



Fire and Rescue

To provide Loudoun County residents and visitors with efficient and cost-effective fire, rescue, and emergency medical services (EMS). The Fire and Rescue System (also referred to as ‘Fire and Rescue’) responds to and mitigates hazardous materials and related life-safety and property-threatening incidents, with a staff of highly-trained career and volunteer personnel using state-of-the-art equipment located in strategically-placed facilities 24 hours per day, seven days per week.

Loudoun County Fire and Rescue (LCFR) is a component of the Loudoun County Combined Fire and Rescue System (LC-CFRS, also referred to as ‘the Combined System’), which was established by the Board of Supervisors (Board) in July 2014 and codified in Chapter 258 of Loudoun County Codified Ordinances. This ordinance created a governance structure to coordinate fire, rescue, and EMS service provision between LCFR (referred to as ‘career’ personnel, providers, and members) and the established volunteer Fire and Rescue and EMS agencies in the County (referred to as ‘volunteer’ personnel, providers, and members). As part of the Combined System, LCFR provides operational, administrative, and logistical support for the 15 volunteer companies, as well as supports the LC-CFRS Executive Committee and the overall LC-CFRS governance structure. Additionally, LCFR manages many functions for the Combined System including, but not limited to, financial affairs (including EMS billing); career and volunteer human resources; health, safety, wellness, and respiratory protection programs; public information; records management and Freedom of Information Act (FOIA) processing; facilities and apparatus support; logistics and supply distribution; and capital planning services. LCFR also coordinates training, certification, and continuing education for career and volunteer providers through the Training Division at the Oliver Robert Dubé Fire and Rescue Training Academy.

Department Programs

Administrative Services

Supports the Office of the System-Wide Fire and Rescue Chief (also referred to as the ‘System Chief’) as well as assistant chiefs; provides support for all program areas with administrative and management services, financial and budget management, and support for grants, procurement, records management, and FOIA requests; upholds professional standards through conducting internal investigations and background investigations; manages the EMS Transport Reimbursement Program; provides public information and communications services; and provides data analytics services for internal and external stakeholders to support development and other planning.

Activities

- Public Information Office (PIO)
- Professional Standards
- Budget, Finance, and Administrative Services (BFA)
- Emergency Medical Service (EMS) Cost Recovery
- Planning and Data Analytics

Volunteer Administration

Supports Fire and Rescue System volunteer members by overseeing and providing guidance in various human resources aspects including pre-placement physicals, training, benefits, recruitment, retention, and recognition.

- Volunteer Administration



Fire and Rescue

Fire Marshal's Office (FMO)

Provides critical programs to ensure a safe living and working environment for residents, workers, and visitors within Loudoun County, through the development and application of the Virginia Statewide Fire Prevention Code and the Loudoun County Fire Prevention Code; through fire prevention code inspections, permits, and pre-occupancy fire plan reviews; through public education and risk reduction activities; and through effective fire investigations to identify trends related to causes of fires.

- Fire Prevention Activities – Fire Code Inspection and Plans Review
- Fire and Life Safety Education and Community Risk Reduction
- Investigations and Specialty Teams Activities

Communications and Support Services

Provides timely and accurate data and technologies to support local and regional interoperability and emergency response through the Emergency Communications Center (ECC), which serves as the County's public safety answering point for all 911 calls using the County's enhanced emergency-911 (E-911) system; processes all incoming 911 calls and texts through the public safety answering point, with personnel dispatching Fire and Rescue assets for incidents that require Fire and Rescue services; routes calls for other public safety incidents to the appropriate agency.

- Emergency Communications Center (ECC)
- Communications and Technology Support Services

Operations

Provides an all-hazards response to fire, rescue, hazardous materials, water rescue, and emergency medical incidents 24 hours per day, seven days per week throughout Loudoun County. In addition to responses within Loudoun County, mutual aid is provided (and received) from surrounding jurisdictions.

- Fire and Rescue Services
- Special Operations

Emergency Medical Services (EMS)

Provides professional and technical oversight for EMS delivery, training, equipment specifications, and quality assurance and improvement in conjunction with the Office of the Operational Medical Director; provides daily oversight of patient care delivery through the EMS Supervisor Program; and ensures compliance with applicable regulations, codes, and industry standards.

- Emergency Medical Services (EMS) Management
- Quality Assurance and Quality Improvement (QA/QI)



Fire and Rescue

Fire and Rescue Training

Provides the LC-CFRS with high-quality and comprehensive certification and continuing educational programs in a variety of disciplines, to facilitate excellent service to citizens and visitors.

- Fire, Rescue, and EMS Training

Health, Safety, and Asset Management

Provides critical support services to include facilities development and management; apparatus and fleet management; logistics and supply distribution services; health, safety, and wellness; behavioral health; and respiratory protection program management.

- Facilities
- Fleet/Apparatus, Respiratory Protection, and Logistics Services
- Health, Safety, and Wellness

Human Resources

Provides human resources functions for LCFR employees, including coordination and administration of departmental promotional examinations and management of departmental recruitment and retention activities; assists with other workforce planning initiatives and employee relations matters in collaboration with Loudoun County's Department of Human Resources (DHR); and assists the System Chief and staff in the collective bargaining and labor relations processes.

- Human Resources

Financial Information

FY 2024 Adopted Information¹

	Expenditures	Revenue	LTF	FTE
Administrative Services	\$3,480,332	\$39,063	\$3,441,269	23.00
Volunteer Administration	7,261,260	0	7,261,260	5.00
Fire Marshal's Office (FMO)	4,949,919	295,714	4,654,205	27.06
Communications and Support Services	8,716,573	2,930,560	5,786,013	57.00
Operations	97,123,490	0	97,123,490	580.00
Emergency Medical Services (EMS)	3,731,750	470,083	3,261,667	13.00
Fire and Rescue Training	7,929,253	1,605,692	6,323,561	23.00
Health, Safety, and Asset Management	7,163,723	12,994	7,150,729	24.00
Human Resources	1,606,392	0	1,606,392	7.00
Total	\$141,962,692	\$5,354,106	\$136,608,586	759.06

¹ Sums may not equal due to rounding.



Fire and Rescue: Administrative Services

Public Information Office (PIO)

What We Do: The Public Information Office (PIO) supports internal and external communications for the LC-CFRS. As the official spokesperson for the LC-CFRS, the PIO provides communications support, coordinating emergency incident communications with the media and the public; creates content for official news releases; provides oversight of the official LC-CFRS website, social media platforms, the LC-CFRS SharePoint Intranet site, and other communications channels; coordinates outreach campaigns and events; and performs other communications-related activities in support of the Combined System's overall communications needs, goals, and objectives.

Mandate Information: There are no mandates for this activity. However, Homeland Security Presidential Directive 5 (the National Response Plan, National Incident Management System, and Incident Command System) requires local governments to manage their local Emergency Support Function 15–External Affairs (ESF 15). The PIO manages ESF 15.

Who Does It: County staff provides this service.

Why We Do It: The PIO strives to build a strong relationship and foster engagement between the LC-CFRS and the public, promoting safety and preparedness; and ultimately helps the LC-CFRS fulfill its mission of protecting the community. The PIO responds to all information requests directed toward the LC-CFRS and communicates critical life safety information and significant events within the Combined System to members of the media, Loudoun County Government, the LC-CFRS, and the community. Communications are distributed through various platforms, including written documents, website and social media content, voice and live interviews, various campaigns, and the Board's official quarterly Significant Incidents Report. Additionally, PIO staff creates digital content for the website, social media, and advertising; as well as for print collateral, such as infographics, flyers, brochures, and reports. Through these methods, the PIO activity helps ensure that LC-CFRS members and community stakeholders have timely and up-to-date information available. Additionally, in creating content and functionality for the Combined System's website and social media platforms, this activity provides streamlined and prompt service to residents, while creating efficiencies for staff.

How We Do It Now – Current Service Level: The PIO responds to all information requests directed toward the LC-CFRS and communicates critical life safety information and significant events within the Combined System to members of the media, Loudoun County Government, the LC-CFRS, and the community. Communications are distributed through various platforms, including written documents, website and social media content, voice and live interviews, various campaigns, and the Board's official quarterly Significant Incidents Report. Additionally, PIO staff creates digital content for the website, social media, and advertising; as well as for print collateral, such as infographics, flyers, brochures, and reports.

How We Plan to Do It in the Future – Recommended Service Level: As the County's population stabilizes over time and with changes in technology, it is anticipated that the need for public information and communications activities will shift. The PIO will continue cultivating an audience while expanding engagement with the public on all web and social media platforms to include Facebook, Instagram, Twitter, Nextdoor, YouTube, LinkedIn, and the official Loudoun.gov webpage. The PIO will continue developing and growing internal and external communications strategies and tools to efficiently support LC-CFRS initiatives and priorities. By effectively managing incident and crisis communications, the PIO will provide accurate and timely information to the public, manage media inquiries, and coordinate communications with other agencies and stakeholders.



Fire and Rescue: Administrative Services

Professional Standards

What We Do: Under the direction of the System Chief, the Office of Professional Standards conducts investigations for the LC-CFRS, both career and volunteer. Responsibilities include conducting internal investigations and background investigations. Activities also include investigating employee and system volunteer misconducts, investigating employee misconduct in other County departments as requested, reviewing applicant polygraph and background reports, reviewing fingerprint-based National Crime Information Center (NCIC) and Virginia Crime Information Network (VCIN) criminal history records, coordinating subpoenas service and court appearance of personnel, and administering the digital fingerprint criminal history system.

Mandate Information: The Commonwealth of Virginia's Office of Emergency Medical Services (OEMS) – through Virginia Administrative Code 12VAC5-31-910 and Virginia State Code § 32.1-111.5 – mandates that all applicants who will affiliate with the LC-CFRS and receive medical certification from OEMS must have their juvenile and adult criminal history reviewed and adjudicated from the code-listed disqualifiers. In addition, the County of Loudoun – through the Code of Conduct and LCFR's SOP 02.00.11 and SWP 201.0 – ensures that all applicants are adjudicated fairly and within the spirit of the law.

Who Does It: County staff provides this service with the assistance of contractors for background services.

Why We Do It: Background history reviews and administrative investigations are required to meet federal, state, and County mandates. Compliance with these mandates ensures that all applicants are treated equally and fairly in the application phase. Administrative investigations fall within federal law dealing with decisions handed down by the United States Supreme Court (Garrity v. New Jersey) and are compliant with state and County directives ensuring Firefighter's and Emergency Technician's Procedural Guarantees under Virginia State Code § 9.1-301.

How We Do It Now – Current Service Level: There are three separate venues for background checks: civilian applicant, volunteer firefighter applicant, and career firefighter applicant. Civilian applicants receive a third-party application and an adult fingerprint check. Results are reviewed and approved as per SOPs/SWPs and County and state regulations. Volunteer firefighter applicants receive a third-party application along with adult and juvenile fingerprint review, and are approved as per SOPs/SWPs and County and state regulations. Career firefighter applicants receive a third-party application along with adult and juvenile fingerprint review as well as a third-party polygraph, and are approved as per SOPs/SWPs and County and state regulations.

All administrative investigations are done by the internal investigator assigned to the Office of Professional Standards. All assigned investigations are delegated to the internal investigator directly from the System Chief. On occasion, an outside agency request for the investigator is made and must be approved by the System Chief. Completed investigations are given to the System Chief for adjudication if sustained. The internal investigator coordinates subpoenas service and court appearances of personnel by ensuring that all subpoenas for any career or volunteer system members are delivered directly to the Office of Professional Standards. The subpoena is then forwarded to the member and the appropriate division chief with an acknowledged receipt requirement. If required, an EMS report can be generated for the court appearance to refresh the member's history of the call in question.

How We Plan to Do It in the Future – Recommended Service Level: Currently, no changes are foreseen that would necessitate modification to the current process described above; and the Office of Professional Standards will continue to comply with all federal, state, and County laws, codes, and requirements.



Fire and Rescue: Administrative Services

Budget, Finance, and Administrative Services (BFA)

What We Do: The Budget, Finance, and Administrative Services (BFA) Division provides sound oversight and implementation of the LCFR operating budget as well as overall LC-CFRS fiscal affairs, ensuring the fiscal health of LCFR and the Combined System. BFA also manages procurement, thus making it vital to support the life-saving services provided by the LC-CFRS. BFA serves as the essential link between the LC-CFRS and the Office of Management and Budget (OMB), ensuring adherence to County policies that govern purchasing and financial management. Grants overseen in this activity play an important role in allowing the LC-CFRS to provide its services with less of a cost to Loudoun residents. BFA provides fiscal and budgetary oversight for LCFR, to include timely and fiscally-responsible contract administration, procurement of goods and services, and inventory management and control. Monitoring the individual program budgets within the LC-CFRS, BFA provides projections and recommendations on how to most efficiently use the allocated funding for the best service delivery throughout Loudoun County.

Additionally, this activity provides oversight and fiscal management of the EMS Transport Reimbursement Program. Revenue received through this program is distributed among the volunteer companies and LCFR based on the services provided by the respective agencies.

BFA provides management and oversight of federal, state, and regional grants (to include state entitlement grants such as the Aid to Localities support for fire department programs and Four for Life funds, which are provided for EMS operational needs) in addition to taking a lead role in pursuing new grant funding opportunities for LCFR.

Furthermore, this activity provides oversight of records and information management for both LCFR and the LC-CFRS, which includes maintaining records such as 911 audio recordings, Computer-Aided Dispatch (CAD) notes, fire reports, fire investigations, EMS reports, and other Fire and Rescue records. It also responds to requests for subpoenas and processes all FOIA requests. In addition, BFA personnel are required to appear in court and/or sign – as the custodian of record – notarized affidavits that are submitted to court.

Mandate Information: This activity is mandated under Chapter 258 of Loudoun County Codified Ordinances, established on July 2, 2014, which includes the requirement to ensure appropriate financial and budgetary management and oversight of public funds. Staff responsible for this activity also ensures that LCFR complies with procurement regulations as outlined in the Virginia Public Procurement Act, § 2.2-4300 et seq. of the Code of Virginia, as well as regulations governing the administration of federal grant awards, under the Code of Federal Regulations 2 CFR Part 200.

With respect to the EMS Transport Reimbursement Program, staff must comply with Chapter 1097 of Loudoun County Codified Ordinances, which establishes LCFR as the primary agent for the purpose of EMS transport management.

Finally, as the custodian of record for LCFR, staff must comply with FOIA, under § 2.2-3700 et seq. of the Code of Virginia, which requires public agencies to disclose any information requested unless it falls under an exemption. Records are provided under court-ordered subpoenas in accordance with applicable regulations and legal procedures, including consideration of notices of objections and/or motions to quash that may impact what may be released. In addition, the Virginia Public Records Act, under § 42.1-85 of the Code of Virginia, requires records to be catalogued, stored, and destroyed in line with Library of Virginia regulations for fire and emergency services agencies.

Who Does It: County staff provides this service.

Why We Do It: This activity is crucial for monitoring and ensuring the fiscal health of LCFR and the LC-CFRS. BFA continues providing sound oversight and implementation of the LCFR operating budget as well as overall LC-CFRS fiscal affairs to ensure the fiscal health of the entire Fire and Rescue System.

How We Do It Now – Current Service Level: In FY 2020, the service level provided with current resources involved processing approximately \$11 million in purchasing transactions, managing \$7.1 million in grants, executing 100 percent of all procurements within five business days, and paying 100 percent of all invoices within 30 days. In subsequent years, this



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service was held steady, even though the amount purchases increased. In this fiscal year with current resources, this activity will execute 100 percent of all procurements within five business days and pay 100 percent of all invoices within 30 days.

How We Plan to Do It in the Future – Recommended Service Level: As the County continues to build and staff new fire stations over time, combined with the need to centralize purchasing for the entire LC-CFRS, the demands on BFA will continue to grow. BFA, using data analytics, will continue providing sound oversight and implementation of the LCFR operating budget and LC-CFRS fiscal affairs.

	FY 2021 Actual	FY 2022 Actual	FY 2023 Actual	FY 2024 Estimated	FY 2025 Projected
Ensure acquisition of goods and services within County-established procedures and timelines.					
Total dollar amount purchased	\$7,487,812	\$11,223,000	\$9,322,168	\$8,495,025	\$8,076,622
Number of procurements	245	310	227	282	288
Percentage of procurements executed on time (within five business days)	100%	100%	100%	100%	100%
Number of delivery receiving reports processed	1,383	1,340	1,617	1,691	1,799
Percentage of invoices paid on time (within 30 days)	100%	100%	100%	100%	100%
Number of Purchasing Card transactions	2,912	3,800	5,923	4,896	5,155
Total amount of Purchasing Card purchases	\$1,056,998	\$1,479,000	\$1,763,125	\$1,638,869	\$1,710,539
Maintain fiscal health of LCFR through effective oversight and management of division budgets.					
Total overtime budgeted	\$10,214,088	\$8,445,094	\$9,532,095	\$10,119,318	\$10,823,336
Total overtime expended	\$10,372,836	\$10,630,372	\$10,781,355	\$9,912,840	\$10,823,336
Percentage of personnel budget expended	100%	100%	99%	98%	98%
Percentage of operations and maintenance (excluding central services) budget expended	89%	92%	78%	85%	85%
Number of grant applications submitted	5	4	4	4	4
Total value of grants managed ¹	\$4,747,873	\$6,540,000	\$8,931,072	\$7,316,317	\$7,458,254

¹ Total value is inclusive of all competitive, non-competitive, and entitlement grants (e.g., Aid to Localities and Four for Life). This amount includes grant funds carried over from previous years.



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Emergency Medical Service (EMS) Cost Recovery

What We Do: Adopted in FY 2014, Chapter 1097 of Loudoun County Codified Ordinances established the EMS Transport Reimbursement Program and Fund. The fund was created as part of the FY 2015 Adopted Budget; and the program became operational during FY 2016. Through the EMS Transport Reimbursement Program, any individual transported to a medical facility because of an emergency call response will have their insurance carrier billed for reimbursement. However, no person requiring EMS shall be denied service due to a lack of insurance or ability to pay. The reimbursement rate schedule is adopted on an annual basis as part of the budget development process. The revenue yielded through this program is distributed among the volunteer companies and LCFR based on the services provided by the respective agencies. The adopted revenue-sharing formula is as follows:

EMS station owner	20%
EMS ambulance owner	20%
EMS staff agency	25%
Loudoun County (infrastructure and training)	25%
Fire Company 1st Responder	10%

As outlined above, 25 percent of the net revenue is designated for maintaining the LCFR-provided infrastructure of the Combined System, including technology infrastructure, facilities maintenance, renovations and additions, apparatus and equipment replacement, debt service, and other needs required to sustain an effective Fire and Rescue System.

Mandate Information: Chapter 1097 of Loudoun County Codified Ordinances establishes LCFR as the primary agent for the purpose of EMS transport management.

Who Does It: County staff provides this service, along with a third-party private contractor who is responsible for revenue collections.

Why We Do It: The EMS Transport Reimbursement Program's administrative costs, including personnel expenses, are charged to the EMS Transport Reimbursement Fund and deducted from the total (gross) reimbursement revenue collected, prior to the distribution of revenue under the identified revenue-sharing formula. As a result, no local tax funding is required to support the EMS Transport Reimbursement Program. With the addition of this program, the LC-CFRS gained access to funding that supports additional needs for equipment, apparatus, and training. The resources gained have helped support essential elements for the Combined System to provide excellent service to the community. This revenue does not replace fundraising efforts by volunteer companies; rather, it enhances their current funding sources. The fiscal impact to residents, visitors, and commuters is minor; most insurance companies already include ambulance transportation fees into the current plans and premiums. For those individuals without insurance coverage, there is a financial hardship policy in place; however, there is never a denial of service due to an inability to pay, nor is anyone ever turned over to a debt collector.

How We Do It Now – Current Service Level: Between FY 2020 and FY 2022, the number of EMS Transport Claims increased from 13,941 to 16,888. During this same period, revenues received through this program increased from \$5,178,933 in FY 2020 to \$6,552,149 in FY 2022. At current service level, all EMS Transport Claims (16,400 annually) are processed within three business days on average, with an estimated total of \$6.3 million in revenue earned.

How We Plan to Do It in the Future – Recommended Service Level: The significant increase in annual ambulance transports will require more of the staff's time, resulting in potential delayed filing of claims. As both the population and the number of claims increase over time, the ability to maintain current service level could be influenced, for example, by changes to the ordinance and the method for processing reimbursements.



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	FY 2021 Actual	FY 2022 Actual	FY 2023 Actual	FY 2024 Estimated	FY 2025 Projected
Collect revenue from the EMS Transport Reimbursement Program to support Combined Fire and Rescue System operations, including distributions to volunteer companies.					
Number of claims processed	14,062	14,910	17,835	16,400	16,795
Total revenue collected	\$5,461,097	\$6,230,826	\$7,126,862	\$6,363,714	\$6,547,417
Program costs as a percentage of revenue	11%	11%	16%	12%	12%
Average net revenue per patient transport	\$341	\$350	\$365	\$357	\$359
Average bill processing time (in days)	6	2	2	3	3
Average number of days to close the balance on a patient account (number of days in accounts receivable)	81	90	93	94	96
Conduct pre-billing audits to ensure accuracy of patient care records.					
Percentage of electronic patient records with errors requiring a return to provider for correction	2%	1%	1%	3%	3%
Conduct post-payment audits of claims to ensure accuracy of billing vendor and patient accounts.					
Number of post-payment claims audited	510	525	497	507	506
Percentage of audited post-payment claims without errors	97%	97%	98%	96%	96%



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Planning and Data Analytics

What We Do: The Planning and Data Analytics Section manages and responds to inquiries from various division managers and external stakeholders (County and nearby jurisdictions) regarding measurable assets and services. The stakeholders use the resulting information to analyze data and develop a path for the future.

Staff manages and evaluates development applications and other land use activities to proactively mitigate negative impacts on the effectiveness of Fire and Rescue service delivery. This function includes the thorough analysis of the impacts of development applications, including prospective service response times, provision of effective firefighting water supply, and the applicability of proffers to ensure adequacy of Fire and Rescue response assets. In addition, this activity provides sound planning and analysis to inform strategic placement of facilities and apparatus, provides implementation and maintenance of rural water supply functions, forecasts challenges to effective service delivery, and serves as an influential Fire and Rescue System liaison for ongoing risk assessment to private and government entities.

Staff also contributes to the capital budget process and helps determine which facilities will be constructed and where they should be located. Currently, Planning and Data Analytics staff is providing support to Facilities staff during the planning and design of several new facilities, such as Station 28 Leesburg South, replacement Station 4, Round Hill, and Lovettsville Station 12. Staff is also working on a LCFR Master Plan for the future facilities to be incorporated into the capital budget after Station 29, 30, and 31 are funded. Planning and Data Analytics staff also works very closely with LCFR and Facilities staff to provide input during legislative and regulatory processes, to ensure that new facilities are planned and constructed in compliance with established County standards.

Staff works with all LCFR sections as well as outside agencies, with a primary focus on managing the modeling of operational performance measures. While there are various metrics obtained through a multitude of subject matter experts within LCFR, Planning and Data Analytics is the established central hub of validated data used in collaborative support of Fire and Rescue initiatives. Turnaround for such requests for data and analysis have the potential to be immediate or longer term.

Mandate Information: Although there are no specific legal mandates for this activity, it does contribute to the enforcement of the Revised 1993 (2007) Loudoun County Zoning Ordinance through the development and land use application review process.

Who Does It: County staff provides this service.

Why We Do It: This activity ensures the provision of public safety to the community by resolving potential issues involved with facility access, water supply, and station location analysis, among other items. This activity provides ongoing risk assessment to private and government entities. As noted above, this activity contributes to the enforcement of the Revised 1993 (2007) Loudoun County Zoning Ordinance. Planning and Data Analytics staff ensures that the Fire and Rescue System provides the needed and most efficient service to the residents, visitors, and businesses within Loudoun County.

How We Do It Now – Current Service Level: In FY 2020, the service level provided with current resources was reviewing 405 development applications, and issuing referrals and opinions within the required timeframe 86 percent of the time. In subsequent years, the number of development application reviews decreased; however, the complexity and required time to review has increased. In FY 2024 with current resources, this activity is anticipated to review approximately 400 development applications and respond to 90 percent of referrals and opinions by the required deadline. The number of development plans reviewed varies based on the level of development activity in the County and the number of applications submitted for legislative approval.

How We Plan to Do It in the Future – Recommended Service Level: As the County's population and development growth stabilizes over time, the demands for Planning and Data Analytics services are expected to remain steady. Requests to review legislative development will continue to come in, as some areas will be renovated and buildings replaced, or will have use changes. The number of applications may be different, but the complexity will challenge the staff's ability to provide service.



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Furthermore, the demand for data analysis to support budget requests and performance evaluation will persist. It is anticipated that this activity will continue to expand to support the data requests of the various sections within LCFR as well as adapt in the support and planning of the years to come. As the County’s population stabilizes, the metrics with asterisks (*) below will indicate that this activity may need to adjust its services or service levels.

	FY 2021 Actual	FY 2022 Actual	FY 2023 Actual	FY 2024 Estimated	FY 2025 Projected
Analyze the impact of proposed development on the provision of Fire and Rescue services.					
Number of development plans reviewed	385	300	445	392	396
Percentage of referrals and opinions issued within deadlines*	87%	90%	92%	89%	89%



Fire and Rescue: Volunteer Administration

Volunteer Administration

What We Do: The Volunteer Administration activity provides strategic management to all aspects of programs and initiatives designed to ensure a robust cadre of volunteer Fire and Rescue personnel. Volunteer Administration oversees and coordinates the onboarding of new volunteer members, new volunteer orientation, volunteer benefits programs, recruitment efforts, retention programs and resources, recognition events, volunteer-related policies, and volunteer personnel records management systems. Staff maintains and tracks data and trends concerning volunteering in the Fire and Rescue System and represents volunteer interests and perspectives.

Mandate Information: This activity is directed through the Board-adopted Chapter 258 of Loudoun County Codified Ordinances as well as the Code of Virginia § 32.1-111.5, which requires that any fire company and/or rescue squad holding an EMS license shall ensure the completion of a criminal background check on every new member.

Who Does It: County staff provides this service with the assistance of outside contractors for background services.

Why We Do It: Volunteers support the LC-CFRS with apparatus, stations, station maintenance, and personnel who volunteer their time to serve Loudoun County without pay. In the 2022 calendar year, volunteers collectively provided approximately 339,881 hours of service to Loudoun County. In the 2021 calendar year, volunteers collectively provided approximately 394,981 hours of service to Loudoun County. Not only are these volunteers dedicating significant amounts of time, but they are primarily locals serving their community. In fact, in FY 2022, 84 percent of active volunteers were Loudoun County residents serving and helping their local community. Therefore, in supporting the volunteer component of the Combined System, this activity assists in offsetting the need for additional local tax funding.

How We Do It Now – Current Service Level: In FY 2020, the service level provided with current resources was maintaining an 82 percent volunteer retention rate and supporting a total active volunteer membership of 1,308 volunteers. In subsequent years, this service held steady. In this fiscal year with current resources, service level maintains an 80 percent volunteer retention rate and supports a total active volunteer membership of approximately 1,300 volunteers.

How We Plan to Do It in the Future – Recommended Service Level: As shifts in population growth evolve, the demand for Fire and Rescue and EMS services will adjust accordingly, with volunteers continuing to play an essential role in helping to ensure that the Combined System is able to meet the service demands of the community. Over the past two fiscal years, there has been an increase in requests from volunteer companies for staffing assistance from LCFR. This trend of decreased Fire and Rescue operational volunteering is not unique to Loudoun County as it is being seen across the nation. By focusing on recruiting new operational volunteers, Volunteer Administration will assist the volunteer companies to meet their minimum staffing requirements. Adapting recruitment efforts to recognize volunteering as a pathway to gaining employment as a career firefighter/emergency medical technician (EMT) together with conducting combined volunteer-career recruitment efforts will help LCFR to better utilize recruitment resources.

Ensuring that the demographic composition of LC-CFRS reflects the community it serves remains a top priority. Volunteers are one of the best ways to do this, as 84 percent of active volunteers in FY 2022 were Loudoun County residents serving and helping their local community. Today, the demographics of the volunteers closely reflect those of the community. As Volunteer Administration seeks to expand recruitment efforts, it will highlight diversity, equity, and inclusion in the LC-CFRS to attract new members.

Regularly reviewing and improving the onboarding process and training offerings for new members will also be key to increasing the speed for volunteers to be onboarded and improving the experience for new volunteers.

To improve the number of quality volunteers in the system, Volunteer Administration will need to focus more heavily on retention efforts. This means finding the root causes of why people are leaving and addressing them, and focusing on bringing in educational opportunities and resources that will help make the LC-CFRS a more inclusive and welcoming place to volunteers. Other ways to improve the retention of quality volunteers include looking at the benefits offered and reevaluating them to expand or improve them, celebrating members' achievements, holding webinars and in-person



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meetings educating members about the benefits they receive, and finding solutions to volunteer hurdles, such as evaluating when classes are offered to better fit into volunteers' schedules. As the County's population stabilizes, the metrics with asterisks (*) below will indicate that this activity may need to adjust its services or service levels.

	FY 2021 Actual	FY 2022 Actual	FY 2023 Actual	FY 2024 Estimated	FY 2025 Projected
Maintain a robust and well-trained volunteer base to provide Fire and Rescue services in the County.					
Total active volunteer membership*	1,291	1,213	1,246	1,270	1,270
Number of active administrative volunteers	441	450	475	480	480
Number of active operational volunteers	850	763	771	790	790
Number of active volunteers qualifying for a Length of Service Award Program (LOSAP) service credit	942	847	825	825	825
Volunteer retention rate*	88%	85%	81%	80%	80%
Number of volunteer operations members in the system for five or more years	853	800	508	515	515
Engage in targeted recruitment and retention efforts to grow and retain volunteer membership.					
Number of prospective volunteers inquiring through the County who were referred to a station	382	377	323	330	332
Number of new volunteer members (operational and administrative)	292	277	402	402	415
Number of volunteer tuition reimbursements awarded	42	35	28	32	33
Total dollar value of volunteer tuition reimbursements	\$72,549	\$50,600	\$50,972	\$50,600	\$50,600



Fire and Rescue: Fire Marshal's Office (FMO)

Fire Prevention Activities – Fire Code Inspection and Plans Review

What We Do: The LCFR Fire Marshal's Office (FMO) enforces the Loudoun County Fire Prevention Code (LCFPC). This activity provides a Fire Prevention and Life Safety Inspection Program, which covers Loudoun County and its seven incorporated towns.

The Fire Prevention and Life Safety Inspection Program identifies and corrects fire and related hazards in public assembly buildings (e.g., churches, nightclubs, schools, restaurants, theatres, and large tents) as well as provides inspections of extremely hazardous substances (EHS) facilities, commercial activities that create additional hazards due to storage or use of chemicals or processes, and multi-family occupancies.

Many inspections are driven by required annual fire permits; however, this does not include the inspectable properties that are not required to apply for an FMO permit but must still comply with the LCFPC. These include businesses such as restaurants with a commercial hood but an occupancy load under 50 (typically fast-food restaurants), hospitals, nursing homes, hotels (outside of ballrooms), home daycares, doctors' offices/urgent care centers, bed and breakfasts, and big-box stores.

The FMO is also responsible for the enforcement of the explosive requirements related to the storage, use, and transportation of explosives, blasting agents, and certain energetic materials. The FMO issues permits, monitors explosive use, and investigates complaints of blasting operations except for issues involving a mine or quarry (rock quarries are considered a mining operation).

The FMO receives and responds to fire prevention code complaints such as open burning, non-permissible fireworks use, overcrowding, blocked exits, hoarding conditions, and illegal discharge of hazardous materials. These require code enforcement intervention to ensure fire code compliance. The FMO assists the Planning and Zoning Departments of both Loudoun County and its incorporated towns with reviewing compliance with fire safety regulations. The FMO also responds to FOIA requests from the public.

The FMO Plans Review Section reviews development site plans and fire lane plans to ensure fire code compliance. The plan review ensures access for fire department apparatus and adequate water supply.

Mandate Information: Chapter 1602 of Loudoun County Codified Ordinances (Fire Marshal's Office) and the Code of Virginia § 27.94 (the Virginia Statewide Fire Prevention Code Act) direct this activity, which incorporate National Fire Protection Association (NFPA) standards. Furthermore, this activity is directed through Chapter 258 of Loudoun County Codified Ordinances.

Who Does It: County staff provides this service.

Why We Do It: This activity provides direct oversight into identifying and recommending best practices for fire prevention within Loudoun County. Effective plans review activities, public education and community risk reduction activities, and fire code enforcement helps to ensure Loudoun County is best positioned with preventive measures in place to help reduce risk.

How We Do It Now – Current Service Level: For facility inspections, current service level involves conducting approximately 5,000 facility inspections annually to identify conditions that may cause fire, spread fire, interfere with firefighting, or endanger life. These Fire Prevention and Life Safety Inspections require more than 5,000 hours annually to complete. For fire permits, at current service level, approximately 1,800 required fire permits are issued each year. Development plans review is a large and growing component of this activity, with the number of plans reviewed and fire lanes inspected expected to continue to increase.

How We Plan to Do It in the Future – Recommended Service Level: While the County is projected to stabilize in growth, demand for the services provided through the Fire Prevention and Life Safety Activities is expected to persist. For instance, inspections completed by this activity are post-occupancy/post-construction; therefore, the County's stabilization in growth will have limited impact. Staff will continue to complete inspections and field customer inquiries; however, current service level does not meet 100 percent inspections on properties identified by the LCFPC.



Fire and Rescue: Fire Marshal's Office (FMO)

	FY 2021 Actual	FY 2022 Actual	FY 2023 Actual	FY 2024 Estimated	FY 2025 Projected
Conduct annual Fire Prevention and Life Safety Inspections to identify any conditions liable to cause fire, spread fire, interfere with firefighting, or endanger life for 100 percent of known businesses and facilities with sprinklers.					
Total number of hours spent performing Fire Prevention and Life Safety Inspections	3,982	7,700	5,000	5,021	4,583
Total number of facility inspections	2,896	5,436	4,877	5,244	5,606
Total number of facility re-inspections	945	2,174	1,750	1,901	2,015
Percentage of all facility inspections that are re-inspections	33%	39%	37%	39%	41%
Total fire permit revenue	\$62,616	\$168,365	\$156,961	\$149,609	\$154,884
Number of fire permits issued	845	1,812	1,762	1,762	1,853
Conduct plans review for all submitted development plans; and conduct plans review and field inspections for all fire lanes and fire access roads.					
Total number of plans reviewed (land development and fire lanes)	435	1,250	1,124	1,074	1,109
Total hours dedicated to plans review	827	2,150	1,648	1,541	1,500
Total primary fire lane inspections conducted	34	80	77	94	108



Fire and Rescue: Fire Marshal's Office (FMO)

Fire and Life Safety Education and Community Risk Reduction

What We Do: The Fire and Life Safety Education and Community Risk Reduction activity is led by the Public Education Manager (PEM) and provides critical public education programs to ensure a safe living and working environment for residents, workers, and visitors within Loudoun County through the development and application of fire prevention engineering, education, and enforcement. The goal is to develop and coordinate a comprehensive program that targets fire and life safety issues specific to Loudoun County. This activity provides training and resource support (e.g., lesson plans, supplies, equipment, etc.) to career and volunteer personnel, in addition to identifying effective curriculum, materials, and equipment to address the diverse needs of the County. The PEM collaborates with the PIO to provide effective information on press releases and social media posts. The PEM is integral in helping shape community risk-reduction programs by ensuring that data trends from within the Fire and Rescue System are used to help develop and implement educational programs tailored to age-specific or population-specific needs.

As an example, the PEM captures the cause of accidental fires from the FMO fire investigators monthly. This data is then used to develop a quarterly newsletter titled "The Fire 411" in which accidental fire data is reported along with corresponding safety and prevention messages. The newsletter is posted on the FMO's website, sent to all members of the Combined System, and presented during public education events and as a resource to the community. Based on this data, a preventative action plan to address accidental fire causes is developed and communicated to the LC-CFRS so that fire-prevention education, community risk-reduction, and after-the-fire community outreach programs will be supported and/or initiated based on this information. This endeavor includes, but is not limited to, the LC-CFRS Smoke Alarm Program, Juvenile Safety Camps, the Juvenile Fire Setter Program, developmental training for children in proper use of the E-911 system, McGruff and Leesburg Safety Camps, Head Start, and senior citizen programs.

Mandate Information: This activity is not mandated by state or federal law.

Who Does It: County staff oversees the coordination and delivery of educational efforts with the assistance of career and volunteer members of the Combined System.

Why We Do It: This function is critical as residents request more information about safety and emergency procedures for all types of events. Education is recognized as a best practice for fire safety and life safety. This activity provides residents with home safety messages through the home inspection program, residential smoke alarm inspection and installation, and a proactive means of fire and emergency preparedness. Community outreach provides education and information to persons and facilities that may not receive safety information or inspections on a routine basis. Finally, public education provides an interactive experience to train children and adults with the Life Safety Trailer, which can simulate smoke or severe weather scenarios.

How We Do It Now – Current Service Level: At current service level, this activity coordinates and oversees approximately 600 home smoke alarm inspections annually in partnership with Operations staff, resulting in more than 900 smoke alarms being installed in homes lacking adequate alarms. The Fire and Life Safety Education and Community Risk Reduction activity delivers or supports approximately 250 Fire/Life Safety Programs annually, representing more than 1,000 hours of public outreach and education.

How We Plan to Do It in the Future – Recommended Service Level: The PEM is not only responsible for coordinating the tasks required for the program(s), but is also, in most cases, performing the tasks. To support future growth, the PEM should simply become a manager of programs and have staff to carry out the execution and implementation of program activities. As public education and community risk reduction programs continue to expand within the County, the PEM will be responsible for more activities to support this growth.



Fire and Rescue: Fire Marshal's Office (FMO)

	FY 2021 Actual	FY 2022 Actual	FY 2023 Actual	FY 2024 Estimated	FY 2025 Projected
Minimize fire-related deaths that could be prevented with properly functioning and installed smoke detectors.					
Number of homes inspected	645	588	510	584	586
Percentage of inspected homes with alarms requiring service or alarms not present*	38%	41%	39%	41%	40%
Number of alarms installed/replaced	1,122	745	701	906	887
Minimize preventable child and elderly injuries by delivering or supporting between 3,000 and 6,000 Fire/Life Safety Programs annually.					
Total number of business, community, and other public outreach hours	1,769	n/a ¹	1,047	1,200	1,250
Number of Fire/Life Safety Programs delivered/supported	116	285	241	250	260

¹ Data is unavailable.



Fire and Rescue: Fire Marshal's Office (FMO)

Investigations and Specialty Teams Activities

What We Do: The LCFR FMO provides for the investigation and prosecution of all offenses involving hazardous materials, fires, fire bombings, and bombings; attempts or threats to commit such offenses; and possession and/or manufacture of explosive devices, substances, and firebombs. The FMO also responds to suspicious package calls to assist local law enforcement partners when an actual device or package is identified.

The FMO has an Explosive Ordinance Disposal (EOD) Squad comprised of team members from the FMO and the Loudoun County Sheriff's Office. EOD's mission is to mitigate and provide corrective action for all terrorist or criminal use of explosives, weapons of mass destruction, chemicals, or items suspected as such, as well as pyrotechnic-related incidents, protecting the public from the ill effects of such hazardous items.

The FMO uses specialty canines received through federal partnerships to assist with investigations of fires and explosive incidents. The FMO has three specialty canines – one used for the detection of ignitable liquids and two used for the detection of explosives. Each canine has a dedicated handler (together forming a K-9 Team) and is trained for single-purpose use.

Mandate Information: This activity is mandated by the Code of Virginia §§ 27-31 through 27-37.1. The FMO is required to investigate incidents which involve suspicious fires, explosives, fire bombs, or hazardous materials; in addition to hazardous materials incidents resulting in death or injury; incidents where municipal government (federal, state, county, or town) buildings, vehicles, or other property are damaged by fire or explosion; incidents with a significant fire loss; and finally, structures that may be unsafe for occupancy or that otherwise present a safety hazard (e.g., water from electrical outlets, significant drywall collapse, etc.).

Who Does It: County staff provides this service.

Why We Do It: This activity helps ensure the safety of residents from fire, environmental, and explosive incidents. The investigations conducted by the FMO help ensure the prevention of future incidents by identifying local trends and working with the PEM to ensure that educational programs are geared to best identify ways to reduce risk and injuries within Loudoun County. The use of K-9 Teams in this activity greatly reduces the time on-scene required of FMO staff and assists in finding evidence that humans are not able to smell or may otherwise overlook.

How We Do It Now – Current Service Level: Current service level involves investigating approximately 140 incidents annually and spending between 2,500 and 3,500 hours annually on investigation activities. At current service level, the fire's cause classification (i.e., accidental, natural, incendiary, or undetermined) is determined for 97 percent of fire investigations.

How We Plan to Do It in the Future – Recommended Service Level: The FMO does not expect any type of reduction in this activity as it is mandated by the Code of Virginia. The activities covered under this program are not driven by growth or construction but by existing structures and vehicles. Loudoun County has more than 140,000 residential units, some of which may be in danger of burning due to lack of maintenance, carelessness, illegal activity, and acts of God. Not included in the 140,000 are business occupancies, which are also subject to the same dangers as residential occupancies. It would be logical to expect that as these structures age, their risk of fire due to lack of maintenance increases.



Fire and Rescue: Fire Marshal's Office (FMO)

	FY 2021 Actual	FY 2022 Actual	FY 2023 Actual	FY 2024 Estimated	FY 2025 Projected
Provide rapid and effective response to emergency incidents involving possible or actual improvised explosive devices (IEDs) or other explosive incidents and to mitigate all associated hazards.					
Number of evaluations conducted on possible explosive devices	24	40	12	15	18
Number of emergency bomb squad responses*	n/a ¹	45	22	32	31
Total pounds of surrendered ammunition, black powder, and fireworks safely destroyed by the bomb squad*	n/a ²	4,200	3,052	3,082	3,013
Investigate all reported fires, explosions, and hazardous materials incidents; provide cause determination; and pursue the identity, prosecution, and conviction of persons responsible for any criminal actions.					
Total incidents investigated	96	161	173	140	132
Total hours investigated	264	478	512	373	333
Total cases worked	116	195	197	181	183
Total hours spent on investigation activities	1,287	2,599	3,589	2,751	2,725
Percentage of fire investigations in which the fire's cause classification was determined	93%	96%	98%	97%	98%

¹ Data is unavailable.

² Data is unavailable.



Fire and Rescue: Communications and Support Services

Emergency Communications Center (ECC)

What We Do: The ECC serves as the County's public safety answering point for all incoming 911 calls and texts. ECC personnel are trained to answer 911 calls and provide pre-arrival instructions consistently, using protocols nationally recognized by the International Academy of Emergency Dispatch (IAED); i.e., Emergency Medical Dispatch (EMD), Emergency Fire Dispatch (EFD), and Emergency Police Dispatch (EPD). Additionally, ECC personnel are responsible for dispatching Fire and Rescue assets for any incident that requires Fire and Rescue or EMS services. Calls for other public safety entities – including the Loudoun County Sheriff's Office, Leesburg Police Department, Middleburg Police Department, Purcellville Police Department, Virginia State Police, Loudoun County Animal Services, and the Metropolitan Washington Airports Authority – are routed to the appropriate agency for processing and dispatch. The FY 2020 Adopted Budget included funds to implement universal call taking, in collaboration with the Sheriff's Office, whose communications personnel are collocated with LCFR's. This initiative will ensure that all personnel across the combined communications center are able to answer and process 911 calls and texts; however, LCFR remains designated as the public safety answering point.

Mandate Information: The Virginia Administrative Code 12VAC5-31-760 requires fixed communications equipment that provides two-way voice communications between responders and the public safety answering point. Communications must be provided with a land mobile radio equipped with push-to-talk technology. In addition, first responders must be able to communicate with the hospitals to which they routinely transport. Further, mutual aid interoperability must be created and maintained amongst first responders through the land mobile radio system. All agencies are required to maintain appropriate Federal Communications Commission (FCC) radio licensure for all radio equipment.

The Code of Virginia § 56-484.16 mandates that all localities must utilize an E-911 system on or before July 1, 2003.

Who Does It: County staff provides this service, supplemented by vendors who support the technologies used to provide interoperability and emergency response.

Why We Do It: The ECC activity represents a critical service because it serves as the answering point for all 911 calls and texts in the County. By residing in local government, first responders realize a customized dispatching system tailored to their needs. It also provides the County with flexibility in making changes in how service is provided to the first responders. Necessary changes can be made quickly, as Loudoun County is responsible for the technology and provides for its governance.

How We Do It Now – Current Service Level: In FY 2020, the service level provided with current resources included answering a total volume of approximately 200,000 calls, of which 57 percent were emergency (911) calls. Of those 911 calls received, 99.6 percent were answered within 15 seconds. In this fiscal year with current resources, the ECC anticipates answering a total volume of approximately 225,000 calls annually, of which more than half are emergency (911) calls, with nearly 100 percent being answered within 15 seconds. The ECC contracts with a third-party vendor to complete Quality Assurance (QA)/Quality Improvement (QI) on randomized call selection. The number of calls reviewed is a minimal percentage of total 911 calls processed for service.

How We Plan to Do It in the Future – Recommended Service Level: While population and development may experience a slower growth rate in the coming years, the foundational responsibility of being the County's public safety answering point will not change. Further, the number of calls answered by ECC personnel and incidents dispatched are both expected to continue to increase, largely due to changing demographics, an aging population, and aging housing stock. To meet the training requirements of newly-hired employees, manage the in-service required training, and develop new training programs, additional resources will be needed in the areas of training and QA/QI. Dedicated internal QA/QI management oversight would positively impact 911 call service delivery by reviewing complex cases and facilitating education to improve call processing. Over time, the ECC expects that metrics with asterisks (*) below will indicate that the program may need to adjust its services or service levels.



Fire and Rescue: Communications and Support Services

	FY 2021 Actual	FY 2022 Actual	FY 2023 Actual	FY 2024 Estimated	FY 2025 Projected
Provide for the prompt and efficient processing of requests for emergency Fire and Rescue services through the Fire and Rescue System by answering 95 percent of all 911 calls within 15 seconds.					
Number of calls dispatched	28,183	23,990	34,718	30,505	31,049
Percentage of 911 calls answered within 15 seconds*	99.5%	98.3%	98.7%	99.5%	99.5%
Total number of calls answered by ECC personnel*	180,702	139,620	215,487	225,000	225,000
Percentage of emergency (911) calls	52%	55%	59%	55%	55%
Number of incidents created in the CAD system	29,008	24,827	35,766	26,946	25,605



Fire and Rescue: Communications and Support Services

Communications and Technology Support Services

What We Do: The Communications and Technology Support Services activity supports the technologies and systems that provide for local and regional interoperability and emergency response, to include the systems at the ECC as well as other technologies that are integral to Fire and Rescue operations. Technologies supported include land mobile radio, mobile data computers, mapping, public safety geographic information systems (GIS), and the CAD system. The CAD system is used by dispatchers and call takers, as well as by operational personnel, and serves to initiate calls for service, dispatch emergency responders, and track the status of personnel. The specialized mapping available through GIS programs utilizes economic and population data, as well as CAD system data, to assist personnel with planning for proper placement of future assets needed for service delivery. GIS coordination also provides updated information for the CAD system and the mapping layers for the mobile data computers. In addition, public safety GIS provides support to the Sheriff's Office and the Office of Emergency Management. Staff provides technical support and coordination for LCFR technology and communications infrastructure that includes mobile data computers used to provide real-time information to emergency responders, as well as 1,002 mobile and portable radios that are individually reprogrammed on an annual basis to maintain the National Capital Region's interoperability requirements.

The scope of this activity continues to broaden as the number and complexity of technologies used by LCFR increases. Staff in this activity area also supports the LCFR staffing and scheduling management system (Orion), as well as the build out and implementation of a comprehensive records management and volunteer staffing system for LCFR (Alpine). This activity ensures that fire stations are correctly notified of emergency incidents using the Westnet station alerting system. Finally, staff maintains the myriad of interfaces that exist between LCFR's various technology systems (e.g., CAD to Orion, Orion to Alpine, Orion to Oracle, etc.). These mission-critical systems must be maintained, supported, and available 24 hours per day, seven days per week.

Mandate Information: Under the Code of Virginia § 56-484.16, local emergency telecommunications requirements define the requirements of E-911 systems to include the Master Street Addressing Guide (MSAG). The Virginia Public Records Act, § 2.2-4300 et seq. of the Code of Virginia, governs public safety records management. NFPA Standard 1221 provides a "Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems."

Who Does It: County staff provides this service, with vendors supporting technology infrastructure.

Why We Do It: In conjunction with the Department of Information Technology, the Communications and Technology Support Services activity provides all the infrastructure and technical support for the County's interoperability and emergency response. These services are critical as first responders would not otherwise be dispatched to incidents in a timely manner, nor would they be able to communicate with the County and neighboring jurisdictions.

The CAD system provides dispatchers with pertinent information on the location of incidents, which units need to be dispatched, and any known hazards. The CAD system initiates the call for service, dispatches the emergency responders, and maintains the status/situational awareness of LCFR personnel.

This activity provides all the technology used by the ECC and first responders to provide effective and efficient emergency services to customers. Loudoun County's emergency radio system is interoperable within the region served by the Metropolitan Washington Council of Governments Mutual Aid Operational Plan. This activity allows for land mobile radio communications and provides mobile data computers mounted in first responder apparatus which provide routable directions and important supporting call information. As Loudoun County has been one of the fastest growing counties in the nation, the ability to keep up with new streets and addresses is critical. The databases are updated regularly to ensure that dispatchers and first responders can quickly and accurately locate those who call for assistance.

Without this activity, the County risks not having updated addresses and maps which may hamper LCFR's ability to alert first responders and provide them with an accurate location. In addition, responders may not be able to find the address once provided by the dispatcher. These scenarios could result in a delay of emergency services to residents.



Fire and Rescue: Communications and Support Services

How We Do It Now – Current Service Level: In FY 2020, the service level provided with current resources included developing 155 CAD reports, of which approximately 58 percent required in-depth development and analysis, and processing approximately 388 MSAG updates. This activity updates, installs, repairs, or removes approximately 590 MDC and GPS units annually, spends approximately 8,200 hours on CAD mobile support and MDC imaging, and provides support for GIS-related applications approximately 160 times annually. In this fiscal year with current resources, this activity will develop approximately 100 CAD reports, with approximately 60 percent requiring in-depth development and analysis, and process approximately 130 MSAG updates.

How We Plan to Do It in the Future – Recommended Service Level: With expected steady growth of FTE within LCFR, along with the expected continued growth in 911 calls, the demands on this activity are also expected to grow at a steady rate. As most of the work done is to support other divisions, such as Operations, and external customers, such as 911 callers, the recommended service level is to maintain the current service level. Many of the programs that this activity is responsible for are mission-critical programs; therefore, supporting these programs with adequate staffing to maintain current service level, conducting ongoing assessments of program effectiveness, and evaluating new and emerging technical programs is critical for future service delivery. As the County’s population stabilizes, the metrics with asterisks (*) below will indicate that this activity may need to adjust its services or service levels.

	FY 2021 Actual	FY 2022 Actual	FY 2023 Actual	FY 2024 Estimated	FY 2025 Projected
Manage and maintain the CAD system to coordinate responses to emergency incidents.					
Number of CAD reports developed	202	40	57	98	84
Percentage of reports requiring in-depth development and analysis*	62%	50%	68%	60%	60%
Average turnaround time for report development (in days)*	4.1	5.0	4.9	4.5	4.9
Number of updates processed to the CAD system and supporting systems	2,460	845	2,490	2,283	2,474
Number of MSAG updates processed	329	182	162	130	83
Maintain emergency communications software and equipment to ensure functionality and reliability during emergency field operations.					
Number of MDC and GPS units installed, repaired, or removed	681	114	307	517	515
Number of hours spent on CAD mobile support and MDC imaging*	242	57	597	437	445
Number of radio units installed, repaired, or removed ¹	11	5	1,665	15	15
Number of geospatial data-related applications supported	52	16	82	80	95
Number of specialized maps produced	56	40	110	89	103

¹ In FY 2023, staff lead a multi-departmental radio deployment and mobile radio software upgrade which resulted in an increase in radio unit installations.



Fire and Rescue: Operations

Fire and Rescue Services

What We Do: The Fire and Rescue Services activity provides timely and effective response around-the-clock for diverse incident types, including fire, rescue, and emergency medical incidents in addition to special operations incidents (which include water rescue, hazardous materials, and technical rescue). In addition to responses within Loudoun County, mutual aid is provided (and received) from Fairfax County, Prince William County, Clarke County, and Fauquier County in Virginia; Jefferson County in West Virginia; Frederick County, Montgomery County, and Washington County in Maryland; the Metropolitan Washington Airport Authority-Washington Dulles; and the Mount Weather Emergency Operations Center.

When not involved with emergency response, personnel are routinely engaged in a variety of activities, which include skills certification and training, district and area familiarization, submitting fire incident reports and electronic patient care reports, ensuring apparatus and equipment readiness, and assisting the FMO in conducting onsite building inspections and inspections of rural water supply sites. Personnel are also responsible for completing pre-fire emergency planning, inspecting and installing residential smoke alarms, performing fire and life safety checks, and delivering life safety education and other community events for the residents of Loudoun County.

Mandate Information: This activity is directed through Chapter 258 of Loudoun County Codified Ordinances.

The LC-CFRS seeks to align its service delivery with national consensus standards as published by the NFPA. In 2019, the Board adopted the LC-CFRS Emergency Operations Service Plan, which aligns LC-CFRS service goals with NFPA Standard 1710 (“Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments”).

Who Does It: A combination of County firefighter/EMTs and active operational volunteers provide this activity.

Why We Do It: Fire and Rescue Services protect the health, safety, and welfare of the residents of – and visitors to – Loudoun County.

Services are provided according to the response goals described in the Emergency Operations Service Plan. Studies from the National Institute of Standards and Technology (NIST) show that flashovers, which create an untenable environment inside a room, occur as early as three to four minutes after a fire begins. Once a fire has progressed to flashover, the fire increases at a geometric rate each minute thereafter. Fire suppression must intercede in a timely manner if persons are to survive in a fire. Likewise, EMS must begin on a patient who is not breathing and does not have a pulse within this same general time period. Intervention must occur within six to eight minutes, in most cases, if the patient is to survive.

The Emergency Operations Service Plan identifies the following four critical issues to be addressed through Fire and Rescue Services:

1. Maintain an adequate Fire and Rescue and EMS response to emergency and non-emergency incidents 24 hours per day, all 365 days of the year, which is consistent with national standards.
2. Ensure that all Fire and Rescue units are staffed with the required number of qualified Fire and Rescue and EMS personnel to support safe operations of the tasks required at emergency incidents.
3. Ensure that the LC-CFRS is supplied with the best resources (e.g., equipment, apparatus, and facilities) possible to allow its members to perform their jobs in the safest and most efficient manner.
4. Ensure the successful recruitment and retention of a qualified career and volunteer workforce through innovative means.

How We Do It Now – Current Service Level: From 20 Fire and Rescue stations, LC-CFRS personnel staff a minimum of 19 engines, 18 EMS transport units (14 with advanced life support, or ALS, and four with basic life support, or BLS), five aerial ladders, and two heavy rescue units 24 hours per day, 7 days per week. Minimum staffing levels for each unit varies; specifically, engines are staffed with a minimum of three personnel and EMS transport units are staffed with a minimum of two personnel, while the aerial ladders and heavy rescues are staffed with a minimum of four personnel each. There is



Fire and Rescue: Operations

additional apparatus, including tankers, swift water rescue boats, and hazardous materials response units, which are cross-staffed with fire apparatus and/or EMS transport units.

Additionally, a 24-hour-staffed command team supervises this activity, inclusive of one shift commander, three battalion chiefs, two EMS supervisors, and one safety officer.

In FY 2020, the service level provided with current resources was responding to 7,642 fire-related incidents and 20,226 EMS incidents. In this fiscal year with current resources, Fire and Rescue Services will respond to approximately 7,500 fire-related incidents and 21,200 EMS incidents.

How We Plan to Do It in the Future – Recommended Service Level: Based upon review and analysis, a variety of recommendations for system enhancements remain a priority to improve Fire and Rescue Services and accomplish the primary objectives and recommended service level, including the following:

1. Define and adopt expected service levels and performance standards for each of the rural, urban, and, ultimately, Metro planning areas.
2. Adopt data collection elements and methods that will provide for the effective measurement and adjustment to operational system elements based on identified performance goals and triggers.
3. Identify service level improvement opportunities and additional resources to serve anticipated growth for implementation as funding becomes available. These enhancements should be implemented based on performance and outcome triggers impacted by growth, changes in the system risk profile, and increases in service delivery demands.
 - a. Specifically, LCFR strives to continue to “right size” its workforce through enhancing its staffing factor, which is intended to provide a healthy balance of personnel available to assist with covering planned and unplanned vacancies through annual and sick leave and the use of overtime compensation.
 - b. Specifically, LCFR strives to increase its fire engine apparatus staffing to a minimum of four personnel, one of whom is an ALS care provider. The four-person engine staffing provides efficiency and safety on structural fire incidents. On EMS incidents, the ALS provider can provide the “first response” for ALS or can supplement the care provider assigned to an EMS transport unit.
 - c. Specifically, LCFR strives to eliminate the use of “cross-staffing” for primary Fire and Rescue/EMS units, including tankers, EMS units, and heavy rescue units.
4. Identify opportunities and service delivery methods that will increase the coordination and consistency of resource assignments that align with defined system risk and service delivery needs, including coverage and capabilities of on-scene supervision and special operations resources. Implement increased cooperative effort strategies between LCFR specialized service delivery elements as well as neighboring jurisdictions to assist with this goal.

	FY 2021 Actual	FY 2022 Actual	FY 2023 Actual	FY 2024 Estimated	FY 2025 Projected
Protect the lives and property of all residents and visitors to Loudoun County.					
Number of fire incidents	7,790	7,950	6,978	7,634	7,677
Average number of career firefighters/EMTs per 1,000 residents	1.22	1.20	1.29	1.14	1.11
Total number of EMS incidents	20,324	25,369	18,815	21,208	21,259



Fire and Rescue: Operations

Special Operations

What We Do: The Special Operations Unit coordinates readiness, oversight, and effective emergency response for a variety of hazards that can be broadly categorized under the following three branches of specialized disciplines: water rescue, hazardous materials (hazmat) response, and technical rescue response.

Water rescue incident settings include swift water (e.g., Potomac River, Goose Creek, and flooded roadways), static water (e.g., Beaverdam reservoir, ponds, and storm retention ponds), and ice rescue.

Hazmat technicians are prepared to respond to a gamut of incidents ranging from a simple broken mercury thermometer in a residence, to highway transportation spills, up to mutual aid response for a chemical/biological/weapon of mass destruction attack anywhere in the National Capital Region.

Technical rescue emergencies include, but are not limited to, building collapses, trench or excavation entrapments, above- or below-grade incidents requiring rope access, serious vehicle accidents, and confined space entrapments.

Mandate Information: The Occupational Health and Safety Administration (OSHA) and the NFPA both maintain multiple standards relative to Special Operations disciplines, including hazardous materials, swift water, ice rescue, structural collapse, trench rescue, rope rescue, confined space rescue, and vehicle extrication. OSHA and NFPA standards identify and establish levels of functional capability, professional qualifications, and responsibilities of the employer to facilitate an effective and efficient response to these incidents.

Who Does It: County staff in the LCFR Operations Division with additional specialized training respond to the emergencies that fall under the Special Operations disciplines.

Why We Do It: Some emergencies necessitate an advanced level of training and equipment beyond that of basic Fire and Rescue and EMS services. In these events, advanced skills are crucial to ensuring responder safety, achieving positive patient outcomes, reducing property loss, and minimizing environmental impact.

How We Do It Now – Current Service Level: Current service level involves responding to technical rescue incidents, swift water rescue, and hazmat incidents. Response services are provided through these deployment models:

Technical Rescue: For technical rescue incidents, two rescue units are independently staffed with LCFR Operations Division personnel; and two rescue units are cross-staffed with an engine company. Rescue 607 (Aldie) is one of two special service units on the Route 50 corridor; and its availability is dependent on cross-staffing from Engine 607.

Swiftwater Rescue: For swift water rescue, three swift water rescue boats are cross-staffed with two swift water rescue technicians and a boat operator.

Hazmat: For hazmat incidents, six hazmat technicians cross-staff a hazmat response unit and a support unit with an engine company and a ladder company.

How We Plan to Do It in the Future – Recommended Service Level: The following service levels are recommended to respond to the rising call volume of technical and specialized incidents: independent staffing of the hazmat response unit and the hazmat support unit from the future Leesburg South Fire Station, maintain current service level for swift water rescue while developing systems to support upstaffing and participation in Virginia Department of Emergency Management Water Response Team programs; and independent staffing of the technical rescue unit, Rescue 607, from the Aldie Fire Station.



Fire and Rescue: Operations

	FY 2021 Actual	FY 2022 Actual	FY 2023 Actual	FY 2024 Estimated	FY 2025 Projected
Provide technical rescue services, mitigation of hazardous materials incidents, and other specialized emergency response needs through the Special Operations Unit.¹					
Number of technical rescue incidents	n/a	217	306	281	292
Number of water rescue incidents	n/a	43	46	49	52
Number of hazardous materials incidents	n/a	42	41	43	45

¹ Data shown as n/a indicates a measure that does not have historical data.



Fire and Rescue: Emergency Medical Services (EMS)

Emergency Medical Services (EMS) Management

What We Do: The EMS Management activity provides professional and technical oversight of all aspects of EMS delivery, including compliance, management of the OSHA-mandated infection control program, training, medical equipment specifications, and quality assurance and improvement in conjunction with the Office of Operational Medical Director. In addition, the EMS Management activity provides daily oversight and delivery of critical care and advanced-practice field medicine and patient care through the EMS Supervisor Program.

Mandate Information: This activity is directed through the Board-adopted Chapter 258 of Loudoun County Codified Ordinances. Requirements include criteria outlined by the Virginia Department of Health (VDH), OEMS, the NFPA, OSHA, the Health Insurance Portability and Accountability Act (HIPAA), and the Centers for Disease Control and Prevention (CDC).

- EMS delivery in the Commonwealth falls under the statutory authority of the Code of Virginia Title 32.1 and the Virginia Administrative Code Chapter 31 (Virginia Emergency Medical Services Regulations).
- The system-wide bloodborne, airborne pathogen/infectious control program is mandated by OSHA regulations (29 CFR 1910.1030, Bloodborne Pathogens Standard).

Who Does It: County staff provides this service, working closely with Office of Operational Medical Director who consults with LCFR on a contractual basis.

Why We Do It: Through this activity, the LC-CFRS ensures that adequate medical attention (BLS and ALS) is provided during every emergency incident, in accordance with industry standards and best practices.

How We Do It Now – Current Service Level: In FY 2020, the service level provided with current resources included providing two field-based EMS supervisors who provide direct critical care medicine for approximately 2,000 critical incidents and arrive on scene within ten minutes or less 46 percent of the time. In this fiscal year with current resources, this activity will provide direct critical-care medicine for approximately 1,600 critical incidents. Critical-care medicine includes delivery of whole blood to trauma patients, advanced airway abilities (including medication-assisted, rapid-sequence intubation), and field ultrasonography. Due to geography limitations, the current goal is for these supervisors to arrive on scene within ten minutes or less for 46 percent of the dispatched calls.

How We Plan to Do It in the Future – Recommended Service Level: Over time, as the County’s population growth stabilizes and the median age of residents increases, an elevated use of 911 for emergency medical services is anticipated. Additionally, ongoing assessment of EMS deployment models using unit hour utilization data, call volume criteria, and increased abilities of providing ALS care with ALS-equipped fire engines will lead to additional efficiencies.

In the future, EMS supervisors are recommended to arrive on scene within ten minutes of dispatch 80 percent of the time. To meet this goal, a third EMS supervisor will need to be placed along the Route 50 corridor. The addition of a third EMS supervisor will also assist with building a future mobile integrated health/community paramedicine platform.

Attention to mental health issues – and, similarly, calls for emergency service related to mental health issues – have dramatically increased over the past five years. The industry standard is shifting toward a community paramedic platform. For Loudoun County, this new service platform (the Community Paramedicine Program) will be primarily focused on working with the Department of Mental Health, Substance Abuse, and Developmental Services as well as the Sheriff’s Office to provide forward-deployed paramedic EMS resources as part of a “Crisis Intervention Team.” The build out of this new program will lessen the requirement on staffed Fire and Rescue and EMS response units and allow a multi-agency team approach to respond to the needs of the citizens and be proactive in providing emergency and non-emergency care.



Fire and Rescue: Emergency Medical Services (EMS)

	FY 2021 Actual	FY 2022 Actual	FY 2023 Actual	FY 2024 Estimated	FY 2025 Projected
Provide delivery of EMS to the community.					
Number of ALS EMS incidents	12,208	14,242	15,703	14,921	15,612
Number of BLS EMS incidents	8,116	11,127	12,820	11,799	12,322
Total number of EMS incidents	20,324	25,369	18,815	21,208	21,259
Average number of EMS incidents per 10,000 residents	448	487	415	447	438
Number of EMS hospital transports	14,000	12,332	17,642	15,367	15,632
Ensure that on-scene EMS supervision and management is provided to EMS providers within ten minutes at 80 percent of critical and large incidents.					
Percentage of calls with an EMS supervisor on scene within ten minutes	51%	50%	47%	46%	46%
Total number of incident responses by EMS supervisors	2,074	2,222	3,202	3,300	3,450
Total number of incidents requiring on-scene EMS supervision	1,967	1,794	2,514	2,516	2,704



Fire and Rescue: Emergency Medical Services (EMS)

Quality Assurance and Quality Improvement (QA/QI)

What We Do: Quality Assurance and Quality Improvement (QA/QI) is tasked with identifying areas of improvement to positively impact EMS service delivery. QA/QI also reviews complex cases and facilitates knowledge sharing and education of providers. The QA/QI area is also responsible for the oversight of electronic patient care reports, which requires constant monitoring, upkeep, and upgrading to give the providers the reporting tools that are needed. QA/QI also oversees the mentoring and releasing of new ALS providers into the system.

Mandate Information: The LC-CFRS must meet criteria outlined by the VDH, OEMS, the NFPA, OSHA, HIPAA, and the CDC. As an EMS agency, Loudoun County is required to have a QA/QI program under 12VAC5-31-600 (Quality Management of the Virginia OEMS Regulations). EMS service delivery in the Commonwealth is regulated under the authority of the Code of Virginia Title 32.1 and the Virginia Administrative Code Chapter 31 (Virginia Emergency Medical Services Regulations).

Who Does It: County staff provides this service.

Why We Do It: QA/QI identifies needs for improvements in the system. A robust and proactive QA/QI process is not only required but also important for providing continual improvements to EMS service delivery and keeping up with technological advances.

How We Do It Now – Current Service Level: In FY 2020, the service level with current resources involved reviewing 100 percent of selected categories of critical incidents, which included 195 cardiac arrests, 137 opioid overdose incidents, and all behavioral cases involving chemical sedation. In this fiscal year with current resources, this activity will review 100 percent of selected categories of critical incidents, including all cardiac arrests (approximately 225 annually), opioid overdose incidents (approximately 150 annually), and all behavioral cases involving chemical sedation.

How We Plan to Do It in the Future – Recommended Service Level: The current process of manually reviewing specific call criteria and calls that have been flagged is inefficient and laborious. Currently, there are two FTE assigned to manage the entire QA/QI program. This significantly limits the current ability to aggressively review most of the incidents. For the QA/QI program to realize full potential, an increased number of BLS call reviews is critical. Additional staff and review parameters combined with increasing the use of the current FirstPass software will aid in bringing LCFR QA/QI processes up to industry standards.

	FY 2021 Actual	FY 2022 Actual	FY 2023 Actual	FY 2024 Estimated	FY 2025 Projected
Ensure the quality of patient care by reviewing records for 100 percent of cardiac arrest incidents, incidents involving advanced-practice provider skills, and opioid overdose incidents; as well as 25 percent of all EMS incidents.					
Number of cardiac arrest patients	200	194	216	225	230
Percentage of cardiac arrest patients surviving to discharge from the hospital	5%	11%	8%	10%	10%
Number of confirmed opioid patients who were administered naloxone	154	172	136	146	145



Fire and Rescue: Fire and Rescue Training

Fire, Rescue, and EMS Training

What We Do: The Oliver Robert “O.R.” Dubé Fire and Rescue Training Academy (also referred to as ‘the Academy’) provides a variety of in-person, online, and hybrid programs to meet local, state, and federal requirements. These include basic and advanced Fire and Rescue and EMS training, continuing education, recertification training, and specialized technical rescue training to career employees and volunteer members of the LC-CFRS. The Academy’s paramedic training program is nationally accredited through the Committee on Accreditation of Educational Programs for the EMS Profession (CoAEMSP) and the Commission on Accreditation of Allied Health Education Programs (CAAHEP). The Academy was the first fire/rescue-based training program in the Commonwealth to achieve these designations. The Academy’s EMT and Advanced Emergency Medical Technician (AEMT) programs are also accredited through the Commonwealth of Virginia. The Academy’s Command Competency Lab is a technology-driven simulation center, which provides an immersive environment for fire, rescue, and law enforcement scenarios.

The Academy serves as a regional site for numerous programs offered by the Virginia Department of Fire Programs (VDFP). To meet the needs of the Combined System as well as regional partners, classes are held seven days per week, during both daytime and evening hours.

Mandate Information: This activity is directed through Chapter 258 of Loudoun County Codified Ordinances. Programs must meet criteria outlined by the VDH, OEMS, the CoAEMSP, the CAAHEP, the National Association of Emergency Medical Technicians (NAEMT), VDFP, the NFPA, OSHA, HIPAA, and the CDC. Statutory authority for EMS certification is derived from Title 32.1 of the Code of Virginia and Chapter 31 of the Virginia Administrative Code. Initial and ongoing bloodborne pathogens training is required by the Code of Federal Regulations (29 CFR 1910.1030). Requirements for hazardous materials training are also included in the Code of Federal Regulations (29 CFR 1910.120).

Who Does It: County staff and a cadre of part-time staff and volunteer instructors provide this service.

Why We Do It: High-quality initial and ongoing training are essential to ensuring that operational personnel are able to respond safely, effectively, and efficiently to all types of emergency incidents.

How We Do It Now – Current Service Level: In FY 2020, the service level provided with current resources included holding 91 fire, rescue, and EMS classes, collectively representing approximately 4,400 hours of instruction. Additionally, approximately 16,000 online courses were completed. In this fiscal year with current resources, the Academy will hold approximately 120 fire, rescue, and EMS classes, collectively representing approximately 4,700 hours of instruction. Still, students are turned away from over-enrolled courses. Additionally, LC-CFRS members complete approximately 8,400 online courses annually.

How We Plan to Do It in the Future – Recommended Service Level: Between now and FY 2029, LCFR has identified nearly 200 new uniformed positions to meet service objectives. Also, LCFR is experiencing the beginning of a wave of anticipated retirements of employees who were hired in the first career recruit schools in the late 1990s/early 2000s. The Academy currently holds two career recruit schools annually, but more will be needed to achieve these staffing objectives, which will necessitate additional training personnel.

Local, state, and federal training mandates are added regularly. For example, in 2023, Virginia enacted mandated training for electric vehicle fires, which must be developed by VDFP and available by July 1, 2024. All firefighters, including volunteers, must complete the training by December 1, 2025. The Training Division anticipates the need for additional staff to meet these demands.

Distance learning has become an important part of how non-hands-on training is delivered. LCFR looks to expand the use of distance learning programs and resources such that personnel will be able to accomplish this ever-increasing platform and delivery method. Expanding this distance learning program will adapt to the requirements of the workforce and allow for greater efficiency of time and resources. These offerings are essential to meet the system’s needs, as both the physical space at the Academy and the availability of qualified instructors continue to be exceeded.



Fire and Rescue: Fire and Rescue Training

Additional professional development for incumbent volunteers and career personnel is a focus of the Training Division. By expanding this Division to include all areas of service and include additional training opportunities throughout the year, LCFR will realize a more proficient workforce and one that is able to respond to the emerging technologies of the profession as well as verify and practice existing skills.

	FY 2021 Actual	FY 2022 Actual	FY 2023 Actual	FY 2024 Estimated	FY 2025 Projected
Provide comprehensive fire, rescue, and EMS training programs consistent with local, state, and national standards.					
Number of fire/rescue classes held	47	46	50	50	50
Number of EMS classes held	80	72	68	68	68
Number of incumbent personnel trained during callback training activities (career and volunteer)	954	1,840	1,826	1,900	2,000
Train new firefighters/EMTs to meet the operational needs of the County's Fire and Rescue System.					
Number of career recruits graduated	17	25	52	35	35
Number of volunteer fire schools completed	2	2	2	2	2
Number of volunteer firefighters graduated	54	35	38	35	35
Number of volunteer EMT courses completed	3	3	3	3	3
Number of volunteer EMTs graduated	67	76	78	75	75
Provide for continuing education of LC-CFRS members through online training.					
Number of online courses uploaded	9	19	20	22	22
Number of courses completed	12,437	7,622	8,350	8,400	8,500



Fire and Rescue: Health, Safety, and Asset Management

Facilities

What We Do: The Facilities activity ensures that new fire stations and other LCFR facilities are programmed, sited, designed, constructed, furnished, and equipped in accordance with the County’s endorsed Capital Facilities Standards, which stipulate public safety needs based on population factors. In addition, this activity ensures that the 33 existing worksites comprising approximately 435,608 square feet are maintained in a state of uninterrupted operational readiness 24 hours per day, seven days per week; this also includes the 11 stations owned by volunteer companies that receive limited support from the Department of General Services. This activity provides essential infrastructure to ensure the reliability of public safety service delivery.

Mandate Information: There are no mandates for this activity.

Who Does It: County staff provides this service.

Why We Do It: Facilities staff supports the effective delivery of around-the-clock Fire and Rescue service countywide, by operationalizing and maintaining readiness of mission-critical facilities. This includes providing direct repair/oversight of contract work for in-station technologies; evaluating whether new facilities are sited strategically and timed appropriately to balance service delivery goals and budgetary implications; providing fire-service/organization-oriented subject matter expertise during scope identification, design, construction, and post-construction warranty periods of new facilities to optimize resultant functionality and eliminate unnecessary cost; and finally, coordinating with the Department of General Services to ensure that LCFR-operated facilities that are owned or leased by the County provide uninterrupted operations.

Additionally, personnel in this activity serve as liaisons to the volunteer Fire and Rescue companies to develop and implement strategies for improving and maintaining existing volunteer-owned worksites, respond to facilities-related emergencies, and provide counsel to volunteer leadership to facilitate uninterrupted operations in facilities that the volunteer companies own and operate.

How We Do It Now – Current Service Level: In FY 2020, the service level provided with current resources involved maintaining approximately 417,500 square feet of facilities. In this fiscal year with current resources, this activity will maintain approximately 475,000 square feet of facilities, which is expected to increase as new and expanded worksites become operational. LCFR Facilities staff also assists with the implementation of a capital budget with nearly \$191,000,000 in active projects.

How We Plan to Do It in the Future – Recommended Service Level: The square footage of facilities maintained is expected to increase as new fire stations are designed and constructed to meet the growing service delivery demands of all areas of the County but especially in the urban and suburban planning areas of the County. Additionally, the County will likely further supplement and/or assume primary responsibility for maintenance, renovation, expansion, and/or replacement of fire stations that are currently volunteer-owned and maintained. As the County’s population stabilizes, the metrics with asterisks (*) below will indicate that the Facilities activity may need to adjust its services or service levels.

	FY 2021 Actual	FY 2022 Actual	FY 2023 Actual	FY 2024 Estimated	FY 2025 Projected
Maintain existing facilities and worksites in a state of readiness to ensure a safe and productive work environment for LCFR employees and volunteer personnel.					
Total square footage of facilities maintained*	417,508	435,608	475,328	475,328	475,328
Number of facility enhancement projects	23	16	20	17	17
Provide oversight and Fire and Rescue industry expertise for new facility construction and other capital projects.					
Total dollar value of projects in progress	\$87,000,000	\$139,000,000	\$162,000,000	\$191,000,000	\$198,000,000



Fire and Rescue: Health, Safety, and Asset Management

Fleet/Apparatus, Respiratory Protection, and Logistics Services

What We Do: The Fleet/Apparatus, Respiratory Protection, and Logistics Services activity ensures that new Fire and Rescue apparatus and fleet are programmed, designed, fabricated, and outfitted in accordance with Capital Facilities Standards, Combined System-wide policies, Fire and Rescue Service Plan Recommendations, and relevant codes and standards. Furthermore, this activity ensures that the LCFR fleet of over 191 vehicles, including 70 County-owned Fire and Rescue heavy response apparatus, is maintained in a condition of minimally-interrupted, around-the-clock operational readiness. This activity provides essential infrastructure that ensures the reliability of public safety service delivery. Additionally, this activity ensures that all personnel are professionally uniformed and outfitted with personal protective equipment commensurate with their duties and anticipated job-related hazards; maintains an effective inventory of patient care and firefighting equipment and supplies to ensure that all County Fire and Rescue vehicles are consistently stocked and prepared to deliver emergency services; manages several service and vendor contracts for uniforms, turnout gear, turnout gear cleaning, etc.; and finally, ensures that all goods received by LCFR are delivered within three working days to the 32 Fire and Rescue worksites.

Fleet/Apparatus staff and Logistics Services staff support the effective around-the-clock delivery of Fire and Rescue service countywide by operationalizing and maintaining readiness of essential emergency response vehicles and through inventory management and goods distribution. The Respiratory Protection activity provides responders with a safe and dependable source of breathing air, oversees the purchasing and maintenance of LCFR's Self-Contained Breathing Apparatus (SCBA), ensures that respirators are properly selected and used by system members, trains staff on proper respirator use, and ensures breathing air quality.

Mandate Information: This activity must ensure LCFR compliance with OSHA standards for respiratory protection as outlined in federal law, including 29 CFR 1910.134 and 29 CFR 1926.103. In particular, 29 CFR 1910.134 mandates LCFR to develop and maintain a comprehensive fit-testing program.

While there are no federal, state, or local mandates, LCFR follows the NFPA guidelines as closely as possible when managing Fire and Rescue apparatus. Several of the NFPA standards that are applicable are:

- NFPA 1901, "Standard for Automotive Fire Apparatus"
- NFPA 1911, "Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Emergency Vehicles"
- NFPA 1914, "Standard for Testing Fire Department Aerial Devices"
- NFPA 1962, "Standard for the Care, Use, Inspection, Service Testing, and Replacement of Fire Hoses, Couplings, Nozzles, and Fire Appliances"
- NFPA 1937, "Standard for the Selection, Care, and Maintenance of Rescue Tools"

In addition, LCFR follows the NFPA guidelines as closely as possible when managing Fire and Rescue logistics. Several of the NFPA standards that are applicable are:

- NFPA 1971, "Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting"
- NFPA 1975, "Standard on Emergency Services Work Apparel"
- NFPA 1977, "Standard on Protective Clothing and Equipment for Wildland Fire Fighting"
- NFPA 1851, "Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting"

Additionally, while not legally mandated, this activity seeks to ensure compliance with NFPA standards for respiratory protection, as outlined in NFPA 1981, NFPA 1982, NFPA 1852, and NFPA 1989.

Who Does It: County staff provides this service.



Fire and Rescue: Health, Safety, and Asset Management

Why We Do It: Fleet/Apparatus Services ensures consistency and adherence with Loudoun County apparatus standards, as provided and approved by the Executive Committee, and provides subject matter expertise and support to volunteer Fire and Rescue companies with selection, procurement, maintenance, and repair of apparatus that they own. Logistics Services provides inventory management and delivery of critical supplies to personnel operating on the front lines of emergency incidents. System personnel may be exposed to a variety of hazards including, but not limited to, smoke, heat, toxic gases, and oxygen-deficient atmospheres, any of which may result in an environment that is immediately dangerous to life and health. This activity protects responders by providing SCBA and training. With respiratory protection in place, responders can focus on providing services to County residents. Safe firefighters can respond to emergency situations and protect residents.

How We Do It Now – Current Service Level: Current service level reflects maintaining and repairing approximately 191 vehicles each year, including 70 heavy apparatus and associated Fire and Rescue equipment. This includes completing approximately 1,000 maintenance repairs and coordinating approximately 1,500 vendor work orders for repairs. To provide this level of service, Fleet/Apparatus Services currently utilizes \$200,000 of overtime annually due to the limited number of technicians currently dedicated to this activity on a full-time basis. Current service level delivers approximately 60,000 items annually, including equipment, tools, and supplies to Fire and Rescue worksites throughout the County. This activity also coordinates the cleaning, inspection, and repair of turnout gear, with approximately 1,000 sets submitted annually. The Respiratory Protection activity is responsible for the 600 SCBA units, approximately 1,200 face pieces, and 15 breathing air compressors that firefighting staff use any time they are in (or are potentially presented with) an environment that is immediately dangerous to life and health. Current service level involves performing nearly 600 SCBA flow tests and certifications and completing 700 repairs to respiratory equipment annually.

How We Plan to Do It in the Future – Recommended Service Level: The demand for service delivery in the Fleet/Apparatus activity will continue to expand for the foreseeable future commensurate with the growth projection for LCFR. As the County expands service delivery, as the volunteer system continues to consolidate and relies more on assistance from LCFR, and as the calls for service continue to rise, additional staff will be required to meet demand. Additionally, Logistics Services will continue to develop and expand as volunteer companies continue to consolidate and rely more on assistance from the County staff for items such as their uniforms and emergency gear. The County will consolidate, order, maintain, and distribute all turnout gear, uniforms, and EMS supplies for all Combined System members. The Respiratory Protection Program will also grow over the next several years. Due to the increased decontamination requirements after each use of respiratory protection to support LCFR’s cancer reduction initiative, and once the asset management facility opens at 751 Miller Drive, the Mobile Air Unit will relocate and be staffed 24 hours per day. A satellite station will be established to handle day-to-day repairs and implement flow testing for the SCBA.

	FY 2021 Actual	FY 2022 Actual	FY 2023 Actual	FY 2024 Estimated	FY 2025 Projected
Provide reliable respiratory protection to personnel responding to fire incidents, in compliance with all occupational safety standards.					
Number of SCBA units and Rapid Intervention (RIT) Packs in service	671	671	671	671	671
Number of repairs to respiratory equipment	591	762	712	700	700
Number of SCBA units receiving an annual flow test and certification	483	549	683	600	600
Percentage of SCBA units in service receiving an annual flow test and certification	81%	92%	114%	100%	100%
Support uninterrupted delivery of Fire and Rescue services through regular maintenance and repair of fleet vehicles and associated equipment.					
Number of vehicles under management	183	188	196	196	196
Number of heavy vehicles	66	70	73	73	73

**Fire and Rescue: Health, Safety, and Asset Management**

	FY 2021 Actual	FY 2022 Actual	FY 2023 Actual	FY 2024 Estimated	FY 2025 Projected
Number of light vehicles	117	118	123	123	123
Number of maintenance tickets completed by Fleet/Apparatus Services	822	928	790	790	790
Number of vendor work orders managed for contracted mechanical repairs	1,255	1,100	1,120	1,120	1,120
Total amount of overtime hours	3,264	4,276	3,054	4,211	4,211
Provide for the health and safety of firefighters through regular cleaning, inspection, and repair of turnout gear.					
Number of sets of turnout gear submitted for cleaning, inspection, and repair	1,120	1,309	1,268	1,048	1,060
Total cost of cleaning, inspection, and repairs	\$121,675	\$127,462	\$205,162	\$127,610	\$129,842
Provide weekly deliveries of equipment, tools, and supplies to stations to ensure that all personnel are properly equipped for duty.					
Number of items delivered	83,151	87,493	58,823	60,327	63,732



Fire and Rescue: Health, Safety, and Asset Management

Health, Safety, and Wellness

What We Do: The Health, Safety, and Wellness activity provides oversight of safety on emergency incidents; investigates system-member injuries and accidents; monitors personnel on workers' compensation in conjunction with County Risk Management; schedules physicals for both career and volunteer members; develops system health and wellness programs; and coordinates with the County-contracted occupational health provider. Additionally, this activity contains the Behavioral Health Program, which links personnel to behavioral health resources specific to the needs of emergency responders, and LCFR's Wellness Initiative, which provides a comprehensive fitness and wellness program intended to proactively reduce injuries and lost work time, in addition to overseeing operations at the Fire and Rescue Wellness Center.

The Health, Safety, and Wellness activity provides additional supervision on significant incidents to ensure that safe practices and risk-reduction measures are in place. Other responsibilities include oversight of the Occupational Health and Wellness Program, the Workers' Compensation Program, the Fit-Testing Program, Vehicle Accidents and Personal Injury Investigations, Safety and Health Training, the Risk Management Program, and a Facility Safety Inspection Program.

Mandate Information: The Code of Federal Regulations 29 CFR 1910.120 and 1910.134 (OSHA) mandates LCFR to develop and maintain a comprehensive health, safety, fitness, and wellness program. The Code of Virginia § 65.2-107 states that each employer of firefighters shall (i) make peer support available and (ii) refer firefighters seeking mental health care services to a mental health professional. The Code of Virginia §§ 9.1-203.1 and 32.1-111.5:1 mandates that EMS and fire services personnel receive mental health awareness training. While not a specific legal mandate, this activity is also directed through Chapter 258 of Loudoun County Codified Ordinances, which was adopted by the Board and implemented on July 2, 2014. This activity must adhere to – and remain consistent with – current guidelines, industry standards, requirements, and best practices to ensure proper quality management of Fire and Rescue health and safety. Among the industry standards required, LCFR must meet criteria outlined by the VDH; OEMS; NFPA standards including NFPA 1500, NFPA 1521, NFPA 1582, and NFPA 1583; OSHA; HIPAA; and the CDC.

Who Does It: County staff provides this service, except for NFPA medical physicals which are contracted and managed by the County's DHR.

Why We Do It: This activity reduces County expenditures related to workers' compensation and property damage. This activity lowers the County's exposure to controllable risk both in emergent and non-emergent instances. Finally, this activity serves the Fire and Rescue community with mental health services and referrals to medical professionals. Taking care of Combined System members allows them to seek treatment and recover so they can once again respond to emergency incidents.

How We Do It Now – Current Service Level: In FY 2020, the service level provided with current resources involved responding to approximately 1,200 emergency incidents annually, with the safety officer on the scene within ten minutes 49 percent of the time. In this fiscal year with current resources, the current service level involves responding to approximately 1,400 emergency incidents annually and having an incident safety officer on the scene within ten minutes of dispatch 56 percent of the time. The physicals coordinator coordinates approximately 1,850 NFPA physicals annually. In addition to annual physicals, system members who met certain criteria participated in the advanced cardiac screening program, which began on February 1, 2022. Additionally, the behavioral health service staffs the peer support hotline 24 hours per day; and the behavioral health coordinator is available to assist with crisis situations and referrals to mental health professionals.

How We Plan to Do It in the Future – Recommended Service Level: In the future, LCFR recommends that a safety officer is on the scene of all incidents within ten minutes 80 percent of the time. Additionally, it is recommended that the Health and Safety 24-Hour Hotline is available 100 percent of the time. It is anticipated that, as the population grows and volunteer participation decreases, the demand for career staffing will increase over the next several years. Enhanced staffing coupled with an aging workforce that will soon begin transitioning to retirement will inevitably drive an increased demand for the services provided by the staff at the Center for Health and Wellness. Additionally, the behavioral health program will



Fire and Rescue: Health, Safety, and Asset Management

continue to grow and add members to its Peer Support Team and Chaplains Corps, with the goal of providing critical 24-hour behavioral health support to system members.

	FY 2021 Actual	FY 2022 Actual	FY 2023 Actual	FY 2024 Estimated	FY 2025 Projected
Have a safety officer on the scene of all incidents with significant hazards within ten minutes 80 percent of the time.					
Number of safety officer responses	1,406	1,474	1,477	1,402	1,458
Number of incidents with a safety officer not available to respond	88	28	6	8	8
Percentage of incidents with a safety officer on scene within ten minutes	52%	61%	60%	56%	57%
Provide annual physical exams to all system members and exams for candidates to ensure compliance with NFPA standard 1582.					
Number of physical exams performed	1,284	1,272	1,223	1,856	2,063
Minimize on-the-job injuries and accidents.					
Number of LCFR on-the-job injuries	120	127	122	140	142
Number of lost-time injuries	38	47	26	24	18
Number of accidents involving LCFR drivers	53	50	65	62	66
Provide mental health support and services to system members.					
Number of Peer Support Team contacts	107	228	280	330	380
Number of referrals provided	179	105	122	137	149
Provide mental health training to system members.					
Number of training sessions held	25	19	13	25	25



Fire and Rescue: Human Resources

Human Resources

What We Do: This activity directly manages, coordinates, and oversees all human resources matters for LCFR, including recruitment and hiring of personnel; development and administration of personnel promotional processes; payroll, bonus nominations, and special pay band increases; compensation, benefits, and leave issues (including compliance with – and administration of – the Family Medical Leave Act, the Fair Labor Standards Act (FLSA), the Americans with Disability Act, workers’ compensation, and disability claims and requests); handling of personnel issues, discipline, and performance reviews; policy and procedure development and updates; and records maintenance and general maintenance of employee information. Additionally, LCFR human resources staff works with DHR to facilitate employee relations and assists the System Chief and staff in the collective bargaining and labor relations processes.

Staff conducts pre-employment selection tests for uniformed personnel in accordance with NFPA standards; and, as such, is required to ensure that the testing and selection process complies with the Equal Employment Opportunity Commission’s (EEOC) Uniform Guidelines on Employee Selection Procedures.

Mandate Information: While not a specific legal mandate, this activity is directed through Chapter 258 of Loudoun County Codified Ordinances, which was adopted by the Board and implemented on July 2, 2014. Furthermore, LCFR is required to comply with the Firefighter Procedural Guarantee Act (Virginia Code § 9.1-300 et seq.) and federal regulations for wages, hours, and recordkeeping, as outlined in the FLSA.

Who Does It: County staff primarily provides this service. However, LCFR contracts out the following human resources functions: background verifications, polygraphs, and promotional process administration. Entry-level written testing for firefighters, EMTs, and call takers are purchased from – and graded by – an outside vendor.

Why We Do It: Without internal LCFR human resources services, the burden would be shifted to County DHR staff.

How We Do It Now – Current Service Level: In FY 2020, the service level provided with current resources involved processing 380 employee action (EA) forms annually to ensure up-to-date employee records. In this fiscal year with current resources, staff will coordinate human resources processes and needs for a workforce of 729.14 FTE, including 620.00 uniformed and 109.14 civilian positions, in addition to processing over 500 EA forms annually.

How We Plan to Do It in the Future – Recommended Service Level: LCFR human resources staff will continue to support LCFR employees in the core human resources functions, such as workforce planning, leave and benefits administration, injury/illness case management, payroll, employee relations, talent acquisition, performance appraisals, recruitment, and retention. Staff also serves as advisors to various levels of LCFR leadership, especially the System Chief and assistant chiefs. One of the greatest challenges in the foreseeable future for this activity is the ability to successfully recruit an adequate number of uniformed employees to support the projected continued growth of LCFR. Although analysis of the future budget and population growth in Loudoun County suggests that the upward spike in both is slowing or leveling off, LCFR is still working to increase staffing levels to account for the rapid growth in previous years as well as enhance operational service delivery in many areas. Additionally, as the workforce in LCFR matures, an increase in retirements is expected within the next three to five years. As the County’s growth stabilizes over time, LCFR human resources staff expects that metrics with asterisks (*) below will indicate possible adjustment of services and/or service levels.

**Fire and Rescue: Human Resources**

	FY 2021 Actual	FY 2022 Actual	FY 2023 Actual	FY 2024 Estimated	FY 2025 Projected
Manage a human resources system to meet LCFR staffing needs by maintaining turnover rates of less than 10 percent for civilian and uniformed personnel.					
Employee turnover rate	4.1%	4.5%	4.3%	4.9%	5.0%
Turnover rate – uniform positions	3.6%	4.0%	3.2%	4.3%	4.5%
Turnover rate – civilian positions	7.1%	8.0%	10.1%	8.1%	7.7%
Vacancy rate – uniform positions*	4.2%	4.2%	3.5%	3.0%	2.9%
Vacancy rate – civilian positions	3.3%	8.0%	7.1%	6.8%	6.7%
Ensure accuracy of personnel and financial records through timely updates to employee information.					
Number of EA forms processed	546	542	459	490	497