areas of low density housing and agricultural use. Preservation of farmland and agricultural uses are a high priority for land use in this service area.

A significant CSX rail yard and MARC Commuter rail line extend through the entire southern border of the service area. High volume highway corridors include sections of U.S. 15 and U.S. 340.

The service area encompasses 68.4 square miles with a population of approximately 16,140 and a density of 235 people per square mile, with a projected population of 20,300 and density of 297 people per square mile by the year 2020.

The fire and rescue companies in this planning area made a total of 4,618 fire and emergency medical responses in calendar year 2017.

With the exception of the City of Brunswick, the Brunswick Planning Area 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 City of Brunswick however is a *high risk* area due to the age, type of construction, close arrangement and population density of the downtown core. The rapid fire spread potential presents a high risk to this community that will 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 materials hazardous to life will require the rapid deployment of resources for large scale evacuation of this community.

Frederick Planning Area

The Frederick Planning Area 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:

- Independent Hose Company – Station 1
  - EMS – 4,719
  - Fire – 2,581
- DFRS Medic 1 – ALS Quarters
  - ALS – 3,000
- Junior Fire Company – Station 2
  - EMS – 4,688
  - Fire – 1,760
- DFRS Medic 2 – Station 2
  - ALS – 3,999
- United Steam Fire Engine Company – Station 3
  - EMS – 5,006
  - Fire – 2,693
- Citizens Truck Company – Station 4
  - Fire – 1,008
- Lewistown Fire Company – Station 22
  - EMS – 424
  - Fire - 322
- United Steam Fire Engine Company - Westview – Station 31
  - EMS – 2,182
  - Fire – 1,833
- DFRS Medic 31 – Station 31
  - ALS – 2,263
- **Planning Area Total – 36,478**

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 this 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 encompasses the Ft. 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 planning 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.

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.

The service area encompasses 34.5 square miles with a population of approximately 90,800 and a density of 2,632 people per square mile, with a projected population of 104,700 and density of 3,035 people per square mile by the year 2020.

The fire and rescue companies in this planning area made a total of 36,478 fire and emergency medical responses in calendar year 2017.

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.

Middletown Planning Area

The Middletown Planning Area includes the Municipal Growth Areas of the Town of Middletown, the Town of Myersville and the Unincorporated Growth Area of Fountaindale. This planning area is currently serviced by the following fire – rescue stations:

- Braddock Heights Volunteer Fire Company – Station 12
  - EMS – 663
  - Fire - 451
- Middletown Volunteer Fire Company – Station 7
  - EMS – 643
  - Fire - 636
- Myersville Volunteer Fire Company – Station 8
  - EMS – 589
  - Fire – 503
- Wolfsville Volunteer Fire Company – Station 21
  - Fire – 335
- DFRS Medic 8 – Station 8
  - ALS - 529
- **Planning Area Total – 4,349**

The two Towns, Braddock Heights and the Fountaindale area comprise the population centers of the Middletown Planning Area. Both Towns have a small downtown core comprised of mixed use properties in close arrangement. Beyond the downtown core, both 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 residential development nestled along the forested slopes of this ridge top community. The Fountaindale area is comprised of several low density residential subdivisions and a small commercial area.

The balance of the Middletown Planning Area 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.

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

The service area encompasses 86.7 square miles with a population of approximately 21,000 and a density of 242 people per square mile, with a projected population of 26,800 and density of 309 people per square mile by the year 2020.

The fire and rescue companies in this planning area made a total of 4,349 fire and emergency medical responses in calendar year 2017.

The Middletown Planning Area 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 the close arrangement and increased population density of these downtown areas.

New Market Planning Area

The New Market Planning Area includes the Municipal Growth Areas of the Town of Mt. Airy, Town of New Market, the Unincorporated Growth Areas of Linganore, Spring Ridge/Bartonsville and Holly Hills. The balance of the New Market Planning Area is large open land area of low density housing and agricultural use. This planning area is currently serviced by the following fire – rescue stations:

- New Market District Volunteer Fire Company – Station 15
  - EMS – 863
  - Fire – 927
- United Steam Fire Engine Company - Spring Ridge – Station 33
  - EMS – 858
  - Fire - 495
- **Planning Area Total – 3,143**

This service area includes urban population centers in the Town of New Market and the Town of Mt. Airy that 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 presents a significant risk of rapid fire spread to these communities.

Outside of the two towns, the service area includes planned community residential development, mixed use development with dispersed commercial centers and large open land areas of low density housing and agricultural use.

Freight rail passes through the service area and high volume highway corridors include sections of I-70, MD. 75 and MD.144.

The service area encompasses 73.1 square miles with a population of approximately 34,150 and a density of 467 people per square mile, with a projected population of 47,800 and density of 654 people per square mile by the year 2020.

The fire and rescue companies in this planning area made a total of 3,143 fire and emergency medical responses in calendar year 2017.

The New Market Planning Area 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 in the Town of Mt. Airy and Town of New Market do present a more *moderate risk* due the close arrangement and increased population density.

Thurmont Planning Area

The Thurmont Planning Area 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, St. Anthony's, Sabillasville, Blue Ridge Summit, and Catoctin Furnace. These rural communities and the balance of the Thurmont Planning Area are large open land area of low density housing and agricultural use and large sections of the Catoctin Mountain where several State and National Parks are located. This planning area is currently serviced by the following fire – rescue stations:

- Vigilant Hose Company – Station 6
  - EMS – 1,122
  - Fire - 599
- Guardian Hose Company – Station 10
  - Fire - 857
- Rocky Ridge Volunteer Fire Company – Station 13
  - Fire - 339
- Graceham Volunteer Fire Company –Station 18
  - Fire - 285
- Thurmont Community Ambulance Company – Station 30
  - EMS – 1,439
- DFRS Medic 30 – Station 30
  - ALS – 1,167
- **Planning Area Total – 5,808**

This service area includes urban population centers in the Town of Emmitsburg and the Town of Thurmont that 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 presents a significant risk of rapid fire spread to these communities.

Outside of the two Towns, the service 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.

Freight rail passes through the service area and the Thurmont community includes an industrial park with mid-size 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 service area encompasses 121.2 square miles with a population of approximately 19,700 and a density of 163 people per square mile, with a projected population of 24,400 and density of 201 people per square mile by the year 2020.

The fire and rescue companies in this planning area made a total of 5,808 fire and emergency medical responses in calendar year 2017.

The Thurmont Planning Area 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 Town of Thurmont do present a more *moderate risk* due the close arrangement and increased population density. There is also a significant Wildland/Urban Interface risk in this planning area due to significant residential development within the heavily forested Catoctin Mountain region of this service area.

Urbana Planning Area

The Urbana Planning Area includes the Unincorporated Growth Areas of Urbana and Monrovia. The Urbana Community Growth Area 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, MD355, and Urbana Pike to serve the growing residential and employment populations of the Urbana Community.

The Monrovia Community Growth Area includes the area generally coinciding with the boundaries of the Landsdale Planned Unit Development (PUD) an age-restricted development of 1,100 dwellings on the west side of Ed McClain Road. The 2004 Urbana Region Plan designated a larger growth area, which included the adjacent planned Monrovia Town Center age-restricted PUD as well as a general commercial area located at the intersection of MD 75 and MD 80.

The I-270 Employment Corridor is comprised of approximately 1,350 acres of land designated for Limited Industrial and Office/Research/Industrial uses between MD 355 and I-270. This employment area continues the land use concept of the “I-270 Technology Corridor”, which extends along the Montgomery County portion of I-270.

The balance of the Urbana Planning Area is large open land area of low density housing and agricultural use. This planning area is currently serviced by the following fire – rescue stations:

- Urbana Volunteer Fire Company – Station 23
  - EMS – 1,077
  - Fire – 905
- New Market District Volunteer Fire Company - Green Valley – Station 25
  - EMS – 822
  - Fire – 480
- DFRS Medic 23 – Station 23
  - ALS – 955
- **Planning Area Total – 4,239**

This service area includes a suburban population center in the Villages of Urbana and Urbana Highlands planned communities that consists of moderate and high density multi-story structures, many of which are attached residential structures. While these developments are new, they are high density, light-weight wood frame buildings in close built arrangement that presents a significant risk of rapid fire spread.

Outside of the suburban communities, the service area includes residential development, mixed use development with dispersed commercial centers and large open land areas of low density housing and agricultural use.

High volume highway corridors include sections of I-270, MD 355, MD 75 and MD 80.

The service area encompasses 61.8 square miles with a population of approximately 18,800 and a density of 304 people per square mile, with a projected population of 30,650 and density of 496 people per square mile by the year 2020.

The fire and rescue companies in this planning area made a total of 4,239 fire and emergency medical responses in calendar year 2017.

The Urbana Planning Area is a *moderate risk* fire – rescue service area that requires an enhanced level of fire and emergency medical service delivery capability to meet the current and future service demand. The I-270 Employment Corridor also presents a *moderate risk* due the high occupancy and specialized hazardous processes that could be associated with this development.

Walkersville Planning Area

The Walkersville Planning Area includes the Municipal Growth Areas of the Town of Walkersville, the Town of Woodsboro and the Unincorporated Growth Area of Libertytown. 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 arrangement of its residential and commercial development.

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

The balance of the Walkersville Planning Area is large open land area of low density housing and agricultural use. This planning area is currently serviced by the following fire – rescue stations:

- Woodsboro Volunteer Fire Company – Station 16
  - EMS – 505
  - Fire - 188
- Libertytown Volunteer Fire Company – Station 17
  - EMS – 472
  - Fire – 473
- New Midway Fire Company – Station 9
  - Fire – 285
- Walkersville Volunteer Fire Company – Station 11
  - Fire – 1,123
- Walkersville Volunteer Ambulance Company – Station 24
  - EMS/Rescue – 2,072
- DFRS Medic 17 – Station 17
  - ALS – 924
- **Planning Area Total – 6,042**

A freight rail line serves and passes through the Walkersville and Woodsboro communities. High volume highway corridors include sections of MD 194, MD 26, MD 75, MD 31 and MD 550

The service area encompasses 117.9 square miles with a population of approximately 21,400 and a density of 182 people per square mile, with a projected population of 34,000 and density of 288 people per square mile by the year 2020.

The fire and rescue companies in this planning area made a total of 6,042 fire and emergency medical responses in calendar year 2017.

The Walkersville Planning Area 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 the close arrangement and increased population density.

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 76% 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.

The Frederick Planning Area has the highest service demand and in 2017 generated 26,281 emergency medical responses. EMS response in the Frederick Planning Area is provided by seven (7) BLS ambulances staffed 24/7 – (2 at Independent Hose Company, 2 at United Fire Company, 1 at Junior Fire Company, 1 at Lewistown Fire Company, and 1 at Westview Fire Station). One (1) additional BLS ambulance is staffed 12/5 at Junior Fire Company and three (3) ALS Chase Cars serve the Frederick Planning Area and environs. Going forward, the Division should evaluate a shift to staffing one ALS ambulance at the three city stations to reduce vehicle response. This shift is a viable alternative to chase cars since city ambulances are in close proximity to the primary receiving hospital.

The recent SAFER grant staffing has transitioned City stations to tactical staffing which has allowed us to hard staff EMS units and discontinue the previous practice of abandoning EMS units to support a fire response.
Tactical staffing for at least the primary Engine and Ambulance is currently in place at the following stations: Independent Hose Company, Junior Fire Company, United Fire Company (Station 3), Myersville Volunteer Fire Company, Braddock Heights Volunteer Fire Company, Carroll Manor Volunteer Fire Company (Station 14), New Market District Volunteer Fire Company, Woodsboro Volunteer Fire Company, Urbana Volunteer Fire Company, United Fire Company – Westview, United Fire Company – Spring Ridge.

In other planning areas with more suburban / rural communities where the service demand is lower, the practice of using a smaller number of career personnel to staff both emergency medical and fire suppression functions continues. While not optimal, cross staffing is less problematic due to a much lower frequency of emergency incident occurrence.

BLS Service Deficit

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.
We currently have three (3) stations in the City of Frederick that operate two BLS ambulances from their station. These stations are identified above and the second ambulance is staffed due to high EMS service demand in their response area.

There are several other areas within Frederick County where the frequency of multiple or back-to-back EMS calls is taxing current BLS resources. These areas include: United Fire Engine Company – Westview station, Brunswick Ambulance Company, Urbana Fire Company and Thurmont Ambulance Company service areas. While additional BLS vehicles are available for service at each of these stations, these second ambulances rely on the availability of operational volunteers to provide the staffing. As call volume in these areas increases, we must plan for the staffing of a second BLS ambulance at these stations.

ALS Service Deficit

The ALS Deployment Plan that was completed in 2015 provided several recommendations for upgrades to the deployment of advanced life support resources as our service moves forward.

Frederick Planning Area

In the Frederick Planning Area, the saturation of EMS service demand requires the improvement in the balance of BLS and ALS response resources. Once the goal of having two ambulances staffed 24/7 in each of the city stations, we should witch from ALS chase cars to one ALS staffed ambulance and one BLS staffed ambulance in the downtown area of the City of Frederick and retain one ALS chase unit. This change would double the ALS resources in the city, potentially reduce multiple vehicle responses and is feasible due to the close proximity to the hospital.

Middletown Planning Area

The deployment plan recommends that an additional ALS Chase Unit be established and assigned to the Braddock Heights Fire – Rescue Station. This resource would be strategically positioned to serve the eastern most portion of the Middletown Valley and the western most portion of Frederick City. This unit would also provide relief to the ALS Chase Unit currently assigned to the Jefferson Fire – Rescue Station, as this unit becomes busier in service to the Brunswick Planning Area.

New Market Planning Area

Analysis of EMS response data indicates a service deficit developing in the rapidly growing New Market Planning Area. We are currently generating over 1,500 incidents annually that require the dispatch of an ALS chase unit. Currently, the chase units located in Libertytown, City of Frederick, Urbana and paramedic staffed ambulances out of Carrol County provide the ALS response to communities in the New Market Planning Area. DFRS has identified the need to locate an ALS chase

unit at the New Market District Volunteer Fire Station and we are working with the volunteer leadership of that corporation to accomplish that goal.

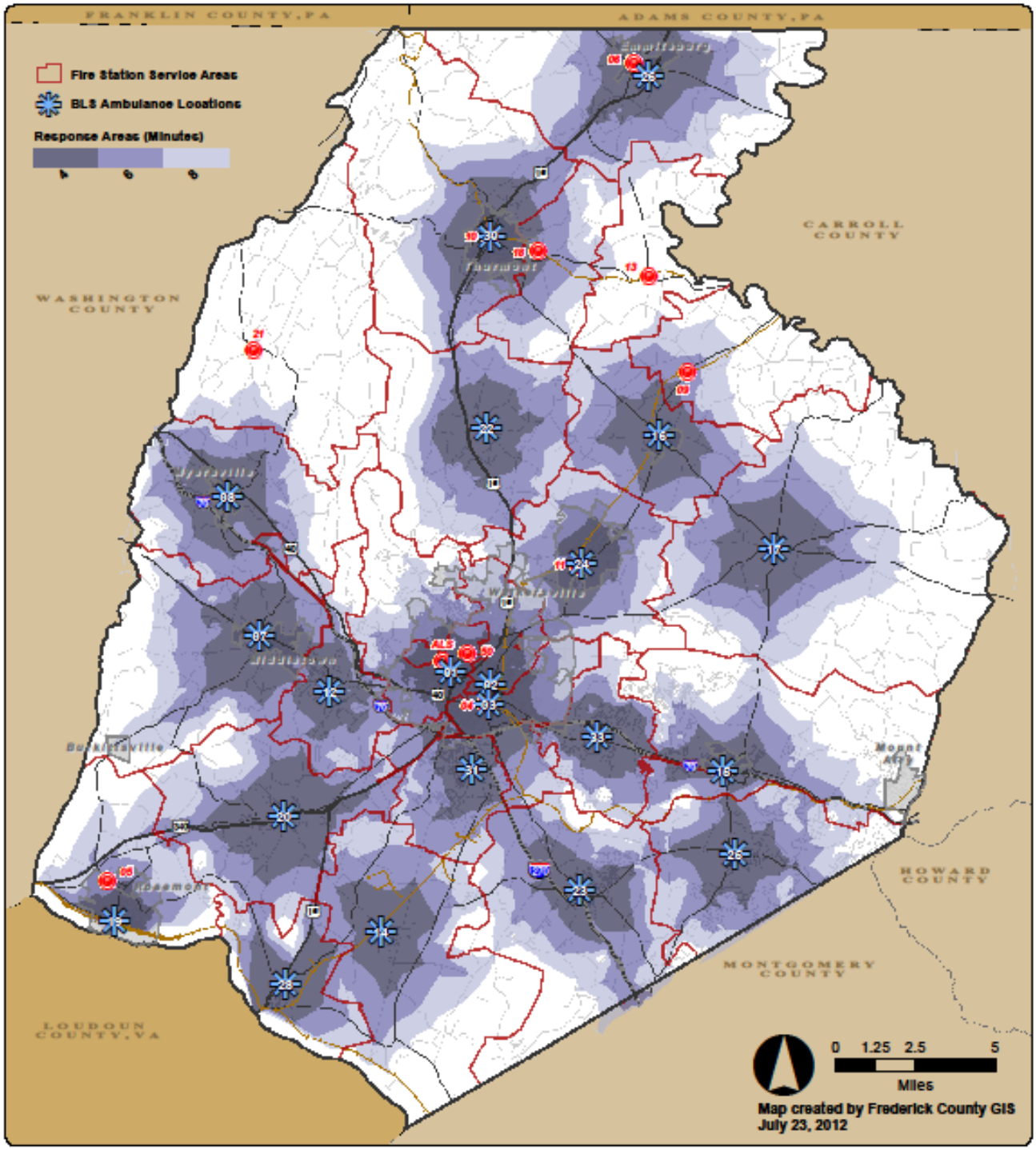
Locating an ALS chase unit in the immediate New Market area is advantageous to our overall ALS response program as the placement of this unit would allow us to relocate the ALS chase unit from the Libertytown station to the Woodsboro station. An ALS chase unit operating from the Woodsboro station would better center ALS service within the Walkersville Planning Area, which would reduce overall response time to these communities.

In addition, quick access to Route 550 in Woodsboro would provide more effective ALS response to the Thurmont Planning Area to back-up the primary ALS chase unit in Thurmont. Currently, the ALS chase unit that operates out of the Thurmont Ambulance Company station is the only ALS resource in the Northern part of Frederick County. When a second ALS incident occurs in this region, the closest ALS response unit comes from a mutual response partner or from an ALS chase unit located in the City of Frederick. An ALS unit operating out of the Woodsboro station would substantially reduce the ALS response time and distance to a second call in the north county area.

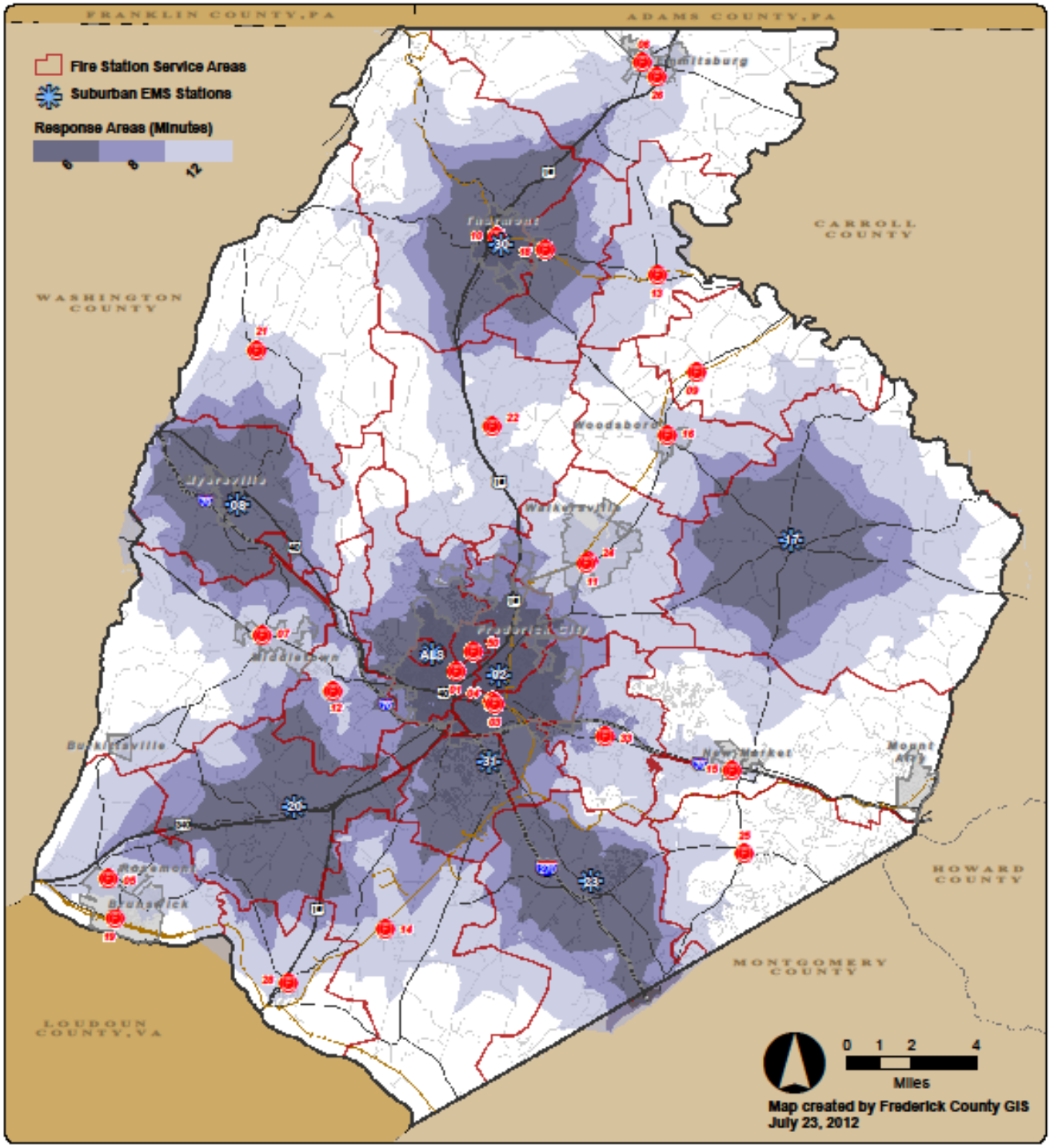
Thurmont Planning Area

Currently, the ALS Chase Unit that operates from the Thurmont Ambulance Station is the only ALS resource for the communities in northern Frederick County. ALS service to the Thurmont Planning area must be monitored as growth and increased call volume continues in these areas and we must be prepared to bolster ALS response capability in this planning areas as needed.

BLS Ambulance Response Areas



ALS Medic Unit Response Areas



EMS Super Users

Like many communities, Frederick County, Maryland has its share of citizens that generate a high frequency of requests for EMS services. These requests occur for a variety of reasons, some legitimate due to undiagnosed or untreated chronic health problems and many illegitimate due to social, economic and behavioral health problems. Chronic 911 callers can tax an already busy emergency medical service system and negatively impact the availability of emergency response resources to the community.

Super users of the emergency medical service system can be citizens with untreated chronic health problems that see EMS as their immediate care service when what they actually need is a connection to a primary care physician to manage their underlying health problem.

Super users of EMS can be citizens who need prescription medication but can't afford them or have prescription medicine but fail to take it properly. A lack of medication or non-compliance with their required medication leads to symptoms that generate a call for EMS. Super users of EMS can also be citizens who regularly abuse alcohol and/or illicit drugs. These are often habitual abusers driven by underlying mental and/or behavioral health issues. Many of these chronic EMS users are homeless and in need of a multitude of social services. Additionally, super users of EMS can be citizens with non-ambulatory physical disabilities who need assistance with movement for basic life functions. In the vast majority of cases, this is physically relocating a citizen from their wheelchair to their bed and there is no medical treatment required. Some of these citizens have been known to call EMS several times a day. These citizens try to live alone, but need to be in some type of assisted living arrangement where physical assistance is available.

As our population continues to age, the examples outlined above will continue to increase. As we look forward, fire and rescue must deploy a proactive method of meeting these service needs without using emergency medical resources.

<u>Community Paramedicine Unit</u>

As noted, these issues continue to strain emergency medical resources across the country. Many communities have confronted this chronic service demand by deploying a proactive, non-emergency "Community Paramedicine Unit". DFRS gathered and analyzed response data to identify the scope of this issue in Frederick County. Going back to October 2016, we identified a significant number of individuals who were high-frequency users of our EMS system resources for non-emergency medical needs. In March of 2018, DFRS, in conjunction with Frederick Memorial Hospital, we deployed the first Community Paramedicine Unit to prove the concept. As we monitor the success of this effort, we should be prepared to expand this program as needed.

The community paramedicine unit operates on a scheduled basis and conducts both telephone consult and in-home visits to those pre-determined EMS Super Users where a regular non-emergency medical intervention will eliminate the call to 911. There are many variations in how this resource is staffed. A Fire-Rescue Paramedic can operate alone or be paired with a Public Health Nurse. They travel together in a discrete, non-emergency vehicle that is equipped to provide a wide variety of services. These services can include, assistance with prescription medicine compliance, physical health assessment, IV therapy, vaccination administration, nutritional assessment, smoke detector maintenance/replacement, home fire and life safety inspection, slip/trip/fall hazard assessment and resource referral for other services needed.

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.

In today's society, 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 over simplifies 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.

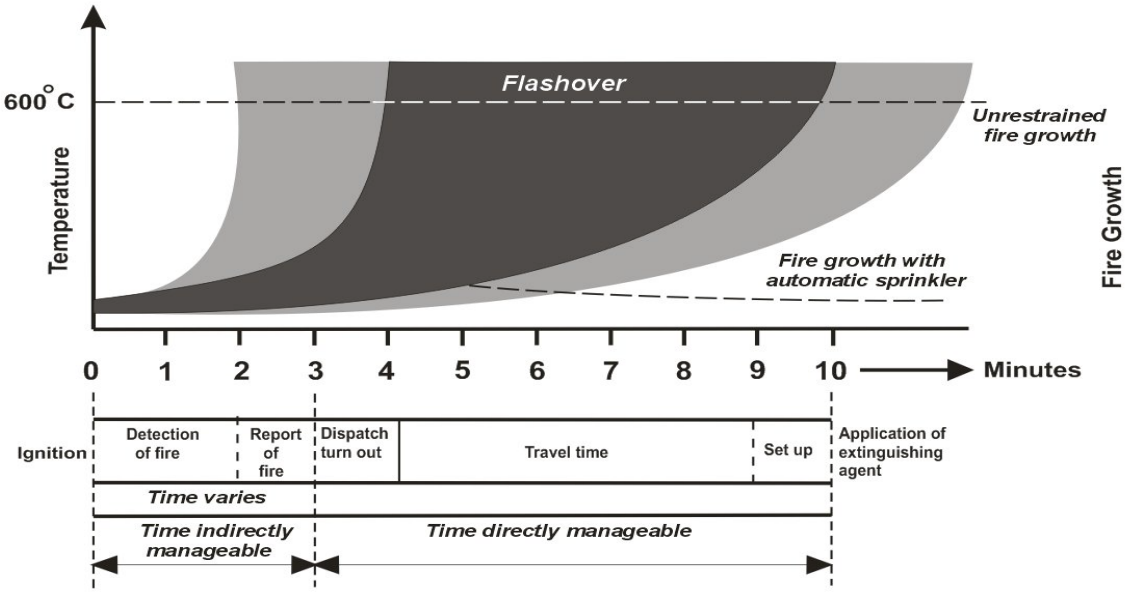
- National Fire Protection Association (NFPA) has published NFPA-1720 – Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Service Operations and Special Operations to the Public by Volunteer Fire Departments.
  The focus of this standard is to provide recommendations regarding the deployment of an effective operational force to emergency incidents in more suburban/rural communities which are primarily staffed by volunteer personnel or a combination of volunteer and 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.

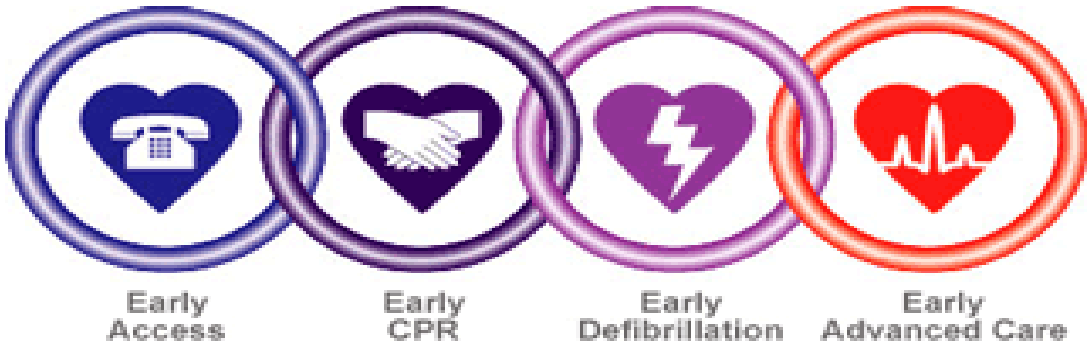
Early electrical defibrillation must then follow early CPR. According to the AHA, the chance for successful re-starting of the heart through defibrillation decreases by 10% for every minute past the initial cessation of the heart that defibrillation is not delivered. Early access to EMS, early CPR, and 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.

During the process of evaluating alternative service delivery models, the Alternative Service Delivery Task Force established by the Frederick County Board of County Commissioners in April 2010 identified the NFPA 1720- *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Service Operations and Special Operations to the Public by Volunteer and Combination Fire Departments* as the response goal model that we should strive to meet in Frederick County.

Frederick County Fire and EMS Response Time Goals

EMS Response Time Goals:

- Basic Life Support (BLS) – on scene in 4 – 6 minutes, 90% of the time to 90% of the population.

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

Fire Response Time Goals:
NFPA 1720 recommends the following deployment of resources to structure fires:

1. Urban area: As defined by the U.S. Census Bureau, an area with at least 1,000 people per square mile.

    - Staffing and deployment for urban areas is 15 personnel on scene within 9 minutes 90 percent of the time.

2. Suburban area: As defined by the U.S. Census Bureau, an area with between 500 and 1,000 people per square mile.

    - Staffing and deployment for suburban areas is 10 personnel on scene within 10 minutes 80 percent of the time.

3. Rural area: As defined by the U.S. Census Bureau, an area with fewer than 500 people per square mile.

    - Staffing and deployment for rural areas is 6 personnel on scene within 14 minutes 80 percent of the time.

4. Remote: A geographic area that requires a travel distance greater than 8 miles to provide emergency resources.

    - Staffing and deployment for remote areas is 4 personnel who, within 2 minutes of arrival, are able to commence the initial attack 90 percent of the time.

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. The delineation of Urban, Suburban, Rural and Remote service areas clearly fit the diverse geographic and development character of Frederick County communities and they are appropriate references to guide the determination of fire station locations.

Response Time Goal for Determining Fire-Rescue Station Locations

With medical emergencies accounting for 76% 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 minute 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 spaces should be somewhat oversized to accommodate 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.

Adamstown Planning Area

Carroll Manor Fire-Rescue Station 14 Relocation – (Under Consideration)

The current Carroll Manor Fire-Rescue Station 14 is located at 2795 Adams Street, Adamstown, Md. This Carroll Manor Fire-Rescue Station 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 Carroll Manor 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.

The volunteer leadership of the Carroll Manor Volunteer Fire and Rescue Company has renewed discussions with a landowner who would donate a fire station site for a replacement station. The proposed site for the relocated 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 Carroll Manor 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.

Brunswick Planning Area

Brunswick Ambulance Company

The current Brunswick Ambulance Company station is located 200 West Potomac Street in the City of Brunswick. The station was built in 1960 and has undergone several minor renovations to improve living quarters for volunteer and career personnel. 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 facility is unable to house all vehicles in the Brunswick Ambulance Company fleet and cannot support 24/7 career staff.

The optimal solution to this facility issue was missed when discussions with the Brunswick Volunteer Fire Company failed to produce an agreement for both organizations to co-locate in a new facility that could have been a joint venture between the fire and ambulance companies in Brunswick.

The new fire station constructed by the Brunswick Fire Company for their singular operation simply furthers the inefficiency of duplicate facilities and leaves the Brunswick Ambulance Company with a facility that does not meet their current needs or room for increased staffing that may need to occur in the near future. A solution for this facility issue must be addressed going forward by joint discussions with the volunteer leadership of both corporations, Frederick County and Brunswick City officials.

Frederick Planning Area

Citizens Truck Company – (Under Consideration)

The Citizens Truck Company station is located at 9 South Court Street, Frederick. The only tactical functions housed at this facility are a Ladder Truck and the mobile Air and Light Unit. There is no need to fund the cost of a separate facility to house these two tactical functions.
This duplication of facilities should be resolved in the future by the merger or co-location of the Citizens Truck Company and the United Fire Company into a new downtown fire station

The Citizens Truck Company has also expressed interest in evolving into a full service fire and ambulance service by relocating to an identified future fire station site. If this interest materializes into a fully developed proposal, the Jefferson Technology Park location has been identified as the future station location.

Middletown Planning Area

Middletown Fire-Rescue Station – (Completed)

The current Middletown fire-rescue station is located at 13 South Church Street in the Town of Middletown, Md. and was originally constructed in 1950. The operational needs of the Middletown Fire Company have outgrown the current facility. An evaluation of fire-rescue facilities was completed as part of the fire-rescue study conducted by Tri-Data Corporation in 2007 and this evaluation rated the condition of the current station as POOR. Administrative and living spaces in the current station are also grossly inadequate for the current level of volunteer and career staffing that operate from this facility.

Frederick County has funded a replacement fire-rescue station for the Middletown community in the county capital improvement plan and at the time of this writing, construction is nearing completion.

Middletown Volunteer Fire Company donated land for the replacement fire station. The property donated to the county is a portion of the fire company carnival grounds and is located at 401 Franklin Street, Middletown, MD. This site is approximately one-half mile South East of the current station. This slight movement would have no negative impact on service delivery to the current response area.

New Market Planning Area

New Market District Fire-Rescue Station Renovation (completed)

The current New Market District Fire-Rescue Station is located at 76 West Main Street in the Town of New Market, Md. and was originally constructed in 1955. The operational needs of the New Market fire-rescue station have outgrown the current facility and the station is in need of repair. 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 station as POOR at that time.

The New Market District Volunteer Fire and Rescue Company undertook a self-funded renovation and expansion of their existing station to improve the functional use and living facilities for the current level of service provided from this facility. While their renovation meets the current service needs and will accommodate the current level of career and volunteer staffing, the limited scope of this renovation within the footprint of their existing station will not meet future service needs as the demand for service continues to grow. This rapidly growing area currently needs the addition of a paramedic chase unit to meet the ALS service demand and improve regional ALS response service countywide. This planning area also lacks adequate aerial ladder service and as growth continues, a truck company will need to be located in this area.

The New Market District Volunteer Fire – Rescue Company has recently completed the construction of a supplemental building to expand their capability of housing several smaller response assets in their volunteer owned fleet. This expansion will aid the ability to expand ALS services to the New Market Planning Area and DFRS will continue to work with the volunteer leadership to accomplish this service upgrade.

Frederick County has included a placeholder for a replacement fire-rescue station for the New Market community in the out years of the county capital improvement plan. The new station is intended to be sited to relocate this fire-rescue station to the East of the current station location. This Eastward movement is desirable in that it will push the primary service area of the New Market District Station further east to more adequately cover the Mt. Airy corridor and this eastward movement will make the distance between the New Market and Spring Ridge Fire – Rescue Stations more optimal.

The future need for a fire – rescue facility capable of housing the expansion of tactical capability to include aerial ladder service for this planning area must be coordinated with New Market District Volunteer Fire – Rescue leadership and Frederick County officials to determine the volunteer company's ability to provide expanded quarters.

Thurmont Planning Area

Graceham Volunteer Fire Station

The Graceham fire station is located at 14026 Graceham Road, Thurmont, which as noted previously is 2.25 miles west of the Town of Thurmont. This station provides basic fire suppression and medical first response services to a low risk service area that could easily be serviced by the Guardian Hose Company.

This duplication of service and facilities should be resolved by the merger of the Graceham Volunteer Fire Company and the Guardian Hose Company, since like services are provided by both organizations.

Urbana Planning Area

Green Valley Fire-Rescue Station Replacement – (In Planning)

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 houses a pumper, tanker-pumper, brush truck and ambulance and is undersized for this fleet.

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.

FUTURE FIRE-RESCUE STATION LOCATIONS

Frederick Planning Area

North Frederick – (Site Acquired)

As development has continued in the Route 15 corridor North of Opossumtown Pike in the City of Frederick, service demand in this growth area has continued to increase. This is an urban mixed use development area that consists of single family homes, multi-family apartments/condominiums mixed use retail commercial/professional office facilities, medical offices/institutions, educational institutions, light industrial facilities and assisted living facilities. The Junior Fire Company station located at 535 North Market Street, in downtown Frederick is currently the primary service provider to this growth area.

Based on the current City of Frederick land use map, this service area is slated for continued mixed use development that will consist of: medium/low density residential, office/research/industrial uses, mixed use commercial and rural residential.

The newly constructed bridge over Rt. 15 will connect Christopher Crossing to the West with Monocacy Blvd. to the East which will allow this fire-rescue station location to service the development area East of U.S.15 along MD.26 to Monocacy Blvd. This area has rapidly grown into a mixed use commercial and residential development zone.
Given the current service demand in this growth corridor, the Division of Fire and Rescue Services views this area to be our number one priority to locate a new fire-rescue station.

This station would be developed in partnership with the Junior Fire Company. The intent is for the county to build the station and Junior Fire Company would provide the fleet vehicles for the station and the facility would be staffed with a combination of career and volunteer personnel.

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 at15 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.

Walter Martz Road / Christopher Crossing – (Site Acquired)

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.

Jefferson Technology Park – (Site to be provided by Developer)

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. This project was removed from the CIP after the project proposal was ultimately denied.

With this planned development now underway, the fire station project has been returned to the CIP with a placeholder for future development. The county must ensure that a buildable site for a fire – rescue station is available.

As noted earlier, the Citizens Truck Company has also expressed interest in evolving into a full service fire and ambulance service by relocating to an identified future fire station site. If this interest materializes into a fully developed proposal, the Jefferson Technology Park location has been identified as the future station location.

New Market Planning Area

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.

Recently, the "Hamptons West" planned development 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. The CIP budget does not include funding for this project at this time.

Timing of this station will depend on the pace of growth in this area and the service demand generated.

Urbana Planning Area

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.

THIS PAGE INTENTIONALLY LEFT BLANK

VI. TACTICAL UNIT DEPLOYMENT PLAN

BACKGROUND

Tactical units 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 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 TACTICAL UNITS

The Frederick County fire and rescue system employs a variety of fire, rescue, hazardous material and emergency medical tactical 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.

- **Command Officer –** A vehicle equipped with incident command boards, hazardous materials reference guides, municipal water and sewer system maps, pre-plans for target hazard properties and other tools, equipment and reference materials required to support the emergency incident command functions.

- **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.

- **Hazardous Materials Response Unit –** A vehicle equipped with specialized equipment, tools, supplies and chemical reference library required by the adopted county hazardous materials response unit 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.

- **Mass Casualty Unit –** A vehicle equipped with large quantities of emergency medical equipment, materials and supplies to provide on scene medical treatment to a large number of patients at a single incident.

- **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 every community that has a fire – rescue station. A least one fire suppression Engine, one basic life support Ambulance comprise the Basic Service complement that should operate from each station. 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.

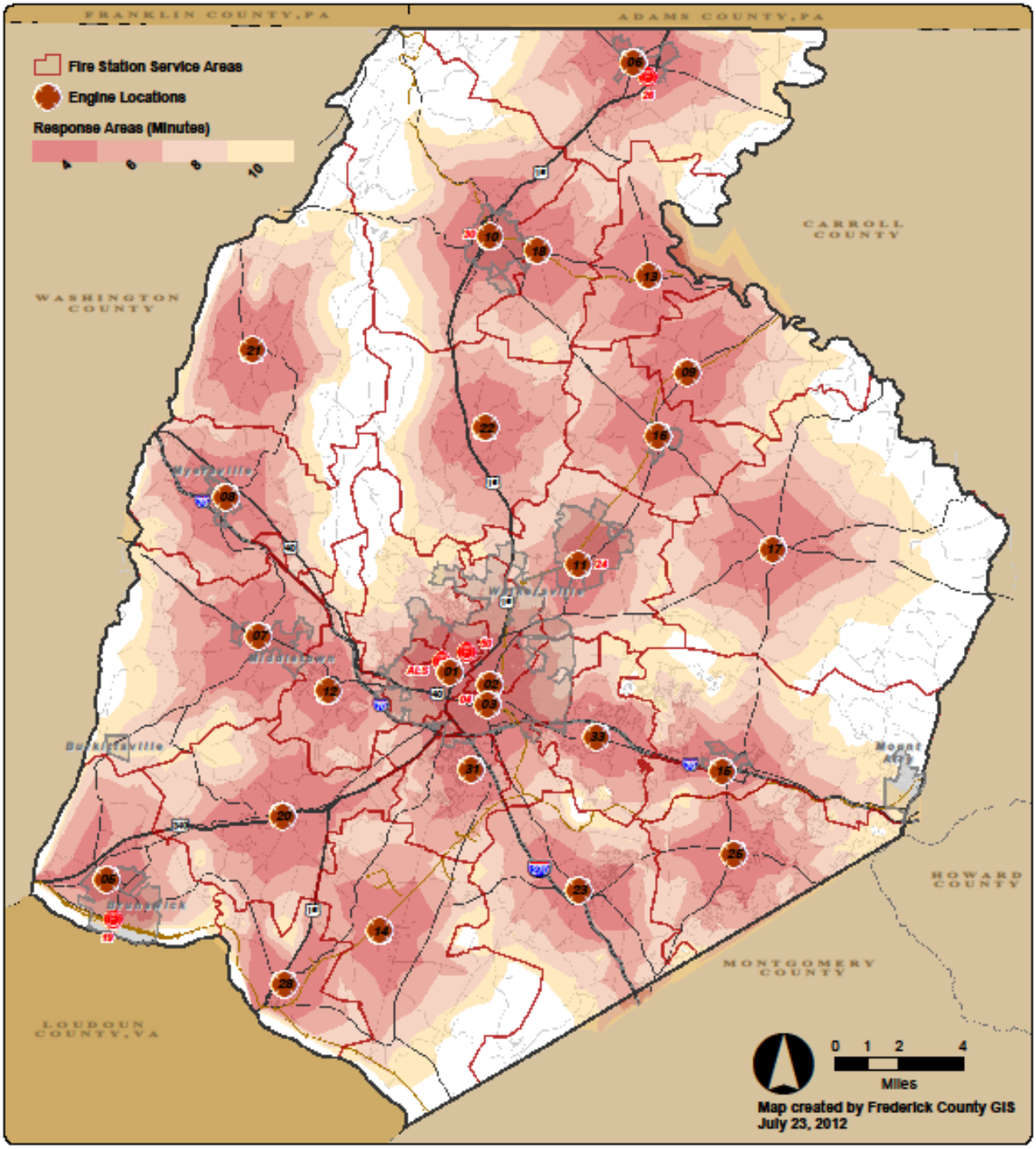
  Special Service Units include: Ladder Trucks, Tower Ladders, Quints, Rescue Squads, Rescue – Engines, Hazardous Material Units, Medic Units, Mass Casualty Units, Technical Rescue Units and Water Rescue Boats.

  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.

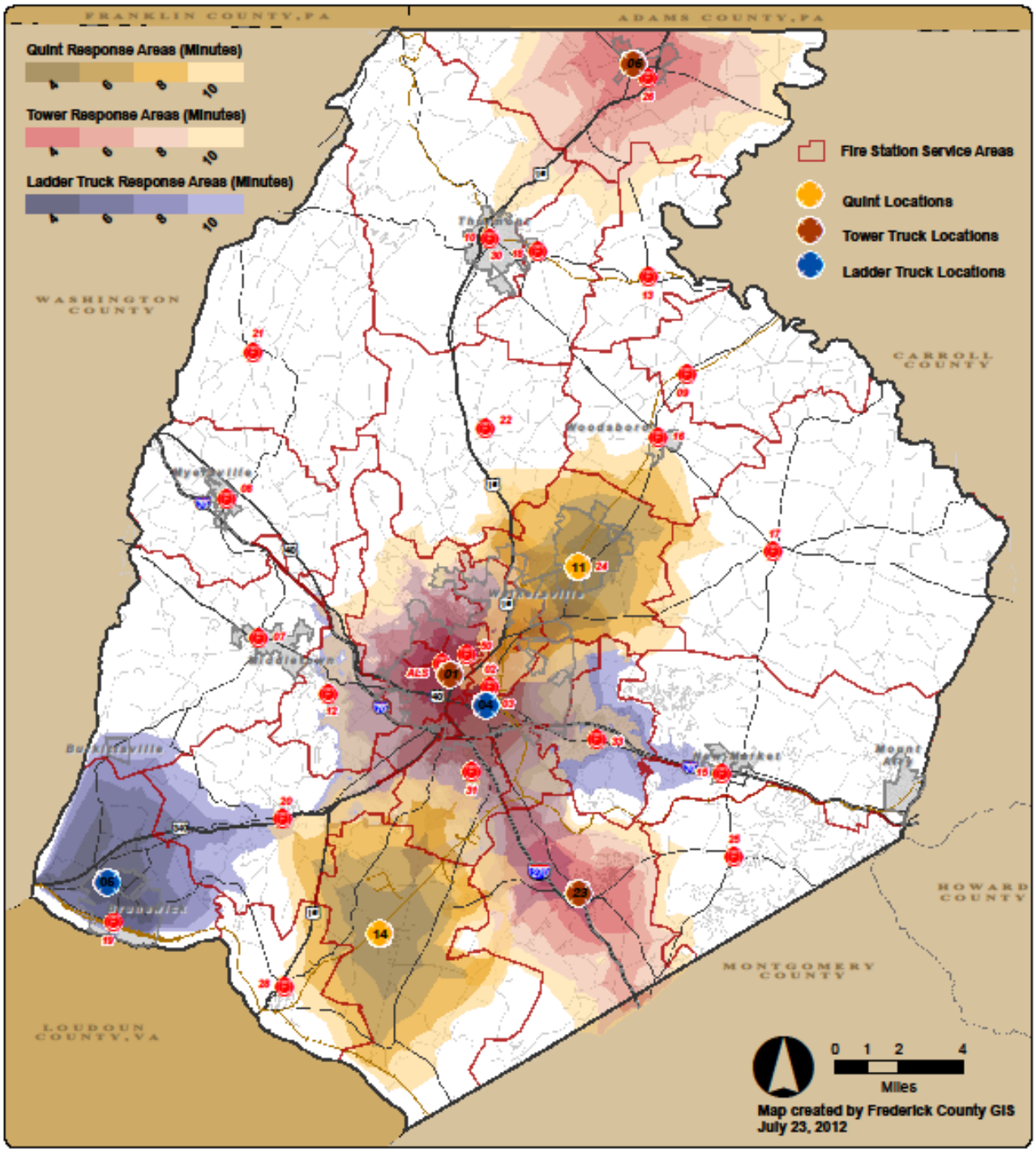
  The Special Service Unit deployment model should be based on response time and distance. This deployment model should reflect similar variances in response time criteria for urban, suburban, rural and remote areas.

  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.

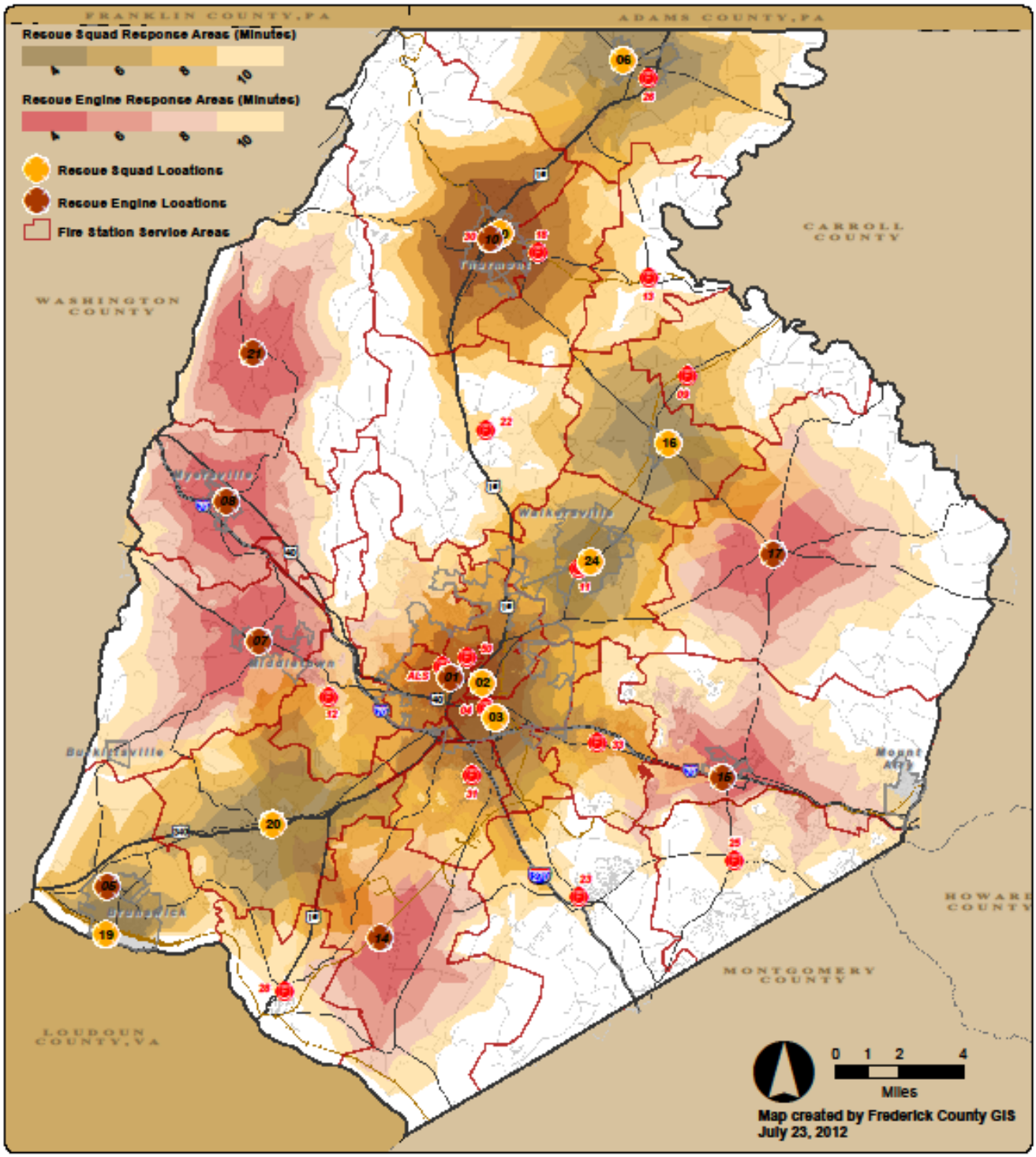
Engine Response Areas



Ladder, Tower, and Quint Truck Response Areas



Rescue Squad and Rescue Engine Response Areas



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.

Eighteen (18) 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.

Policy Issue Regarding 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.

Current Duplication of Facilities

The exceptions to the efficiency of our current basic service unit deployment have more to do with duplication of services and facilities, than service deficits. These exceptions are explained as follows:

Brunswick Planning Area

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.

Thurmont Planning Area

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.

Walkersville Planning Area

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 Ambulance 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.

SPECIAL SERVICE UNIT DEPLOYMENT

The current deployment of special service tactical units throughout the county is more problematic. Ladder Trucks, Tower Ladders, Quints, 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 nine (9) Rescue Squads and four (4) Rescue – Engines, for a total of twelve (13) 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. DFRS has 1 Rescue Engine used at the Training Center to support training programs and doubles as a reserve unit for field service when necessary.

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

- **Adamstown Planning Area** – 1 Rescue Squad. (Carroll Manor)
- **Brunswick Planning Area** - 2 Rescue Squads (Brunswick Ambulance and Jefferson) and 1 Rescue-Engine (Brunswick Fire).
- **Frederick Planning Area** - 2 Rescue Squads (Juniors and United)
- **Middletown Planning Area** - 2 Rescue-Engines (Middletown and Myersville)
- **New Market Planning Area** - 1 Rescue-Squad (New Market)
- **Thurmont Planning Area** - 2 Rescue Squads (Vigilant and Guardian)
- **Urbana Planning Area** - **NO** Rescue Squads or Rescue-Engines
- **Walkersville Planning Area** - 1 Rescue Squad (Walkersville Ambulance) and 1 Rescue-Engine (Libertytown)

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 13 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:

- **Adamstown Planning Area** – 1 Rescue Squad (Carroll Manor – Adamstown Station)
- **Brunswick Planning Area** – 1 Rescue Squad, (Jefferson,)1 Rescue-Engine (Brunswick Fire)
- **Frederick Planning Area** – 1 Rescue Squad (United)
- **Middletown Planning Area** – 1 Rescue Squad (Myersville)
- **New Market Planning Area** – 1 Rescue Squad (New Market)
- **Thurmont Planning Area** – 1 Rescue Squad (Guardian)
- **Urbana Planning Area** – 1 Rescue – Engine* (Urbana)
- **Walkersville Planning Area** – 1 Rescue Squad (Walkersville Ambulance), 1 Rescue – Engine (Libertytown)

This would right-size our special service rescue capability to 7 Rescue Squads and 3* Rescue – Engines deployed countywide.

*The need for Rescue-Engine service in the Urbana planning area should be evaluated in conjunction with changes in Montgomery County's tactical unit staffing in the Hyattstown service area, from which Frederick County receives mutual aid response of their Rescue-Engine.

The design of aerial ladder trucks is evolving to a configuration that allows the additional equipment needed to provide rescue services to be carried onboard these units. "Rescue Ladders" are being used successfully in a several jurisdictions. This is an option Frederick County could consider as ladder trucks are replaced in the future.

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

- **Adamstown Planning Area**

  Retain - Rescue Squad 14

- **Brunswick Planning Area**

  Retain - Rescue Squad 20 and Rescue Engine 5
  Do not replace - Rescue Squad 19

- **Frederick Planning Area**

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

- **Middletown Planning Area**

  Retain - Rescue Squad 8 (Rescue Engine vehicle should be replaced by a Rescue Squad)
  Do not replace – Rescue Engine 7

- **New Market Planning Area**

  Retain – Rescue Squad 15

- **Thurmont Planning Area**

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

- **Urbana Planning Area**

  Add a Rescue-Engine at Station 23 (if warranted by MCFRS staffing changes)

- **Walkersville Planning Area**

  Retain - Rescue Squad 24 and Rescue-Engine 17

Aerial Ladder Resources

Aerial ladder 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.

Adamstown, Brunswick, Frederick, Thurmont, Urbana and Walkersville Planning areas each have aerial ladder service available in their planning area, with the high risk area of Frederick having multiple aerial ladders available to serve the downtown urban core.

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

- **Adamstown Planning Area** – 1 Quint. (Carroll Manor-Adamstown)
- **Brunswick Planning Area** – 1 Ladder Truck (Brunswick Fire).
- **Frederick Planning Area** – 1Tower Ladder (Independent), 2 Ladder Trucks (Citizens)
- **Middletown Planning Area** – No Aerial Ladder Service (**aerial on order**)
- **New Market Planning Area** – No Aerial Ladder Service
- **Thurmont Planning Area** – 1 Tower Ladder (Vigilant)
- **Urbana Planning Area** – 1 Tower Ladder (Urbana)
- **Walkersville Planning Area** – 1 Quint (Walkersville)

Aerial Ladder Service Deficiencies

Middletown Planning Area

The deficiency in aerial ladder service in the Middletown Planning Area has been based on aerial ladder units dispatched for building fires coming from either the City of Frederick or from stations in

Washington County under existing mutual aid agreements. The response time and distance of these aerial ladder resources is significant and has made these aerial resources tactically ineffective for initial operations.

The greatest obstacle to addressing this issue has been the lack of a fire – rescue station that will accommodate housing an aerial ladder vehicle. This issue has been remedied with the construction of the new Middletown Fire – Rescue Station. With this station now complete, a new ladder truck has been assigned to the Middletown fire – rescue station to provide primary aerial ladder coverage for the Middletown Planning Area.

New Market Planning Area

Given the growth that will occur with the changes in land use in the New Market Planning 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.

Specialized Extinguishing Agent Capability

The best description of Frederick County Fire and Rescue's ability to produce large quantities of firefighting foam for flammable liquid and chemical extinguishing agents for other special fuel fires is it is virtually non-existent. Currently, seven (7) Engines in the fleet have small Class B foam tanks that permit these engines to produce a limited foam blanket suitable for vapor suppression to prevent ignition of a small fuel spill, or to extinguish a small flammable liquid fire. We have no units equipped with chemical extinguishing agent beyond small handheld extinguishers.

As noted in the risk assessment for each planning area, the county is dissected by major transportation arteries and railroad lines that carry a significant amount of freight traffic that transport a variety of flammable and combustible liquids and hazardous cargo. Frederick County is not equipped to apply the volume of firefighting foam or chemical agents needed to combat a significant flammable liquid, flammable metal or other hazardous cargo fire that can result from a transportation accident on our highways, railways or industrial accident in our communities that require special extinguishing agents.

The Frederick Municipal Airport continues to expand its facility in order to accommodate larger aircraft and the presence an airport control tower will lead to increased flight traffic over the years. Firefighting foam and chemical agent capability is a necessary asset for on and off field aircraft emergencies and we currently lack the ability to meet this risk as well.

The county should acquire a foam-engine, a robust supply of foam concentrate and provide the necessary training to establish an effective firefighting foam capability. A quick response, twin-agent unit is also needed to round out the special extinguishing agent capability the county needs to establish to meet the increasing risk.

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 designated reserve fire apparatus fleet has been reduced to only the two engines used at the Training Academy. This back – up system could be improved by designating duplicate vehicles to reserve status for shared use and adopting a "frontline – reserve – replace" lifecycle for fire and rescue vehicles, as explained below. We should also replace several front line engines early and move these engines into reserve status in order to increase reserve engine availability and reliability.

APPARATUS REPLACEMENT PROGRAM

Frederick County owns 91 vehicles in the fire and rescue fleet. In order to ensure that we maintain a fleet of contemporary and reliable firefighting and emergency medical vehicles, a structured apparatus replacement program must be adopted so that budgetary needs are predictable.

Fire and EMS vehicles are not typical fleet vehicles from the standpoint of replacement criteria. EMS vehicles such as ambulances and medic units can use fairly traditional benchmarks of age, mileage, repair and maintenance costs as a means of developing a replacement schedule.
Firefighting vehicles will vary greatly in mileage based on their service area, but can have high engine hours, high operating costs, high repair costs and significant out of service time, which are not always factored in to a standard replacement criteria. Staff must work with county fleet management to refine the replacement criteria for fire and rescue vehicles.

Adopting criteria that better defines the apparatus replacement schedule will allow the county to improve its forecast of when fire and emergency medical vehicles must be replaced. Such a schedule will improve planning and fleet management by identifying when fleet vehicles should move from front line service, to use in a reserve capacity and then finally removed from the fleet when scheduled for replacement.

This "frontline – reserve – replace" life cycle for fire and rescue vehicles is a proven strategy for extending the service life of an emergency vehicle and this is the best method to maintain a reliable "reserve fleet", as noted above.

Fleet Costs

The cost of firefighting and emergency medical vehicles continues to rise and fleet management will require a combination of vehicle replacement strategies to balance reliable fleet maintenance with the significant budgetary impact vehicle replacement can have. Staff recognizes this challenge and is employing the following vehicle procurement strategies:

Ambulance Fleet: Previously purchased county owned ambulances were of "modular ambulance" design. This means the ambulance chassis and the patient compartment are two separate units that are married together to form the complete ambulance. Typically, the chassis wears out before the patient compartment fails or becomes obsolete. This means the modular design lends itself to the patient compartment being re-mounted onto a replacement chassis once reducing the overall cost to refresh the ambulance fleet by nearly $100,000 per unit. After one re-chassis, the ambulance vehicle will need to be replaced. Currently, a complete new ambulance can cost upwards of $300,000
.
Since FY2016, DFRS has re-chassis nine (9) ambulances and we anticipate additional units will be re-chassis in FY2019.

Fire Fleet: Firefighting vehicles are incredibly expensive with the typical basic service Engine costing $600,000 and special service units such as aerial ladder trucks and rescue squads now costing nearly $1,000,000. The ability of both the county and our volunteer fire companies to afford these vehicles is an ever increasing challenge as costs continue to rise.

Capital Purchase / Lease / Lease-Purchase Option: Competition within the county "Debt-Affordability Model" will limit our ability to purchase, or lease-purchase fire and EMS vehicles with bonded capital debt. This financing method will need to be reserved for the most expensive acquisitions and well-coordinated with the county budget and finance office.

Non-Capital Operating Lease / Lease Purchase Option: Fire apparatus vendors are recognizing the challenges buyers are having with the affordability of out-right purchase and are now offering leasing options that can be structured in a variety of ways. Lease options are available to both the county and our volunteer fire companies and can be structured as either a capital indebted lease or as a non-capital operating lease. Each has advantages and disadvantages.

While apparatus leasing is a slightly more expensive option up front, including a full coverage vehicle maintenance warranty in the lease can result in a back-end savings on vehicle maintenance costs over the life of the vehicle. Fire apparatus vendors continue to work to provide non-capital finance options. This is a financing option that the county should consider taking advantage of in the future.

THIS PAGE INTENTIONALLY LEFT BLANK

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				
	24 HR EMS	12 HR EMS	24 HR FIRE	12 HR FIRE
Station 1	4		3	
Station 2	2	2	3	
Station 3	4		6	
Station 4			3	
Station 5			3	
Station 6	2			
Station 7	2			1
Station 8	2		3	
Station 9	All Volunteer Station			
Station 10	All Volunteer Station			
Station 11	All Volunteer Station			
Station 12	2		3	
Station 13	All Volunteer Station			
Station 14	2		3	
Station 15		2		3
Station 16	2		3	
Station 17	2			1
Station 18	All Volunteer Station			
Station 19	2			
Station 20	2			
Station 21	All Volunteer Station			
Station 22	2			
Station 23	2		6	
Station 24	2			
Station 25	2		3	
Station 28	2			
Station 30	2			
Station 31	2		3	
Station 33	2		3	
Medics	8			
BC			2	
Safety			1	
EMS	1			
TOTAL FTE	53	4	48	5

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. As a result of a successful federal SAFER grant applied for by the Division of Fire and Rescue Services, an aggressive volunteer recruitment program was initiated in August 2011. The stated goal in the grant was to recruit 400 new fire – rescue volunteers within the four year period of the grant program. As of the date of this report, this goal was achieved with some 400 new volunteers taken into membership by our volunteer corporations as a result of our unified volunteer recruitment efforts. In FY2017, the county assumed funding of the volunteer recruitment program in order to recruit additional volunteers to our service.

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 twenty-nine (29) fire-rescue stations in Frederick County, six (6) stations continue to deliver emergency services with 100% volunteer staffing. These six (6) 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. One (1) station operates with only weekday career staff support. The remaining twenty-two (22) 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.

PART – TIME CAREER STAFFING

Frederick County has and continues to use part-time employees to provide leave management coverage for our full time career positions, however the current population of part time firefighters and paramedics is low. Efforts to expand the number of part time providers have proven fruitless, with little return on the time and money invested in the recruitment and hiring process.

The change in county personnel policy that permits full-time, non-benefited employees has been a benefit as we employ non-benefited employees in our logistics section, training section and fire marshal’s office.

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.

Currently, twenty-three (23) of our twenty-nine (29) fire – rescue stations have career staff assigned. One (1) of these stations has career personnel assigned weekday hours Monday – Friday with volunteers staffing evenings and weekends six (6) stations remain 100% volunteer staffed and twenty – two stations are 24/7 staffed.

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:

<u>Adamstown Planning Area</u>

- Carroll Manor Fire – Rescue Company
    - Requesting 14 additional personnel for Engine staffing at the Point – of – Rocks station 24/7

<u>Brunswick Planning Area</u>

- No additional personnel currently requested, however; the need to staff an additional ambulance in the Brunswick Planning Area is an emerging issue that will need to be addressed. This would require 9 additional personnel

<u>Frederick Planning Area</u>

- Citizens Truck Company
    - Requesting 4 additional personnel for 24/7 Truck/Air Unit staffing
- Junior Fire Company
    - Requesting 6 additional personnel for 24/7 staffing for their second ambulance
- United Fire Company
    - Requesting 9 additional personnel for 24/7 staffing of a second ambulance at the Westview station

<u>Middletown Planning Area</u>

- Middletown Fire – Rescue Company
    - Requesting 13 additional personnel for 24/7 Engine staffing

<u>New Market Planning Area</u>

- New Market District Fire – Rescue Company
    - Requesting 4 additional personnel for weekday staffing of their Rescue Squad

<u>Thurmont Planning Area</u>

- Guardian Hose Company requesting 14 personnel 24/7 Engine staffing

<u>Urbana Planning Area</u>

- No additional personnel currently requested, however; the need to staff an additional ambulance in the Urbana Planning Area is an emerging issue that will need to be addressed.

<u>Walkersville Planning Area</u>

- Walkersville Fire Company
    - A contingency request for 14 personnel for 24/7 Engine staffing

- Libertytown Fire – Rescue Company
    - Requesting 13 personnel for 24/7 Engine staffing

The number of personnel requested above includes the additional leave impact positions needed to maintain these staffing levels.

Due to continuing budget constraints, the county has been unable to provide the staffing requested above, which has been needed and many have been consistently requested since FY 2012.

GAPS IN CURRENT CAREER STAFF DEPLOYMENT

The Frederick County fire and rescue service has evolved over the years to provide supplemental career staffing for specific fire – rescue stations, as requested by each volunteer fire – rescue corporations. Our current scheme of "staffing stations" provides a small corps of career personnel that assume responsibility to staff all of the primary tactical functions that operate from their assigned station on a first-call basis.

Within the fire – rescue service this is known as "single pull staffing". Single pull staffing means that career staff is shared by multiple response units and in order to staff one unit, another tactical unit will be unavailable for response, unless qualified volunteer personnel are available.

We currently place ambulances out of service in a number of stations in order to respond to fire incidents and vise-versa. While not optimal, this staffing scheme is tolerable in low risk service areas since the service demand is also low. In our high risk service areas where service demand is high, this staffing scheme is dangerous.

Given the current population and increases in population being projected in those planning areas that are designated community growth areas and in the Frederick Planning Area in particular, we must move away from single pull staffing and provide career personnel to staff designated tactical units at these stations.

This is a critical shift that we must undertake in the City of Frederick now and in those communities that are designated as urban growth areas as their population and call volume continues to increase. The priority for transitioning to "Tactical Unit Staffing" in each planning area is as follows:

<u>Adamstown Planning Area</u>

- Carroll Manor Volunteer Fire Company – Point-of-Rocks Station
    - Staff 1 Engine and 1-BLS Ambulance 24/7

<u>Brunswick Planning Area</u>

- Brunswick Volunteer Ambulance Company
    - Staff 2 BLS Ambulances

- Jefferson Volunteer Fire Company
    - Staff 1 Engine, 1-BLS Ambulance, 1-ALS 24/7

Frederick Planning Area

- Independent Hose Company
    - Staff 1-Engine, 1-Tower, 1-ALS Ambulance, 1-BLS Ambulances, 1-ALS 24/7

- Junior Fire Company
    - Staff 1-Engine, 1-ALS Ambulance, 1-BLS Ambulances, 24/7

- United Steam Fire Engine Company
    - Staff 1-Engine, 1-Rescue Squad, 1-ALS Ambulance, 1--BLS Ambulances

- Lewistown Fire – Rescue Company
    - Staff 1-Engine, 1 BLS Ambulance 24/7

- Westview Station
    - Staff 1-Engine, 2-BLS Ambulances, 1-ALS 24/7

Middletown Planning Area

- Middletown Volunteer Fire Company
    - Staff 1-Engine, 1-BLS Ambulance 24/7

- Myersville Volunteer Fire Company
    - Staff 1-Engine, 1-Rescue Squad, 1-BLS Ambulance, 1-ALS 24/7

- Braddock Heights Volunteer Fire Company
    - Staff 1-Engine, 1-BLS Ambulance, 1-ALS 24/7

New Market Planning Area

- New Market Volunteer Fire Company
    - Staff 1-Engine, 1-Rescue Squad, 1-BLS Ambulance 12/5
    - 1-ALS 24/7

Thurmont Planning Area

- Guardian Hose Company
    - Staff 1-Engine 24/7
- Thurmont Ambulance Company
    - Staff 1 BLS Ambulance, 1-ALS 24/7

Urbana Planning Area

- Urbana Volunteer Fire Company - 23
    - Staff 1-Engine, 1-Tower, 2-BLS Ambulances, 1-ALS 24/7

Walkersville Planning Area

- Woodsboro Fire Company
  - Staff 1 Engine, 1-BLS Ambulance, 1 ALS 24/7
- Libertytown Fire Company
  - Staff 1 Engine and 1 BLS Ambulance 24/7
- Walkersville Fire Company
  - Staff 1 Engine 24/7
- Walkersville Rescue Company
  - Staff 1 BLS Ambulance 24/7

The 2016 award of the SAFER Grant for staffing has allowed us to meet several of the staffing needs identified above. They include: 24/7 staffing of Engine and Ambulance at Carrol Manor Fire Company's Adamstown station, 24/7 Engine staffing at Brunswick Fire Company, 24/7 Engine and Ambulance at Woodsboro Fire Company, 24/7 Rescue Squad staffing at United Fire Company, 24/7 Ambulance staffing at Lewistown Fire Company, 24/7 staffing of Engine and Ambulance at Braddock Heights Fire Company, 24/7 Tower Ladder staffing at Urbana Fire Company.

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. Unless there is a robust corps of volunteer personnel available to operate from a new station, Frederick County must plan for additional career staffing to meet the basic service needs of these growth areas.

Career staffing of an Engine and Ambulance for 24/7 coverage requires a total of 21 career employees to staff 3 rotating shifts. These positions break down as follows:

- 3 Company Officers
- 3 Technicians
- 9 Firefighter/EMTs
- 6 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.

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.

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.

Emergency Medical Services

All stations that currently provide ambulance service should be assigned career staffing 24/7 if their failure to respond rate regularly exceeds the identified response time standard.

Our Advanced Life Support (ALS) service should begin the process of shifting our ALS response program from ALS chase cars to ALS staffed ambulances in Frederick City. ALS staffing should be provided for one ALS ambulance staffed 24/7 at Independent Hose Company, Junior Fire Company, United Fire Company and the proposed North Frederick station.

One ALS chase car should continue to operate from the ALS quarters facility to provide out-of-city response. ALS chase cars should continue to be used to support basic ambulance response in suburban and rural areas.

EMS Field Supervision

A single EMS Supervisor can no longer service either the management or emergency response needs of our EMS system. Growth in the number of EMS providers in the field has out-paced the ability of a single field supervisor to maintain required oversight and call volume across a 664 square mile county challenges the EMS supervisor's ability to provide on-scene support of critical incidents. Highly specialized patient care procedures such as Rapid Sequence Intubation and Ultrasound Diagnostics are reserved protocols only performed by the EMS Supervisor. A second EMS supervisor assigned to each shift is urgently needed and must be considered in the next fiscal year budget request.

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.

DFRS has established a goal of achieving a level of leave impact staffing that would permit 12% of each on-duty shift to be off-duty on planned leave. We have not as yet been able to achieve this goal.

Operational Field Supervision

As the number of career staffed stations has increased, coordinated station oversight exceeds any recognized management standard for proper span of control. We currently operate with two (2) Battalion Chiefs, one (1) Emergency Medical Supervisor and one (1) Safety Officer on each shift. This small number of senior supervisors attempts to provide oversight to 23 career staffed work locations spread over 664 square miles and to support the needs and liaison with our volunteer fire-rescue organizations.

While the geography alone challenges the ability of senior field supervisors to provide both administrative and operational support, the span of control far exceeds management standards for effective supervision.

Currently, the North Battalion Chief has 18 stations to oversee, 11 of which are career staffed stations.

The South Battalion Chief has 12 stations to oversee, all of which are career staffed stations.

The shift EMS Supervisor and shift Safety Officer are each a single resource for the entire county.

The Deputy Chief of Emergency Services currently has 11 direct reports. This too exceeds a reasonable span of control. They include:

- 6 Field Battalion Chiefs
- 1 Floater Battalion Chief (Special Ops)
- 1 EMS Battalion Chief
- 1 Training Battalion Chief
- 1 Safety Captain
- 1 Scheduling Captain

In order to address both of these span-of-control issues an additional Battalion Chief must be added to each shift and a weekday Operations Assistant Chief position should be added to support the Deputy Chief of Emergency Services in overall supervision and management of field forces.

The Assistant Chief would work across all three shifts to ensure greater consistency in policy implementation As the overall shift supervisor this position would provide direct oversight of the shift Battalion Chiefs, EMS Supervisor and Safety Officer. This would reduce the Deputy Chiefs span of control from 11 to 5 and would re-align the current battalion areas by creating a third battalion, as follows:

- The North Battalion Chief would be housed at the new North Frederick Station and oversee the following: 7 Career Staffed Stations (2, 6, 16, 17, 22, 24, 30) 4 Volunteer Staffed Stations (9, 10, 11, 13, 18)
- The West Battalion Chief would be housed at the Braddock Heights Station and manage the following:
  7 Career Staffed Stations (1, 5, 7, 8, 12, 19, 20) 1 Volunteer Staffed Station (21)
- The East Battalion Chief would be housed at the Spring Ridge Station and manage the following:
  9 Career Staffed Stations (3, 4, 14, 15, 23, 25, 28, 31, 33)

Administrative Staff Support

DFRS Human Resources and Logistics: 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 and logistics sections which manage personnel actions, performance evaluations, payroll, medical/physicals, uniforms, protective clothing, protective equipment, etc.

Training: Training support is already needed in the form of a coordinator for our volunteer training programs. The increase in volunteer personnel has challenged the Maryland Fire and Rescue Institutes (MFRI) ability to provide courses to meet our needs. Volunteer leaders are calling on the county to transition to managing our own training programs in-house and an increase in career personnel will drive the same need to increase staff support for training.

Deputy Director of Volunteer Services: A key ingredient to maintaining a strong corps of operationally active volunteers is an aggressive volunteer recruitment program. Once SAFER grant funding for our volunteer recruitment program ended, the county assumed funding of this program beginning in FY2017. This program continues to be successful in recruiting new volunteers into our service.

While the success of our volunteer recruitment program demonstrates the value of having a dedicated resource to strategically market the county fire and rescue system for recruitment of new volunteers, the greater challenge is training and retaining volunteers who will engage in operational service delivery. The Deputy Director position would bolster the management and oversight of programs that will be designed to increase retention of newly recruited volunteers. This will include closer liaison with the training staff, stronger liaison with volunteer station leadership for mentoring new volunteers, maintaining the newly developed volunteer database and the design and administration of a stipend program for new volunteers in lieu of the traditional LOSAP benefit.

Research / Planning / Special Projects Officer: Strategic planning must be an ongoing process and as growth continues a staff position should be dedicated to this critical function, as well as special projects management. A critical weakness in our fire and rescue system is a comprehensive records management system that will provide reliable data for planning and decision making. DFRS is funded in the FY2019 budget to acquire a comprehensive records management software to help meet this need. This system should link CAD data, incident report data, GIS and other data sources into a single source reporting system so service delivery information can be appropriately analyzed and interpreted so better planning can occur.

Our system is currently handicapped by the lack of a comprehensive planning tool and staff to manage the research and planning function.

Health and Wellness Section: Studies continue to demonstrate the physical and psychological risks that fire and rescue personnel face due to continued exposure to toxins, physical injuries and emotional trauma. These issues affect both career and volunteer members of our service. The Division of Fire and Rescue Services must re-establish our Health and Wellness Section that was eliminated from the budget in FY2012.

100% Volunteer Staffed Stations

As our all-volunteer staffed stations in suburban areas continue to see increasing call volume, it will be important to monitor the potential need for career staff support in these stations. In addition, the weekday staffed ambulance companies should also be monitored for the need to transition to 24/7 career staffing for one ambulance.

THIS PAGE INTENTIONALLY LEFT BLANK

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 ten (10) 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-19 through FY-22

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.

THIS PAGE INTENTIONALLY LEFT BLANK

IMPLEMENTATION PLAN AND TIMELINE

FY-19 THRU FY-22 =Staffing =Station = Tactical Vehicles

	JULY 2018 TO JUNE 2021	FY-19	FY-20	FY-21	FY-22
*	**STAFF WALKERSVILLE RESCUE CO. AMBULANCE – 24/7…….4 PERSONNEL**				
*	**STAFF MIDDLETOWN STATION AMBULANCE – 24/7…….4 PERSONNEL**				
*	**STAFF A THURMONT AMBULANCE – 24/7…….4 PERSONNEL**				
	STAFF JUNIORS STATION SECOND AMBULANCE – 24x7……6 PERSONNEL				
	STAFF MIDDLETOWN STATION – ENGINE – 24X7……..13 PERSONNEL				
	ADD SECOND EMS SUPERVISOR TO EACH SHIFT……..4 PERSONNEL				
	INCREASE LEAVE IMPACT STAFFING……..12 PERSONNEL				
	STAFF LIBERTYTOWN STATION – ENGINE – 24/7……13 PERSONNEL				
*	**Denotes Completed**				
	ADD ALS TO NEW MARKET FIRE STATION……..4 PERSONNEL				
	ADD ALS TO WOODSBORO STATION (RELOCATED M-17)……0 PERSONNEL				
	ADD LOGISTICS WAREHOUSE MANAGER……1 PERSONNEL				
	ADD LOGISTICS EQUIPMENT TECHNICIAN……1 PERSONNEL				
	RESTORE HEALTH & WELLNESS PROGRAM……1 PERSONNEL				
	ADD OPERATIONS ASSISTANT CHIEF……..1 PERSONNEL				
	ADD 3RD SHIFT BATTALION CHIEF……..4 PERSONNEL				
	STAFF GUARDIAN HOSE STATION – ENGINE – 24/7……..14 PERSONNEL				
	ADD TRAINING STAFF……1 PERSONNEL				
	STAFF NEW MARKET RESCUE SQUAD – WEEKDAY……..4 PERSONNEL				
	STAFF COMMUNITY INTEGRATED HEALTH UNIT…… 1 PERSONNEL				
	ADD ALS TO BRADDOCK HEIGHTS FIRE STATION……4 PERSONNEL				
	ADD SECOND AMBULANCE AT BRUNSWICK – 24/7……9 PERSONNEL				
	ADD SECOND AMBULANCE AT WESTVIEW STATION – 24/7……9 PERSONNEL				
	ADD HUMAN RESOURCES SPECIALIST……1 PERSONNEL				
	STAFF MIDDLETOWN STATION LADDER TRUCK – 24/7……..12 PERSONNEL				
	ADD SECOND SAFETY OFFICER TO EACH SHIFT – 24/7……..4 PERSONNEL				
	UNIFORMED / CIVILIAN	**47**	**24 / 3**	**28 / 1**	**16**
	STATIONS				
*	COMPLETE MIDDLETOWN FIRE STATION CONSTRUCTION				
	DESIGN & BUILD NORTH FREDERICK FIRE STATION				
	DESIGN & BUILD GREEN VALLEY FIRE STATION				
	DESIGN & BUILD CARROLL MANOR FIRE STATION				
	TACTICAL VEHICLES				
	PURCHASE A COMBINATION TANKER/FOAM UNIT				
	REPLACE BRUNSWICK LADDER TRUCK & CITIZENS TRUCK 4-2				
	REPLACE WOODSBORO ENGINE				
	REPLACEMENTS ACCORDING TO THE APPARATUS REPLACEMENT SCHEDULE				

THIS PAGE INTENTIONALLY LEFT BLANK

IMPLEMENTATION PLAN AND TIMELINE

After the completion of FY-19 – 22 initiatives, the following service upgrades should be considered based on the priority of need to be determined at that time and coordinated with the respective volunteer fire – rescue corporations:

FY-23 THRU FY-28 =Staffing =Station = Tactical Units

	STAFFING	
	ADD SECOND AMBULANCE AT URBANA FIRE STATION – 24/7……..6 PERSONNEL	
	ADD 4TH FIREFIGHTER AT CITIZENS LADDER TRUCK/AIR UNIT……..4 PERSONNEL	
	STAFF MYERSVILLE STATION – RESCUE SQUAD – 24/7……12 PERSONNEL	
	STAFF QUINT AT POINT-OF-ROCKS STATION–24/7……..12 PERSONNEL	
	ADD STAFF PLANNING OFFICER ……..1 PERSONNEL	
	CONTINGENCY TO STAFF WALKERSVILLE ENGINE 24/7……12 PERSONNEL	
	CONTENGENCY TO STAFF JEFFERSON ENGINE 24/7……12 PERSONNEL	
	CONTINGENCY TO STAFF JEFFERSON RESCUE SQUAD 24/7……12 PERSONNEL	
	ADD STAFF FOR HAMPTONS FIRE STATION -ENG & AMB 24/7……22 PERSONNEL	
	ADD STAFF FOR JEFFERSON TEC. PARK STATION – ENG & AMB 24/7…..22 PERSONNEL	
	ADD STAFF FOR SANNER FIRE STATION – ENG & AMB 24/7……22 PERSONNEL	
	STATIONS	
	DESIGN AND BUILD HAMPTONS FIRE – RESCUE STATION	
	DESIGN AND BUILD JEFFERSON TECH FIRE – RESCUE STATION	
	DESIGN AND BUILD SANNER FIRE – RESCUE STATION	
	ACQUIRE SITE, DESIGN & BUILD DOWNTOWN FIRE STATION	
	ACQUIER SITE, DESIGN & BUILD NEW MARKET STATION	
	ACQUIRE SITE, DESIGN & BUILD LOWER URBAN STATION	
	TACTICAL VEHICLES	
	PURCHASE RESCUE SQUAD FOR MYERSVILLE STATION	
	PURCHASE BASIC SERVICE UNITS FOR JEFFERSON TECH PARK STATION	
	PURCHASE BASIC SERVICE UNITS FOR HAMPTONS FIRE- RESCUE STATION	
	PURCHASE BASIC SERVICE UNITS FOR SANNER FIRE – RESCUE STATION	
	PURCHASE BASIC SERVICE UNITS FOR LOWER URBANA STATION	
	PURCHASE LADDER TRUCK FOR NEW MARKET PLANNING AREA	
	REPLACE URBANA ENGINE WITH A RESCUE ENGINE (Monitor MCFR staff changes)	
	REPLACEMENTS ACCORDING TO THE APPARATUS REPLACEMENT SCHEDULE	

THIS PAGE INTENTIONALLY LEFT BLANK

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.

This plan is the work product and vision of Frederick County Director and Chief of Fire and Rescue Services Thomas W. Owens, CFO, who is solely responsible for its content.

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 Chief Owens and 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 – Tim Clark, Chairman

Frederick County Volunteer Fire and Rescue Association – Eric Smothers, President

Frederick County Professional Firefighters and Paramedics Association, IAFF Local 3666 – Stephan Jones, President

Frederick County Division of Volunteer Fire and Rescue Services – Deputy Chief Kevin Fox, Director & Deputy Chief Clarence Jewell (retired)

Frederick County Division of Fire and Rescue Services Senior Staff:

- Deputy Chief Tom Coe – Emergency Services Section
- Deputy Chief Steve Leatherman – Administrative Services Section
- Battalion Chief Mike Cole, Author – ALS Deployment Plan (2015)
- Caryl Wenger – Administrative Assistant to the Fire Chief

The members of the Frederick County Professional Firefighters and Paramedics Associations' (Local 3666) Service Delivery Plan Review Committee – Lieutenant Chris Demopolis, Chairman

The career officers, men and women of the Frederick County Division of Fire and Rescue Services for their review and feedback provided through Local 3666's service delivery plan review committee.

The members of the Frederick County Volunteer Fire and Rescue Associations' Service Delivery Plan Review Committee – Chief Ben Nalborczyk, Chairman

The officers, men and women of the 25 volunteer fire and rescue corporations for their review and feedback provided through the volunteer fire and rescue associations' service delivery plan review committee.