Lines of Business

LOB #294:
E-911

Purpose

In DPSC, highly trained Public Safety Communication (PSC) professionals are responsible for handling every emergency call made within the borders of Fairfax County – approximately one million a year. The processing of the emergency call is the first critical link in the public safety chain; without this function the chain does not work. In addition to handling emergency communication with callers, the PSCs are responsible for identifying and managing the appropriate and timely response of all first responders. The PSCs are responsible for managing calls for service from beginning with the initial call to the end when the last unit or first responder clears the event.

In order to achieve the critical mission, DPSC is made up of two groups; the PSCs, who are the first of the first responders, and the support staff. In DPSC the support staff works under the Support Services Bureau. The support bureau ensures that DPSC has staffing, funding and the tools to best achieve their agency goal: saving lives.

DIT Operating supports DPSC in the delivery of emergency and non-emergency communications utilizing state-of-the-art technology through a variety of systems integrated to provide 9-1-1 telephone, computer aided dispatch, multi-channel trunked radio and wireless data networks in a cost effective, sustainable, reliable and technologically innovative manner in an efficient and cost effective manner.

Description

The Department of Public Safety Communications is made of up two critical Bureaus: Dispatch Operations Bureau and Support Services Bureau. The Dispatch Operations Bureau is made up of the first of the first responders, the PSCs. The Support Services Bureau is made up of teams that support the Communicators. Together the two bureaus combine to make one of the most respected 9-1-1 centers in the country.

9-1-1 Dispatch Operations Bureau

Operations

- Responsible for dispatching events; Police, Fire and Emergency Medical Services;
- Responsible for answering and processing all calls for service to include: 9-1-1, non-emergency, TTY and text calls;
- Team of one manager and four supervisors who provide individual and group direction;
- Provide specialized training certification courses for dispatchers;
- Responsible for the management of critical incidents, small and large scale;
- Coordinate resource allocation of partner agencies during events;
- Responsible for ensuring all EMD/QA standards are met through a comprehensive EMD/QA review process;
- Responsible for the training of all new call takers.

Training and Career Development

- Team of one manager, four supervisors, two trainers and two detailed personnel;
- Responsible for oversight and maintenance of training records;
- Responsible for training all new employees utilizing established protocols through the in-house Training and Career Development Academy;
- Identify and organize on-going and new training to ensure current policies and practices are maintained;
- Coordinate retention and separation procedures with the DPSC Human Resources section for new employees;
- Responsible for ensuring timely re-certifications.

Teletype

- Responsible for ensuring that all state level requirements are met and maintained;
- Coordinate with the teams on training and discipline issues;
- Provide oversight for all Virginia Criminal Information Network (VCIN) and National Criminal Information Center (NCIC) operations for DPSC and Law Enforcement;
- Maintain record retention requirements for all VCIN/NCIC entries;
- Track all VCIN equipment in accordance with VCIN requirements.

Support Services Bureau

Human Resources

- Responsible for hiring and recruiting all positions within DPSC, to include three full Public Safety Communicator Academies held each year. DPSC is the largest 9-1-1 center by staff and workload in the Commonwealth of Virginia and the tenth largest in the United States;
- Ensure that employee relation issues are handled in compliance with County regulations and procedures;
- Provide oversight and management of agency personnel files;
- Responsible for the agency Risk Management program, tracking all workplace accidents and injuries and making appropriate notifications;
- Maintain the agency position management system;
- Responsible for identifying, documenting and implementing agency workforce planning activities;
- Tracking and management of Family Medical Leave events within the agency;
- Responsible for all payroll functions of the agency;
- Responsible for creating, managing and all reporting related to the agencies Diversity Plan;
- Responsible for ensuring that all agency employees participate in any County mandated training.

Information Technology

- Responsible for the Computer Aided Dispatch (CAD) system administration and contract management. This includes oversight of all aspects of the CAD system, even the elements that fall within the Police, Sheriff, and Fire and Rescue departments. The CAD system is a mission-critical application not just to DPSC and the entirety of first responders in Fairfax County, but it also has interoperability with surrounding jurisdictions;

- Responsible for the 9-1-1 Telephone System administration and contract management (soon to be a Next Generation 9-1-1 system). This includes both the primary 9-1-1 system located at the MPSTOC facility as well as the redundant backup system located at the Pine Ridge facility. The phone group is also responsible for maintaining the backup satellite phone system. The 9-1-1 system is one of the most important applications within Fairfax County; without it, the people that live, work and travel through Fairfax County would have no access to public safety services;

- Responsible for managing the DPSC IT Infrastructure such as the agency servers/network drives, the voice/data logging system, computers, printers and fax machines, in-house radio system, all unique software and applications used by the agency and routine testing, trouble shooting of equipment located at the MPSTOC facility as well as the Pine Ridge facility;

- Assure the agency has an established and maintained disaster recovery program in place.

Finance

- Responsible for the agency budget preparation, submission and management;

- Responsible for managing and maintaining the E-911 Fund. The E-911 fund is the sole funding source of DPSC;

- Prepare and respond to various annual financial audits;

- Manage and oversee all purchasing done by the DPSC;

- Manage agency contracts;

- Perform third quarter review process;

- Manage end of year carryover;

- Financial management of agency grants;

- Financial trend analysis.

Strategic Planning

- The section maintains standards, measures, accountability and reporting program;

- Responsible for creating, implementing and maintaining a strategic strategy for the DPSC;

- Responsible for agency Professional Accreditations and certifications;

- Management of DPSC and public safety records related to the CAD system, Next Generation 9-1-1 and the voice logging system;

- Assure DPSC maintains proper records for data retention in line with the Virginia Library regulations;

- Responsible for managing all requests for data and/or records, to include Freedom of Information Requests;

- Responds to court when requested to do so in relation to the release of any governed records or data;

- Responsible to maintain, modify and test the DPSC Continuity of Operations Plan;

- Responsible for creation, modification and deletion of agency Standard Operating Procedures;

- Responsible for legislative review and identifying necessary changes to DPSC policy.

The activities and programs in the E-911 Fund provide support to the operations of the DPSC and various other public safety information technology projects. DIT is responsible for oversight of all approved IT projects in the County.

DIT's support role includes the following services:

- Radio Federal Communications Commission (FCC) licensing and subject-matter expert consulting
- Radio tower site leases, insurance, rent and utilities
- Radio System Maintenance and contract management
- Telephone maintenance and contract management
- Radio/Computer/Telephone equipment (non-9-1-1 system) repair and maintenance
- Audio/Video repair and maintenance for MPSTOC

Benefits

The benefit of DPSC receiving, processing, and managing emergency calls for service ensures the essential public safety needs of Fairfax County are met. DPSC serves as the gateway for the reporting of public safety emergencies or requests for service, processing approximately one million calls for service every year. DPSC serves not only the community, but also its public safety partner agencies in dispatching, assigning, and tracking calls and monitoring the safety of public safety personnel.

Mandates

The FCC mandates the availability of 9-1-1 services in the Wireless Communications and Public Safety Act of 1999. DPSC is also governed by mandates from the FBI regarding access to the NCIC system. While not a formal "mandate" the citizens of Fairfax County expect and deserve the highest level of 9-1-1 service available.

The E-911 Fund is covered by a state mandate to contribute funds toward the cost of 9-1-1 Emergency Public Safety Communications for Fairfax County.

- Act/Regulation/Citation: Code of Virginia §52-16; Local law enforcement agencies that join the State Police Communication System must bear a portion of the cost of establishing, operating and maintaining such systems.

Trends and Challenges

DPSC's primary responsibility of receiving and processing 9-1-1 calls for service requires that proper systems be in place, maintained and updated to assure the agency's mission can be accomplished. DPSC has two primary systems that that handle emergency calls for service to be handled: the 9-1-1 system and the Computer Aided Dispatch system. The first 9-1-1 call was made in 1964 in Alabama and, up until now, 9-1-1 calls have consisted of voice communications over a traditional phone line. The 9-1-1 industry is now on the doorstep of the most significant change since that first call was made: Next Generation 9-1-1 (NG 9-1-1). NG 9-1-1 will provide calls to the 9-1-1 centers over Internet Protocol (IP) based networks, not the old voice networks that have been around for decades. The NG 9-1-1 systems will also allow for text, images, video and other smart phone-specific data to be sent to 9-1-1 centers such as DPSC. The shift to this next generation of call handling could mean greater work volume, increased risk, significant cost increases to support the new systems and integrations and greater responsibility of the PSC and those that support the PSC mission.

The modernization of the 9-1-1 system to NG9-1-1 will bring a greater challenge to the recruiting and hiring of candidates who are now going to be responsible for much more than they had ever been asked in the past. DPSC will be challenged to find viable candidates who can handle both the traditional voice calls as well as the processing of text, images, video, evolving location/GIS data and integrated desperate systems. Multitasking and working with integrated technologies and the data that will be presented will be a greater challenge to the PSC than the "old" way of doing business.

The expectations of the capabilities of 9-1-1 centers are changing significantly. The population expects that their exact location is known at all times, that they can text if necessary, that they can send images, and first responders will be at their door within seconds not minutes. The advances in technology create both opportunities and tremendous challenges, and have to be evaluated and prioritized as to what should be done, not just what can be done.

Radio standards by the FCC continue to change and Federal law requires personnel oversight and additional funding for increasing level of service and technical requirements which are borne by the E-911 Fund. Rules and regulations are changing (e.g. text to 9-1-1, NCR Radio interoperability etc.). Anticipated changes in demographics impact radio tower needs and 9-1-1 service delivery throughout the County.

There are five overarching trends that all Fairfax County public safety agencies agree are factors that impact staffing and personnel resources. These trends are urbanization, population/demographics, technology, mandates/standards, and natural and man-made threats.

- Urbanization: The size and concentration of population in areas such as South County, mid-county, Tysons and Reston, are expected to increase the amount of 9-1-1 and other calls for service.

- Population/Demographics: Increased population, constant and transitional, and the aging population will result in added requests for service and those requests will take longer to process by nature of the complexity of providing Emergency Medical Dispatch (EMD)/Pre-Arrival Instructions (PAI) on all requests for Emergency Medical Service (EMS), languages interpretation, and the utilization of Next Generation 9-1-1 (NG 9-1-1) technologies including Texting to 9-1-1. The County is expected to have a steadily increasing population of persons, age 65 and older, as the "baby boom" generation, in particular, ages. As the County's population continues to age, the demands on public safety, particularly EMS, will increase. In addition, with the decline in working age persons per retiree the result will be fewer caregivers.

- Technology: Next Generation 9-1-1 (NG 9-1-1) and other next generation technologies will result in efficiencies but will also increase the need for technical personnel to support these technologies. The technologies will greatly increase the capabilities of emergency communications but will also increase the time it will take to process a NG 9-1-1 request compared to legacy 9-1-1 request for service. The operations staff will require additional and recurring training on the new technologies as well as the training in new communications techniques.

- Mandates/Standards: The standards governing provision of 9-1-1 service are mandated by Congress (Public Law 108-494) and supplemented by various rules, regulations, standards, etc., of the FCC, Association of Public-Safety Communications Officials-International (APCO), National Emergency Number Association (NENA), Virginia Department of Criminal Justice Services (DCJS), Internet Engineering Task Force (IETF), National Fire Protection Association (NFPA), International Association of Fire Chiefs (IAFC), Insurance Service Organization (ISO), Telecommunications Industry Association (TIA), Virginia Office of EMS, Virginia Library, etc.

- Natural and Man-Made Disasters: Disasters such as 9/11 and the derecho, changing weather patterns, terrorist threats, both international and domestic, etc., have emphasized the importance of both the community and public safety having effective and available communications tools if all voice communications are significantly adversely impacted or lost. In the aftermath of the derecho, residents could utilize IP-based communications solutions such as texting to communicate to each other, but not to public safety. NG 9-1-1 will allow for these types of communications to be utilized to reach public safety services.

Resources

As this line of business encompasses all activities of the fund, please refer to the table in the Fund Resources section above.

Metrics

Metric Indicator	FY 2013 Actual	FY 2014 Actual	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate
Total calls (combined 9-1-1, non-emergency and administrative)	1,049,187	937,369	984,518	994,363	1,004,307
Law enforcement (Police and Sheriff) events entered by DPSC call takers/dispatchers into CAD	224,669	291,253	305,344	319,435	333,526
Fire-Rescue events entered by DPSC call takers/dispatchers into CAD	173,116	176,976	185,515	194,054	202,593
Teletype events	14,600	15,330	16,060	16,790	17,520
Percent 9-1-1 calls arriving at DPSC answered within 10 seconds	92%	93%	91%	90%	90%

Total calls (combined 9-1-1, non-emergency and administrative):
This measure comprises every telephone call that arrives and is available for answering by DPSC. Calls may arrive on 9-1-1, non-emergency or administrative lines and are answered and handled by DPSC public safety communicators (PSC) and communications operations supervisors (COS). The long-term trend for the number of telephone calls to DPSC has been decreasing with some year-to-year volatility. It is unclear why the number of telephone calls has been decreasing with the number of events entered into the computer aided dispatch (CAD) system increasing. DPSC expects the number of calls to increase due to the increasing, diverse and aging population in Fairfax County.

Law enforcement (Police and Sheriff) events entered by DPSC call takers/dispatchers into CAD:
This measure comprises the events related to law enforcement activity that are entered by DPSC public safety communicators into the computer aided dispatch (CAD) system. The trend since FY 2013 has been increasing, likely due to the increasing, diverse and aging population in Fairfax County.

Fire-Rescue events entered by DPSC call takers/dispatchers into CAD:
This measure comprises the events related to Fire-Rescue activity that are entered by public safety communicators into the computer aided dispatch (CAD) system. The DPSC manages all fire, EMS and rescue calls in the County. The trend since FY 2013 has been increasing, likely due to the increasing, diverse and aging population in Fairfax County.

Teletype events:
DPSC is responsible for Teletype operation in Fairfax County. Teletype operations is the entry, modification and clearing of information from the VCIN and the NCIC systems. Teletype is also the point of contact between Fairfax County Police and other law enforcement jurisdictions throughout the world related to data in VCIN/NCIC. The Teletype events are the number of annual transactions entered by DPSC teletype operators (PSC's). It is important to note that the events in this category are measured by calendar year rather than fiscal year and have been increasing since CY 2013.

<u>Percent 9-1-1 calls arriving at DPSC answered within 10 seconds</u>:
This measure reports the percentage of 9-1-1 calls that are answered by DPSC public safety communicators within 10 seconds of being received by the 9-1-1 telephone system. The goal of 90 percent is based on the National Emergency Number Association (NENA) standard.

The following chart compares 14 other public safety communication agencies' responsibilities to Fairfax County.

NCR Public Safety Communicator Responsibilities								
Jurisdiction	9-1-1 Call Taker	Non-Emergency Line Call Taker	Police Dispatcher	Fire-Rescue Dispatcher	Animal Control Dispatcher	Emergency Medical Dispatch	Hostage Negotiator	VCIN(VA) or Miles (MD)/ NCIC
Fairfax County, VA	X	X	X	X	X	X	X	X
Prince George's County, MD	X	X	X	X	NO	X	X	X
Arlington County, VA	X	X	X	X	NO	X	X	X
Prince William County, VA	X	X	X	X	X	X	NO	X
City of Alexandria, VA (Police)	X	X	X	NO	X	NO	NO	X
City of Alexandria, VA (Fire)	NO	NO	NO	X	NO	NO	NO	NO
Washington, DC	X	NO	X	X	NO	X	NO	NO
Loudoun County, VA (Sheriff)	NO	NO	X	NO	NO	NO	NO	X
Loudoun County, VA (Fire)	X	X	NO	X	NO	NO	NO	NO
Montgomery County, MD	X	X	X	NO	NO	NO	NO	NO
Montgomery County, MD (Fire)	NO	NO	NO	X	NO	X	NO	NO
City of Fairfax, VA	X	X	X	NO	X	NO	NO	X
Town of Vienna, VA	X	X	X	NO	X	NO	NO	X
Town of Herndon, VA	X	X	X	NO	X	NO	NO	X
Virginia State Police (Dist.7)	NO	NO	X	NO	NO	NO	NO	X