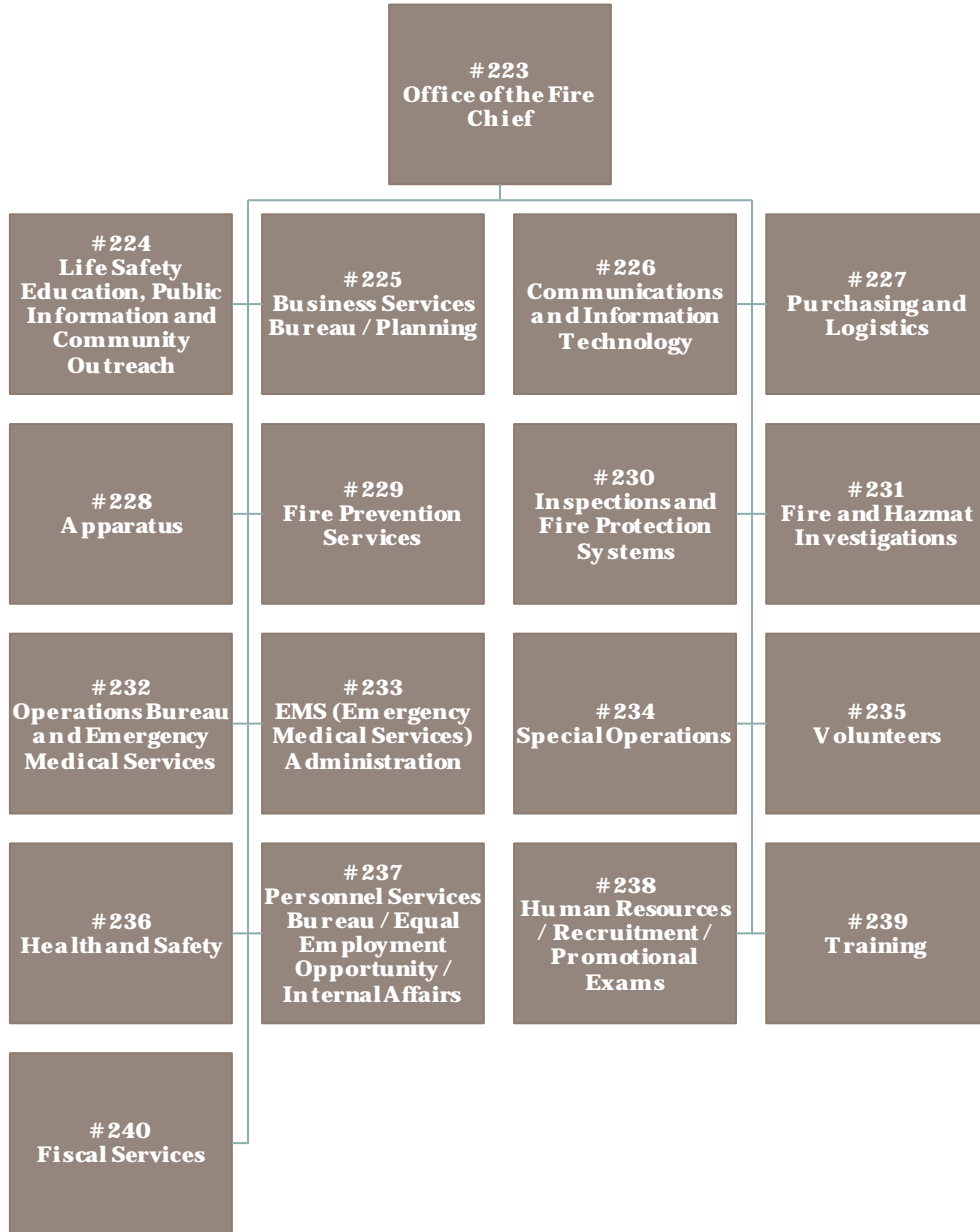


Fire and Rescue Department



Fire and Rescue Department

Department Overview

The Fairfax County Fire and Rescue Department is a combination career and volunteer all-hazards organization providing fire suppression, technical rescue, hazardous materials, water rescue, and emergency medical services to over one million residents and visitors. Comprised of over 1,300 uniformed staff, 185 civilian staff and 300 operational volunteers, Fairfax County Fire and Rescue Department is the largest fire department in the Commonwealth of Virginia.

The department's 38 fire and rescue stations, placed strategically throughout the County's 395 square miles, operate 24 hours per day. All stations are staffed by County career personnel with supplemental services provided by volunteers.

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.

Furthermore, record levels of development will impact FRD's ability to provide non-emergency services such as fire prevention site plan reviews and building inspections as well as life safety education programs. Additional personnel will be required to handle the increased workload generated by new development. FRD will need to work closely with the Department of Planning and Zoning to monitor the level of development over time to ensure the quality of fire prevention activities and life safety education programs provided in Fairfax County are not diminished.

Fire and Rescue Department

Department Resources

| Category | FY 2014 Actual | FY 2015 Actual | FY 2016 Adopted |
|---|----------------------|----------------------|----------------------|
| FUNDING | | | |
| Expenditures: | | | |
| Compensation | \$147,729,644 | \$157,645,846 | \$160,915,197 |
| Operating Expenses | 26,767,803 | 24,616,219 | 25,845,599 |
| Capital Equipment | 327,441 | 507,181 | 69,017 |
| Total Expenditures | \$174,824,888 | \$182,769,246 | \$186,829,813 |
| General Fund Revenue | \$21,833,829 | \$24,191,017 | \$24,080,219 |
| Net Cost/(Savings) to General Fund | \$152,991,059 | \$158,578,229 | \$162,749,594 |
| POSITIONS | | | |
| Authorized Positions/Full-Time Equivalents (FTEs) | | | |
| Positions: | | | |
| Regular | 1566 / 1566 | 1574 / 1574 | 1574 / 1574 |
| Total Positions | 1566 / 1566 | 1574 / 1574 | 1574 / 1574 |

Lines of Business Summary

| LOB # | LOB Title | FY 2016 Adopted | |
|--------------|---|----------------------|-------------|
| | | Disbursements | Positions |
| 223 | Office of the Fire Chief | \$706,399 | 6 |
| 224 | Life Safety Education, Public Information and Community Outreach | 408,401 | 5 |
| 225 | Business Services Bureau / Planning | 497,954 | 5 |
| 226 | Communications and Information Technology | 4,463,213 | 24 |
| 227 | Purchasing and Logistics | 2,999,246 | 21 |
| 228 | Apparatus | 2,257,363 | 17 |
| 229 | Fire Prevention Services | 2,537,589 | 27 |
| 230 | Inspections and Fire Protection Systems | 3,902,913 | 62 |
| 231 | Fire and Hazmat Investigations | 2,243,501 | 18 |
| 232 | Operations Bureau and Emergency Medical Services | 146,503,488 | 1295 |
| 233 | EMS (Emergency Medical Services) Administration | 2,543,856 | 11 |
| 234 | Special Operations | 1,029,552 | 3 |
| 235 | Volunteers | 1,294,378 | 3 |
| 236 | Health and Safety | 5,442,277 | 18 |
| 237 | Personnel Services Bureau / Equal Employment Opportunity / Internal Affairs | 591,587 | 7 |
| 238 | Human Resources / Recruitment / Promotional Exams | 1,177,382 | 14 |
| 239 | Training | 6,325,059 | 28 |
| 240 | Fiscal Services | 1,905,655 | 10 |
| Total | | \$186,829,813 | 1574 |

Fire and Rescue Department

Lines of Business

LOB #223:

OFFICE OF THE FIRE CHIEF

Purpose

The Fire Chief in collaboration with the Assistant Chief of the Business Services Bureau, the Assistant Chief of the Operations Bureau, and the Assistant Chief of the Personnel Services Bureau comprise the senior leadership team that formulates the overall mission of the FRD, articulating its vision, and establishing the framework for the organization.

Also reporting to the Office of the Fire Chief is the Intelligence Analyst, the Metro Liaison, and the Public Information Office (as discussed in LOB #224).

Description

The Fire Chief is the highest ranking uniform member of the Fire and Rescue Department (FRD). The Office of the Fire Chief directs the overall policy, planning and management of the department with the goal of ensuring efficient daily operation of the Fire and Rescue Department (FRD) as well as to provide leadership and vision to the organization in order to focus on innovation and resource optimization.

The *Regional Intelligence* function supports the National Capital Regional Intelligence Center (NCRIC), a collaborative effort, in a dedicated facility, between various local, state and federal agencies to share information, resources and expertise. These combined resources are used to combat security threats and prevent, detect, and deter criminal acts.

The *Metro Liaison* works in Metro's Rail Operations Control Center (ROCC) where train controllers monitor the subway in real time. The Liaisons role is to assist the transit agency and firefighters avoid communication confusion during emergencies.

Benefits

Identifying and communicating a clear vision is one of the most important functions in an organization. A clear, shared vision helps define the values of FRD and helps guide the behavior of all employees. A strong vision also leads to improved productivity and efficiency.

The Office of the Fire Chief recently lead the department's initiative of undergoing the Insurance Services Office (ISO) Public Protection Classification (PPC). The PPC Program reviews the fire prevention and overall fire suppression capabilities of communities. The Fire Suppression Rating Schedule (FSRS) considers three main areas of the community's fire suppression system: emergency communications, fire department (including operational considerations), water supply, and community risk reduction (fire prevention, fire safety education, and fire investigations).

The PPC plays a vital role in calculating and underwriting insurance premiums for residents, property owners, and businesses located in Fairfax County. Most insurance companies use PPC information as an integral part of deciding what businesses to underwrite, what types of coverage to offer, and overall premium costs.

Fire and Rescue Department

The PPC is critical to both the community and the fire and rescue department. With an improved PPC, residents and businesses may receive lower insurance premiums, and departments receive valuable benchmarks, helping to measure program effectiveness, and plan for future improvements.

After months of data collection, analysis, and testing, the Insurance Services Office rated Fairfax County a Public Protection Classification (PPC) of 01/1Y, the highest rating in the Commonwealth of Virginia.

The NCRIC collects, evaluates, analyzes, and disseminates information and intelligence data regarding criminal and terrorist activity in the National Capital Region. Information and intelligence data is collected, integrated, evaluated and analyzed for dissemination to the NVRIC members of the law enforcement and public safety communities responsible for the prevention, mitigation, and response to crime and terrorism.

Participation in the ROCC allows FRD the opportunity to be able to provide critical information in the first couple of minutes of an incident improving response.

Mandates

This Line of Business is not mandated.

Trends and Challenges

The Fire Chief's objective to provide the highest quality services to protect the community is being challenged daily by economic realities negatively impacting County financial resources, continuing increases in regular operating costs, dwindling opportunities for alternative funding sources, expanding unfunded mandates, and increasing competition for qualified employees. To successfully meet challenges posed by increasing urbanization and a more densely populated response area, the department must continue to be progressive in efforts to achieve economies of scale through regional cooperation, seek out innovative methods for keeping pace with technology, sustain programs to maintain a healthy workforce and adjust staffing configurations to meet the needs of a growing County.

The NCRIC and ROCC are valuable collaborations for residents and the agencies working together to ensure the safety of the community. It is expected current resources dedicated to these initiatives will remain flat unless

Fire and Rescue Department

Resources

| Category | FY 2014 Actual | FY 2015 Actual | FY 2016 Adopted |
|--|------------------|------------------|------------------|
| LOB #223: Office of the Fire Chief | | | |
| FUNDING | | | |
| <u>Expenditures:</u> | | | |
| Compensation | \$579,342 | \$569,598 | \$564,138 |
| Operating Expenses | 168,796 | 172,003 | 142,261 |
| Capital Equipment | 6,715 | 0 | 0 |
| Total Expenditures | \$754,853 | \$741,601 | \$706,399 |
| General Fund Revenue | \$0 | \$0 | \$0 |
| Net Cost/(Savings) to General Fund | \$754,853 | \$741,601 | \$706,399 |
| POSITIONS | | | |
| <i>Authorized Positions/Full-Time Equivalents (FTEs)</i> | | | |
| <u>Positions:</u> | | | |
| Regular | 4 / 4 | 6 / 6 | 6 / 6 |
| Total Positions | 4 / 4 | 6 / 6 | 6 / 6 |

Fire and Rescue Department

Metrics

| Metric Indicator | FY 2013 Actual | FY 2014 Actual | FY 2015 Actual | FY 2016 Estimate | FY 2017 Estimate |
|---|----------------|----------------|----------------|------------------|------------------|
| Number of officers attending professional development courses | 52 | 73 | 80 | 80 | 80 |
| Hours dedicated towards regional terrorism prevention and awareness | 2,080 | 2,080 | 2,080 | 2,080 | 2,080 |

Officer development is a department initiative to prepare officers at various levels for future career advancement while giving them the leadership skills to excel in their current position. FRD uses a combination of County offered training and in-house departmental training to accomplish this initiative. Examples include:

- Leadership Fairfax Institute
- Emerging Leaders Institute
- Leadership Development Institute
- Virginia Fire Officers Association
- Horse Sense
- WestPoint Leadership
- Fire Chief Office Internship
- Middle Managers Roundtable
- County Executive Coaching/Mentoring Program

The mission of the Northern Virginia Regional Intelligence Center (NVRIC) is to collect, evaluate, analyze, and disseminate information and intelligence data regarding criminal and terrorist activity in the National Capital Region while following Fair Information Practices to ensure the rights and privacy of individuals and organizations. The information and intelligence data collected, integrated, evaluated and analyzed is disseminated to the NVRIC members of the law enforcement and public safety communities responsible for the prevention, mitigation, and response to crime and terrorism.

FRD supports the efforts of the NVRIC through the support of one full-time position. It is expected this will remain constant in the future unless actions warrant change.

Fire and Rescue Department

LOB #224:

LIFE SAFETY EDUCATION, PUBLIC INFORMATION AND COMMUNITY OUTREACH

Purpose

The Public Affairs and Life Safety Education Division provides public affairs support for the department and fire and life safety educational programs to high-risk populations, including preschoolers, school-age children, latch-key children, juvenile fire setters, older adults and culturally diverse groups.

Community outreach is a core value and an integral part of the overall organizational mission. Firefighters and staff continually reach out to the community and its residents through daily activities and reoccurring community events. Two of the largest outreach efforts (Safety in our Community (SIOC) and Wellness in our Community (WIOC)) have proved highly successful since implementation in FY 2013. Other community outreach efforts serve the most under privileged members of the community though the annual school backpack and school supply giveaway, new winter coat giveaway, and Toys for Tots program to name a few.

Description

Personnel serve as department spokespersons during emergency incidents, special events and respond to routine queries from media and residents. Education and information is disseminated through videos, public service announcements, social media, planned media events and feature presentations on Fairfax County's cable Television Channel 16. Staff coordinates external publications for the department and manages FRD's homepage and overall website content.

Life safety programs educate more than 23,000 preschoolers, 9,000 school-aged children and 7,500 older adults. Approximately 65 juveniles are reached annually through the juvenile fire setters program. Education is also carried out through community events including Fire Prevention Open House, summer safety Olympics, and a semi-annual smoke alarm initiative for residents needing assistance with smoke alarms.

SOIC and WIOC initiatives include firefighters going door to door in neighborhoods checking and installing working smoke alarms. While there, information on seasonal fire and life safety tips are provided.

Benefits

The goal of the Life Safety section is to reduce the risk of injury and loss due to fire through education and enforcement. A primary focus of fire safety education is directed towards children. Working with schools, FRD provides numerous children with the knowledge to help keep them safe in the event of a fire.

Community outreach efforts benefit both the community and FRD staff. Firefighters are given the opportunity to engage with the community they serve, making life saving improvements prior to an emergency event. Residents benefit through proactive efforts to make their homes safer in case of a fire emergency. There have already been several incidents where a fire occurred and the residents of the home were safely evacuated due to early notification by a smoke detection system installed by members of FRD.

Immediate posting of news and information directly to the community (either through web content or social media) is a clear benefit as it allows residents to rely on County government as a direct source of information. By publishing, coordinating and facilitating web content/social media, the Public Information Office ensures the digital presence of the department is expressed with clarity and purpose.

Fire and Rescue Department

Mandates

While this LOB is not mandated, if the County publishes material to the FairfaxCounty.gov website, it must be in compliance with the Americans with Disabilities Act (ADA) accessibility requirements.

Trends and Challenges

Reaching the most at risk populations with life safety education continues to be the most difficult challenge. As the County continues to grow, specifically the young and elderly population, staff levels remain stagnant resulting in challenges for increased program delivery.

Public Information delivery continues to evolve as technology enhancements are made. Not only is information now consumed more via online versus paper form, there are also fundamental changes to how people consume information online – primarily through use of a mobile device. According to recent research, mobile device web/app browsing exceeds visiting a website on a “traditional desktop” computer. This trend poses a challenge to information creators, who must think “mobile first” meaning - webpages designed for mobile devices and transactions that can be easily accomplished on a mobile device. FRD PIO staff will have to work closely with FRD divisions to educate them on “mobile-first information presentation” when developing information for social media outlets such as Twitter, Facebook and blogs.

Resources

| Category | FY 2014 Actual | FY 2015 Actual | FY 2016 Adopted |
|---|------------------|------------------|------------------|
| LOB #224: Life Safety Education, Public Information and Community Outreach | | | |
| FUNDING | | | |
| <u>Expenditures:</u> | | | |
| Compensation | \$369,369 | \$401,473 | \$354,638 |
| Operating Expenses | 182,252 | 67,954 | 53,763 |
| Total Expenditures | \$551,621 | \$469,427 | \$408,401 |
| General Fund Revenue | \$0 | \$32 | \$0 |
| Net Cost/(Savings) to General Fund | \$551,621 | \$469,395 | \$408,401 |
| POSITIONS | | | |
| Authorized Positions/Full-Time Equivalents (FTEs) | | | |
| <u>Positions:</u> | | | |
| Regular | 5 / 5 | 5 / 5 | 5 / 5 |
| Total Positions | 5 / 5 | 5 / 5 | 5 / 5 |

Fire and Rescue Department

Metrics

| Metric Indicator | FY 2013 Actual | FY 2014 Actual | FY 2015 Actual | FY 2016 Estimate | FY 2017 Estimate |
|--|-------------------|-------------------|-------------------|---------------------|---------------------|
| Number of preschool and kindergarten students educated | 22,371 | 26,223 | 23,260 | 25,000 | 25,000 |
| Number of senior citizens educated | 8,545 | 9,479 | 7,810 | 9,000 | 9,000 |
| Number of individuals reached through Facebook | 234,000 | 700,000 | 3.2M | 3.5M | 3.8M |
| Number of individuals reached through Twitter | NA | 110,000 | 1.1M | 1.2M | 1.3M |
| Number of families benefiting from community outreach programs at Title 1 Schools - K-12 | 7,400 | 8,200 | 9,000 | 9,500 | 10,000 |

In FY 2016, the department's Public Affairs/Life Safety Education program anticipates serving 25,000 preschool and kindergarten students and 9,000 older adults in an effort to eradicate fire deaths and burn injuries within these high risk populations. While the opportunity to provide education for pre-school children and older adults continues to rise exponentially with the growing population, staff levels remain stagnant resulting in challenges for increased program delivery.

Fairfax County has determined the best metric to use for measuring the performance of social media is the total "reach" of the messages shared. Simply stated, this is the number of times people actively view FRD posted messages.

Social media content is produced and pushed out on two major social media platforms – Facebook and Twitter. Social media allows the department to publish, engage, and provide customer information on emergencies, key events, consumer recalls, and fire and life safety information.

The ability to immediately publish information directly to the community through social media is a benefit to the public for two specific reasons:

Enhances Direct Communication

This line of communication is important in good times and bad. In good times it's important to inform the public about what is done on a daily basis to keep them safe. In bad times, it's important to be able to structure a direct message to the public about the situation. No longer do fire departments have to rely on traditional news media to communicate with the people they serve – they can do it straight through social media and are able to better control the message.

Builds Goodwill within Community

Social media presents fire departments an opportunity that they've never had before - the ability to communicate directly with the public and the people served. It builds on good will and is an excellent forum to inform those served about what FRD does to protect them.

The growth of social media has continued at a brisk pace since its inception. Growth should continue as long as relevant and value-added content is produced and shared. Growth of followers, likes, and engagement volume will depend on the tempo of emergency information in a given day or period. A key ingredient for success is consistency in producing content and pushing it out. Social media is relatively new and should see moderate growth annually as content increases. Lack of staffing to increase content and overall capacity will be a prime factor in holding overall performance.

Fire and Rescue Department

The department provides a number of community outreach programs geared to benefiting children attending Title 1 schools.

Backpack drive collects and distributes backpacks filled with school supplies for children who otherwise would not have them.

Kids Cuts provide children haircuts to kids in need prior to the start of the school year.

Operation Warm collects and distributes winter coats to kids without in order to keep the children warm during the winter.

Christmas toy drive collects funds from the community to purchase and distribute toys to needy children for the holidays.

Each year the department works to collect additional donations in order to expand the programs and reach more families.

Fire and Rescue Department

LOB #225:

BUSINESS SERVICES BUREAU / PLANNING

Purpose

The Business Services Bureau (BSB) consists of the Support Services Division, Fire Prevention Division, Fiscal Services Division, and Planning Section. Business Services functions are critical to ensuring the Operations Bureau has resources needed to respond to emergency incidents. All areas of oversight by BSB will be further discussed in their own LOB narrative, only the Planning Section will be addressed here.

Description

The BSB LOB includes the Assistant Chief of Business Services, administrative and support staff, and the Planning Section.

The Office of the Assistant Chief also includes a Fire Captain II position as the aide and administrative support.

This section, establishes Bureau priorities, and keeps the division running efficiently and effectively making sure resources are available, paperwork is filed and organized, and ensuring the various divisions have the resources and support they need to perform their jobs successfully.

The Planning Section's Strategic Planner is the principle FRD representative to provide updates to the Fairfax County Comprehensive Plan, and to review all zoning applications and analyze the impact of projected high-density residential and commercial development on delivery of emergency services to protect the lives, property, and environment of our expanding community. As Fairfax County evolves from a suburban community into a densely populated urban county, the Strategic Planner meets regularly with emergency operations staff members and conducts ongoing analysis using FRD operational data, GIS technology and development plans to forecast future demand for fire and rescue services. Increasing population, changing demographics, growth of high density mixed-use development, and more traffic congestion will challenge the department's ability to maintain response times to all emergency incidents. To address this critical challenge, the FRD Planning Section is pursuing multiple strategies such as expanding existing fire stations with additional resources, building infill fire stations in densely-populated urban areas of the county, and implementing emergency vehicle traffic preemption along major travel corridors.

Benefits

The benefit of the BSB is to manage the business operations of the FRD and provide leadership to the organization in order to ensure that field operations have the resources and facilities needed to respond to all emergency and non-emergency calls from the residents, businesses, and visitors in Fairfax County.

Planning Section staff are uniquely qualified with FRD knowledge and expertise to ensure the agency can address the changing environment and meet future service demands by determining how emergency resources can be geographically located to optimize service delivery to the residents, employees, and visitors throughout Fairfax County. Furthermore, the FRD Planning Section develops the agency's Five Year Strategic Plan which provides a measurable and comprehensive roadmap to guide personnel, elected officials, and county residents in improving and maintaining fire, rescue, and emergency medical service delivery as well as to "Prevent the 911 Call". The FRD is a large metropolitan agency that must continue to plan for changing service demands from the more than one million county residents and over 500,000 people who work in the County and /or pass through its boundaries.

Fire and Rescue Department

The Planning Section contributes to exercising corporate stewardship by actively initiating, pursuing, and negotiating developer proffers for Fire and Rescue facilities and critical infrastructure to support future residential and commercial development in Fairfax County. The FRD Planning Section representative is the only voice at the developer negotiation table to advocate for essential Fire and Rescue facilities and resources. As a result, two new fire stations and traffic preemption equipment for many major intersections which will improve response times to emergency incidents have been successfully negotiated. These public safety proffers funded by various developers supplement the county's funding sources that are needed for public safety facilities, resources, and infrastructure to support future growth in Fairfax County.

In support of building livable spaces, the FRD Planning Section coordinates the department's Capital Improvement Program (CIP), oversees design and construction of new fire and rescue stations, and renovation of existing fire and rescue stations to insure the department's operational needs are met. All new stations are constructed to blend with the community in which they are built and to meet Leadership in Energy and Environmental Design (LEED) certification standards. LEED certified buildings save money and resources and have a positive impact on the health of occupants, while promoting renewable, clean energy. The FRD Strategic Planner works with partner agencies to meet these standards while ensuring the facility function meets the operational needs and capacity to maintain superior emergency response over the lifetime of these facilities.

FRD Planning Section's goals are to ensure new and renovated fire stations provide women's facilities to allow all personnel equal opportunities to work at any fire station in the county; and have capacity to add specialized apparatus to keep pace with the changing response environment and meet future demands for emergency services throughout the county. In addition, Planning Section staff leverage their public safety professional network and research best practices to incorporate innovative technologies into fire station design which will improve emergency response times, and provide a healthy and safe environment for responders.

Mandates

This Line of Business is not mandated.

Trends and Challenges

As Fairfax County evolves from a suburban community into a densely populated urban County with rapidly developing business centers, the future demand for fire and rescue services will evolve as well. It is critical that the FRD continues to address the changing operational environment and strategically plan for future increasing demands for services from the expanding community.

A significant challenge for the department is the aging infrastructure throughout Fairfax County. Many fire stations were built in the 1960's-1970's and need to be renovated, expanded, or rebuilt to address current FRD operational requirements and to replace major building systems that have far exceeded their intended life cycles. Fire stations need to be modernized to have flexibility and capacity to add personnel and apparatus to keep pace with the changing response environment and meet future demand for services. Specifically, several fire stations need larger bays to provide space for modern emergency apparatus, additional bunkrooms and locker facilities to accommodate both male and female personnel, and space for station management and operations support functions.

Existing fire stations are located throughout the County based on a suburban model with large response coverage areas for each fire station (station fires due.) Increasing population, rapid growth of high density development and more traffic congestion will challenge FRD's ability to maintain response times to emergency incidents. To address this challenge, the FRD is pursuing multiple strategies such as expanding existing fire stations with additional resources, building infill fire stations in urban areas, and implementing emergency vehicle preemption along major travel corridors of the County.

Fire and Rescue Department

Resources

| Category | FY 2014 Actual | FY 2015 Actual | FY 2016 Adopted |
|--|------------------|------------------|------------------|
| LOB #225: Business Services Bureau / Planning | | | |
| FUNDING | | | |
| <u>Expenditures:</u> | | | |
| Compensation | \$547,690 | \$560,637 | \$481,311 |
| Operating Expenses | 37,587 | 34,592 | 16,643 |
| Total Expenditures | \$585,277 | \$595,229 | \$497,954 |
| General Fund Revenue | \$6,000 | \$12,550 | \$0 |
| Net Cost/(Savings) to General Fund | \$579,277 | \$582,679 | \$497,954 |
| POSITIONS | | | |
| Authorized Positions/Full-Time Equivalents (FTEs) | | | |
| <u>Positions:</u> | | | |
| Regular | 5 / 5 | 5 / 5 | 5 / 5 |
| Total Positions | 5 / 5 | 5 / 5 | 5 / 5 |

Fire and Rescue Department

Metrics

| Metric Indicator | FY 2013 Actual | FY 2014 Actual | FY 2015 Actual | FY 2016 Estimate | FY 2017 Estimate |
|---|-------------------|-------------------|-------------------|---------------------|---------------------|
| Percentage of FRD facilities meeting accommodations for a diverse workforce | 58% | 58% | 63% | 63% | 66% |
| Percentage of strategic initiatives completed/implemented in the FY2014-FY2018 Strategic Plan | NA | 30% | 60% | 70% | 80% |

The Fire and Rescue Department delivers fire, rescue, and emergency medical services from 38 fire stations strategically located throughout Fairfax County. Many fire stations were constructed 30-40 years ago and do not meet current and future operational needs such as providing adequate female living space to include bunkrooms, lockers, and bathroom facilities. The department established a goal that fire stations have accommodations for women to meet 50 percent of each station's minimum staffing level to ensure uniform personnel (men and women) have equal opportunities to work at all fire stations in the County.

This metric measures the number of fire stations that currently meet and are anticipated to meet the department's goal which will be achieved through planning and implementation of the County's Capital Improvement Program.

The Fire and Rescue Department developed the FY2014-FY2018 Strategic Plan to provide a comprehensive five year roadmap to maintain and improve the fire, rescue, and emergency medical service delivery to the residents and visitors of Fairfax County. The strategic plan identifies numerous strategic priorities such as "preventing the 911 call", staffing, health and safety, emergency medical services, training, response times and operational readiness, apparatus, equipment and facilities, volunteer initiatives, information technology, community outreach, organizational communications, and Insurance Services Offices (ISO) evaluation. Each of these strategic priorities include specific initiatives to accomplish within a five year period.

A Strategic Plan Scorecard was developed to measure completion and implementation of the 83 strategic initiatives included in the five year plan. The scorecard is updated bi-annually by Division/Section heads and reviewed by the Fire Chief and Senior Staff members. The numbers reflect the percent of strategic initiatives completed and implemented each year.

Fire and Rescue Department

LOB #226:

COMMUNICATIONS AND INFORMATION TECHNOLOGY

Purpose

The *Communications Section* provides communication equipment and support to all firefighters, paramedics, and FRD staff. This section provides oversight of all radios, MCTs, and related equipment as well as tactical on-scene communications support to the Operations Bureau. The Communications Section also provides coordination with other local governments, County agencies, and hospitals to ensure that radio communication is reliable and the regional CAD2CAD coordination is maintained. In an effort to provide true interoperability, this section maintains the National Capital Region's and the Commonwealth of Virginia's Northern Virginia Radio Cache, providing program oversight, maintenance, and deployment of over 1,000 radios and related equipment. In addition, the Communications Section provides technical and operational assistance to the emergency dispatchers at the Department of Public Safety's (DPSC) Public Safety Communications Center (PSCC) by having a Uniformed Fire Officer (UFO) on duty at PSCC on a 24-hour basis. This officer is responsible for ensuring that apparatus for emergency incidents are dispatched appropriately, and that the remaining resources are allocated effectively to maintain adequate Countywide coverage. The section includes personnel assigned to coordinate the joint FRD and Department of Public Safety Communications Emergency Medical Dispatch Program, Computer Aided Dispatch, and Mobile Tactical Information Systems.

The *Information Technology Section* is responsible for the department's incident information management systems, application development and support, supplying statistical data, and making recommendations to improve the overall management of the department through retrieval and analysis of collected data. The section is also responsible for installing, supporting, providing redundancy and back-up for multiple enterprise system platforms located on 24 servers and for installing, operating, and maintaining over 850 workstations and associated peripheral equipment owned by the department at 45 work locations.

Description

The Communications Section has three branches that perform various duties and functions:

Computer Aided Dispatch (CAD) Branch

CAD Officer

Develops and maintains all Fire and Rescue components and databases of the Computer Aided Dispatch (CAD) system, including, but not limited to, Unit Type, Units, Capabilities, Personnel, Response Areas, Run Card Assignments, Response Plans, and Event Types maintains and ensures functionality of all CAD system components and interfaces, including the 800 MHz radio system "Push-to-talk" and "Emergency Activation" IDs, Automatic Vehicle Location, Fire Station Alerting, Automatic Move-up Recommendation System, and Pictometry. The CAD management team, provides insight pertaining to Fire and Rescue methods and operations in order to properly plan for future CAD system updates, and coordinates functional testing for software or operational changes. Provides Senior Operations staff with CAD "subject-matter expertise" in response to proposed changes in operational policies and procedures for CAD system use by Fire and Rescue personnel. The CAD Branch provides initial and continuing training to all Fire and Rescue personnel on proper utilization of the CAD system, meets with vendors to become familiar with new products and assess their suitability for departmental applications. This Branch evaluates new communications and information technology equipment and procedures, recommending changes to improve performance or efficiency. In addition, the Branch participates in regional CAD interoperability initiatives; assists the Communications Battalion Chief with inter-jurisdictional coordination; coordinates purchasing, through Resource Management, of all field communications equipment for the department; and maintains and/or obtains current pricing information on all communications equipment. The CAD Branch also responds to emergency incidents to provide communications assistance.

Fire and Rescue Department

McConnell Public Safety and Transportation Operations Center (MPSTOC) Branch Uniformed Fire Officer (UFO)

The UFO operates in conjunction with DPSC staff supervising the Fire Dispatch Area at the Department of Public Safety Communications Center (PSCC); maintains a good working relationship with the Operations Deputies and Battalion Management teams; analyzes significant event information and relays important information to the on-duty Operations Deputy and Staff Duty Officer; determines the correct Fire Department response to an emergency event or reported hazardous situation that is called into the public safety answering point; solves coverage deficiencies by analyzing current event types and initiating appropriate equipment moves to ensure that there are sufficient fire and EMS resources to handle other emergency events throughout the County; provides technical assistance to Operations Personnel on dispatch algorithms and response plans; provides technical advice to DPSC staff, to include emergency equipment response recommendations and resource deployment; and provide technical advice to call takers.

Using current notification software and products, the UFO initiates notifications to appropriate staff as dictated by established procedure; tracks the progress of various emergency events; and enters events called into the center that are referred to him/her for decision. The UFO also develops and administers continuing education for newly recruited and existing fire dispatchers, as well as Relief UFOs. When necessary the UFO may function as a relief dispatch supervisor in the capacity of the UFO at the Alternate Emergency Operations Center or function as a relief dispatch supervisor in the capacity of the UFO at the Alternate Public Safety Communications Center. Coordinates with DPSC Shift Supervisor to maintain operational readiness of all personnel assigned to the Fire Dispatch Area at the Public Safety and Transportation Center (PSTOC) and with other PSTOC agency personnel to resolve issues involving multiple agencies.

Field Communications Branch Field Communications Officer

The Field Communications Officer manages the Communications Section's tactical components and interoperable communications services; provides management oversight for the Communications Support Unit (CSU) program; and assists with the operation of the Mobile Command units. This officer manages and coordinates all projects and proposed enhancements to current communications systems; evaluates existing communications equipment and procedures, recommending changes to improve performance or efficiency. The Field Communications Officer responds to emergency incidents to provide communications assistance to command staff; supervises assigned Field Communications Lieutenant(s) and oversees the first-level support and maintenance for portable and mobile radios. This Lieutenant drafts policies and procedures for communications system use by Fire and Rescue Department personnel and provides initial and continuing training to all Fire and Rescue Department personnel on proper utilization of communications systems. To become familiar with emerging technology and products, and assess their suitability for departmental applications, the Field Communications Officer meets with vendors. To assist the Communications Section Battalion Chief with inter-jurisdictional coordination, regularly participates in regional communications interoperability initiatives. In collaboration with Resource Management, this position coordinates purchasing all field communications equipment for the department and maintains and/or obtains current pricing information on all communications equipment.

Information Technology Section

In addition to maintaining basic computer needs, the Information Technology Section is responsible for researching and testing emerging technologies and determining their practicality for day-to-day operations; documenting specific hardware and software needs to ensure applications and systems are current and supportable; maintaining and updating the department's Intranet which is comprised of over 80 business applications used for day-to-day operations; and, ensuring mobile command and communication vehicles are equipped with the latest technologies to provide the best mobile command centers for field operations

This section processes all requests for copies of incident reports, surveys, and special reports, as well as statistical studies on department operations (requests made through the Freedom of Information Act.) This section also manages the Geographic Information Systems which establish fire response areas and units required for areas of coverage on various types of incidents; prepares and prints maps for day-to-day operational needs, as well as for specific large scale incidents and disaster planning. The Geographic Information Systems support the Urban Search and Rescue Virginia Task Force 1 by providing 24 hour support for mapping and imagery needs during a deployment. The Information Technology Section

Fire and Rescue Department

manages the security procedures set forth by the owners/operators of the respective enterprise systems. In addition, the section is involved in the design, development, implementation, and operation of applications for the microcomputer and local area network (LAN)-based systems.

Benefits

The Communications MPSTOC Branch works closely with the Department of Public Safety Communications and provides collaborative policy development and implementation management for Fire and Rescue dispatch operations. The Branch investigates all service-delivery inquiries, maintains staffing and training programs that enable the Uniformed Fire Officers to provide the highest state of readiness and capabilities to support the Fire and Rescue Department's operations.

The Field Communications Branch provides the equipment, interoperability, and technical services support to the Fire and Rescue Department. The Communications Support activities of the section provide the first-level communications support, and maintenance for over 1,500 portable and mobile radios, and apparatus communications systems.

The Computer Aided Dispatch (CAD) Systems Branch is responsible for the administration and management of the agency's components of the Public Safety CAD system. The CAD officers are also responsible for project administration and management functions for communications related projects such as technology programs. Under the general supervision of the Communications Section Battalion Chief, the CAD Systems Officers work closely with the other public safety agencies and jurisdictions to ensure functional and interoperable communications programs.

Given the aforementioned details of each branch within the Communications Section, the primary benefit is the true interoperability capabilities of the department and the ability to communicate with other agencies within Fairfax County Government such as Police and Sheriff. In addition, the interoperability allows for seamless emergency response throughout the National Capitol Region, such as having the ability to communicate to other Fire and Rescue Departments to include but not limited to: Alexandria City, Arlington County, Metropolitan Washington Airport Authority, Montgomery County Maryland, Loudoun County and Prince William County.

Since computerized systems are so widely used in the business world and fast transmittal of information is critical to emergency response, robust information technology systems are of great value to FRD. The Information Technology Section benefits the agency by allowing the department to work more efficiently and to maximize productivity. Faster communication and useful computer applications maximize efficiency, allowing staff to do more work in a shorter amount of time.

Electronic storage and record security is vital to safeguarding department initiatives requiring the protection of valuable records, securing patient records and restricting access to sensitive records. Dedicated staff within the department constantly monitor application access to both ensure the integrity of electronic security while also ensuring staff have access to all the tools needed to perform their duties.

Due to the 24-hour nature of emergency response and the criticality of having effective, working information technology tools, it is vital that the department have a dedicated IT Section to support emergency response needs.

Mandates

This Line of Business is not mandated.

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Trends and Challenges

FRD operates in an environment driven more each day by technology. Technological advances in communications and computing devices challenge the ability of the department to keep pace with improvements to ensure personnel have the safest and most appropriate equipment to perform emergency response duties.

Interoperability among public safety partners is an important federal and state initiative. Whereas the first iterations of interoperability, immediately after 9/11, focused on voice communications between first responders, the scope now includes emergency management, mass transit and other critical infrastructure entities. Interoperability and information sharing seeks to integrate video, data, voice communications, and encryption capabilities. The expanding scope and increasingly advanced equipment necessary to meet interoperability requirements require dedicated research and development capability in addition to training resources to remain on the forefront of emergency service delivery.

Integration of data from Computer Aided Dispatch (CAD), incident and patient care reporting systems, continue to evolve in the realm of emergency preparedness. FRD must develop more capacity to further leverage Geographic Information Systems (GIS) capabilities in order to identify trends and forecast for the future. The recent collaboration of public safety, emergency management, and Department of Information Technology in the development of the emergency data gathering repository (EDGR) system to bring real time situational awareness to the Emergency Operations Center and leadership of the County is an example of the continued evolution and growing scope of interoperability.

Internal communications among all department members and volunteers located at the 45 work locations throughout Fairfax County is a significant challenge. To keep personnel informed in a timely, effective manner a department wide communications strategy is critical. The department must embark on assessing existing inter and intra departmental communication methods and analyze alternate strategies for disseminating and receiving information as well as electronic storage of information.

Resources

| Category | FY 2014 Actual | FY 2015 Actual | FY 2016 Adopted |
|--|--------------------|--------------------|--------------------|
| LOB #226: Communications and Information Technology | | | |
| FUNDING | | | |
| <u>Expenditures:</u> | | | |
| Compensation | \$2,394,809 | \$2,433,334 | \$2,485,355 |
| Operating Expenses | 1,806,427 | 1,681,189 | 1,977,858 |
| Capital Equipment | 90,645 | 133,463 | 0 |
| Total Expenditures | \$4,291,881 | \$4,247,986 | \$4,463,213 |
| General Fund Revenue | \$1,459 | \$1,422 | \$0 |
| Net Cost/(Savings) to General Fund | \$4,290,422 | \$4,246,564 | \$4,463,213 |
| POSITIONS | | | |
| Authorized Positions/Full-Time Equivalents (FTEs) | | | |
| <u>Positions:</u> | | | |
| Regular | 24 / 24 | 24 / 24 | 24 / 24 |
| Total Positions | 24 / 24 | 24 / 24 | 24 / 24 |

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Metrics

| Metric Indicator | FY 2013 Actual | FY 2014 Actual | FY 2015 Actual | FY 2016 Estimate | FY 2017 Estimate |
|--|-------------------|-------------------|-------------------|---------------------|---------------------|
| PC Replacement's deployed annually | 112 | 100 | 162 | 165 | 168 |
| Number of Information Technology Requests for Service (INFRA Requests) | 3,400 | 3,309 | 3,332 | 3,500 | 3,600 |
| IT call support for the electronic patient care reporting system (ePCRS) | 250 | 206 | 207 | 275 | 300 |
| Communications request for support and services | 912 | 818 | 648 | 826 | 834 |
| Number of incidents monitored by the Uniform Fire Officer (UFO) | 90,205 | 91,308 | 95,364 | 95,000 | 95,000 |

The FRD annually receives laptop and desktop computing systems as part of the Department of Information Technology (DIT) centralized PC replacement program. The number of replacement units will continue to increase as a result of department growth. The IT Section's goal is to replace aging units with replacements within three months of receiving the new systems. This ensures employees will not be hindered by outdated technology. In 2015 there was a significant increase due to a collaborative effort between DIT and County agencies to ensure all PC's were accurately accounted for and included in the replacement schedule, resulting in additional units included for FRD.

With the continuing integration of technology in support of the agencies service delivery model (Fire Records Management System, Fairfax Inspections Database Online, and Patient Tracking) the demands for IT support continue to grow. Requests for service are in addition to routine IT requests for hardware and software support and are expected to continue to increase. The goal is to contact a customer within one business day, Monday through Friday. Requests for support can vary as a result of system availability to comply with legal requirements for reporting of patient care (*VAOEMS reporting 12VACS-31-560, Fairfax County Code for EMS Billing Section 4-26.1*) to fire investigation incident reports (*NFPA 901*).

The electronic patient care reporting system (ePCRS) provides two critical components for FRD reporting. The completion of a patient care reports is required by Virginia State Code (*12VACS-31-560 and 12VACS-31-1140*). *12VACS-31-560* defines when a patient care report will be completed and what information is required while *12VACS-31-1140* mandates a copy of the patient care report must be provided within twelve hours to a receiving hospital. Additionally the ePCRS provides the documentation supporting EMS billing which generated over \$17 million dollars in revenue during FY 2015. This system must be available 24/7. With an upcoming transition to a web based system, service calls for assistance and support are anticipated to increase.

The Field Communications Branch provides services to FRD including: mobile and portable radio repair, mobile and portable radio parts repair, communication headset repair, and radio programming/reprogramming requests. Request for communications support services are submitted through a communications E-Form. The goal is to respond to the requestor within 24 hours and provide a response within 48 hours. Requests are expected to increase moderately as a result of department growth.

The Uniform Fire Officer Position (UFO) operates in conjunction with Department of Public Safety Communications (DPSC) staff supervising the fire dispatch area at the Department of Public Safety Communications Center (DSCC). The UFO position analyzes all dispatched events and information pertaining to the events. By reviewing and analyzing each event, the UFO determines the correct Fire Department response to all emergency events, which are called into the communications center. The Uniform Fire Officer serves as a liaison and subject matter expert for the Fire Department and DPSC personnel.

Fire and Rescue Department

LOB #227:

PURCHASING AND LOGISTICS

Purpose

The Fire and Rescue Department performs specific purchasing and logistics functions to ensure personnel have the supplies and equipment necessary to respond to emergency incidents while employing tools and equipment that provide the highest level of performance and protection for responders.

To ensure technical specifications and interoperability requirements of fire and EMS equipment are met the Purchasing Section collaborates closely with FRD subject matter experts, and the Department of Procurement and Material Management (DPMM) to ensure contracts are in place to purchase the correct supplies and equipment at the best possible price.

To maintain the ability to provide emergency response, timely procurement, distribution, maintenance, and management of expendable and accountable property are critical. The Purchasing and Logistics Sections work in tandem to ensure adequate inventories, distribution plans, and contracts to procure supplies are in place.

The Logistics Sections mission is to ensure personal protective clothing, self-contained breathing apparatus, and hazardous atmospheric monitors receive the proper and timely mandated inspections and maintenance in order the meet performance and standard requirements.

Description

The Purchasing and Accounts Payable Section provides purchasing and contract management support for the acquisition of goods and services for FRD. Staff utilizes the FOCUS system in accordance with established County policies and procedures to process an average of 13,343 purchases per year. This section is also responsible for all accounts payable functions including processing an average of 5,161 payments per year. The Purchasing Section works closely with DPMM to develop specifications and Requests for Proposals (RFPs) for specialized firefighting and rescue equipment.

The Resource Management/Logistics Section provides support for personnel through the purchase and maintenance of uniforms, personal protective equipment (PPE), fire station supplies, and facility maintenance. This section ensures each firefighter/EMT is issued appropriate breathing apparatus and PPE, and guarantees it is maintained in accordance with standards set by the Occupational Safety and Health Administration (OSHA), National Institute of Occupational Safety and Health (NIOSH), and the American National Standards Institute (ANSI). In addition, the Resource Management Section coordinates the repair, renovation, and the implementation and monitoring of facility maintenance contracts for all FRD facilities. Staff responds to emergency incidents to provide necessary supplies and consumable commodities for sustained field operations and for the prompt restocking of station supplies. The Logistics Distribution Center (LDC) which encompasses the Personal Protective Equipment Center, Self-Contained Breathing Apparatus (SCBA) Shop, Meter Shop and the Logistics Warehouse as well as the FRD's General Store is managed by this section.

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Benefits

The Purchasing and Logistics functions within the Fire and Rescue Department enhances the service delivery outcomes for the following reasons:

Criticality - Timely procurement, distribution, maintenance, and management of both expendable and accountable property allow the department to maintain its ability to provide emergency response by keeping the primary service providers properly equipped and timely re-supply.

Technical Specifications/Interoperability Requirements - Much of fire and EMS equipment have highly technical specifications and complicated interoperability and implementation requirements. The section bridges the gap between responders and County purchasing to develop detailed functional requirements and equipment specifications for equipment purchase.

Standards and Performance Requirements - Personal protective clothing, SCBA, and hazardous atmospheric monitors require standards-mandated inspections and maintenance. Without this maintenance, the equipment would not be serviceable, placing first responders at risk and potentially subjecting the County to fines and litigation.

Mandates

Monthly Calibration of Atmospheric Gas Meters

Federal OSHA 1910-120,146,269. 1926.65, Meter Manufactures recommendations, NFPA 1500

Annual Testing of SCBA Air packs and Regulators

Federal OSHA 1910.134; DOT 49 CFR 171-179; 14 CFR part 103; CGA -C-6-1968, C-8-1962, C-6.2 -2003; NFPA 1981, 1500, 1989, 1404

Breathing Air Compressor Testing, Maintenance and Repairs

Federal 29 CFR 1910.134; DOT 49 CFR 171-179; NFPA 1500, 1981, 1404, 1989

Inspection, Care, and Maintenance of Personal Protective Equipment

National Fire Protection Association NFPA 1951, NFPA 1953

Trends and Challenges

The Fire and Rescue Purchasing and Accounts Payable Branch manages all acquisitions by the department and relies heavily on the County's automated accounting systems and procurement cards (P-card) to perform its functions. The implementation of FOCUS drastically shifted workload challenging the section to develop strategies to adapt and transition to new methods of doing day-today tasks. FRD increased its distribution of P-cards to facilitate faster purchasing turn-around at the end-user level. With this shift in how the department conducts business it is apparent that efforts, once heavily loaded in creating purchase orders, have shifted. With increased P-card usage, the back-end accounting and reconciliation workload for P-cards has increased.

Due to increased awareness of the possible cancer-causing contaminants remaining in firefighting gear after responding to fires and other incidents where hazardous or biological substances are encountered, the department has experienced an increase in the number of "out-of-cycle" cleanings required to keep members in safe gear. Logistics struggles to keep pace with increased demand within the confines of limited physical-space capacity.

Fire and Rescue Department

Resources

| Category | FY 2014 Actual | FY 2015 Actual | FY 2016 Adopted |
|--|--------------------|--------------------|--------------------|
| LOB #227: Purchasing and Logistics | | | |
| FUNDING | | | |
| <u>Expenditures:</u> | | | |
| Compensation | \$1,348,803 | \$1,402,727 | \$1,258,479 |
| Operating Expenses | 3,433,650 | 2,920,888 | 1,740,767 |
| Capital Equipment | 19,453 | 20,892 | 0 |
| Total Expenditures | \$4,801,906 | \$4,344,507 | \$2,999,246 |
| General Fund Revenue | \$2,280 | \$4,635 | \$0 |
| Net Cost/(Savings) to General Fund | \$4,799,626 | \$4,339,872 | \$2,999,246 |
| POSITIONS | | | |
| <i>Authorized Positions/Full-Time Equivalents (FTEs)</i> | | | |
| <u>Positions:</u> | | | |
| Regular | 21 / 21 | 21 / 21 | 21 / 21 |
| Total Positions | 21 / 21 | 21 / 21 | 21 / 21 |

Metrics

| Metric Indicator | FY 2013 Actual | FY 2014 Actual | FY 2015 Actual | FY 2016 Estimate | FY 2017 Estimate |
|--|-------------------|-------------------|-------------------|---------------------|---------------------|
| Purchase Requests Processed | 7,842 | 9,438 | 9,320 | 9,578 | 9,750 |
| Procurement Card Reconciliations | 680 | 850 | 794 | 800 | 825 |
| Hazardous Atmospheric Monitor Monthly Calibrations | NA | NA | 8,976 | 8,976 | 9,000 |
| Personal Protective Equipment Cleanings | 3,474 | 3,851 | 3,610 | 3,900 | 4,055 |
| Asset Repair Requests | 3,412 | 3,346 | 3,328 | 3,400 | 3,500 |

The Fire and Rescue Purchasing and Accounts Payable Branch manage all acquisitions by the department. Converting a purchase request from internal FRD customers, to a legal order of goods or services takes a varying amount of staff time and is dependent on the complexity of the order. Therefore a baseline of total counts is the best data available and a staffing cost per order can be derived, although a variable percentage. Numbers are expected to increase slightly as a result of moderate budget growth.

The Fire and Rescue Department has increased its distribution of P-cards to facilitate faster purchasing turn-around at the end-user level. With this increase, coupled with an increase use of special-use cards, the back-end accounting and reconciliation workload for P-card has increased. Numbers are expected to increase slightly as a result of moderate p-card growth.

All hazardous atmospheric monitors must be calibrated monthly to ensure emergency responders are not falsely operating in a hazardous environment if their meters read safe. To accomplish this task, and maintain maximum operational readiness, the Meter Shop business unit personnel conduct on-site fire station calibrations and only transport equipment needing repair back to the shop for service. Numbers will continue to increase as department staffing increases.

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National Fire Protection Standards determine the specific inspections and cleaning intervals currently set at a minimum of annually. Due to increased awareness of the possible cancer-causing contaminants remaining in firefighting gear, the department has experienced an increase in the number of “out-of-cycle” cleanings required to keep members in safe gear. Tracking the total number of garment cleanings is critical to planning due to the department nearing the limit of physical-space operational capacity. Numbers will continue to increase as department staffing increases.

An asset repair consists of transporting damaged/broken equipment to the LDC, coordinating its repair or estimate from an off-site vendor, determining whether to repair/replace based on equipment age and repair estimate, authorizing repair or initiating the purchase request, receiving repaired or new equipment, inventory and distribution back to fire station. The staff and administrative time to track these resources as they move through this system is overwhelming and the need for technological support is required to increase efficiencies and enable better repair/replace decisions.

Fire and Rescue Department

LOB #228:

APPARATUS

Purpose

The Apparatus Section is responsible for apparatus, acquisition, repair, maintenance, research and overall administrative oversight of the agency's 520 plus vehicles. The department operates two maintenance and repair facilities – West Ox Facility (North Apparatus) and Newington Facility (South Apparatus) where routine and emergency repairs are performed. This section coordinates and facilitates apparatus repairs for the 12 volunteer fire companies, repairs breathing air compressors and coordinates accident vehicle claims.

Description

The Apparatus Captain II, assisted by a Lieutenant, Vehicle Coordinator and Administrative Assistant III manage the day-to day duties and long-term initiatives of the Apparatus Section to ensure the men and women of the Fire and Rescue Department have the required equipment and apparatus to effectively fulfill their emergency response mission.

This section has managerial oversight of the West Ox (North and Newington (South Apparatus) repair and maintenance facilities. Each facility is over 19,000 square feet and configured to house four repair bays, eight storage bays, several heavy duty vehicles lifts and an automotive parts storage area. West Ox (North Apparatus) facility serves as the reserve apparatus hub ensuring there is an adequate fleet of emergency response apparatus in a constant state of operational readiness to be placed in service when a frontline unit is out of commission for repairs or routine maintenance. Newington (South Apparatus) incorporates a pump test facility to certify fire apparatus with water pumping capability of 250 gallons per minute (GPM) or larger capacity to meet National Fire Protection Association (NFPA) 1901 Class A Pump rating test and Insurance Services Office (ISO) requirements for annual pump or service tests. Each facility is staffed by a Facility Supervisor, five Apparatus Mechanics, one Parts Specialist, and one Reserve Apparatus Coordinator.

It should be noted that the County's Department of Vehicle Services (DVS) is responsible for vehicle-related maintenance (engine, transmission, brakes, steering, tires, windshields, sirens, etc.), and the FRD Apparatus section is responsible for the equipment on that specific vehicle to function properly for the incident (ladders, pumps, oxygen machines, and all specialized equipment such as saws and axes). A large component of the section's responsibility is to accurately track and coordinate this work and consistently inspect the department's fleet, ensuring each vehicle remains reliable and safe at all times. Given FRD operates 24/7/365, this task is highly complicated, requiring coordination with fire station personnel, DVS, Risk Management, vendors, and the County's Radio Shop. To ensure emergency repairs are facilitated immediately, on-call personnel are on duty 24 hours per day supplying reserve vehicles or coordinating emergency repairs so the department remains operationally ready to respond to the community's emergency and non-emergency needs.

To enhance the delivery of emergency services, the section performs research on emerging trends and products as well as keeping abreast of new laws, safety recommendations and requirements regarding emergency response apparatus. Specifications for replacement apparatus are constantly reviewed, modified and developed to ensure new vehicles are the safest, most efficient and meet the needs of the response environment at the best possible price.

Fire and Rescue Department

Benefits

This LOB benefits the community and the department as it ensures apparatus is in prime condition to protect the safety of responders and the community, ensures existing apparatus meets all current safety standards, is in peak mechanical condition, new apparatus specifications meet the needs of the response environment, and are acquired at the best possible price.

Through detailed and methodical data collection and analysis, the Apparatus Section can determine the costs to operate apparatus, utilize information collected in the development and update of specifications for replacement apparatus, ensure existing vehicles are operationally ready and new vehicles purchased are of the highest quality. Data such as out of service time, mileage, fuel usage, repair logs, parts and repair costs are all tracked. The analysis of this data allows the Apparatus Section to develop estimates on costs of operating vehicles, detect patterns of failures indicating mechanical defects and to determine if reoccurring malfunctions warrant early removal from service due to exorbitant repair costs or safety reasons. By monitoring work orders the Apparatus staff is able to efficiently manage workloads by distributing jobs evenly between the two maintenance facilities to expedite repairs.

By performing repairs in-house the department uses County's funds responsibly. If repairs were outsourced, estimates indicate costs could double or triple. Furthermore, managing work in-house allows FRD to minimize delays in emergency response vehicles returning to service. Specialized FRD apparatus mechanics perform and closely supervise all repairs on department apparatus ensuring repairs and maintenance meet the FRD's high quality standards. FRD would be unable to manage workflow or guarantee timely remediation of malfunctions if such functions were outsourced.

Performing preventive maintenance not only helps extend service life but also ensures apparatus is in peak working order, thus maintaining a safe working environment for personnel and providing equipment ready to respond to emergencies when needed. Certain tests and certifications, in particular, annual fire apparatus water pump testing is an important component in how the County's safety is measured. Each year pumps must be certified that they meet NFPA standard 1901 Class A Pump rating test and ISO requirements for annual pump and/or service test. ISO is an independent company that provides risk assessment services. ISO's Fire Suppression Rating Schedule (FSRS), which includes standards set by the NFPA, evaluates four primary categories of fire suppression - fire department, emergency communications, water supply, and community risk reduction to rate how effectively communities are prepared to fight fire. ISO has given Fairfax County a Public Protection Classification (PPC) of O1/1Y, the highest rating in the Commonwealth of Virginia. The annual testing and certification of pumps is integral to maintaining the County's excellent rating and may be beneficial in allowing the insurance industry to set more favorable rates for Fairfax County residents insuring property.

Apparatus staff maintain a leadership role in local, regional and national efforts to develop innovative technologies and equipment to improve emergency service delivery. In depth analysis of collected data, extensive hands on experience, collaboration with industry leaders, research of best practices, evaluation of new technology, and excellent maintenance and repair services are essential to ensuring FRD has the emergency apparatus to perform their duties, and protect the lives and property of the community.

Mandates

- Virginia State Laws and Codes
- National Institute for Occupational Safety and Health (NIOSH)
- Environmental Protection Agency standards
- NFPA 1901(Class A Pump Rating Test) - Engines and Tankers
- Insurance Service Office, Inc., Fire Suppression Rating Schedule (FSRS) and evaluation
- GSA purchasing specifications (Triple K)

Fire and Rescue Department

Trends and Challenges

Fire apparatus is the most expensive single item purchased by the FRD and the price of apparatus continues to rise dramatically as a result of increasing emissions standards, safety regulations and material costs.

In an effort to minimize the impact of rising costs, the FRD has identified multiple strategies including eliminating several nonessential items from fire apparatus, reevaluating operational needs when replacing vehicles to result in savings, as well as extending lifecycles of some vehicles from 12 to 14 years. However, savings as a result of these initiatives have not been substantial enough to offset the rate of increase placing a strain on the vehicle replacement reserves.

Further compounding diminishing apparatus reserve funding is the volunteer fire departments inability to continue to fund many of the department's front line vehicles. Of the 106 front-line vehicles career FRD staff operates daily for emergency response 35 are owned by volunteer companies. These vehicles are not additional or extras, they are operated 24-hours a day/7 days a week with career personnel as part of the minimum staffing calculation. Without these vehicles, FRD does not have the apparatus available to provide the current level of emergency response coverage throughout the County resulting in FRD purchasing apparatus traditionally funding by volunteer fire departments.

Without additional funding, vehicle replacement reserves will be depleted in the next several years limiting the ability to replace fire apparatus.

Resources

| Category | FY 2014 Actual | FY 2015 Actual | FY 2016 Adopted |
|---|--------------------|--------------------|--------------------|
| LOB #228: Apparatus | | | |
| FUNDING | | | |
| <u>Expenditures:</u> | | | |
| Compensation | \$1,341,952 | \$1,403,794 | \$1,499,529 |
| Operating Expenses | 1,069,976 | 871,036 | 715,834 |
| Capital Equipment | 66,158 | 91,781 | 42,000 |
| Total Expenditures | \$2,478,086 | \$2,366,611 | \$2,257,363 |
| General Fund Revenue | \$0 | \$0 | \$0 |
| Net Cost/(Savings) to General Fund | \$2,478,086 | \$2,366,611 | \$2,257,363 |
| POSITIONS | | | |
| Authorized Positions/Full-Time Equivalents (FTEs) | | | |
| <u>Positions:</u> | | | |
| Regular | 17 / 17 | 17 / 17 | 17 / 17 |
| Total Positions | 17 / 17 | 17 / 17 | 17 / 17 |

Fire and Rescue Department

Metrics

| Metric Indicator | FY 2013 Actual | FY 2014 Actual | FY 2015 Actual | FY 2016 Estimate | FY 2017 Estimate |
|---|-------------------|-------------------|-------------------|---------------------|---------------------|
| North Apparatus Work Orders | 240 | 353 | 314 | 320 | 326 |
| South Apparatus Work Orders | 369 | 940 | 920 | 938 | 957 |
| New Apparatus | 8 | 11 | 8 | 8 | 9 |
| Number of engines and tankers Pump Tested | 19 | 49 | 47 | 50 | 50 |

As noted earlier, the County's Department of Vehicle Services (DVS) is responsible for vehicle-related maintenance that gets the fire apparatus from point A to point B to fight the fire and the FRD Apparatus section is responsible for the equipment on that specific vehicle to function properly for the incident (ladders, pumps, oxygen machines, and all specialized equipment such as saws and axes). The Fire and Rescue department operates two apparatus repair facilities. Mechanics at each of the repair facilities maintain specialized certifications to provide maintenance and repair services to the specialized fire apparatus. Work orders are generated by the M5 system when request for repairs are made. Work orders include repairs on valves, pumps, generators, and hydraulics.

As the numbers reflect, there is an extremely heavy workload that fluctuates year to year based on the number of vehicles in the fleet, the age of the vehicles, and frequency of items breaking. As apparatus continue to become more technologically advanced it provides the opportunity for more items to break; it is anticipated as a result of this that work order repair requests will continue to increase.

The build out process of new apparatus is one of the most complicated and time consuming process the apparatus shops perform. Apparatus mechanics design and fabricate units for the specific equipment the units are required to carry. The specialized fabrication is not something the vendor will do and there is limited opportunity to outsource this fabrication as a result of the specialization. Numbers fluctuate based on the number of vehicles replaced annually.

Pump testing is an integral and vital part of apparatus safety and maintenance and maintains compliance with NPFA 1911, Standards for Service Test of Fire Pump Systems on Fire Apparatus. Fire pumps are used to ensure an adequate water supply by increasing pressure on fire suppression units. Testing standards vary from testing that must be completed weekly, monthly and annually. While some jurisdictions use an outside contractor to perform the annual flow test, most jurisdictions perform this work in-house because it is more economical to do so.

Fire and Rescue Department

LOB #229:

FIRE PREVENTION SERVICES

Purpose

Fire Prevention Services is responsible for the review of fire alarm, building, sprinkler, tank, range hood, site, and other types of engineering plans for compliance with the Uniform Statewide Building and Statewide Fire Prevention Codes and the Fairfax County Fire Prevention Code. Fire Marshal Plan Review staff provide code interpretations for the building industry and the general public. Service is provided to all developers, architects, engineers, owners, contractors, and designers, and the public at-large who submit plans for new construction, alterations, renovations, or modifications of sites, buildings, building tenants, and fire protection systems.

Description

By 1970, the Office of the Fire Marshal had review and approval authority for all site plans, subdivision rezoning, and sprinkler plans. In 1973, the County Executive directed the Fire Marshal's Office to review all construction plans with the exception of single-family dwellings. In August 1973, the Commonwealth of Virginia adopted the Virginia Uniform Statewide Building Code, which superseded all local building regulations throughout the Commonwealth, including the Fairfax County Building Code. Since that time, the Office of the Fire Marshal has been the agent of the Fairfax County Building Official for the review of construction plans and the inspection of fire protection and life safety features of all new construction except single-family dwellings.

County fire protection engineers review engineering drawings of fire protection systems (e.g., fire alarms, sprinkler systems, etc.) submitted to the County for review for new construction buildings and renovation of existing buildings to ensure compliance with established codes and standards. Staff also provides fire protection plan review services for certain types of plans submitted for the Town of Herndon.

Staff reviews over 25 discrete types of engineering plans for compliance with various codes and standards pertaining to fire protection. Staff reviews sprinkler, fire alarm, site, evacuation, high piled storage, door lock/storage, kitchen hood systems, above/underground tanks, foam, evacuation/lockdown and various types of public safety plans. Staff also provides fast track and walk through services for certain types of plans submitted for review that are eligible for expedited services. Services are provided Monday through Friday from 7:30 a.m. – 4:00 p.m. at the Burkholder Building located at 10700 Page Avenue in Fairfax and at the Monday through Friday from 8:00 a.m. – 4:00 p.m. at the Herrity Building.

Fire and Rescue Department

Benefits

This LOB ensures engineering drawings submitted to the County comply with the Uniform Statewide Building Code and the Fire Prevention Code and various industry standards (e.g., NFPA, etc.). Staff also reviews plans associated with installation of aboveground and underground fuel tanks, evacuation plans, high piled storage, and other miscellaneous public safety plans. Reviewing various plans submitted to ensure conformity to these various codes and standards ensures structures are constructed/modified in a safe manner, large events are conducted in a manner so crowds can be evacuated efficiently and safely in the event of an incident, and fuel tanks are installed in a manner to best protect the environment.

Another added benefit of having these systems constructed properly and having public safety plans in place to aid in the evacuation of large crowds is that it helps operational firefighters by having properly installed fire suppression systems to aid in the control and suppression of fires, warning systems and alarms to alert to the presence of fire and smoke, and to evacuate crowds so operational tactics can be focused on firefighting more quickly. This leads to lower life loss and lower fire loss in structures.

This LOB charges a fee for these services and has a BOS directed mandate to recover 90-100 percent of all direct costs associated with enforcing these codes.

Mandates

This LOB is mandated by Title 36-98 of the Code of Virginia which promulgates the Uniform Statewide Building Code. This service is mandatory under Virginia Code § 36-98 et seq. as well as Uniformed Statewide Building Code Section 105.2 and Virginia Code Title 27-97 Statewide Fire Prevention Code Section F-105.3 and then further adopted by Chapter 61-1-3 of the Fairfax County Code, Building Provisions and Chapter 62-2-6 of the Fairfax County Code, Fire Prevention.

Trends and Challenges

The Fire Prevention Services LOB involves engineering plan review and has a direct impact on economic development in the County and is an indicator for workload in the other Fire Marshall's Office LOB (Inspections and Fire Protection Systems).

Additional staffing has allowed this LOB to be more responsive to industry, by meeting with architects and engineers on large projects to discuss plan review comments, participate on large project teams to provide guidance where fire protection systems are concerned and to allow cross training of engineering staff so they can review multiple types of plans.

It is anticipated this LOB will continue to see modest growth in the area of engineering plans review submittals. It is anticipated the currently authorized staffing levels should be able to handle the number of plans submittals; however, the engineering plans complexity is increasing with more urban style development. Requests for phased-in construction/occupancy adds to complex life safety considerations and will require additional staff time to be devoted to evaluate code modification request submittals that may impact overall plan lag times. Additionally, more time will need to be devoted to staff familiarization and training as these types of plans come into the review process because this is a new style of development to the County. It is too early in the planning development cycle at this point to evaluate the full impact of the urban style development and submittal of plans for high-rises in excess of 20 stories on staff's ability to respond to workload demand.

Fire and Rescue Department

Resources

| Category | FY 2014 Actual | FY 2015 Actual | FY 2016 Adopted |
|---|--------------------|--------------------|--------------------|
| LOB #229: Fire Prevention Services | | | |
| FUNDING | | | |
| Expenditures: | | | |
| Compensation | \$2,569,548 | \$2,746,211 | \$1,969,635 |
| Operating Expenses | 229,333 | 267,390 | 567,954 |
| Total Expenditures | \$2,798,881 | \$3,031,596 | \$2,537,589 |
| General Fund Revenue | \$1,272,357 | \$1,697,863 | \$1,485,790 |
| Net Cost/(Savings) to General Fund | \$1,526,524 | \$1,333,733 | \$1,051,799 |
| POSITIONS | | | |
| Authorized Positions/Full-Time Equivalents (FTEs) | | | |
| Positions: | | | |
| Regular | 27 / 27 | 27 / 27 | 27 / 27 |
| Total Positions | 27 / 27 | 27 / 27 | 27 / 27 |

Metrics

| Metric Indicator | FY 2013 Actual | FY 2014 Actual | FY 2015 Actual | FY 2016 Estimate | FY 2017 Estimate |
|---|----------------|----------------|----------------|------------------|------------------|
| Number of engineering plans reviewed annually | 8,466 | 9,895 | 11,004 | 11,250 | 11,500 |
| Revenue generated for engineering plans review annually | \$803,048 | \$903,848 | \$1,304,391 | \$1,450,000 | \$1,600,000 |
| Percent of plans review costs recovered annually | 98.2% | 82.2% | 95.6% | 90.6% | 94.1% |
| Average number of plans per reviewer | 1,058 | 1,237 | 1,100 | 938 | 958 |

There has been a significant increase in the number of engineering plan reviews performed between FY 2013 – FY 2015. During FY 2013-FY 2014 there were well in excess of 200 plans on hand ultimately resulting in unacceptable lag time for plan review. The BOS authorized additional engineering staff in FY 2014 and FY 2015 for a total of 4 additional engineers, ultimately resulting in a more timely review of plans. The number of plans on hand currently remains under 100. Plan lag times vary drastically by the types of plans submitted (there are 27 different types of plan submitted for fire marshal review), the quality of plans submitted, and the number of times a plan has been submitted for review, so lag times cannot easily be used as a means of measure due to complexity.

Additional staffing has allowed this LOB to be more responsive to industry, and positively impacted the average number of plans per reviewer. It is anticipated this LOB will continue to see modest growth in the area of engineering plans review submittals.

Fire and Rescue Department

LOB #230:

INSPECTIONS AND FIRE PROTECTION SYSTEMS

Purpose

The Inspections and Fire Protection Systems LOB involves the provision of life safety inspections, witnessing of fire protection systems acceptance tests in new construction, and witnessing of re-testing of fire protection systems in existing construction. Two of these primary functions have a direct impact on economic development through the provision of acceptance tests of new construction fire protection systems and pre- and post-occupancy non-Residential Use Permit (non-RUP) life safety inspections. Other life safety inspection activities and fire protection systems re-testing have a direct impact on the safety of residents, visitors, and firefighters of the County through provision of thorough fire prevention code inspections.

Description

This LOB is comprised of two program areas: Fire Protection Systems Testing and Fire Inspections. This LOB has been in existence since February 11, 1953 when the BOS established the Fire Marshal's Office (FMO) and assigned inspection of certain public assembly spaces to the Fire Marshal (as well as investigation of fires). In August 1973, the Commonwealth of Virginia adopted the Virginia Uniform Statewide Building Code, which superseded all local building regulations throughout the Commonwealth, including the Fairfax County Building Code. Since that time, the Office of the Fire Marshal has been the agent of the Fairfax County Building Official for the inspection of fire protection and life safety features of all new construction except single-family dwellings.

The Fire Protection Systems Testing Branch enforces the Statewide Building Code and Fairfax County Fire Prevention Code. Inspectors witness code-mandated acceptance tests in buildings under construction or renovation as well as code-mandated re-tests of fire protection systems (i.e. sprinklers, fire alarms) in existing buildings. Acceptance testing services are provided to citizens, contractors, developers, and businesses with fire protection systems. Re-tests are provided to all business owners, building managers, property owners, and building engineers of existing construction buildings. Most of these services are provided Monday through Friday, however, the hours are provided at such times that are more convenient to business owners and building operators. Some services are "on demand" services that are provided after hours or on weekends. Complaint-based and emergency services (such as damage assessment due to natural disasters or frozen sprinkler pipes in buildings) are provided on a 24-hour, 7 days a week, 365 days per year basis.

The Fire Inspections Branch inspects buildings, institutions, and occupancies to ensure compliance with the Statewide Fire Prevention Code, Fairfax County Fire Prevention Code and the Virginia Petroleum Storage Tank regulations in order to maintain a safe environment for all. Inspections involve both commercial and residential structures. Inspections personnel inspect all home day care centers for fire safety for the Office for Children. In addition, they review plans for fire lane installation requirements of the Fire Prevention Code. The inspection of public buildings and industrial facilities, investigation of safety complaints received from citizens and other government agencies, and the issuance of Fire Prevention Code Permits are all functions mandated under the Fire Prevention Code. They also perform occupancy inspections to ensure compliance with the portions of the Statewide Building Code that deal with fire safety items prior to the Department of Public Works and Environmental Services (DPWES) issuing the Occupancy Permit. The Fire Inspections Branch consists of North and South County units handling the daily inspections associated with those geographical areas. The Special Projects unit handles complaints regarding unpermitted commercial work and industrial park inspections. The Code Enforcement Unit handles issues with high risk occupancies such as night clubs and cantinas or other occupancies where special inspection and investigatory skills are needed. Most inspections are provided Monday through Friday between the hours of 6:00 and 4:00. However, certain inspections (such as those relating to occupancy) are provided on demand and are performed after hours and on weekend at no additional cost to the business owner/permittee. Other enforcement activities, such as those involving nightclubs and

Fire and Rescue Department

cantinas, require night and weekend work by the inspectors assigned to those units. Complaint based and emergency services (such as damage assessment due to natural disasters) are provided on a 24-hour, 7 days a week, 365 days per year basis.

Benefits

This LOB increases the safety of the public at-large, reduces the risk of loss of life and property due to life safety hazards and ensures that businesses in the County comply with established safety standards.

The BOS also mandated a cost recovery threshold of 90-100 percent for this LOB for all direct costs related to enforcement of the code (as allowed by Code).

Inspections:

Enforcement of the Fire Prevention Code increases the safety of the public at-large, reduces the risk of loss of life and property due to life safety hazards, and ensures businesses in the County comply with established safety standards. Fees for these services are charged to recover up to 100 percent of costs per mandate by the Fairfax County Board of Supervisors. Routine inspections are typically done Monday through Friday between the hours of 6:00 A.M. and 4:00 P.M. However, certain types of inspections, such as those related to occupancy, are performed “on demand” and are performed after hours or on weekends based on customer request. Inspectors are headquartered out of two locations: FMO Headquarters at 10700 Page Avenue and a satellite office located at 7921 Jones Branch Drive in McLean.

Systems Testing:

Ensuring the operational capability of fire protection systems is integral to protecting the lives and property of those who live and visit Fairfax County and protecting the lives of Firefighters. Fees for these services are charged to recover up to 100 percent of costs per mandate by the Fairfax County Board of Supervisors. Routine inspections are performed Monday through Friday from 6:00 to 2:00 hours (normal business hours for the construction industry). However, the Re-testing Unit flexes its hours to accommodate the business during the work week or may provide services on the weekends at no additional charge to the customer. The School System and certain large office buildings typically take advantage of these scheduling changes so the testing of fire protection systems do not impact the school or work day. Inspectors often report to work at 3 a.m. to accommodate testing in these facilities. Testing services are also offered to contractors on an overtime basis if they request weekend or after hours testing of fire protection systems.

Mandates

Systems Testing:

Acceptance testing of all fire protection systems is required by the Uniform Statewide Building Code Section 901.5. Re-testing of existing fire protection systems is mandated by the Statewide Fire Prevention Code Section 901.6, and Chapter 62 of the Fairfax County Code, Section 901.6.3 requires the testing of fire protection systems to be witnessed by the Fire Official.

Inspections LOB:

Chapter 62-2-6 of the Fairfax County Code adopts the Virginia Statewide Fire Prevention Code (Title 27-97 of the Code of Virginia) and Section 104.1 of the Fairfax County Fire Prevention Code assigns enforcement to the Fire Marshal's Office.

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Trends and Challenges

The Inspections and Fire Protection Systems LOB involves the provision of life safety inspections, witnessing of fire protection systems acceptance tests in new construction, and witnessing of re-testing of fire protection systems in existing construction. Two of these primary functions have a direct impact on economic development through the provision of acceptance tests of new construction fire protection systems and pre- and post-occupancy non-Residential Use Permit (non-RUP) life safety inspections. Other life safety inspection activities and fire protection systems re-testing have a direct impact on the safety of the residents, visitors, and firefighters of the County through provision of thorough fire prevention code inspections.

This LOB received two additional fire inspector positions in FY 2015 to support economic development in the area of acceptance testing of fire protection systems and received an infusion of overtime funding in FY 2015 and FY 2016 to perform after-hours inspections on weekends and evenings. Lag times for hydrostatic acceptance tests have been reduced from six weeks at the time these additional resources were approved to less than two weeks by reallocating a team of inspectors from Systems Re-Testing, hiring the two new inspectors and paying inspectors overtime to perform acceptance tests. The overtime monies were also used to address Non-Residential Use Permit (Non-RUP) inspections required for pre- and post-occupancy when businesses open or occupy new space.

During the period of January 1 – August 31, 2015 the Inspections Branch performed 2,668 Non-RUP inspections. However, the backlog of Non-RUP inspections where the business owners never called for their post-occupancy inspection remained steady at approximately 2,000. This represents a significant backlog of inspections where the FMO typically finds post-occupancy violations and determines the need for any annual Fire Prevention Code Permits. The no-call non-RUPs represent approximately \$150,000 in unrealized revenue because there is not enough staff to address this workload. Even with using the overtime monies allocated, the Inspections Branch is unable to reduce the backlog due to increasing workload demands in other areas. Based on the types of plans and volume of plans submitted to plans review in the past 12-18 months, it is anticipated workload for non-RUPs and other life safety inspections will increase proportionally to the increases experienced in Plans Review. Only additional staff can address this workload increase and corresponding staffing shortfall.

The Systems Re-testing Branch of this LOB recently identified a significant number of buildings where systems re-tests have not been completed for more than five years. The current adopted schedule of systems re-testing sets three years as the maximum length of time between re-tests of fire protection systems. This backlog was caused because the FMO reallocated inspectors from Re-testing to Acceptance Testing to address the workload for new construction in an effort to be responsive to industry and reduce the lag times. The FMO realizes, however, this policy is not sustainable for the long-term. Eventually additional staff must be added to address the workload associated with additional buildings, occupancies, fire protection systems, and additional square footage added to the County's building stock, which will require scheduled re-testing of fire protection systems. Systems Re-testing is performed throughout a building's life cycle on a set schedule based on potential for large life loss should a fire occur. Occupancies such as hospitals, schools, assemblies, high-rises and nursing homes are tested annually. Mid-rises and strip shopping malls are tested bi-annually. Warehouses and those used for storage are tested every three years. It is recommended four additional fire inspectors (two teams) be added to address permanent workload to make inroads to addressing this existing backlog.

It is anticipated the Inspections Branch, Acceptance Testing Branch, and Systems Re-Testing Branch can expect to experience continued growth comparable to that experienced by the Plans Review Branch since engineering plans review is a lead indicator for each of these sections. This LOB is expected to continue to meet its stated objective of recovering 90-100 percent of its direct costs related to code enforcement. Staff does anticipate lag times will be impacted due to workload increases, fire protection systems will not be re-tested according to established schedules due to workload in acceptance testing, and no-call non-RUP inspections will continue to be backlogged resulting in untapped revenues for the General fund if additional staffing is not approved for these business areas.

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Resources

| Category | FY 2014 Actual | FY 2015 Actual | FY 2016 Adopted |
|--|--------------------|--------------------|--------------------|
| LOB #230: Inspections and Fire Protection Systems | | | |
| FUNDING | | | |
| Expenditures: | | | |
| Compensation | \$3,064,184 | \$3,361,212 | \$3,816,078 |
| Operating Expenses | 174,188 | 167,061 | 86,835 |
| Total Expenditures | \$3,238,372 | \$3,540,553 | \$3,902,913 |
| General Fund Revenue | \$3,880,847 | \$4,496,533 | \$4,713,778 |
| Net Cost/(Savings) to General Fund | (\$642,475) | (\$955,980) | (\$810,865) |
| POSITIONS | | | |
| Authorized Positions/Full-Time Equivalents (FTEs) | | | |
| Positions: | | | |
| Regular | 62 / 62 | 62 / 62 | 62 / 62 |
| Total Positions | 62 / 62 | 62 / 62 | 62 / 62 |

Metrics

| Metric Indicator | FY 2013 Actual | FY 2014 Actual | FY 2015 Actual | FY 2016 Estimate | FY 2017 Estimate |
|---|-------------------|-------------------|-------------------|---------------------|---------------------|
| Fire inspection and system testing activities conducted | 34,474 | 37,017 | 36,896 | 37,500 | 38,500 |
| Revenue generated for fire inspection and system testing activities conducted | \$4,368,585 | \$4,344,775 | \$4,996,109 | \$5,591,359 | \$5,781,125 |
| Average revenue generated per inspection/systems testing activity | \$126.72 | \$117.37 | \$135.41 | \$149.10 | \$150.16 |
| Percent of inspection/systems testing costs recovered | 93.80% | 85.80% | 100.00% | 100.00% | 95.00% |
| Total fire loss for commercial structures | \$576,701 | \$1,050,700 | \$3,922,538 | \$2,000,000 | \$2,000,000 |

There were 36,896 total inspection activities conducted by the Fire Inspections and Systems Testing Branches of the Fire Marshal's Office, which is 121 fewer inspections than were conducted in FY2014. This reduction is primarily due to vacancies. A total of \$4,996,109 in revenue was generated for the General Fund from these activities, and represents a cost recovery rate of 100 percent of all direct costs associated with provision of these services. An average of \$135.41 was generated per inspection/systems activity.

This LOB has a goal of a fire loss experience of \$2 million or less in the commercial/industrial/flex spaces the FMO is responsible for inspecting. In FY2015, the County experienced \$3.92 million in fire loss in these occupancy classes. Two fires were responsible for the preponderance of the fire loss; one fire was an accidental fire in the phone battery room of a large office building and one fire was in a mercantile establishment with a significant amount of loss due to smoke and water damage. The total assessed value of the assets protected by this LOB is over \$42 billion, per the Department of Tax Administration (FY2015). This LOB is expected to continue to meet its stated objective of recovering 90-100 percent of its direct costs related to code enforcement.

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LOB #231:

FIRE AND HAZMAT INVESTIGATIONS

Purpose

Fire and Hazmat Investigation's primary function is investigatory/law enforcement (criminal) in nature and is mandated by Title 27-31 of the Code of Virginia and Chapter 62-2-4 of the Fairfax County Code. This involves enforcing State and County arson and firebombing laws (Title 18.2 of the Code of Virginia), investigating hazardous materials events and environmental crimes, and regulating blasting/explosive use in the County. This LOB's efforts involve investigating all structure fires, fire of suspicious or incendiary origin, large loss fires, and fires involving injury or loss of life to determine the cause, origin, other circumstances, and significant dollar losses. This LOB investigates and protects public health, safety, and the environment from the potential impact of hazardous materials used, stored or transported within Fairfax County and, if hazardous materials are released, ensures appropriate actions are taken to clean up or remediate the release. The prosecution of those responsible for criminal acts in fire and hazardous materials incidents may also be required.

Description

This LOB has been in existence since February 11, 1953 when the BOS created the Fire Marshal's Office (FMO) and assigned investigation of all fires to this office. Duties relating to investigation and enforcement of hazardous materials events were assigned to this office in January 1994 when the BOS created the Hazardous Materials Section in response to events involving the Fairfax Tank Farm and Colonial Pipeline. This LOB has two discrete program areas: one is investigatory/enforcement in nature and one is regulatory/compliance based. Emergency response services are provided 24-hours a day, 7 days a week, 365 days a year. Other ancillary programs, such as Emergency Planning and Community Right to Know Act (EPCRA) information, are provided Monday through Friday from 8:00-4:30 at FMO Headquarters located at 10700 Page Avenue in Fairfax.

The Fire and Hazardous Materials Investigations Unit is responsible for enforcing County and state laws regarding fires or explosions that occur in the County that are of a suspicious nature or which involves the loss of life or causes serious injury to persons or causes damage of or damage to property. Interacts with other local, state and federal agencies and interacts with insurance carriers. Ensures those who are responsible for criminal acts are presented to the Commonwealth's Attorney for prosecution. This program area also maintains the longest continuously-running ATF-certified Accelerant Detection Canine Program in the United States.

The Fire and Hazardous Materials Investigations Unit also investigates hazardous materials incidents and environmental crimes and protects the public health, safety, and the environment from the potential impact of hazardous materials that are used, stored or transported in Fairfax County. When releases occur, the unit ensures appropriate actions are taken to clean up or remediate such release, and provides short-term oversight for remediation activities. Investigators determine origin & cause of hazmat releases and determine responsible party and take administrative or criminal action against those responsible for release. Investigates emergency-based blasting complaints involving fly-rock on to private property, or into dwellings or vehicles.

The Fire and Hazardous Materials Technical Support Unit (HMTSU) protects the public health, safety, and the environment from the potential impact of hazardous materials used, stored or transported in Fairfax County. When releases occur, staff/investigators ensure appropriate actions are taken to clean up or remediate such release. Staff provides long-term oversight for remediation activities. This unit is responsible for enforcing explosives and blasting sections of the Statewide Fire Prevention Code (SFPC). HMTSU staff conducts inspection of critical hazards that house inventories of extremely hazardous substances (as defined by the EPA), and reviews emergency response plans. Staff serve as technical experts in the field of hazardous materials to FRD staff, County agencies, and the public at-large. Staff maintains records of releases in the County in accordance with established laws. Staff supports the federally-

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mandated Local Emergency Planning Committee (LEPC) and ensures the County complies with SARA Title III, Tier II (Section 302 and 312) and EPCRA through performing risk analysis of facilities using and storing hazardous materials and developing the County's Hazardous Materials Emergency Response Plan. This unit is responsible for the cost recovery program recovering costs associated with responding to hazardous materials incidents meeting certain criteria where responsible parties are known. This unit also provides critical data regarding hazardous materials releases and storage locations to the County's MS4 permit and VPDES permit programs.

Benefits

This LOB is responsible for the determination of origin and cause and performing fire trend analysis in order to provide valuable information to be disseminated to keep the public and industry informed, educated and protected. It also ensures those who are responsible for criminal acts are presented to the Commonwealth's Attorney for prosecution. Restitution is sought on arson cases during the adjudication process. This LOB protects the health, safety and environment of Fairfax County and its businesses, residents and visitors from the potential impact of releases of hazardous materials. This section coordinates recovery of costs associated with responding to hazardous materials emergencies where a responsible party has been determined.

Although investigators have the responsibility to prosecute those who intentionally destroy property, their primary mission is to determine how and why the fire started so the public and industry can be informed, educated, and protected. Investigators also protect the environment by ensuring that when a release occurs the release is properly cleaned up and responsible parties are determined.

Mandates

The vast majority of fire prevention services are fully mandated by applicable building and fire codes, state code, or federal law. In fact, prevention work is frequently referred to as "The Fire Marshal's Office" (FMO) because it is the enforcement arm of the Fire and Rescue Department (FRD). Title 27-31 of the Code of Virginia and Chapter 62-2-4 of the Fairfax County Fire Prevention Code specifically reference the investigation of fires. Since personnel assigned to this unit are granted police powers by the County, they also enforce portions of Title 18.2 (Criminal code) of the Code of Virginia.

Fire and Hazardous Materials Investigations Unit (Fire Investigations): Chapter 62-2-4 of the Fairfax County Code compels the Fire Marshal to investigate every fire or explosion occurring within the County that is of suspicious nature or which involves the loss of life or causes serious injury to persons or causes damage of or damage to property. Enforces Title 18.2 of the Code of Virginia (Criminal Code).

Fire and Hazardous Materials Investigations Unit (Hazardous Materials Investigations): Enforces all Statewide Fire Prevention Code chapters concerning hazardous materials; Chapter 62-2-8 of the Fairfax County Code; Title 18 of the Code of Virginia (Criminal Code); Federal Motor Carrier Regulations (49 CFR) regarding transportation of explosives.

Hazardous Materials Technical Support Unit: Enforces all Statewide Fire Prevention Code chapters concerning hazardous materials; Chapter 62 of the Fairfax County Code; Uniformed Statewide Building Code; Federal Motor Carrier Regulations (49 CFR) regarding transportation of explosives; Superfund Amendments and Reauthorization Act (SARA) Title III (Public law 99-499) (unfunded Federal mandate).

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Trends and Challenges

This section will experience retirement of several seasoned investigators during FY 2016-FY 2018. It is also anticipated there will be a significant increase in the number of cases being investigated during this same period of time. It is anticipated the overall case closure rate and the case closure rate for incendiary (arson) fires will go down due to heavier caseloads and less experienced investigators gaining on-the-job training.

One area of uncertainty that may have great impact on this LOB is increased public outreach and awareness programs that are part of the County's new Municipal Separate Storm Sewer (MS4) Permit and increased employee awareness programs regarding reporting of hazmat discharges at County facilities. The new MS4 Permit, issued on April 1, 2015, has new permit elements requiring the County to make employees more aware about reporting spills of hazardous materials. All spills of hazmat must be reported to this LOB for investigation and follow-up. It is unknown what the impact to workload may be once the public outreach and the mandatory employee training programs begin. There are also several permit elements requiring this LOB to provide Storm Water Planning with data regarding hazmat spills affecting any storm water inlets or outfalls. Staff is concerned there will not be enough day work staff available to follow-up on the hazmat spill notifications reported to the offices in support of the MS4 permit requirements. Additionally, there is no position assigned to this section that can produce the necessary ad hoc reports often requested and perform the data analysis required to support MS4 data reporting requirements as well as perform any sort of analysis relating to fire investigation trends. This type of data analysis is becoming more critical to support the development of community risk reduction and educational programs and to support the County's environmental protection initiatives. Staff expects additional staffing will be required to support the MS4 program to perform case follow-up and to perform data analysis for the section to support various prevention programs.

Resources

| Category | FY 2014 Actual | FY 2015 Actual | FY 2016 Adopted |
|---|--------------------|--------------------|--------------------|
| LOB #231: Fire and Hazmat Investigations | | | |
| FUNDING | | | |
| <u>Expenditures:</u> | | | |
| Compensation | \$1,995,488 | \$2,116,141 | \$2,138,546 |
| Operating Expenses | 216,201 | 236,557 | 104,955 |
| Total Expenditures | \$2,211,689 | \$2,352,698 | \$2,243,501 |
| General Fund Revenue | \$43,316 | \$47,519 | \$1,426 |
| Net Cost/(Savings) to General Fund | \$2,168,373 | \$2,305,179 | \$2,242,075 |
| POSITIONS | | | |
| Authorized Positions/Full-Time Equivalents (FTEs) | | | |
| <u>Positions:</u> | | | |
| Regular | 18 / 18 | 18 / 18 | 18 / 18 |
| Total Positions | 18 / 18 | 18 / 18 | 18 / 18 |

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Metrics

| Metric Indicator | FY 2013 Actual | FY 2014 Actual | FY 2015 Actual | FY 2016 Estimate | FY 2017 Estimate |
|--|-------------------|-------------------|-------------------|---------------------|---------------------|
| Number of investigations conducted (including fires, bombings, threats, arson and hazardous materials cases) | 628 | 552 | 667 | 805 | 900 |
| Number of arson investigations conducted | 57 | 70 | 37 | 42 | 42 |
| Average fire and hazardous materials cases per investigator | 51 | 46 | 56 | 67 | 75 |
| Percent total cases closed (including fires, bombings, threats, arson, and hazardous materials) | 77.7% | 85.5% | 90.4% | 85.0% | 85.0% |
| Percent of arson cases closed | 42.1% | 40.0% | 64.8% | 50.0% | 50.0% |

Toward the end of FY 2015, response criteria for this investigatory unit were changed so they now respond to all reported structure fires on the initial dispatch. Prior to January 2015, investigators only responded to incidents when requested by on-scene units. This change in the response criteria resulted in an increase of 20.8 percent in the total number of incidents responded to by investigations personnel. Based on FY 2016 current YTD incident response, it is anticipated there will be an increase of an additional 20.7 percent in investigations conducted between FY 2015 and FY 2016. The section responded to a total of 667 incidents, and had an overall case closure rate of 90.4 percent (hazmat and all fires).

There was a 47 percent decrease in the number of incendiary (arson) cases investigated between FY 2014 and FY 2015. This is most likely due to some stabilization of the local economy, lower unemployment locally, and lower residential foreclosure rates locally. The section has no control on the number of incendiary (arson) cases that occur each year. It should be noted this section had a case closure rate of 64.8 percent for incendiary (arson) cases in FY 2015. The national case closure rate for this type of case is between 18-25 percent.

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.

Fire and Rescue Department

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.

Fire and Rescue Department

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 |

Fire and Rescue Department

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.

Fire and Rescue Department

LOB #233:

EMS (EMERGENCY MEDICAL SERVICES) ADMINISTRATION

Purpose

Emergency Medical Services (EMS) Administration, led by a Deputy Chief, is comprised of a Quality Management Section, a Regulatory Section and an Operational Medical Director.

This team of professionals provide clinical leadership and medical oversight, determine patient care protocols, and identify biomedical equipment and performance improvement monitoring necessary for the delivery of safe, effective pre-hospital care by the career and volunteer members of the Fire and Rescue Department (FRD).

As a licensed EMS agency in the Commonwealth, the FRD is mandated to comply with the Virginia Department of Health EMS Regulations (Chapter 31, § 12 VAC) regarding agency, vehicle and personnel requirements, including Operational Medical Director and quality management reporting. <http://www.vdh.virginia.gov/OEMS/Files Page/regulation/2012EMSRegulations.pdf>

Description

Under the direction of the Deputy Chief and the Operational Medical Director, there are three functional sections within the EMS Division that serve to provide an integrated approach to all aspects of EMS service delivery:

EMS Regulatory/Logistics Section serves as liaison to the Virginia Office of EMS for licensure and compliance in addition to liaising with area hospitals regarding equipment exchange and storage as well as oversight for pharmaceutical issues and resupply. Through collaboration with the FRD's resource management section this section coordinates the procurement, distribution, and maintenance programs for all biomedical and EMS equipment to ensure all applicable department vehicles are properly permitted and in compliance with state and federal regulations. This section also assists the department's emergency preparedness efforts with the Mass Casualty Support deployment of mass casualty supplies and equipment, and cooperative planning for potential pandemic medical events, such as influenza, Middle East respiratory syndrome (MERS) or Ebola.

Quality Management evaluates service delivery and appropriateness of all aspects of pre-hospital care, from dispatch to transfer of care, through data collection and analysis extracted from the patient care reporting software, as well as through complaint/medical incident review. This information is used in the development of performance improvement initiatives in consultation with the Operational Medical director, EMS Training, area hospitals and mutual aid EMS agency partners in the Northern Virginia EMS Council. Additionally, the FOIA Coordinator/Records Custodian processes all requests for fire and EMS Incidents, EMS transport and billing records and subpoenas for records for recipients of EMS and fire service, as well as working with the courts, County Attorney and our law enforcement partners.

The *Operational Medical Director* is responsible for comprehensive medical oversight of clinical care provided by career and volunteer department members. Additionally, this position establishes all protocols for pre-hospital emergency medical care and develops training and quality assurance of medical services.

Benefits

Properly trained personnel with access to appropriate and reliable equipment are critical to an EMS system's ability to effectively care for patients. The EMS Division provides the training, administration, and logistical support to ensure an always-ready deployment of medical resources to serve the needs of the residents and visitors to Fairfax County.

Fire and Rescue Department

Mandates

Licensed EMS agency requirements (agency, vehicles and personnel) in the Commonwealth of Virginia
http://www.vdh.virginia.gov/OEMS/Files_Page/regulation/2012EMSRegulations.pdf

Operational Medical Director Requirement.
<http://leg1.state.va.us/cgi-bin/legp504.exe?000+reg+12VAC5-31-590>

Quality Management reporting
<http://leg1.state.va.us/cgi-bin/legp504.exe?000+reg+12VAC5-31-600>

Trends and Challenges

Based on data extracted from the FireRMS incident reporting system provided by the Operations Data Program Manager, call volume increases at a rate of 1 percent per year and EMS calls consistently represent greater than 70 percent of all dispatched incident responses, underscoring the importance of and need for training, as well as the administrative and logistical support provided by the EMS Division to ensure an always-ready deployment of medical resources to serve the needs of the residents and visitors to Fairfax County.

The Affordable Care Act (ACA) creates an environment where collaboration between pre-hospital, primary and tertiary care providers in concert with social services partners is both reasonable and appropriate to meet healthcare needs of a growing aging population. Central to this objective is to partner with other stakeholders to fully integrate EMS into the overall healthcare system. This is an opportunity to change the perception that EMS merely provides transportation to the understanding it is a component of the health care delivery system as both a gateway to patient care and potentially a component of post discharge follow up.

Resources

| Category | FY 2014 Actual | FY 2015 Actual | FY 2016 Adopted |
|--|--------------------|--------------------|--------------------|
| LOB #233: EMS (Emergency Medical Services) Administration | | | |
| FUNDING | | | |
| <u>Expenditures:</u> | | | |
| Compensation | \$963,751 | \$1,097,484 | \$1,001,492 |
| Operating Expenses | 1,655,312 | 1,431,093 | 1,542,364 |
| Capital Equipment | 61,358 | 142,952 | 0 |
| Total Expenditures | \$2,680,421 | \$2,671,529 | \$2,543,856 |
| General Fund Revenue | \$3,603 | \$3,446 | \$0 |
| Net Cost/(Savings) to General Fund | \$2,676,818 | \$2,668,083 | \$2,543,856 |
| POSITIONS | | | |
| Authorized Positions/Full-Time Equivalents (FTEs) | | | |
| <u>Positions:</u> | | | |
| Regular | 11 / 11 | 11 / 11 | 11 / 11 |
| Total Positions | 11 / 11 | 11 / 11 | 11 / 11 |

Fire and Rescue Department

Metrics

| Metric Indicator | FY 2013 Actual | FY 2014 Actual | FY 2015 Actual | FY 2016 Estimate | FY 2017 Estimate |
|--|----------------|----------------|----------------|------------------|------------------|
| Number of eform submissions for cot malfunction or repair | 51 | 34 | 56 | 50 | 50 |
| Number of incident report requests processed annually | 1,695 | 1,764 | 1,839 | 1,857 | 1,876 |
| Total number of career and volunteer advanced life support (ALS) providers authorized to deliver pre-hospital care | 518 | 484 | 598 | 615 | 630 |

The EMS Regulatory/Logistics Section serves as liaison to the Virginia Office of EMS and to area hospitals regarding equipment exchange and storage as well as oversight for pharmaceutical issues and resupply. Through collaboration with the FRD's resource management section coordinates the procurement, distribution, and maintenance programs for all biomedical and EMS equipment to ensure that all applicable department vehicles are properly permitted and in compliance with state and federal regulations.

- Service Quality metric: Number of eform submissions for cot malfunction or repair
- A functional cot is critical to patient and provider safety as well as being essential for operational readiness. Goal is 90 percent of eforms reporting cot malfunction or repair will be processed by EMS Logistics within two business days.

Quality Management: Evaluates service delivery and appropriateness of pre-hospital care through data collection and analysis drawn from the patient care reporting software, as well as through complaint/medical incident review. Virginia Office of EMS regulation requires that any licensed EMS agency in the Commonwealth have a quality management program. This information is used in the development of performance improvement initiatives in consultation with the Operational Medical director, EMS Training, area hospitals and mutual aid EMS agency partners in the Northern Virginia EMS Council. Additionally, the FOIA Coordinator/Records Custodian processes all requests for fire & EMS Incidents, EMS Transport & Billing Records and subpoenas for records for recipients of EMS and fire service, as well as working with the courts, County Attorney and our law enforcement partners.

- Output metric: Number of incident report requests processed annually
- Goal is to meet or exceed FOIA statute for processing fire and EMS incident report requests within five business days by the FOIA/Records Custodian in the Quality Management Section.
- As call volume increases, FOIA records are anticipated to reflect a similar increase. Projections represent a 1 percent increase annually.

Fire and Rescue Department

EMS Training: Provides and/or facilitates initial ALS certification training as well as providing continuing medical education required for provider recertification for all career and volunteer ALS providers. All training is conducted in accordance with the Virginia EMS Education Standards and meets the specifications of the National Registry of EMTs. Utilizing a blended staff of clinical practitioners (licensed mid-level providers: Nurse Practitioner or Physician's Assistant) and uniformed ALS providers, EMS Training conducts a multifaceted training (face to face, online, high fidelity simulation) for ALS & BLS providers.

- Outcome metric: Total number of career and volunteer advanced life support (ALS) providers authorized to deliver pre-hospital care
- EMS Training provides and/or facilitates initial ALS certification training as well as providing continuing medical education required for provider recertification for all career and volunteer ALS providers.
- While the total number of ALS providers reflects an increase in FY 2016, this is as a result of the most recent SAFER award which increases the minimum daily number of required providers. This growth does not reflect an overall increase in the availability of ALS providers to meet minimum staffing requirements. In fact, FRD continues to struggle with keeping the required number of providers. Recently, FRD developed an in-house program, in partnership with Virginia Commonwealth University, to assist with increasing departmental ALS providers.

Fire and Rescue Department

LOB #234:

SPECIAL OPERATIONS

Purpose

Special Operations for the Fire and Rescue Department (FRD) is managed by the Deputy Chief of Special Operations. The Deputy Chief works with two Battalion Chiefs and an Emergency Management Specialist to oversee the planning, training and response aspects of special operations trained personnel.

Description

The Special Operations Division consists of the Hazardous Materials Response Team, Marine Operations Team, Technical Rescue Operations Team, Emergency Preparedness, National Capital Region Incident Management Team, and the Urban Search and Rescue Team -Virginia Task Force.

Hazardous Materials Response Team personnel respond to accidental vehicle fuel spills, gas leaks, and fixed facilities spills; intentional hazardous materials releases of chemicals, fuels, biological agents, radiological materials, explosives or hazardous waste related to environmental crime and terrorism. The team is specially trained and equipped to detect and identify unknown chemicals, and control or contain the release of hazardous materials. The team provides environmental protection and decontamination of persons or properties, performs foam operations for tank farm, pipeline, and highway incidents.

Marine Operations Team personnel are licensed boat captains and certified radar observers responding to emergencies on rivers, lakes and ponds. The team responds to all types of water-related emergencies including drowning incidents, watercraft accidents and fires, and maintains a safety patrol on the Pohick Bay and Potomac River during summer weekends and holidays.

Technical Rescue Operations Team (TROT) personnel respond to complex and challenging rescue incidents including: high-angle incidents occurring on cliffs or high-rise buildings, confined space incidents occurring in tunnels, tanks or sewers, building collapses due to construction accidents or bombings, trench events related to excavations or construction mishaps; and industrial or transportation accidents tunnel rescue incidents, and swift water incidents within Great Falls Park.

The Special Operations Deputy Chief oversees collaborative efforts associated with response, training and liaison activities related to *special operations* services within the County.

Emergency Preparedness is responsible for planning, preparedness, and coordination for natural (hurricanes, tornados) and man-made (hazardous materials, transportation incidents) disasters, homeland security threats, and special events. They play a critical role in coordinating activities with other public safety agencies including the Police Department, Health Department, Emergency Management and state and federal response partners.

The *National Capital Region Incident Management Team (NCR-IMT)* is a cadre of incident management professionals. The team is a ready response unit available to any Washington Council of Governments (COG) partnering jurisdiction to support management of long term or large scale emergency incidents.

Fire and Rescue Department

Benefits

Capabilities of the special operations teams continue to evolve and increase with the changing environment. After 9/11 special operations teams training expanded to battle new threats and prepare for response and mitigation to a variety of hazards. Special operations personnel are dedicated to serving the County and protecting the environment through prevention and preparedness, with efficient and effective response to special operations incidents.

Advanced levels of training prepare firefighters for rapid response and professional emergency management to ensure the residents and visitors of Fairfax County are provided with immediate, top quality emergency response.

Mandates

National Fire Protection Association (NFPA) 472/473: Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents

NFPA 1670: Standard on Operations and Training for Technical Search and Rescue Incidents

Occupational Safety and Health Administration (OSHA) 1910.120: Occupational Safety and Health Standards.

Trends and Challenges

The number and type of special operations emergency response events are ever changing in scope and complexity. The highly technical and complex nature of the response to hazardous materials releases, technical rescue events, and swift water emergencies presents several challenges. The challenges associated with these responses require the responder involved to receive additional training, specialized protective equipment, and expanded treatment protocols.

The fire and emergency medical response field is demanding, with high expectations of professional standards, leadership qualifications, and training obligations. It is vital for fire service professionals to have the foundation of skills to think critically and act decisively to meet the challenges of emergency response. Faced with a growing demand for service, and a growing organization, challenges present in the form of finding the time and the means to provide necessary training programs.

Fire and Rescue Department

Resources

| Category | FY 2014 Actual | FY 2015 Actual | FY 2016 Adopted |
|---|--------------------|--------------------|--------------------|
| LOB #234: Special Operations | | | |
| FUNDING | | | |
| <u>Expenditures:</u> | | | |
| Compensation | \$765,123 | \$727,891 | \$701,138 |
| Operating Expenses | 416,419 | 460,213 | 328,414 |
| Total Expenditures | \$1,181,542 | \$1,198,848 | \$1,029,552 |
| General Fund Revenue | \$0 | \$0 | \$0 |
| Net Cost/(Savings) to General Fund | \$1,181,542 | \$1,198,848 | \$1,029,552 |
| POSITIONS | | | |
| Authorized Positions/Full-Time Equivalents (FTEs) | | | |
| <u>Positions:</u> | | | |
| Regular | 3 / 3 | 3 / 3 | 3 / 3 |
| Total Positions | 3 / 3 | 3 / 3 | 3 / 3 |

Metrics

| Metric Indicator | FY 2013 Actual | FY 2014 Actual | FY 2015 Actual | FY 2016 Estimate | FY 2017 Estimate |
|--|-------------------|-------------------|-------------------|---------------------|---------------------|
| Number of personnel trained as Technical Rescue Technician/Level II | 165 | 155 | 149 | 170 | 155 |
| Provide initial technical rescue response to specialized incidents in 10 minutes or less | 100% | 100% | 100% | 100% | 100% |
| Number of personnel trained as Hazardous Materials Technician | 224 | 251 | 240 | 225 | 215 |
| Provide initial and advanced hazardous materials response personnel to specialized incidents in 10 minutes or less | 100% | 100% | 100% | 100% | 100% |
| Number of emergency response/disaster response manuals written/updated/trained | 0 | 4 | 5 | 5 | 6 |

NFPA 1670, Standard on Operations and Training for Technical Search and Rescue Incidents outlines the training and qualifications required to be categorized as a Technical Rescue Technician level II. Training focuses on incidents where commercial or heavy vehicles are involved, complex extrication processes will have to be applied, or that involve heavy machinery or more than digital entrapment of a victim. Emphasis is placed on heavy lifting and stabilization, utilization of heavy towing and recovery services and complex patient packaging and removal techniques.

Fire and Rescue Department

The ability to meet the goal of 165 personnel trained to the Technician level has experienced some challenges in the past four years as a result of department growth affording personnel promotional opportunities making them no longer able to participate in the technical rescue program and loss due to retirements. The lower than targeted numbers have not yet reached a point where it has created a staffing issue, but must be closely monitored. Currently the certification class is offered every two years, if numbers dropped suddenly below required levels FRD could hold an additional school, which may require additional funding.

The ability of the department to deliver an initial technical rescue response to an incident in 10 minutes or less will face challenges as the County continues to realize population growth and as a result increased traffic congestion. Currently FRD has 4 units with this specialized training strategically located throughout the County, but as response times increase FRD will have to not only review the current positioning of resources but also identify if there is a need to expand.

NFPA 472, Standard for Professional Competence of Responders to Hazardous Materials Incidents outlines the training and qualifications required to be categorized as a Hazardous Materials Technician. Training focuses on the recognition and identification of a hazardous incident, response chemistry, environmental regulations, radioactive material, air monitoring and equipment, spill control and containment, and decontamination procedures.

The program has been able to maintain its goal of 200 training Hazardous Materials Technicians. The projected reduction of trained personnel does not pose a staffing issue now or in the immediate future as FRD is currently above the goal. FRD will continue to monitor the numbers closely to ensure staffing levels remain within reasonable numbers.

The ability of the department to deliver an initial hazardous materials response to an incident in 10 minutes or less will face challenges as the County continues to realize population growth and as a result increased traffic congestion. Currently FRD has 6 units with this specialized training strategically located throughout the County, but as response times increase FRD will have to not only review the current positioning of resources but also identify if there is a need to expand.

The Emergency Preparedness program's ability to collaboratively develop, train, and exercise emergency response plans has not greatly increased or decreased in the past year. A slight increase is anticipated in the years to come due to the planning schedule becoming mostly maintenance/updating and less creation of plans. While creating plans is a mostly straightforward process, trying to implement an effective training program and track results of that training program for FRD personnel is challenging due to the limited number of people assigned to the Emergency Preparedness program. One of the greatest factors contributing to the performance of the program has been the support from the rest of the Operations Bureau and time spent by subject matter experts contributing to the planning process.

Grant Support

US&R – FEMA

Virginia Task Force One (VATF1) is one of 28 FEMA Urban Search and Rescue (US&R) task forces spread throughout the continental United States trained and equipped by FEMA to handle structural collapse. The team is a part of the National Urban Search and Rescue National Response System that was established in 1989 under the Robert T. Stafford Disaster Relief and Emergency Assistance Act as a framework for structuring local emergency services into an integrated disaster response task force. The task force, complete with necessary tools, equipment, required skills and techniques, can be deployed by FEMA within six hours to rescue victims of structural collapse. Because of this relationship, the Department has been able to develop and enhance its US&R capability to respond to disasters both locally and nationally.

Fire and Rescue Department

A task force is capable of multiple activities including physical search and rescue operations in damaged or collapsed structures, stabilization of structures, emergency medical services, damage assessments, and hazardous materials evaluations. It is typically comprised of specialists who are divided into four major functional areas of command, operations, planning, and logistics. Task force members include structural engineers, highly trained search canines and handlers, and specialists in the areas of hazardous materials, heavy rigging, logistics, and emergency medical services.

In addition to personnel, a comprehensive equipment cache is a part of the disaster response. The cache includes communications, locating, lifting, pulling, and other specialized equipment. Also, shoring, sensing, victim extrication, cutting, and drilling devices are part of the cache. The medical cache, deployed with the team, is designed to bring emergency medical services into the field and contains advanced life support equipment (including drugs and medical supplies) necessary for providing medical care to entrapped victims, task force personnel, and search canines.

Over multiple years, VATF1 has been awarded over \$16 million to cover the areas of program management, equipment, preparedness training, and storage and maintenance. The program's budget is established by Congress and a base amount is awarded equally to the 28 teams. There is a separate open award for deployment funding and the funds are awarded as disasters occur.

VATF1 has responded to numerous disasters such as the Oklahoma City Bombing (1995), 9/11 Pentagon (2001), Hurricane Isabel (2003), Hurricane Katrina (2005), Hurricane Ernesto (2006), Hurricane Ike (2008), Hurricane Irene (2011), Hurricane Sandy (2012), Oklahoma Tornadoes (2013), and Washington Mudslides (2014).

USAR – USAID

The Office of U.S. Foreign Disaster Assistance (OFDA) was established in response to the authorization of disaster assistance by Congress in Chapter 9 of the Foreign Assistance Act of 1961, as amended. OFDA plans and implements international disaster relief, rehabilitation, preparedness, mitigation, prevention, and early warning programs, and coordinates the U.S. Government's foreign disaster assistance program. The Task Force began its humanitarian response relationship with the U.S. Agency for International Development – Office of U.S. Foreign Disaster Assistance (USAID-OFDA) in 1986 following a tragic 1985 seismic event in Mexico City. Realizing the void of qualified search and rescue resources in the Americas Region, USAID-OFDA joined in a strategic partnership with Fairfax County and the Miami-Dade Fire and Rescue Departments to develop a self-sustainable response resource. Its first deployment was to the former Soviet Armenia in 1988 in the aftermath of a large earthquake.

The Cooperative Agreement between Fairfax County Fire and Rescue Department's Urban Search and Rescue Team (USA1) and the United States Agency for International Development/Bureau for Democracy, Conflict, and Humanitarian Assistance, Office of Foreign Disaster Assistance's (USAID/DCHA, OFDA) international Urban Search and Rescue (USAR) program supports the provision of search and rescue assistance in response to foreign disasters through Disaster Response and Disaster Preparedness/Mitigation. The program is demand-driven, with USAID/DCHA/OFDA serving in a coordination role.

Due to the inability to precisely define all activities in advance, USAID/DCHA/OFDA is substantially involved in the implementation of the program. Over multiple years, USA1 has received over \$25 million to maintain a constant state of deployment readiness. Funding for Deployment Readiness is provided for Project Management, Maintenance of USAR Team/Personnel Qualifications, Equipment and Relief Commodities Stockpile and Technical Assistance to also include the areas of Technical Advisory Services, Local Host Country Capacity-Building and Technology Transfer to International Organizations. Disaster Response funding provides for the immediate provision of a USAR team deployment or other staff and required equipment in response to a request for mission support outside the realm of urban search and rescue. Task force members include structural engineers, highly trained search canines and handlers, and specialists in the areas of hazardous materials, heavy rigging, logistics, and emergency medical services.

Fire and Rescue Department

USA1 is also required to be classified by the United Nation's International Search and Rescue Advisory Group (INSARAG) as a "heavy" team. The reclassification process occurs every three years. Classifiers consist of a cadre from the international urban search and rescue community who come to Fairfax County to observe the team perform mandated skills.

USA1 has responded to numerous international disasters such as the earthquake in Armenia (1988), earthquake in the Philippines (1990), bombing of the U.S. Embassy in Kenya (1998), earthquake in Turkey (1999), earthquake in Taiwan (1999), earthquake in Iran (2003), tsunami in Indonesia (2005), earthquake in Southeast Asia/Pakistan (2005), flooding in Bolivia (2007), earthquake in Peru (2007), Cyclone Nargis in Burma (2008), Hurricane Hanna in Haiti (2008), building collapse in Haiti (2008), earthquake in Haiti (2010), earthquake in Japan (2011), Typhoon Haiyan in the Philippines (2013), and earthquake in Nepal (2015).

Fire and Rescue Department

LOB #235:

VOLUNTEERS

Purpose

The Volunteer Liaison's Office resides within the Personnel Services Bureau. The mission of the Volunteer Liaison's Office is to provide and facilitate communication, collaboration and coordination, to provide interoperability through access to the personnel, equipment, and facilities of the 12 Volunteer Fire Departments (VFDs) that reside within the Fire and Rescue Department (FRD). This office is focused on enhancing efficiency in delivery of services to the community in both the public service domain through fire and life safety education, and emergency medical and fire services through the use of volunteer resources. The 12 volunteer Fire Departments have a long standing Partnership with the FRD and the County. This significant partnership is defined in the Management Agreement Committee (MAC) agreement which was approved by the Board of Supervisors in 2012.

The 12 Volunteer Fire Departments provide assistance to the FRD in the following areas:

- **Operational Contributions:** Volunteers are trained to assist with fire suppression and emergency medical services as part of a combined career/volunteer system. There are on average, over 400 highly trained operational volunteers who are serving in the system, including 15 Paramedics. Volunteers provide service by placing additional units in service during peak service demand periods or by riding in a supplemental position on minimum staffed vehicles. Trained volunteers provide stand-by medical assistance at multiple events including Celebrate Fairfax, Herndon Festival, Wolf Trap performances, community fairs and 10K runs, band competitions, high school all night graduation parties, and high school football games. In addition, volunteers staff canteen units that provide firefighter rehab at multiple alarm fires and other incidents where personnel are on scene for extended periods or are subjected to weather extremes. There are also over 260 administrative volunteers who assist in the management of the 12 volunteer departments as well as in fundraising.
- **Capital Facilities:** Nine of the County's 39 fire stations, valued at over \$28 million, are owned and maintained by the volunteer organizations. These include stations 2, 5, 8, 10, 13, 14, 17, 22, and 23.
- **Apparatus:** The 12 VFDs own about 28 percent of the FRD's major apparatus (90 units valued at \$15 million). They provide front-line units for 15 fire stations, including those stations owned by the VFDs as well as apparatus for stations 1, 12, 19, 21, 37, and 38. In addition to front-line units, VFDs own vehicles that may be placed in service by operational volunteers or used as part of the reserve fleet for any station in the County.
- **Citizen Programs:** The Volunteer Liaison's Office manages the Community Emergency Response Team (CERT) and Fire Corps Programs of the Virginia Citizen's Corps. Last year, FRD ran over 200 students through the initial CERT class, while offering another 300 seats in extracurricular classes related to emergency preparedness.

Description

The Volunteer Line of Business can be divided into two distinct programs; the main core program is the support of the 12 volunteer departments. The secondary program is the managing of the Community Emergency Response Team program. There are a myriad of moving parts that go into both programs to ensure a smooth and efficient operation.

The Volunteer Liaison's Office performs the following roles for the volunteers from the 12 volunteer departments: HR Manager (coordination of volunteer recruiting, all volunteer human resource matters and information technology issues), insurance processor (the coordination with the Occupational Health Center and Risk Management, and outside insurance companies), tax adjusters (coordinate and process personal property exemptions and interface with the Department of Taxation), fill the role of support staff

Fire and Rescue Department

for the Volunteer Fire Commission, liaison between the FRD leadership and the volunteer leadership, authors of the Volunteer Policies and Procedures manual, asset manager (track and inventory all volunteer EMS and suppression personal protective equipment), benefit managers, and counselor. In addition, the Offices manages purchases and reimbursements for all 12 volunteer departments.

The Volunteer Liaison's Office also funds the personnel costs associated with volunteer training; including the Volunteer Training Coordinator's salary and the hourly wages for the 56 part-time non-merit academy adjunct instructors. This includes all Academy-based training; introductory training, initial certification training, recertification training, and specialty training. Supplemental funding for supplies and equipment to facilitate these programs is provided through the Academy's budget. This includes books, office supplies, expendable training supplies, equipment, facility and training prop maintenance, and apparatus.

Much of the work mentioned above is captured in the FRD volunteer personnel database, and the Fairfax County Volunteer Fire and Rescue Association database. On September 5, 2015, the following volunteers were active in the system: 382 Operational Volunteers, 291 Administrative volunteers, 160 Trainees and 78 Applicants.

This LOB also manages the Community Emergency Response Team (CERT) program as members of the board appointed County Citizen Corps Council. Responsibilities include preparing funding requests, budgets, recruiting plans, coordinating citizen registration, class scheduling, training, and recertification of participants. Staff works closely with Fiscal Services to purchase equipment and necessary tools to run the program and stay within budget.

The majority of work performed to manage the programs takes place at the FRD Headquarters building during normal business hours. However, since most volunteers have day jobs, many of the face to face interactions take place at night and on weekends, requiring attendance at one or two after hour meetings per week. Also, because of the volunteer work schedule and due to current reliance on electronic media, many of the electronic correspondence occur after hours as well.

The efforts of the Office of the Volunteer Liaison help to strengthen working relationships between the volunteer and career organizations and to ensure a safe and effective working environment.

Benefits

One of the major benefits of this office is it provides a single point of contact/conduit between the 12 individual volunteer departments and the Fire Chief. This helps ensure the 12 departments operate as a single entity to fit seamlessly within the larger combined department.

Another benefit is by working with the Volunteer Training Coordinator, volunteers are able to meet or exceed their training requirements and goals, meeting and exceeding their yearly requirements. Collaboration also exists with the Occupational Health Center (OHC) making sure that every operational volunteer goes through the same yearly physical as the career personnel to ensure a safe and healthy individual.

A successfully run partnership leads to an increase in Volunteer hours and by default, units in service which benefits the residents of Fairfax County. Another benefit of a well-run partnership is the ability of the volunteer departments to purchase apparatus. Every front line unit the volunteers purchase through fundraising efforts is one less unit the taxpayers have to buy. Also, the Ready Reserve (additional) units in service, helps decrease run time, and during incidents, adds capacity. In addition, volunteers own 9 stations and are often able to procure additional supplies and equipment purchased with donations.

Mandates

This Line of Business is not mandated.

Fire and Rescue Department

Trends and Challenges

Since 2007, the number of administrative volunteers has stayed relatively steady, while the number of operational volunteers have shown a steady growth. As more volunteers are available to put units in service or ride on career units, the number of units put in service per year will also continue to grow as well as the total number of operational hours.

A challenge to operational hours and riding times is the number of training hours required. Due to additional mandatory training, and the additional length of the classes, training hours have increased at a faster rate than operational hours. Since volunteers only have a limited amount of time to dedicate to the system, the additional training time makes it more difficult to ride units.

One of the other challenges faced is recruitment. As per the regional average, for every four volunteers entering the system, only one will remain after one year. To keep the number of operational and administrative members steady or on the slow rise, over 300 applicants must be processed per year. The other related problem is retention; with an average length of service of five years. If length of service time is increased it will allow for a more experienced cadre of volunteers to put more units in service. It will also allow FRD to save money on training. In order to accomplish increased retention, a Length of Service Awards Program was initiated to encourage members to stay beyond five years. This program is in effect in many surrounding jurisdictions, and has shown to be a proven incentive for volunteers to extend their career.

The next biggest challenge is funding. As the price of apparatus has drastically increased, and due to factors such as the weak economy, fund drives have not been as successful, some of the volunteer departments can no longer supply the County with the same front line apparatus as in the past. The same holds true for the facilities, as the stations have aged, so has the cost of maintaining them. Over the past few years, several volunteer department were unable to afford to maintain the stations themselves, and turned the properties over to the County. It is thought that the remaining departments owning their own facilities are stable enough, and there are no station turnovers planned for the immediate future.

Resources

| Category | FY 2014 Actual | FY 2015 Actual | FY 2016 Adopted |
|---|--------------------|--------------------|--------------------|
| LOB #235: Volunteers | | | |
| FUNDING | | | |
| <u>Expenditures:</u> | | | |
| Compensation | \$363,935 | \$372,330 | \$453,992 |
| Operating Expenses | 860,391 | 1,003,401 | 840,386 |
| Total Expenditures | \$1,224,326 | \$1,375,731 | \$1,294,378 |
| General Fund Revenue | \$0 | \$0 | \$0 |
| Net Cost/(Savings) to General Fund | \$1,224,326 | \$1,375,731 | \$1,294,378 |
| POSITIONS | | | |
| Authorized Positions/Full-Time Equivalents (FTEs) | | | |
| <u>Positions:</u> | | | |
| Regular | 3 / 3 | 3 / 3 | 3 / 3 |
| Total Positions | 3 / 3 | 3 / 3 | 3 / 3 |

Fire and Rescue Department

Metrics

| Metric Indicator | FY 2013 Actual | FY 2014 Actual | FY 2015 Actual | FY 2016 Estimate | FY 2017 Estimate |
|---|-------------------|-------------------|-------------------|---------------------|---------------------|
| Total number of volunteer background checks processed annually | 388 | 270 | 300 | 300 | 300 |
| Number of operational volunteers | 330 | 385 | 395 | 405 | 405 |
| Total operational hours annually | 91,808 | 97,829 | 87,768 | 90,000 | 95,000 |
| Number of times Volunteer staffed units are placed in service | 1,697 | 1,739 | 1,520 | 1,650 | 1,700 |
| Residents completing initial Community Emergency Response Team (CERT) class | 189 | 212 | 231 | 240 | 250 |

A background check is the first step in the hiring process, allowing staff the opportunity to meet the applicants and have a discussion to start determining their suitability to volunteer. While only the first step in the applicant process, it is a good indicator of the workload to come in terms of scheduling, training, and physicals. Per the national average, out of the total number of applicants, only 25 percent make it through the first year.

Both the Operational and Administrative volunteer's personnel data and records need to be kept up to date by staff. For operational volunteers, they need to be current on all mandatory training, mandatory annual physical, and certifications. While FRD has seen a nearly 20 percent increase in trained volunteers over the last 3 years due to a SAFER grant funded recruitment campaign, it is anticipated numbers will now stabilize. The volunteer force is made up of a very diverse population, in part due to the EMS only program; women make up 40 percent of all volunteers, and 20 percent are minorities based on the reported EEO classifications.

The "Total operational hours annually" metric represents the sum of all operational hours the volunteers contribute per fiscal year. It is reported and tracked in the online Volunteer Management System (VMS) designed for and managed by the Fairfax County Volunteer Fire and Rescue Association. All volunteer shifts have been recorded in this database as of July 1, 2007. The number of volunteer hours will fluctuate depending on the volunteer's availability and the number of volunteer opportunities available to the volunteer. However, it is anticipated as new volunteer's gain more experience, the total number of operational hours will increase. In addition to actual Operational hours, the Operational volunteers dedicate on average another 44,000 hours annually for training. For every hour put in by an operational volunteer, there is an equal amount expended by an Administrative volunteer. Administrative volunteers help run the corporations and fundraising efforts of each department, without their contribution, volunteers would not be able to maintain facilities or purchase apparatus.

The number of units staffed will vary upon the availability of ready reserve apparatus and the availability of volunteer officers and aides needed to put units in service. As more volunteers gain experience and move up through the system to become aids and drivers, it is expected this number will increase.

The final metric represents the number of residents who took the 25 to 30 hour basic CERT class taught at either the Fire and Rescue Academy or at an outside venue. This class must include all the DHS/FEMA CERT modules in addition to Fairfax County specific subjects. Along with scheduling residents for the initial CERT class, FRD trains approximately 300 students per year through extracurricular CERT classes. Since 2004, FRD has managed more than 100 CERT classes.

Fire and Rescue Department

LOB #236:

HEALTH AND SAFETY

Purpose

The goal of the Fairfax County Fire and Rescue Department's Health and Safety Section is to provide comprehensive occupational health and safety service to FRD uniformed and volunteer personnel and appropriate medical examinations to all public safety agencies and their applicants in order to maintain a safe and healthful workplace and to ensure all public safety agencies have personnel medically fit for duty. This goal is achieved in accordance with NFPA 1500: Standard on Fire Department Occupational Safety and Health Programs and the Occupational Safety and Health Administration (OSHA) General Duty Clause (29 USC 654 (A) (1)). The intent of this statute is to protect employees from workplace accidents and exposures by requiring employers to recognize and correct hazards and provide a place of employment which is free from the recognized hazards. The Safety Section's mission is to support, educate, and communicate with the FRD members in an effort to correct unsafe behaviors and promote firefighter safety and wellness in all divisions of the department.

Description

The Health and Safety Section provides guidance, management oversight, and medical services for early detection and prevention of job-related illness and injury. There are four distinct functional areas in the Health and Safety Section.

The *Public Safety Occupational Health Center (PSOHC)* is the primary vehicle through which medical services are delivered to all public safety agencies in the County including the FRD, the Police Department, and the Sheriff's Office. All applicants to public safety agencies are evaluated and screened at the PSOHC. The PSOHC provides pre-placement evaluations, periodic health assessments, return-to-work and fitness-for-duty evaluations, separation examinations, surveillance of occupational exposures, medical clearance for respirator use, and case management for occupational injuries and illnesses. In addition, the center staff tests and certifies members annually in the correct selection of respiratory protection equipment. The PSOHC assists members affected by occupational injuries or illnesses in their rehabilitation in an effort to facilitate their return to active duty or limited duty. Another activity for the center, within their existing capacity, is the treatment of minor occupational injuries sustained on the job by firefighters. The PSOHC also provides medical services to the Fairfax City Fire Department, the Town of Herndon Police, and the Town of Vienna Police.

A concurrent activity is the Confidential Health Database component that maintains health files on each employee and volunteer. These health files include results of regular medical evaluations, physical performance tests, occupational illnesses or injuries. Also included are files related to exposures to suspected hazardous materials, toxic products, or contagious diseases. Projects also include on-line injury reporting, client billing software, MEDGATE (medical records management system) and an injury/restricted duty database.

As part of the PSOHC staff, a clinician is assigned that provides counseling to all department employees on behavioral health. This individual is directly involved with stress and crisis management to employees who may have suffered a great loss or experienced a very traumatic event.

Light Duty Programs are designed for personnel who have sustained on-the-job injuries or who are experiencing medical problems that prevent them from performing their full job duties but have the ability to work in some capacity. Job assignments are carefully matched to the individuals' abilities and restrictions, while supporting and monitoring rehabilitation efforts to ensure a timely return to full duty, permanent alternative placement or retirement from the department.

Fire and Rescue Department

The *Wellness/Fitness Program* provides resources, time, and expertise to firefighters to achieve and maintain peak physical fitness levels, to facilitate recovery from a work-related injury or illness, and to minimize the risk of on-the-job injuries. The wellness component incorporates behavioral health, physical fitness, nutrition, and injury and illness prevention and rehabilitation. The fitness component supports a structured physical fitness program and involves the purchase, installation, and maintenance of fitness equipment for the Massey Fitness Center, Training Academy, and fire stations. The fitness component is supplemented by Peer Fitness Trainers who conduct training sessions for incumbents and firefighter candidates and assist with the administration of the Work Performance Evaluation (WPE) and Candidate Physical Abilities Test (CPAT). In addition, the Peer Fitness Trainers develop and administer the US Department of Justice mandated physical performance training requirements for candidates who participate in the CPAT. The fitness component provides physical performance assessments on any individual returning to full duty from a debilitating injury, illness, or other extended leave.

The Critical Incident Stress Management Program (CISM) provides trained clinicians and peer counselors to identify and counsel individuals who are experiencing difficulties in coping with critical incidents encountered while performing emergency services duties. CISM provides a program that identifies and assists members and their immediate families with substance abuse, stress, and personal problems that adversely affect work performance. In addition, this effort provides education and counseling for the purpose of preventing health problems and enhancing well-being. When necessary, staff may refer personnel or their immediate families to employee assistance program (EAP) and other health care services for the restoration of job performance. In addition, OHSP supports the Peer Support Program (PSP), which provides informal mentoring and sponsor services to co-workers facing issues of substance abuse to facilitate recovery.

The *Infectious Disease and Environmental Control (IDC) Program* attempts to identify, limit, or prevent exposures to infectious or contagious diseases. Another functional component within this program includes the educational prevention of exposures to airborne contaminants such as but not limited to the production of combustion products and asbestos fibers. The IDC provides employees and volunteers with protective equipment to minimize or prevent members from potential exposures to blood borne pathogens and other infectious diseases. The program delivers a comprehensive educational and control program for personnel who may potentially be exposed to blood borne pathogens or infectious diseases. The IDC ensures all members have access to an appropriate immunization program and ensures all members have adequate antibody titer levels to certain infectious diseases, and ensures annual Tuberculosis testing as required by the Food and Drug Administration (FDA) and Center for Disease Control (CDC). The IDC maintains the department's respiratory protection program that addresses the selection, safe use, maintenance of respiratory protection equipment, and training on the devices. The IDC under 29 CFR 1910.134, OSHA Respiratory Protection maintains the assurance of air quality testing.

The *Safety Program* follows the NFPA 1521 Standard for Fire Department Safety Officers and includes multiple field activities. Safety officers are assigned to 24-hour shift duties. Safety officers ensure OSHA compliance throughout structural fire suppression, emergency medical, hazardous materials, and technical rescue responses. Safety officers develop and distribute safety and health information, manage compliance with the Department of Finance's Risk Management program, develop accident prevention programs, and provide instruction on safe work practices. When indicated, safety personnel provide accurate investigation, identification of corrective actions and the reporting for claims involving personal injury, toxic exposures, vehicle accidents, citizen complaints of damage and loss or damage to County-owned vehicles and equipment. All work locations are inspected to ensure compliance with Federal, State, and Local health and safety laws. Safety officers ensure all members have appropriate personal protective clothing and equipment for safe operation within their specific positions, and train personnel in the care, use, inspection, maintenance, and limitations of the protective clothing and equipment. Finally, safety officers facilitate the FRD's compliance with the following code requirements mandated for providers of fire protection services to localities.

Fire and Rescue Department

Benefits

The health, wellness and safety of responders is paramount. Ensuring their well-being correlates to less time lost due to injury or sickness, safe careers and an enjoyable retirement. Less time lost reduces the fiscal impact to the County, requiring less overtime for back-fill coverage, Worker's Compensation claims, etc. Members that are safe and healthy operate safely and efficiently and provide the excellent public safety service that residents, customers, and visitors of Fairfax County expect.

Over the last ten years, the Public Safety Occupational Health Center has diagnosed 11 cancers and 45 cardiac cases during annual physicals. Eight of the cardiac cases were life threatening requiring immediate intervention resulting in no loss of life.

Peer Fitness Trainers (PFT's) assisting the Wellness/Fitness Center staff are responsible for administering the Functional Movement Screens (FMS). An average severe injury (knee, shoulders) incurs a cost of approximately \$350,000. In FY 2013 and FY 2014, severe injuries were reduced due to the FMS program. The total dollar amount of the severe injuries was reduced by 39.7% from \$8,200,254 to \$4,948,775.

Physical therapy rehabilitation services provided to public safety personnel at no cost to the individual or Workers Compensation. In FY 2015, the cost savings were over \$150,000.

Mandates

Code of Virginia – Line of Duty Act (§ 65.2-402) Presumption as to death or disability from respiratory disease, hypertension or heart disease, and cancer. All claims made under the Virginia Line of Duty Act require a comprehensive investigation.

OSHA Fire Brigade Standard 29 CFR 1910.156 (2, e) – Requires fire protection personnel to submit to an annual medical examination.

NFPA 1500 – Standard on Fire Department Occupational Safety and Health Programs

NFPA 1521 Standard for Fire Department Safety Officer Professional Qualifications

NFPA 1581 - Standard on Fire Department Infection Control Programs

NFPA 1582 Standard on Medical Requirements for Fire Fighters, ADA - Americans with Disabilities Act, Virginia Workers Compensation Act, OSHA 29 CFR 1910.134 Respiratory Protection standard, and NFPA 1001 requiring candidates and incumbents alike to be physically fit to operate safely and efficiently.

29 CFR 1910.1030 – Bloodborne Pathogens; Ryan White Comprehensive AIDS Resources Emergency (CARE) Act of 1990

29 CFR 1910.134, OSHA Respiratory Protection - Requires that when employees enter a hazardous area using respiratory protection, one or more similarly equipped employees must be standing by to provide accountability and assist in rescue if needed. Specific requirements are listed for regular maintenance and testing of respiratory equipment, fit testing, and other requirements.

Occupational Noise Exposure (OSHA 29 CFR 1910.95) - Requires employers to measure sound levels in the workplace, provide protective hearing equipment, develop a hearing conservation program and maintain records on employee noise exposure levels.

Asbestos (OSHA 29 CFR 1910.10) – Establishes minimum health risks and training associated with asbestos exposure. Provides appropriate workplace and medical surveillance for individuals working in or otherwise exposed to an environment containing asbestos materials. Asbestos control plans are developed and training is provided to employees at each work site identified as containing asbestos materials.

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Personal Protective Equipment (OSHA 29 CFR 1910.132 and 1910.140) - Establishes general requirements for employers to provide testing, inspection, and maintenance of personal protective equipment (PPE) for employees exposed to workplace hazards. Employees must be trained on the proper use of such equipment to include eye protection, face protection, head and extremity protection, protective clothing, respiratory protection, and protective shields and barriers.

Hazardous Waste Operations and Emergency Response (OSHA 29 CFR 1910.120) – Applies to personnel involved in hazardous materials response; *Hazard Communication (OSHA 29 CFR 1910.1200)* - Sanitation requirements (OSHA 29 CFR 1910.141) – inspections of fire department facilities; *Permit-Required Confined Spaces (OSHA 29 CFR 1910.146)* – protection for personnel who enter “permit-required confined spaces.

Virginia Senate Joint Resolution No. 120 - Requesting the Virginia Fire Services Board to develop and maintain a statewide database for the collection and analysis of information documenting firefighter exposure to toxic substances, 1994.

Trends and Challenges

The Public Safety Occupational Health Center is heavily reliant on medical technology. To remain at the forefront of medical care requires an investment in constantly evolving technology. For example, wireless treadmill evaluation/testing has the ability to transmit results instantaneously to a consult specialist (cardiologist, radiologist, etc.) for review/recommendations providing patient care diagnostics immediately rather than waiting for a follow-up appointment. However, medical equipment is expensive and as a result of budget concerns, FRD is challenged with keeping up with medical advancements in technology.

The FRD operated with one Safety Officer responsible for the whole County until FY 2009 when a second Safety Officer was added to provide additional coverage to ensure incident scene activities were performed in a safe manor. Due to increasing traffic congestion and size of the County, the on-scene times of a Safety Officer were still extended, thus reducing the likely hood of injury prevention. With incident scene injuries still on the rise, the addition of a third Safety Officer occurred in FY 2014 and FRD has realized a reduction in on scene injuries. As Fairfax County continues to grow and with volume continually increasing, on-scene response time will start to decline again in the near future possibly resulting in an increase in on-scene accidents and injuries.

Fire and Rescue Department

Resources

| Category | FY 2014 Actual | FY 2015 Actual | FY 2016 Adopted |
|--|--------------------|--------------------|--------------------|
| LOB #236: Health and Safety | | | |
| FUNDING | | | |
| Expenditures: | | | |
| Compensation | \$1,972,644 | \$2,375,026 | \$1,905,834 |
| Operating Expenses | 3,592,117 | 3,621,883 | 3,536,443 |
| Capital Equipment | 48,744 | 54,845 | 0 |
| Total Expenditures | \$5,613,505 | \$6,051,754 | \$5,442,277 |
| General Fund Revenue | \$0 | \$0 | \$0 |
| Net Cost/(Savings) to General Fund | \$5,613,505 | \$6,051,754 | \$5,442,277 |
| POSITIONS | | | |
| <i>Authorized Positions/Full-Time Equivalents (FTEs)</i> | | | |
| Positions: | | | |
| Regular | 14 / 14 | 18 / 18 | 18 / 18 |
| Total Positions | 14 / 14 | 18 / 18 | 18 / 18 |

Metrics

| Metric Indicator | FY 2013 Actual | FY 2014 Actual | FY 2015 Actual | FY 2016 Estimate | FY 2017 Estimate |
|--|----------------|----------------|----------------|------------------|------------------|
| Public Safety Occupational Health Center medical examinations | 3,831 | 3,987 | 4,000 | 4,100 | 4,200 |
| Number of personnel provided Functional Movement Screens | 404 | 404 | 404 | 404 | 404 |
| Physical therapy at WelFit Center rehabilitation dollars saved | \$83,484 | \$153,088 | \$151,823 | \$160,000 | \$165,000 |
| Number of injuries occurring on fire ground incident scene | 61 | 82 | 77 | 72 | 67 |
| Number of Infectious disease exposures | 351 | 418 | 276 | 275 | 275 |

The Public Safety Occupational Health Center delivers annual physicals to Fairfax County Fire and Rescue, Fairfax County Police Department, Fairfax County Sheriff's Department, Fairfax City Fire Department, Town of Vienna Police Department, and the Town of Herndon Police Department as part of a comprehensive medical monitoring and health screening program. The three outside agencies are billed for services. Physicals are expected to continue to increase as staffing in all public safety agencies increase.

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Functional Movement Screening (FMS), is a ranking and grading system that documents movement patterns essential to normal movement function. Screening systems employ unloaded and loaded movement patterns and often incorporate fatigue; all in an effort to illicit performance deficits. By screening these patterns, functional limitations and asymmetries can be identified. These scoring systems are then used to construct corrective exercise programs in which the most beneficial corrective exercises to restore mechanically sound movement patterns are programmed. Exercise professionals monitor the screening score to track progress and to identify those exercises that will be most effective at restoring proper movement and increasing strength in each individual. Based on current staff and resources, the number of personnel screened annually is expected to remain consistent.

It is the goal of the WelFit program to assist uniform personnel in maintaining fitness for duty through a variety of means such as, facility training, station visits, peer fitness training assistance, and fitness program design. The comprehensive program includes an occupational health center, physical therapist, strength conditioning exercise specialist, behavioral health specialist, wellness fitness facility, and peer fitness trainers. Part of this initiative includes an on-staff occupational physical therapist available for rehabilitation services. Specially trained in the function and physical needs of public safety, this resource is available at no direct charge to personnel or workers compensation. Dollars saved are projected to increase as more personnel take advantage of this opportunity.

NFPA and OSHA standards require safety officers at incident scenes. Safety officers assist incident commanders with fire ground risk assessment, and implement incident safety plans to prevent unsafe actions and injuries. With the addition of the third Safety Officer in FY 2014, injuries occurring on the fire ground incident scene have decreased. It is expected with the increased training and oversight of scene safety management, this trend will continue.

The infectious disease program delivers all Federal and State required training and education for infectious disease precautions including annual refresher updates to all uniformed employees. As a result of infectious disease education, training and supplying proper personnel protective equipment, the number of infectious disease exposures are declining.

Fire and Rescue Department

LOB #237:

PERSONNEL SERVICES BUREAU / EQUAL EMPLOYMENT OPPORTUNITY / INTERNAL AFFAIRS

Purpose

The Personnel Services Bureau (PSB) is designed to promote efficiency and synergy in the administration of all human resource management services. This bureau oversees the following LOBS:

- Volunteers
- Health and Safety
- Human Resources, Recruitment, and Promotional Exams
- Training

The Equal Employment Opportunity (EEO) Office and Professional Standards Office are entities operating within the PSB working collaboratively with the other sections in the bureau.

The EEO Office is responsible for ensuring adherence to all Federal, State and County regulations prohibiting discrimination, and safeguarding diversity and inclusivity within the workplace.

The Professional Standards Office exists to maintain the integrity and professionalism expected by the Fairfax County Fire and Rescue Department. All employees are subject to the departmental Rules and Regulations and to Fairfax County's Rules and Code of Ethics. This office will respond to any credible information concerning misconduct by department employees, and is charged with investigating and serious allegations of misconduct involving an employee.

Description

The EEO Office responds to allegations of discrimination, harassment and hostile work environments, develops and delivers training, monitors the department's diversity plan, trains a cadre of peer counselors and monitors court and commission rulings and enactment of new law to ensure the department's EEO policies are in compliance

The Professional Standards Office conducts a variety of investigations for the FRD. These investigations include allegations of misconduct involving professional firefighters/EMTs, civilian employees and volunteers. The second type of investigation is background screening for newly hired County employees and volunteers including polygraph examinations on potential employees. Professional Standards also monitors employees who are placed into the Disciplinary Diversion program as a result of alcohol and drug use/abuse.

Benefits

A strong and successful EEO program benefits everyone. By encouraging diversity in the hiring practices, the compliment of emergency response providers more accurately reflects the community resulting in enhanced communication and improved service quality. A successful EEO program also creates an internal culture where it is clear discrimination and harassment are not tolerated, resulting in confidence of employees to report issues or concerns involving discrimination or harassment. Lower occurrences of discrimination and harassment make for more healthy working environments, decreases potential distractions and allows employees to focus on the task at hand resulting in increased effectiveness.

Fire and Rescue Department

A strong and successful Professional Standards Program ensures the integrity of the FRD by promptly and thoroughly investigating complaints and allegations of employee misconduct. The integrity and reputation of a Fire and Rescue Department are vital if it is to accomplish its mission. Accordingly, the Office of Professional Standards is responsible for helping the FRD maintain its credibility and respect, both from the public it serves and its members.

Mandates

EEO & Diversity is mandated by Title VII of the Civil Rights Act (as amended), County Personnel Regulations, and Core Values.

Trends and Challenges

Successful training programs have proven effective in reducing discrimination and harassment. FRD's challenge is to maintain an engaging, frequent and impactful training program to reach over 1,500 employees in order to maintain a discrimination and harassment free work environment. This can sometimes prove challenging with over 45 various work locations, three separate shifts, competing priorities to accommodate required training and limited staff resources.

With the rise of social media comes a greater risk for improper use by employees whether at or away from work. With the rise in acceptable usage of social media for work – Facebook, twitter, blogs, restrictions that once existed have been lifted providing employees the opportunity to access these sites, but also increasing the opportunity for abuse. Increased education on proper usage along with the development of department policies and procedures is one step towards reducing misconduct.

Resources

| Category | FY 2014 Actual | FY 2015 Actual | FY 2016 Adopted |
|--|------------------|------------------|------------------|
| LOB #237: Personnel Services Bureau / Equal Employment Opportunity / Internal Affairs | | | |
| FUNDING | | | |
| <u>Expenditures:</u> | | | |
| Compensation | \$748,786 | \$629,389 | \$560,041 |
| Operating Expenses | 54,897 | 48,353 | 31,546 |
| Total Expenditures | \$803,683 | \$677,742 | \$591,587 |
| General Fund Revenue | \$0 | \$0 | \$0 |
| Net Cost/(Savings) to General Fund | \$803,683 | \$677,742 | \$591,587 |
| POSITIONS | | | |
| Authorized Positions/Full-Time Equivalents (FTEs) | | | |
| <u>Positions:</u> | | | |
| Regular | 7/7 | 7/7 | 7/7 |
| Total Positions | 7/7 | 7/7 | 7/7 |

Fire and Rescue Department

Metrics

| Metric Indicator | FY 2013 Actual | FY 2014 Actual | FY 2015 Actual | FY 2016 Estimate | FY 2017 Estimate |
|---|-------------------|-------------------|-------------------|---------------------|---------------------|
| Discrimination Complaints (internal/external) Processed | 12 | 16 | 19 | 18 | 20 |
| Number of personnel receiving diversity training | NA | 100 | 500 | 400 | 400 |
| Professional Standards Investigations | 44 | 48 | 40 | 44 | 50 |
| Professional Standards Volunteer Background Checks | 251 | 388 | 330 | 300 | 300 |

The number of internal/external discrimination complaints has increased since FY 2013. This was the expected outcome as a result of more education about EEO/Diversity combined with personnel becoming more comfortable with and having increased confidence in the manor and method in which the department handles and processes complaints of discrimination and sexual harassment. There is a direct correlation in the number of complaints and the number of diversity training classes conducted. An increased number of complainants can be an indicator of a healthy system in which members believe they are the recipient of discriminatory practices or harassing behavior they feel comfortable and confident with the department to address their concerns.

The number of diversity training classes and department members trained increased in FY 2015. The ultimate goal is for all department members to receive recurring diversity training throughout their career. The number of trainings provided and the number personnel trained is driven by the overall population of the department. The goal of diversity training is to reach all department personnel educating them on current issues impacting diversity in hopes of fostering a respectful work place free of discrimination and harassment, and to educate all levels within the chain of command on how to appropriately address concerns of discrimination and harassment if they occur.

Internal affairs/professional standards investigations are a result of credible information concerning misconduct by department employees. While the number of internal affairs investigations fluctuate annually, the fluctuation is minimal.

The number of volunteer background checks fluctuates annually and is dependent on the volunteer's recruiting efforts.

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LOB #238:

HUMAN RESOURCES / RECRUITMENT / PROMOTIONAL EXAMS

Purpose

The Human Resources Section is responsible for planning, coordinating, and directing personnel, payroll, employment, workforce planning and promotional examinations. This includes personnel and payroll functions that are unique in Fairfax County, including the 24-hour shift schedule with 56-hour employees, complex issues involving the federal Fair Labor Standards Act (FLSA), as well as providing benefit and pay information to uniformed and civilian employees. This section centrally processes all requests for Family and Medical Leave Act (FMLA) leave and works in conjunction with the Return-To-Work coordinator in identifying personnel who have qualifying injuries and illnesses, both job and non-job related. The HR Section reviews and interprets applicable federal and state laws relating to employment practices and represents the FRD during public meetings, court hearings, and before the Civil Service Commission. In addition, staff provides liaison with the County Attorney, Uniformed Retirement Board, and other County agencies.

The Recruitment Section manages the applicant process for prospective firefighters by soliciting and reviewing upwards of 3,000 applications per year. This is accomplished through extensive outreach programs and participation in job fairs and career days throughout the Washington metropolitan area and other locations. These efforts are essential in order to attract a diverse workforce which is representative of the citizens we serve. Once a candidate applies for a position, there is an eight-step process that includes a written examination, candidate physical abilities test (CPAT), polygraph, personal interview, medical examination, psychological test, and background investigation. All of these steps must be completed prior to hiring each recruit. Ultimately, these efforts result in the best available candidates to enter the Academy for recruit basic training. Given the projected numbers of current firefighters who are eligible to retire within the next three to five years, the demands on this section will continue to increase.

The Promotional Examination Coordinator develops and administers required promotional testing for all uniform ranks from Technician through Battalion Chief. This involves oversight and administration of five to seven written, practical, and/or assessment examinations per year. Exams are on a specific pre-defined schedule; however, additional tests may be required as the need for a certified list of candidates is identified. Promotional exam development is a collaboration with the Department of Human Resources and with subject matter experts from field operations and other fire departments. Further, exam committees are convened and are responsible for ensuring that each testing process is impartial, fair, task-relevant, and rank-appropriate. Prior to the development of a promotional test, a review and job analysis of the position must be performed to ensure that the testing involves relevant and up-to-date requirements. This effort involves critical maintenance of confidential information pertaining to examinations such as raw scores, rankings, and materials that are included in the development of an examination.

Description

The Human Resources (HR) Section is responsible for maintaining the department's official file of all **complaints and grievances (Civil Service Commission Hearings)**. A detailed database is maintained by the Employee Relations Coordinator, including all of the steps, type of complaint (i.e. promotional exam, discipline, discrimination) and resolution (internal or external by the CSC Commission). The HR Manager handles the preparation and presentation of complaints that are heard by the CSC Commission (binding and advisory decisions). Preparation and execution is labor intensive in order to be compliant with CSC submission deadlines (documents and witness lists, supplemental exhibits and witnesses, objections, response to objections), meet with witnesses, develop opening/closing statements and lines of questioning, and ensure the grievant's and departmental witnesses are detailed out of operations, if needed. The HR Section Manager or designee is required to hear the second step complaints related to the promotional exam qualification system. The HR Section Manager or designee is present for all third step grievance meetings as they may be appealed before the CSC Commission, resulting in the activities listed above. In an effort to facilitate resolution of grievances at the earliest step, the HR Section

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also conducts research, analysis, and provides recommendations related to promotions, promotional processes, professional development, pay/leave issues and discipline, performance evaluations, etc.

Typically **Family and Medical Leave Act (FMLA)** leave is managed by individual supervisors in other agencies within the County. Given the nature of the service provided by Fire Protection Service personnel, including the dynamic staffing, and the legal and administrative requirements of FMLA (29 U.S.C. 2601, *et seq.* and Code of Federal Regulations Part 25), it was determined by the Fire Chief to centralize the processing of FMLA leave with the HR Section. The FMLA coordinator responsibilities include compliance with the federal law with respect to determining eligibility, meeting notification deadlines, record-keeping and FOCUS FMLA Workbench updates, documentation and distribution of employee notifications, designations, and medical certifications, monitoring leave usage and letters to employees when they are nearing the end of their specific FMLA leave year and/or their leave entitlement expires. An administrative assistant supports the processing and distribution of notifications and designations.

Providing accurate and timely compensation to employees is imperative. The department employs over 1,800 employees (merit and limited term), including three different Fair Labor Standards Act (FLSA) pay cycles operating on multiple shifts (3 24-hours shifts, law enforcement 12-hour shifts and day work) at 44 work locations across the County. The Payroll Team consists of the Payroll Officer Manager and three payroll contacts. Following the close of a pay period, the department's four payroll team members check online time for their assigned battalions and work groups. They notify supervisors of errors and in some cases may correct employee time and ask the supervisor to approve it. The team strives to be compliant with both the federal and state laws regarding payment of wages and overtime compensation.

The Fire and Rescue Department (FRD) is a paramilitary organization in which **promotional examinations** are administered to large candidate pools to identify qualified personnel for upward mobility (technician [four specialties], lieutenant, captain I, captain II, and battalion chief). The FRD begins planning and preparation for promotional exams at least eight months in advance of the actual exam administration date. Often the program manager is working with two or more committees in exam development at any given time. If an eligible list is forecasted to be exhausted prior to expiration, an off-cycle exam(s) may be developed and administered. This has typically occurred for the EMS Technician and Captain II eligible lists.

Benefits

The HR Section's management and coordination of all complaints and grievances facilitates overall organizational effectiveness by providing a historical accounting for management decision making, changes in departmental policies or procedures, and reduced or removal of discipline. More importantly it is a mechanism to identify problem areas within the organization and provides an opportunity to implement improvements with the goals of improved organizational effectiveness and employee relations. It also provides a means of monitoring timeliness and compliance with grievance procedures. This is especially important to the agency and the County due to the frequent rotation of uniform personnel in staff positions, due to promotions, retirements and other separations. The department has one of the highest rates of complaints and grievances as compared to other agencies within the County. The majority of the complaints are related to promotional examinations and disciplinary actions.

Centrally handling all aspects of the FMLA administration in the department facilitates the consistent application of the protections of the law and allows Fire Protection Personnel to focus on responding to emergency and non-emergency incidents, shift operations and community outreach. In addition to employers, the FMLA regulation allows individuals to be sued for interfering with an employee's rights. It is more effective in a department this size, spread across multiple locations and over multiple shifts, to have an HR team, who maintain their knowledge of the law and subsequent amendments, to centrally manage the legal and administrative requirements of FMLA processing.

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The Code of Virginia (Title 40.1) requires that organizations compensate employees for the hours worked on the established pay day. The Fair Labor Standards Act (FLSA) requires that overtime wages are due on the regular payday for the pay period covered (Title 29, § 778.106 of the CFR). Reviewing time, researching payroll issues, responding to inquiries and assisting employees and supervisors with how to code hours worked facilitates compliance with federal and state regulations.

The Department of Human Resources has two personnel assigned to all of public safety promotional testing. These employment analysts also support the County's Employment Division by processing civilian hiring requisitions and other employment responsibilities. In addition, the Promotional Examinations Program Manager is the lead on all technical examinations with the same roles and responsibilities of an officer examination. Therefore, it is imperative that the department maintain a promotional examinations branch involved in the development and administration of all uniform testing.

Mandates

Complaints and grievances – Fairfax County Personnel Regulations, Chapter 17

Family and Medical Leave Act - 29 U.S.C. 2601, et seq. and Code of Federal Regulations (CFR) Part 25

Timely and Accurate Pay – Code of Virginia Title 40.1 and Fair Labor Standards Act Title 29, § 778.106 of the CFR

Trends and Challenges

While the bulk of FMLA administration is handled in the HR Section, FRD does require that supervisors submit a request for FMLA leave for an employee when they have been on sick leave in accordance with the FMLA rules. At times, HR is not notified of an employee's qualifying event until they have returned to full duty. By that time, due to the deadlines established in the FMLA, HR is unable to count the time against the employees FMLA leave entitlement. This negates the department's ability to consistently apply the protections authorized within the regulations. On average, 40 percent of all events are due to a non-work related injury/illness (self), 36 percent to a job-related injury/illness and 20 percent to birth of child and placement of child for adoption or foster care.

The department operates in a dynamic staffing environment which presents a challenge in ensuring that personnel receive accurate and timely compensation. The Payroll Team processes over 840 employment actions each year such as promotions and transfers, resulting in a change in supervisor and work locations. In addition, injured/ill employees may be assigned (work related and non-work related) to light duty for a period of time requiring payroll to change the shift and scheduled work hours. Likewise, when employees are cleared for full duty by the Public Safety Occupational Health Center, the employee may be moved in the middle of a pay period back to a 56-hour work week, requiring a modification to how time is recorded in FOCUS. Each of the three shifts work 9-11 days each month.

The department's technical and officer eligible lists are established for a period of two years. As mentioned previously, if a promotional exam eligible list is forecasted to be exhausted prior to the established expiration date, an off-cycle exam(s) may be developed and administered. This has typically occurred for the Emergency Medical Services (EMS) Technician and Captain II eligible lists. Some of the challenges to obtain qualified candidates relate directly to the minimum qualifications and changes in professional development requirements. For example, the next EMS Technician examination will be open only to candidates who are certified as a paramedic, whereas, previous exams considered candidates certified in intermediate or paramedic as eligible. This change is due to the Virginia Office of EMS transitioning out the "intermediate" certification by 2019. In addition, the department recently modified its professional development program requiring a certain level of college education as a minimum requirement to participate in the exam, instead of including the education as part of the formula to calculate a candidate's promotional ranking on the eligible list. It should be noted that during the ten year transition period of the

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new program, the department established two options for eligibility (1. Education, 2. Years of service) which may reduce the impact (if any) on the candidate pool.

Resources

| Category | FY 2014 Actual | FY 2015 Actual | FY 2016 Adopted |
|--|--------------------|--------------------|--------------------|
| LOB #238: Human Resources / Recruitment / Promotional Exams | | | |
| FUNDING | | | |
| <u>Expenditures:</u> | | | |
| Compensation | \$961,219 | \$1,201,211 | \$1,014,726 |
| Operating Expenses | 122,160 | 137,165 | 162,656 |
| Total Expenditures | \$1,083,379 | \$1,345,161 | \$1,177,382 |
| General Fund Revenue | \$0 | \$0 | \$0 |
| Net Cost/(Savings) to General Fund | \$1,083,379 | \$1,345,161 | \$1,177,382 |
| POSITIONS | | | |
| Authorized Positions/Full-Time Equivalents (FTEs) | | | |
| <u>Positions:</u> | | | |
| Regular | 14 / 14 | 14 / 14 | 14 / 14 |
| Total Positions | 14 / 14 | 14 / 14 | 14 / 14 |

Metrics

| Metric Indicator | FY 2013 Actual | FY 2014 Actual | FY 2015 Actual | FY 2016 Estimate | FY 2017 Estimate |
|--|----------------|----------------|----------------|------------------|------------------|
| Recruitment applications processed | 1,594 | 3,038 | 3,077 | 3,100 | 3,400 |
| Number of promotional exams held annually | 5 | 6 | 5 | 6 | 4 |
| Number of complaint/grievance steps processed | 33 | 18 | 21 | 27 | 27 |
| Percent compliance with Family Medical Leave Act (all events) | 95% | 95% | 95% | 98% | 98% |
| Percent of errors identified by payroll branch prior to transfer | 95% | 95% | 95% | 98% | 98% |

The recruitment division manages the applicant process for prospective firefighters by soliciting and reviewing upwards of 3,000 applications per year. Given the current vacancy rates and the projected number of current firefighters eligible to retire within the next three to five years, applications processed will continue to increase.

The Fire and Rescue Department (FRD) is a paramilitary organization in which promotional examinations are administered to large candidate pools to identify qualified personnel for promotions. The FRD begins planning and preparation for promotional exams at least eight months in advance of the actual exam administration date. Actuals listed reflect when the exam was administered; however, exams development may have begun in the prior fiscal year. Often, two or more committees are in exam development at any given time. The number of promotional exams fluctuates minimally from year to year.

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The Human Resources (HR) Section maintains a detailed Personnel Database of all grievances within the department, including all steps, type of complaint and resolution. It is expected numbers will continue to increase partly as a result of department growth, but primarily because of the complicated and extensive rules and regulations governing minimum staffing requirements, the ability to earn overtime, and promotional processes. Since 2006 the majority of grievances are related to discipline and promotions and promotional testing.

There are over 350 requests for FMLA leave each calendar year, equating to 22 percent of FRD total staff on FMLA. On average, 40 percent of all events are due to a non-work related injury or illness, 36 percent to a job-related injury or illness and 20 percent to birth of child or placement of child for adoption or foster care. While 100 percent accuracy is the goal, shortcomings in the process have been identified. Primarily the process falls short on the issuance of notification letters which should be issued within two weeks of the expiration of an employee's leave entitlement and/or FMLA leave year. Staff has put measures in place to improve in this area and are expecting to realize an improvement in FY 2016.

The department employs over 1,800 employees, including three different Fair Labor Standards Act (FLSA) pay cycles, operating on multiple shifts at 44 work locations across the County attributing to an increased opportunity for payroll errors. Typical errors include no hours or partial hours entered by positive time reporters, hours entered lacking supervisor approval, regular hours entered are greater than scheduled hours, and incorrect use of absence and attendance type codes. On average, the payroll team identifies and corrects 62 errors per pay period. On occasion, an employee does not receive pay for regular scheduled hours resulting in requests for supplemental checks. While 100 percent accuracy is the goal, lower percentages are reflected as a result of extremely high position turnover. In the last 18 months, three of the four positions that were vacated and had to be filled with new employees. It is expected that they will become more proficient in finding and correcting payroll errors thus increasing the percent of errors identified.

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LOB #239:

TRAINING

Purpose

The training division provides quality professional training to career, volunteer personnel, and recruitment classes. The division coordinates and supports current and future training and educational needs to improve service delivery and effectiveness through suppression training, driver training, professional development curriculums and command officer development courses. The Training Division strives to provide high quality training, skills maintenance, and all hazards situational awareness through continuing education and technical updates to approximately 1,400 uniformed members and approximately 400 Volunteers of the Fairfax County Fire and Rescue Department (FRD). These activities support excellence in service to the citizens and visitors of Fairfax County.

Description

The seven distinct training areas are identified as follows:

- The *Basic Training Section* is responsible for the training of all new career members. New FRD recruits undertake an intensive 22-week school that involves certification as Emergency Medical Technician Basic (defined by the Virginia Department of Emergency Services), firefighter (compliant with National Fire Protection Association 1001 Firefighter I and II level), Emergency Vehicle Operations (as defined by the Virginia Department of Fire Programs), and Hazardous Materials First Responder - Operations (Occupational Health and Safety Administration 1910.120 and NFPA 472). The number of recruit schools held each year and the number of recruits hired is dependent upon the number of positions required to fill vacancies through retirement and attrition, in addition to new personnel who are required for new stations.
- The *EMS Training Section* ensures department personnel acquire and maintain all the necessary educational requirements for EMS certification and re-certification in accordance with the relevant Virginia Office of Emergency Medical Services, National registry of Emergency Technicians and the National Highway Transportation Safety Administration (NHTSA) Emergency Medical Technician National Standards. All operational career personnel and volunteers are certified as Emergency Medical Technician EMT-Basic providers, with approximately one-third certified as Advanced Life Support providers. A state-of-the-art EMS Simulation Center was opened at the Fire & Rescue Academy in 2013 to provide EMS continuing education. As a Community Training Center (CTC) for the American Heart Association, the section oversees all Cardiopulmonary resuscitation (CPR) and automated external defibrillator (AED) training. The Public Access Defibrillation (PAD) program is designed to familiarize businesses with the advantages of early defibrillation and assist with the implementation of a program for their facilities.
- The *Field Training Section* develops and delivers essential continuing education, advanced skills training and re-certification training to all personnel within the FRD. This is accomplished through three sessions of Operational Academy Rotations (OARs), the development of training bulletins, and the acquired structure program. In the latter, donated structures that are slated for demolition are acquired after they have met certain criteria and have been inspected for stability. This program provides real-time controlled training in an actual working residential environment. In addition, the Field Training Branch supports testing and evaluating new and innovative equipment. The field Training section also supports the delivery of department specialty training includes the training of personnel assigned to unique functional areas such as the mitigation of hazardous materials operations, technical rescue (ropes and confined spaces) and marine operations. This training is critical to supporting the mission functions performed by the operational personnel assigned to specialty units and personnel assigned to the department's USAR - Virginia Task Force 1.

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- *Volunteer Training* section provides training to new operational volunteer personnel who are required to attain the same certification levels as career firefighters. This training is offered during evening and weekend hours to accommodate the availability of the citizens who volunteer their services. In addition to basic training, operational volunteers must undertake re-certification training, and may opt for specialty courses which are coordinated through this section.
- *Administrative Services* maintain individual career and volunteer training records, issues certificates (as a delegated VDFP authority), and provides reporting for command staff. This includes managing records, including providing copies of training records to students. The administrative area generates recruit training manuals for each recruit school, supports each recruit graduation program, and maintains individual training records in an electronic training database. In addition, the administrative area serves as the department's Training Coordinator, managing County training registrations for approximately 1,400 uniformed staff and 400 civilian staff. National Fire Academy class registrations are also coordinated through this group. They provide administrative support to the Academy staff and ensure the "must answer" Academy line is answered from 8:00 a.m. to 4:30 p.m. Monday through Friday. Virginia Department of Fire Programs Instructor and Officer class registrations are coordinated through the Professional Development area as well as the Veteran's Administration reimbursement program.
- *Training support* provides audio/visual (A/V) support and maintains an A/V library consisting of over 4,000 training videos, slides, overheads, pictures, and manuals. Services provided include a videographer, video-editing capabilities, providing loaner equipment, A/V library requests, and video duplication.

Benefits

FRD conducts its own recruit school and EMS training in accordance with established standards. All FRD uniform personnel must attend basic training even if they have prior firefighting and EMS experience. The recruit school is designed to enhance firefighting and EMS skills as well as familiarize the recruits with the techniques, equipment and apparatus used in Fairfax County. Internal training allows for standard consistency throughout the department and integrates new recruits into the system. Consistency in terminology, firefighting tactics, and emergency response procedures enhances the efficiency and effectiveness of the entire department.

Ongoing field training is critical to department operations. Field Training ensures personnel remain highly training and skilled for emergency response incidents.

Volunteer Training ensures operational volunteers are trained to the same level as career firefighters. The same training requirements improves confidence for volunteer members knowing they have been trained and equipped to do their job properly. It also reassures them they can achieve high levels of competency and productivity and it provides consistency allowing for volunteer and career firefighters to work side-by-side without confusion on terminology or process.

Administrative and Records Management Staff keep the division running efficiently and effectively making sure resources are available, paperwork is filed and organized, and ensuring the various sections have the resources they need to perform their jobs successfully.

Mandates

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

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

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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

Basic training will continue to see larger class sizes due to existing vacancies and projected attrition. Larger class sizes present challenges with having adequate training staff, adequate classroom space and additional training equipment.

Maintaining the level of knowledge, skill and abilities of firefighters is paramount to ensuring the safety of residents, the firefighters involved in all hazard emergency response, and capacity to mitigate an increasing number of emergency situations. FRD will meet the training requirements as outlined by the Insurance Service Office (ISO) which will result in an increased number of training hours for department personnel. Additionally, as the number of operational personnel continues to rise, Field Training is experiencing an increased demand for training development and delivery. Qualified personnel able to provide the training, time in the work day to deliver the training and overtime dollars associated with training that cannot be delivered on scheduled work days, are some of the challenges training staff is working to overcome.

As a result of the increase in resources directed towards the driver training program it is expected FRD will realize a positive impact on driver safety resulting in a reduction in the number of vehicle accidents. The established training expectation is all personnel operating a department vehicle shall participate in annual driver training.

The ISO evaluation process identified an area of weakness in FRD was training records management. In response, FRD procured a new training system *Target Solutions*, which is expected to significantly aid in tracking training records. As a result of better records management, FRD will realize the ability to provide trend analysis to enhance FRD training programs.

Resources

| Category | FY 2014 Actual | FY 2015 Actual | FY 2016 Adopted |
|---|--------------------|--------------------|--------------------|
| LOB #239: Training | | | |
| FUNDING | | | |
| <u>Expenditures:</u> | | | |
| Compensation | \$4,206,026 | \$6,277,453 | \$5,876,920 |
| Operating Expenses | 533,298 | 610,955 | 421,122 |
| Capital Equipment | 27,414 | 0 | 27,017 |
| Total Expenditures | \$4,766,738 | \$6,888,408 | \$6,325,059 |
| General Fund Revenue | \$0 | \$0 | \$0 |
| Net Cost/(Savings) to General Fund | \$4,766,738 | \$6,888,408 | \$6,325,059 |
| POSITIONS | | | |
| Authorized Positions/Full-Time Equivalents (FTEs) | | | |
| <u>Positions:</u> | | | |
| Regular | 24 / 24 | 28 / 28 | 28 / 28 |
| Total Positions | 24 / 24 | 28 / 28 | 28 / 28 |

Fire and Rescue Department

Metrics

| Metric Indicator | FY 2013 Actual | FY 2014 Actual | FY 2015 Actual | FY 2016 Estimate | FY 2017 Estimate |
|---|-------------------|-------------------|-------------------|---------------------|---------------------|
| Career Recruits enrolled | 60 | 71 | 93 | 80 | 80 |
| Operating Costs Per Career Recruit | \$69,034 | \$68,133 | \$62,444 | \$72,857 | \$73,579 |
| Percent of Recruit Firefighters that graduate | 87% | 83% | 87% | 91% | 91% |
| Number of Live Burns conducted | NA | 10 | 6 | 6 | 6 |
| Number of personnel attending EVOC 3 training | NA | NA | 360 | 360 | 360 |

FRD is budgeted for two 24 student recruit schools. As a result of large vacancies and ongoing attrition, it is expected the department will continue to hold larger than planned for recruit schools. As FRD continues to increase the size of the recruit schools, it further strains the budget in terms of recruit salaries, overtime for instructors and operating costs such as books and fire ground simulation equipment. Cost per recruit is projected to increase as a result of salary increases and inflationary increases to supplies and equipment.

Maintaining the level of knowledge, skill and abilities of firefighters is paramount to ensuring the safety of the residents and the firefighters involved in all hazard emergency response. Field training uses a variety of delivery methods to accomplish on-going training, one method being live burns to study fire behavior. Live burns provide firefighters the hands-on training experience in an environment that cannot be replicated in a propane or natural-gas burn facility. It is the goal to train on one live burn each month; however, limitations such as availability of an acquired structure and funding have resulted in FRD scaling back to six per year.

Firefighters are required to be trained in Emergency Vehicle Operators Course (EVOC) – 3, a state required course for all firefighters offered through the Office of Emergency Management Services (OEMS), to drive vehicles over 26,000 lbs. It is projected training numbers will remain relatively constant as the training division strives to remain in compliance with OEMS standards. It is expected increased driver safety and a reduced number of vehicle accidents should be realized in the future.

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LOB #240:

FISCAL SERVICES

Purpose

The Fiscal Services LOB within the Business Services Bureau provides financial oversight to the department through budget management, governance of accounting processes, grants coordination and administration of the EMS Transport Billing Program. Fiscal Services' goal is to ensure the availability of appropriate and adequate financial resources so department personnel can provide the highest quality public safety services to the public.

Description

The Fiscal Services Division is comprised of four sections.

Budget Section coordinates the Department's annual budget process. Staff works closely with each FRD Division or Section to plan for both immediate and long-term needs. Throughout the year, Fiscal Services regularly monitors expenditure and revenue activities; coordinating with cost center management to initiate corrective action should trends indicate any potential over-expenditures or revenue shortfalls. The section provides day-to-day oversight for requisition of major capital equipment and various large expenditures.

Accounting Section ensures compliance with County fiscal policies and procedures for contractual, utility, and inter/intra fund billings. This section supports the Procurement Card Program, oversees the Department's gift fund, prepares documents necessary to seek reimbursement for Presidential Disaster Declarations or any other billable deployments in response to requests from outside organizations, and manages the travel and training program.

Grants Section serves as financial manager for more than \$10 million in State and Federal Grant funds and is the Department's liaison with grantor organizations, ensuring adherence to application development, financial reporting and programmatic requirements. Grants staff process award documents to obtain acceptance, authorization and spending authority in compliance with actions required by the Board of Supervisors, ensure compliance with financial and program reporting requirements, issue grant adjustment notices, and close out grants in accordance with established procedures. Current funding sources include Virginia Department of Fire Programs - Aid to Localities, Virginia Department of Emergency Services - Four for Life Grant, U.S. Federal Emergency Management Agency (FEMA) for the Assistance to Firefighter Grant Programs (AFG), Urban Areas Security Initiatives (UASI), State Homeland Security Grant Program (SHSGP), and Public Safety Interoperability Communications (PSIC). Fiscal Services grant staff work closely with the Urban Search and Rescue financial managers, under the Operations Bureau, to coordinate annual County grant budget processes.

EMS Transport Billing Section administers a highly successful program generating revenue of approximately \$17 million dollars annually. Transport Billing staff manages the multi-million dollar billing services contract, oversees all revenue accounting and reconciliation processes, establishes and maintains business relationships with insurance companies and hospitals, and provides public outreach, and assistance to Fairfax County residents on all aspects of the billing program. Since the inception of the program Transport Billing staff has actively engaged with surrounding jurisdictions to share information and coordinate billing processes whenever feasible.

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Benefits

The Fiscal Services Division exists to ensure taxpayer monies are expended in a responsible manner in order to provide the best emergency response capability to residents and visitors of Fairfax County. This includes ensuring FRD follows all financial County policies and procedures, Board of Supervisors guidance, and federal, state and local financial reporting requirements.

Management of the EMS Transport Billing program affords the County with a consistent revenue collection of approximately \$17 million each year. The staff is able to adjust to changes in federal and state billing requirements for billing and privacy while providing a direct contact for the citizens.

Mandates

This Line of Business is not mandated.

Trends and Challenges

While FRD struggles to maintain existing service levels as a result of budget challenges, this struggle is further compounded by substantial increases to the cost of goods and services essential to daily operations. FRD continues to absorb costs of several new programs as well as the cost increases associated with existing programs.

Additionally, the ability to support equipment replacement and training initiatives through the use of entitlement grant funds has significantly decreased as a result of shifting funding for critical programs to grants in response to budget challenges. This is a concern as grant funding sources have been repeatedly threatened during the Commonwealth of Virginia's annual legislative process with proposals to reduce or eliminate programs for redirection to other state initiatives.

Competitive grant funding opportunities have begun to decline as the federal government authorizes less funding to support homeland security. FRD depends on funding from the Urban Areas Security Initiative (UASI) to support several regional initiatives; without this funding source the National Capital Region (NCR) Incident Management Team, NCR Radio Cache Team, and Regional Intelligence Analyst would no longer be able to operate.

Dependence on these funding sources for basic operational needs places the department at risk as the funding to support grant programs is reduced or eliminated.

Moving forward the EMS Transport Billing program faces both challenges and opportunities. The impact of the Patient Protection and Affordable Care Act (PPACA), commonly called the Affordable Care Act (ACA), is still unknown in terms of revenue collection. Although the program has allowed more people to have insurance, many of the plans have high deductibles. FRD's challenge will be to adjust and transform to meet the changing healthcare environment while sustaining Transport Billing collection levels, cost effectively, without sacrificing the program's values.

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Resources

| Category | FY 2014 Actual | FY 2015 Actual | FY 2016 Adopted |
|---|-----------------------|-----------------------|-----------------------|
| LOB #240: Fiscal Services | | | |
| FUNDING | | | |
| <u>Expenditures:</u> | | | |
| Compensation | \$909,058 | \$892,405 | \$894,005 |
| Operating Expenses | 652,519 | 689,002 | 1,011,650 |
| Total Expenditures | \$1,561,577 | \$1,581,407 | \$1,905,655 |
| General Fund Revenue | \$16,623,967 | \$17,927,017 | \$17,879,225 |
| Net Cost/(Savings) to General Fund | (\$15,062,390) | (\$16,345,610) | (\$15,973,570) |
| POSITIONS | | | |
| Authorized Positions/Full-Time Equivalents (FTEs) | | | |
| <u>Positions:</u> | | | |
| Regular | 10 / 10 | 10 / 10 | 10 / 10 |
| Total Positions | 10 / 10 | 10 / 10 | 10 / 10 |

Metrics

| Metric Indicator | FY 2013 Actual | FY 2014 Actual | FY 2015 Actual | FY 2016 Estimate | FY 2017 Estimate |
|--|----------------|----------------|----------------|------------------|------------------|
| EMS Billing Revenue collected | \$16.6M | \$16.6M | \$17.9 | \$17.9M | \$17.9M |
| EMS Billing Program costs as a percentage of revenue | 6.7% | 5.5% | 5.5% | 5.5% | 5.5% |
| Accounts Receivable (AR) dollars collected annually excluding fees for service | \$3.8M | \$4.9M | \$7.1M | \$7.1M | \$7.1M |
| Value of Grants awarded | \$7.9M | \$10.0M | \$11.5M | \$10M | \$8M |
| Percent variance between adopted and actual expenditures | 1% | 0% | 0% | 0% | 0% |

Transport billing staff manages the multi-million dollar billing services contract, oversees all revenue accounting and reconciliation processes, establishes and maintains business relationships with insurance companies and hospitals, and provides public outreach and assistance to Fairfax County residents on all aspects of the billing program. Success of the program is visible through the annual revenue generated and the low overhead cost associated with administering the program.

Accounts Receivable (AR's) are money owed by customers to the Fire and Rescue department for services that have been delivered but not yet paid for. Examples include funding from other entities for positions such as FRD's Intel Analyst position, usage of FRD's WelFit Center for candidate testing by other jurisdictions, and reimbursement for grant fund obligations such as the departments Incident Management Team and Radio Cache. This metric reflects dollars billed annually by the Fiscal Services Division Accounting section to recuperate FRD costs. Projections remain constant as additional reimbursement opportunities have not been identified.

Fire and Rescue Department

FRD's highly successful grants program manages more than \$10 million dollars in state and federal grant programs in addition to private foundation grants. Funding over the past few fiscal years has increased as a result of being awarded three consecutive Staffing for Adequate Fire and Emergency Response (SAFER) grants. The FY 2017 projection was reduced as it is unclear at this time if FRD will apply for the next SAFER grant.

The Fiscal Services division strives to ensure FRD's budget is in balance and it allocates its resources in a manner consistent with the department's priorities and goals. FRD's goal is to have a percent variance no more than 1 percent between adopted and actual expenditures. This continues to prove challenging as a result of shrinking budget and increasing demands. In FY 2013 and prior, FRD was averaging a variance of 1 percent, this figure decreased in FY 2014 and is projected to remain constant as FRD continues to struggle with meeting its public safety obligations while remaining within budget.

Grant Support

Assistance to Firefighters Grant Program

The Federal Emergency Management Agency (FEMA) manages the Firefighters Grant Program that has been providing assistance to fire departments for over a decade. Firefighter grants were originally authorized under the Defense Authorization Bill of 2001, Public Law 106-398, which amended Section 33 of the Federal Fire Prevention and Control Act of 1974, 15 U.S.C. 2201 et seq. This program supports the Country's national preparedness goal to prevent, protect, respond, and recover from both terrorist attacks and catastrophic natural disasters. The purpose of the Firefighters Grant program is to enhance, through financial assistance, the safety of the public and firefighters regarding fire and fire-related hazards.

There are three distinct programs authorized under the auspices of the Firefighters Grant Program. Assistance to Firefighters Grant (AFG), Fire Prevention and Safety (FPS), and Staffing for Adequate Fire and Emergency Response (SAFER) Grant. The Fire and Rescue Department has been the recipient of multiple awards, since the program's inception, that have helped sustain training, hiring, and prevention and life safety efforts.

Since 2002, FRD has received in excess of \$1.9 million from AFG to support critical training programs and purchase training equipment. Most recently the department was awarded funding for a multi-story burn container, functional training systems, and to increase the number of trained peer fitness trainers in order to improve safety, performance and quality of life for fire service personnel.

FPS supports projects that enhance the safety of the public and firefighters from fire and fire-related hazards. The primary goal is to reduce injury and prevent death among high-risk populations.

Since 2007, FRD has received \$324,676 to support and promote Safety In Our Community (SIOC). To support the SIOC campaign, FRD purchased and distributed door hangers with seasonal life safety messages; purchased and installed smoke alarms and carbon monoxide detectors. FPS funding also was utilized to expand the Visual Smoke Alarm program that furnishes and installs visual alarms in households with hearing-impaired residents. Additionally, FPS funding ensured all operational firefighters and fire marshals are properly trained at the Fire Alarm and Sprinkler Systems Training (FASST) Lab. This training is designed to teach operational firefighters and inspectors how to properly inspect alarm and sprinkler systems throughout the County.

SAFER, created in 2005, provides funding to assist local fire departments with staffing and deployment capabilities in order to respond to emergencies, assuring communities have adequate protection from fire and fire-related hazards as prescribed by the National Fire Protection Association (NFPA) standards. Achieving industry standard staffing levels will increase firefighter safety, reduce injuries and provide citizens with the best chance of rescue and survival. NFPA 1710, section 5.2.2.2.1, states truck companies shall be staffed with a minimum of four firefighters, yet FRD's trucks were only staffed with three firefighters.

Fire and Rescue Department

In consecutive years, FY 2012, FY 2013, and FY 2014, FRD received nearly \$10 million from SAFER to staff trucks with a fourth firefighter paramedic. FRD added the fourth member to the truck to accomplish critical fire ground tasks on-scene safely, efficiently, and effectively. Additionally, the fourth on the truck has resulted in increased Advanced Life Support (ALS) capacity, providing on-scene ALS care more quickly.

Virginia Department of Fire Programs

FRD receives an annual entitlement, through the Virginia Department of Fire Programs (VDFP) - Aid to Localities (ATL). For over a decade, FRD has received in excess of \$32 million for fire services training; constructing, improving, and expanding regional fire service training facilities; public fire safety education; purchasing firefighting equipment or firefighting apparatus; purchasing protective clothing and protective equipment for firefighting personnel. Program revenues may not be used to supplant County funding for these activities. This program serves residents of Fairfax County as well as the Towns of Clifton and Herndon. Fire Programs supports 10/8.8 FTE positions and provides funding for several critical programs, including:

- Basic Training Program - Responsible for the training of all new members through 24 to 26 weeks of classroom studies, fire ground practice, and physical fitness training.
- Command Competency Program - Implemented to provide officers with real-life emergency scenarios so they can enhance their fire ground incident command skills.
- Life Safety Education - Plays the important role of presenting life safety education programs to members of at-risk populations, including over 20,000 preschool and kindergarten students, 11,000 students enrolled in the Fairfax County School-Age Child Care Program, and 11,000 or more senior citizens.
- Fire Alarm Systems and Sprinkler Testing (FASST) Lab - Program designed to teach operational firefighters and inspectors how to properly inspect alarm and sprinkler systems throughout the County.
- Apparatus Replacement Program - Fire Programs has been leveraged more recently to offset the increased expenses associated with purchasing and maintaining apparatus.
- Self-Contained Breathing Apparatus (SCBA) Program - FRD's current SCBA equipment and components cannot be retro-fitted to achieve compliance with the latest standards and will require complete replacement. Funding has been designated to assist with the purchase of new SCBA equipment.
- Career Development Program - Career Development is designed to ensure firefighters achieve necessary higher education in order to promote to senior levels of leadership and management. Fire Programs funds 100 percent of FRD's career development program.

Return to Locality - Four for Life

This funding is legislated by the Code of Virginia § 46.2-694 which stipulates that an additional \$4 per year is charged and collected at the time of vehicle registration and set aside as a special fund to be used only for emergency medical services (EMS) purposes. These funds support a variety of medical response and training programs, however the primary stream of funding received by Fairfax County is derived from the 26 percent of funds collected that are allocated to the "Return to Locality" fund. As required by the Code of Virginia, Return to Locality funds, usually referred to as Four for Life, are returned to the locality in which the passenger vehicle is registered. There are 134 recognized localities throughout Virginia (95 counties and 39 cities). Annually, as required by Code, each locality must submit a report to Office of Emergency Medical Services on the use/distribution of those funds prior to receiving additional funds. The purpose of the fund is to provide funding for training of volunteer or salaried emergency medical service (EMS) personnel of licensed, nonprofit emergency medical services agencies and for the purchase of necessary equipment and supplies for use in such locality by licensed, non-profit emergency medical services agencies. The funds may not be used to supplant local funds.

Fire and Rescue Department

Annually the County receives slightly over \$900,000. The funding is typically utilized to support purchase of medical equipment such as defibrillators, automatic chest compression devices, and power operated cots to transport patients. Training initiatives range from ongoing mandated, basic EMS continuing education to advanced paramedic certification training for both career and volunteer first responders. The Police Department Helicopter Squadron is allocated a portion of the funds to support ongoing equipment purchases and EMS training for the police medical crews assigned to the County's helicopter squad. More recently funds have been leveraged to offset the increased expenses associated with medic units in an effort to assist the County with stabilizing the Ambulance Replacement Fund.

Homeland Security Grant Program

The purpose of the Homeland Security Grants Program (HSGP) is to support state and local efforts to prevent terrorism and other catastrophic events and to prepare the nation for the threats and hazards that pose the greatest risk to the security of the United States. Two programs under HSGP, Urban Areas Security Initiative (UASI) and State Homeland Security Grant Program (SHSGP) have primarily funded initiatives benefitting the County.

The UASI Program assists high-threat, high-density urban areas in efforts to build and sustain the capabilities necessary to prevent, protect against, mitigate, respond to, and recover from acts of terrorism. The UASI program is intended to provide financial assistance to address the unique multi-discipline planning, organization, equipment, training, and exercise needs of high-threat, high-density urban areas, and to assist these areas in building and sustaining capabilities to prevent, protect against, mitigate, respond to, and recover from threats or acts of terrorism using the Whole Community approach. Fairfax County, located within the National Capital Region, is designated as one of the top 10 Tier One areas, which makes it one of the regions in the Country most at risk of suffering a terrorist attack.

Since 2003, FRD has received funding in excess of \$42 million to support and maintain several important regional and local initiatives focusing on Personal Protective Equipment (PPE), ongoing radio interoperability, ongoing training for the National Capital Region (NCR) Incident Management Team (IMT), and ongoing funding for an intelligence analyst at the Northern Virginia Regional Intelligence Center.

The State Homeland Security Grant Program (SHSGP) assists state, tribal and local preparedness activities that address high-priority preparedness gaps across all core capabilities where a nexus to terrorism exists. All supported investments are based on capability targets and gaps identified during the Threat and Hazard Identification and Risk Assessment (THIRA) process, and assessed in the State Preparedness Report (SPR).

Since 2004, FRD has received over \$4.2 million in funding for ongoing support of communications interoperability and hazmat and technical rescue response.