

Fire and Rescue Department

FY 2022 Adopted Budget Plan: Performance Measures

Office of the Fire Chief

Goal

To provide management, administrative and public information and educational services to department personnel and to the general public to ensure the efficient daily operations of the Fire and Rescue Department.

Objective

To present life safety education programs to members of risk populations, including 21,000 or more preschool and kindergarten students, 16,800 students enrolled in the Fairfax County School-Age Child Care program, and 10,500 or more senior citizens, in order to approach a fire death rate of zero and a burn injury total of 2 or less.

Performance Indicators

Indicator	FY 2018 Actual	FY 2019 Actual	FY 2020 Estimate	FY 2020 Actual	FY 2021 Estimate	FY 2022 Estimate
Output						
Preschool and kindergarten students served ¹	10,572	10,577	20,000	7,539	18,500	21,000
Senior citizens served ¹	7,506	8,507	10,000	4,040	9,000	10,500
School age children served ¹	17,644	19,452	16,000	8,820	15,000	16,800
Efficiency						
Cost per high risk citizen served	\$10.40	\$9.65	\$8.12	\$19.31	\$9.28	\$8.18
Service Quality						
Percent of respondents satisfied with life safety program	100%	100%	100%	100%	100%	100%
Outcome						
Children (5 years and under) deaths due to fire	0	0	0	0	0	0
Children (5 years and under) burn injuries	0	0	0	0	0	0
Senior citizen (over age 60) deaths due to fire	5	2	1	2	1	1
Senior citizen (over age 60) burn injuries	3	6	2	2	2	2

¹ In FY 2020, all life safety education programs decreased due to schools and nursing homes closing in March 2020 as a result of COVID-19. In FY 2021 and FY 2022, the number of life safety education programs presented to members of risk populations should increase as a result of transitioning to virtual training programs.

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Office of the Fire Marshall

Objective

To conduct investigations so that at least 95 percent of the fire cases and hazardous materials cases are peer reviewed by Case Managers, with a closure rate of 85 percent of fire investigation cases, 85 percent of hazardous materials cases and 40 percent of arson cases within a year.

Performance Indicators

Indicator	FY 2018 Actual	FY 2019 Actual	FY 2020 Estimate	FY 2020 Actual	FY 2021 Estimate	FY 2022 Estimate
Output						
Fire investigations conducted (including arson cases)	296	287	300	243	250	250
Arson investigations conducted	47	24	55	48	45	45
Hazardous materials cases investigated	155	223	170	102	125	125
Efficiency						
Average fire and hazardous materials cases per investigator	96.0	93.0	80.0	84.0	80.0	80.0
Service Quality						
Percent of cases that peer reviewed by a Case Manager	92.7%	95.0%	95.0%	100.0%	95.0%	95.0%
Outcome						
Percent total fire investigation cases closed (fires, bombings, threats and arson)	91.1%	89.0%	90.0%	94.0%	90.0%	85.0%
Percent arson cases closed	41.0%	41.0%	40.0%	25.0%	40.0%	40.0%
Percent hazardous materials cases closed	98.7%	96.0%	90.0%	100.0%	90.0%	85.0%

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Objective

To maintain the fire loss rate for commercial structures at no greater than \$2.0 million by conducting effective and comprehensive inspections that enforce all applicable codes, with a service delivery target of recovering at least 62.6 percent of all fire prevention services costs per year.

Performance Indicators

Indicator	FY 2018 Actual	FY 2019 Actual	FY 2020 Estimate	FY 2020 Actual	FY 2021 Estimate	FY 2022 Estimate
Output						
Fire inspection activities conducted	16,659	20,206	19,000	23,936	20,000	20,000
Systems testing activities conducted	10,289	10,423	11,000	10,557	11,000	11,000
Revenue generated for all inspection activities ¹	\$7,378,543	\$5,911,337	\$5,757,832	\$4,977,625	\$4,262,832	\$4,262,832
Efficiency						
Net cost per inspection (revenues in excess of average cost)	(\$51.79)	\$6.79	\$24.13	\$20.99	\$74.87	\$85.04
Average revenue generated per inspection/systems testing activity	\$273.81	\$193.00	\$191.93	\$145.94	\$142.00	\$142.09
Service Quality						
Percent of fire prevention services cost recovered	123.3%	96.6%	88.8%	69.8%	65.5%	62.6%
Outcome						
Total fire loss for commercial structures	\$3,800,000	\$760,405	\$2,000,000	\$2,466,151	\$2,000,000	\$2,000,000

¹ All revenue was down in FY 2020 due to COVID leave used by inspection staff. In FY 2020, revenue generated from retesting of fire protection system inspections decreased significantly. This was initially due to leave used by inspectors for COVID. A change in business process to verify more building owners complied with maintenance regulations was instituted. A significant amount of revenue was due to cancelled inspections which did not serve to ensure regulatory requirements were being satisfied. In addition, a change in scheduling for acceptance testing of fire protection systems reduced the need for overtime inspection requests. This decreased the amount of revenue generated from overtime billing at overtime rates. The Fire Prevention Division is in the process of re-evaluating the revenue model for future inspections which could impact FY 2021 and FY 2022 cost recovery percentages.

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Operations Bureau

Objective

For Emergency Medical Services (EMS) to provide on-scene Advanced Life Support (ALS) capability within 9 minutes and a first responder with an Automatic External Defibrillator (AED) within 5 minutes, so that at least 20 percent of patients with witnessed non-traumatic cardiac arrest and present with a shockable rhythm arrive at a hospital with a pulse.

Performance Indicators

Indicator	FY 2018 Actual	FY 2019 Actual	FY 2020 Estimate	FY 2020 Actual	FY 2021 Estimate	FY 2022 Estimate
Output						
Patients transported	54,361	54,854	55,000	52,470	55,000	55,000
Service Quality						
ALS transport units on scene within 9 minutes (National Standard 90%)	88.20%	87.45%	90.00%	90.82%	90.00%	90.00%
AED response rate within 5 minutes (National Standard 90%)	55.81%	52.71%	60.00%	57.47%	60.00%	60.00%
Outcome						
Cardiac arrest patients arriving at the Emergency Department with a pulse (National Average 21%)	9.5%	22.8%	30.0%	9.0%	20.0%	20.0%

The Fire and Rescue Department reports cardiac arrest outcomes using the Utstein template, which is the international standard for cardiac arrest reporting, as it more accurately reflects the population of patients for whom pre-hospital interventions have the most impact. The strongest predictor of survival is the return of spontaneous circulation (a pulse) prior to arrival at a hospital; as reported by the American heart association, survival rates for out of hospital cardiac arrest when treated by EMS has ranged from 10-15 percent between the years of 2006 through 2016. The Fairfax County Fire and Rescue Department aims to meet or exceed the national average for out of hospital cardiac arrest and expects at least 20 percent of cardiac arrest patients to arrive at Emergency Departments with a pulse in FY 2021 and FY 2022.

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Objective

To deploy suppression resources to a structure fire so that the first engine company arrives within 5 minutes, 20 seconds of dispatch and for 15 personnel to arrive within 9 minutes, 20 seconds in order to prevent civilian deaths and burn injuries, while striving to limit fire loss to \$16 million or less than 0.01 percent of the property value.

Performance Indicators

Indicator	FY 2018 Actual	FY 2019 Actual	FY 2020 Estimate	FY 2020 Actual	FY 2021 Estimate	FY 2022 Estimate
Output						
Total incidents responded to	103,926	104,937	105,000	101,961	105,000	105,000
Efficiency						
Cost per suppression and EMS incident	\$2,358	\$2,416	\$2,793	\$2,534	\$2,859	\$2,513
Service Quality						
Fire suppression response rate for arrival of an engine company within 5 minutes, 20 seconds (National Standard 90%)	48.82%	50.98%	52.00%	48.88%	52.00%	52.00%
Fire suppression response rate for 15 personnel within 9 minutes, 20 seconds (National Standard 90%)	79.02%	76.36%	85.00%	81.88%	85.00%	85.00%
Outcome						
Fire loss (millions) ¹	\$27.2	\$18.1	\$16.0	\$58.3	\$16.0	\$16.0
Fire loss as percent of total property valuation	0.60%	0.01%	0.01%	0.03%	0.01%	0.01%
Property value saved from fire (billions)	NA	NA	2.5	2.3	2.5	2.5
Total civilian fire deaths	6	3	2	5	2	2
Civilian fire deaths per 100,000 population	0.52	0.26	0.17	0.42	0.17	0.17
Civilian fire-related burn injuries	20	27	15	7	15	15
Civilian fire-related burn injuries per 100,000 population	1.8	1.8	1.3	0.6	1.3	1.3

¹ In FY 2020, the total property value lost was \$58.3 million. Over \$40 million was from one significant fire in a multi-structure commercial complex under construction in the Mount Vernon District.

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Objective

A community outreach program titled "Safety in Our Community" (SIOC) and "Wellness in Our Community" (WIOC) where fire station personnel canvas neighborhoods to ensure that single family homes and residences in Fairfax County have at least one working smoke alarm while providing fire and life safety information including File of Life Forms.

Performance Indicators

Indicator	FY 2018 Actual	FY 2019 Actual	FY 2020 Estimate	FY 2020 Actual	FY 2021 Estimate	FY 2022 Estimate
Output						
Time spent on SIOC/WIOC activities	1,771	1,067	7,000	6,019	3,000	3,000
Efficiency						
Cost of SIOC materials per single family home reached	\$0.86	NA	NA	NA	NA	NA
Service Quality						
Fire & Life Safety Information door hangers distributed to homes	1,471	1,067	4,000	3,238	3,000	3,000
File of Life (FOLs) distributed.	102	160	150	327	300	300
Outcome						
Number of smoke alarms distributed and installed.	391	1,067	7,000	6,390	3,000	3,000
No. of FOLs used as resource in patient encounters.	1,854	460	400	1,634	800	800

The new Community Risk Reduction (CRR) program is for fire station personnel to canvas neighborhoods to provide working smoke alarms and to deliver fire and life safety materials after a major fire. In late FY 2019, FRD received a FEMA grant for over 6,000 smoke alarms so the estimated number of residences visited in FY 2020 is high to distribute the existing inventory of smoke alarms at no cost.

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Volunteer Liaison

Objective

To obtain an amount of 80,000 direct volunteer service hours, achieving sufficient volunteer staffing so that volunteer-staffed emergency vehicles can be placed in service at least 1,600 times annually.

Performance Indicators

Indicator	FY 2018 Actual	FY 2019 Actual	FY 2020 Estimate	FY 2020 Actual	FY 2021 Estimate	FY 2022 Estimate
Output						
Volunteer operational hours	81,598	81,364	82,000	66,695	60,000	80,000
Volunteer emergency vehicles available for staffing	24	24	25	25	25	25
Efficiency						
Average operational service hours per volunteer	267.8	267.5	270.0	260.0	238.0	270.0
Average number of volunteer-staffed emergency vehicles in service per day	4.5	4.6	4.6	3.9	4.1	4.3
Service Quality						
Percent of volunteer candidates who complete firefighter training	85%	85%	90%	100%	NA	90%
Percent of new volunteers who are active in VFD at end of one year	75%	78%	77%	60%	70%	75%
Outcome						
Times volunteer-staffed emergency vehicles are placed in service annually	1,648	1,358	1,600	1,429	1,500	1,600
Percent change in volunteer operational service hours	(4%)	0%	1%	(19%)	(11%)	33%

The COVID pandemic had a negative impact on Volunteer Numbers for the following reasons: 1. Implementation of the SAFER grant for Recruitment and Retention was delayed. 2. Reduced riding opportunities to limit exposure, the elimination of standby events, and the cancelation of large events such as Viva Vienna, Herndon Festival, and Celebrate Fairfax. 3. In FY 2021, the Volunteer Fire School was cancelled and postponed to FY 2022.

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Training Division

Objective

To train career FF/EMT and FF/Medic recruits, in compliance with local, state and federal standards, with a 92 percent graduation rate, adding qualified personnel as required to meet current and future operational staffing requirements.

Performance Indicators

Indicator	FY 2018 Actual	FY 2019 Actual	FY 2020 Estimate	FY 2020 Actual	FY 2021 Estimate	FY 2022 Estimate
Output						
Recruit schools started	2	2	1	2	3	1
Career recruits enrolled	72	57	80	98	150	60
Efficiency						
Operating cost per career recruit	\$57,644	\$85,505	\$74,840	\$70,315	\$88,536	\$64,485
Service Quality						
Percent of recruit firefighters graduating	92%	65%	92%	82%	100%	92%
Outcome						
Trained career firefighters added to workforce	66	37	74	80	90	110

The Training Division continues consecutive schools which overlap the fiscal years, with each school being 26 weeks in length.

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Fiscal Services Division

Objective

To maximize revenues from the Emergency Medical Services (EMS) transport billing program under a compassionate billing philosophy by collecting an anticipated \$18.9 million.

Performance Indicators

Indicator	FY 2018 Actual	FY 2019 Actual	FY 2020 Estimate	FY 2020 Actual	FY 2021 Estimate	FY 2022 Estimate
Output						
Bills processed	55,052	53,393	53,927	52,539	47,974	47,974
Efficiency						
Program costs as a percentage of revenue	5.6%	5.8%	6.8%	6.0%	6.7%	7.3%
Service Quality						
Percent of complaints resolved to the complainant's satisfaction	100%	100%	100%	100%	100%	100%
Outcome						
Annual transport revenue billing (in millions)	\$21.3	\$21.2	\$21.3	\$20.7	\$18.9	\$18.9

As of March 2020, the COVID-19 pandemic resulted in a drop in EMS billing revenue in FY 2020. EMS transports decreased as a result of individuals fear of catching COVID at the hospital. In addition, the number of EMS transports for patients without employment or health insurance increased. This trend is anticipated to continue in FY 2021 and into FY 2022.