

Fire and Rescue Department

LOB #232:

OPERATIONS BUREAU AND EMERGENCY MEDICAL SERVICES

Purpose

The goal of the Operations and EMS LOB is to provide emergency and non-emergency response for residents and visitors of Fairfax County, and our mutual aid partners, in order to save lives and protect property.

Description

The Operations and EMS Division is comprised of nearly 1,300 career personnel who responded to over 95,000 incidents in FY 2015. The total number of incidents responded to annually is expected to continue to increase as the County's population grows in both numbers and age.

The County is divided geographically into seven battalions, each managed by a battalion management team lead by a Battalion Fire Chief and an EMS Captain. Firefighter/EMT's and Firefighter/Paramedics work in tandem to provide all-hazards incident response to ensure the highest level of service possible for the public.

The Department has established a five-minute response time identified in the County's Comprehensive Plan as its goal for suppression incidents. This five-minute response goal is based on the standard time/temperature curve as developed by the National Institute of Standards. This time/temperature curve indicates that the temperature of fires increases drastically in the first ten minutes of a fire at which point a flashover is likely to occur. Once flashover occurs in a room, the fire will quickly spread. The amount of damage sustained by fire and other emergencies is directly related to the timely response of fire department personnel and their ability to take the necessary actions to mitigate the incident.

Emergency medical incidents are addressed through a multi-tiered response system to reduce the occurrence of death and disability within Fairfax County. To increase the chance of survival, it is imperative a person in cardio-pulmonary arrest be supported within five minutes and life-saving measures initiated. Therefore, the Department has established a five-minute response time as its goal for ALS incidents.

Benefits

The Operations division is prepared to respond to all types of medical emergencies, fires, natural disasters and hazardous conditions. Highly trained personnel respond 24/7 to any incident throughout Fairfax County and the Towns of Clifton, Herndon and Vienna with the appropriate equipment to save lives, minimize damage and protect property. Fairfax County routinely assists surrounding jurisdictions with emergency response in accordance with automatic mutual aid agreements.

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Mandates

Emergency Medical Services - Code of Virginia § 32.1-111.1 thru § 32.1-111.15, Code of Virginia § 32.1-116.1 thru § 32.1-116.3

Department of Health Emergency Medical Services Regulations 12 VAC 5-30-10.

Career EMT/ Fire Fighter Training - Virginia EMS Rules & Regulations 12 VAC 5-31; Virginia Department of Fire Programs; National Fire Protection Association (NFPA) Standard 1001 Fire Fighter Professional Qualifications; and OSHA Regulations (Standards - 29 CFR) Hazardous Waste Operations and Emergency Response. - 1910.1

Career EMT (B) Recertification - Virginia EMS Rules & Regulations 12 VAC 5-31

Career CPR Recertification - Virginia EMS Rules & Regulations 12 VAC 5-31.

Advanced Life Support Initial Certification Training - Virginia EMS Rules & Regulations 12 VAC 5-31.

Advanced Life Support Continual Education Training & Recertification - Virginia EMS Rules & Regulations 12 VAC 5-31.

Trends and Challenges

Increasing Demand for Services

As Fairfax County transforms from a suburban community to a diverse urban County with over a million people, the demand for both emergency and non-emergency services will significantly challenge the Fire and Rescue Department. Existing fire stations are located throughout the County based on a suburban model with large response coverage areas for each fire station (station first due). Rising population, rapid growth of high density mixed-use development, and more traffic congestion will strain FRD's ability to maintain response times critical to providing emergency services to protect the lives, property, and environment of our community.

Over the next twenty to thirty years, Fairfax County will experience record levels of new development and re-development primarily resulting from the expansion of the Metrorail from Washington D.C. to Dulles International Airport. Tysons Corner, Reston, Springfield, and the entire Dulles Corridor will encounter high density (multi-story) residential and commercial development. Fairfax County's proximity to Washington D.C. as well as a myriad of favorable attributes attracts a wide variety of industries to the County making it the largest business center in the Commonwealth of Virginia.

For the Tysons Corner area, current development applications under County review project up to 36 million square feet of new development including approximately 19 million square feet of non-residential development and 17 million square feet of residential development. Pending the Board of Supervisors' approval, these development proposals are estimated to bring 29,000 new residents and 57,000 new employees to Tysons. Similar levels of development are anticipated for Reston and along the Dulles Corridor to coincide with the extension of the Dulles Metrorail. This high density development comprised of high-rise (up to 20-30 levels) mixed-use buildings will greatly impact FRD's ability to deliver high quality emergency services. Emergency medical service (EMS) response times will need to incorporate vertical response time to allow first responders to get to a patient as well as the traditional horizontal response time for units to travel to an incident location. Responding to structure fires in high-rise buildings will also challenge FRD's existing staffing levels, deployment methodology and operational procedures.

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ALS Recruitment and Retention

Provision of emergency medical services accounts for over 71 percent of the department's total emergency responses annually. As Fairfax County's population continues to grow so does the need for emergency medical care. Areas with aging populations require more emergency medical services than communities with younger populations; noting Fairfax County's senior population (age 65 and older) is the fastest growing segment, it is anticipated the increasing EMS call volume trend will continue into the foreseeable future. Increasing need for qualified EMS personnel is a nationwide problem; the Bureau of Labor Statistics projects demand for full-time Emergency Medical Technicians (EMTs) and paramedics is expected to "grow faster than the average for all occupations through 2012". This trend places organizations in a situation where demand for paramedics is increasing faster than supply.

In response to a growing need for EMS providers, the department reconfigured the EMS service delivery model to better meet demand. This redesign has challenged the department with recruiting Advanced Life Support providers because requirements for becoming an EMS professional are stringent, forcing FRD to compete nationally and locally in a job market with a limited labor pool.

Once recruited, hired and trained the daily demands on the department's ALS providers have a negative effect on retention. Stress caused by a heavy daily workload, and potential health and safety risks coupled with arduous, time-consuming requirements for continuing specialized training and certification contribute to personnel relinquishing ALS certification. The combination of these factors places a constant strain on the department to meet daily minimum required staffing levels.

Despite countless initiatives over the past decade, the department continues to struggle with meeting the ideal staffing balance that will allow personnel to provide cost effective, timely service with manageable workloads, while enhancing personal and professional development.

Resources

Category	FY 2014 Actual	FY 2015 Actual	FY 2016 Adopted
LOB #232: Operations Bureau and Emergency Medical Services			
FUNDING			
<u>Expenditures:</u>			
Compensation	\$122,627,917	\$129,077,530	\$133,939,340
Operating Expenses	11,562,280	10,195,484	12,564,148
Capital Equipment	6,954	15,444	0
Total Expenditures	\$134,197,151	\$139,288,458	\$146,503,488
General Fund Revenue	\$0	\$0	\$0
Net Cost/(Savings) to General Fund	\$134,197,151	\$139,288,458	\$146,503,488
POSITIONS			
Authorized Positions/Full-Time Equivalents (FTEs)			
<u>Positions:</u>			
Regular	1297 / 1297	1295 / 1295	1295 / 1295
Total Positions	1297 / 1297	1295 / 1295	1295 / 1295

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Metrics

Metric Indicator	FY 2013 Actual	FY 2014 Actual	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate
Total Incidents Responded	90,205	91,308	95,364	95,000	95,000
Patients Transported	49,739	48,966	51,425	50,000	50,000
1st ALS Provider on Scene of ALS Emergency under 5 minutes	58.20%	58.89%	58.26%	59.00%	60.00%
1st Engine on Scene of a Structure Fire in under 5:20	52.40%	53.00%	51.90%	54.00%	56.00%
Fire Loss (Commercial and Residential Property in millions)	6.8	12.3	15.9	16.0	16.0

The core mission of the Fairfax County Fire and Rescue Department is to provide timely, high quality, and all hazards response and service protecting the lives, property and environment within our community. The County continues to evolve and grow with increases in both daytime and nighttime population as result of more diverse and mixed use development. This has led to a consistent increase in demand for fire and rescue services. Calls for service are projected to reach over 100,000 incidents annually in the near future.

The aging population as well as the changing health care environment continues to impact operational response as County units have transported more patients to local emergency departments in FY2015 than ever before. Transports have increased 3 percent since FY2013 and approximately 11 percent since FY2009. The increasing population and future growth in high rise buildings, as well as increasing traffic volume and congestion has caused overall increase in call volume and the daily stress placed on current operational resources. These conditions were the impetus for the operations bureau to research and develop innovative ways to maintain the highest level of service to the community while ensuring a rapid response.

Operations and FRD leadership continue to make incremental progress towards reducing response times as a means to ensure all citizens and visitors to Fairfax County have rapid ALS assessment and intervention. Since adjusting the service delivery model to ensure an ALS provider is on every transport unit, overall capacity has been increased to meet the demand. Currently the 1st ALS provider is able to get on the scene of an ALS event within 5 minutes 58.26 percent of the time. This additional capacity improved the FRD's ability to respond to calls for service and resulted in an improvement in response time for the first ALS provider on scene. However, current response times continue to fall short of the goal to have the 1st ALS provider on the scene of an ALS event within 5 minutes 90 percent of the time.

Another reason it is important to get on the scene quickly is because one of the FRDs core objectives is to minimize the amount of property and contents lost to a fire and maximize the property and contents saved. A rapid response and initiating suppression activities should result in a reduction in fire loss dollars; however since FY2013 the FRD has seen a drastic increase in fire loss. The increase wasn't necessarily a result of the change in the significance of the fires, but a factor of improved documentation and a more accurate valuation of loss estimates. The FRD has only now begun to get a good and accurate baseline of fire loss with comparative sized jurisdictions. As the FRD continues to monitor fire loss, the Operations bureau is taking extra steps to reduce loss by utilizing operational resources to engage in activities that reduce risk, promote health, and engage the community on a weekly basis. Having operational personnel engaged in these activities have allowed the FRD the ability to meet the core response functions while embracing new community-based programs such as safety in our community.