

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.

Fire and Rescue Department

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

Fire and Rescue Department

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.