

Fire and Rescue Department

FY 2021 Adopted Budget Plan: Performance Measures

Business Service Bureau and 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 20,000 or more preschool and kindergarten students, 16,000 students enrolled in the Fairfax County School-Age Child Care program, and 10,000 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	Prior Year Actuals			Current Estimate	Future Estimate
	FY 2017 Actual	FY 2018 Actual	FY 2019 Estimate/Actual	FY 2020	FY 2021
Output					
Preschool and kindergarten students served	25,024	10,572	20,000/10,577	20,000	20,000
Senior citizens served	11,763	7,506	10,000/8,507	10,000	10,000
School age children served	18,585	17,644	16,000/19,452	16,000	16,000
Efficiency					
Cost per high risk citizen served	\$6.46	\$10.40	\$8.58/\$9.65	\$8.12	\$8.14
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	1	0	0/0	0	0
Children (5 years and under) burn injuries	3	0	1/0	0	0
Senior citizen (over age 60) deaths due to fire	1	5	1/2	1	1
Senior citizen (over age 60) burn injuries	3	3	2/6	2	2

In FY 2019, the total number of school aged children served remained higher than estimates due to additional programs offered to children in the summer and after school day-care programs. The number of pre-school/kindergarten students and senior citizens reached was lower than estimates as a result of vacancy in the Life Safety Education section.

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Fire Prevention

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 90 percent of fire investigation cases, 90 percent of hazardous materials cases and 40 percent of arson cases within a year.

Performance Indicators

Indicator	Prior Year Actuals			Current Estimate	Future Estimate
	FY 2017 Actual	FY 2018 Actual	FY 2019 Estimate/Actual	FY 2020	FY 2021
Output					
Fire investigations conducted (including arson cases)	335	296	300/287	300	300
Arson investigations conducted	58	47	55/24	55	55
Hazardous materials cases investigated	103	155	170/223	170	170
Efficiency					
Average fire and hazardous materials cases per investigator	78.0	96.0	80.0 /93.0	80.0	80.0
Service Quality					
Percent of cases that peer reviewed by a Case Manager	95.0%	92.7%	95.0%/95.0%	95.0%	95.0%
Outcome					
Percent total fire investigation cases closed (fires, bombings, threats and arson)	85.0%	91.1%	90.0%/89.0%	90.0%	90.0%
Percent arson cases closed	61.0%	41.0%	40.0%/41.0%	40.0%	40.0%
Percent hazardous materials cases closed	94.0%	98.7%	95.0%/96.0%	90.0%	90.0%

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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 88.8 percent of all fire prevention services costs per year.

Performance Indicators

Indicator	Prior Year Actuals			Current Estimate	Future Estimate
	FY 2017 Actual	FY 2018 Actual	FY 2019 Estimate/Actual	FY 2020	FY 2021
Output					
Fire inspection activities conducted	19,981	16,659	19,000/20,206	19,000	19,000
Systems testing activities conducted	9,905	10,289	11,000/10,423	11,000	11,000
Revenue generated for all inspection activities	\$5,042,863	\$7,378,543	\$6,846,300/\$5,911,337	\$5,757,832	\$5,757,832
Efficiency					
Net cost per inspection (revenues in excess of average cost)	\$9.87	\$51.79	\$4.63/\$6.79	\$24.13	\$25.04
Average revenue generated per inspection/systems testing activity	\$168.74	\$273.81	\$228.21/\$193.00	\$191.93	\$191.93
Service Quality					
Percent of fire prevention services cost recovered	94.4%	123.3%	98.0%/96.6%	88.8%	88.5%
Outcome					
Total fire loss for commercial structures	\$2,639,547	\$3,800,000	\$2,000,000/\$760,405	\$2,000,000	\$2,000,000

In FY 2019, total revenue collected from inspection activities was lower than estimated. In addition, the revenue generated per inspection/systems test activity was lower than estimated due to industry paying for fewer overtime hours. In FY 2019, the number of fire and arson investigations conducted were lower than estimated but the number of hazardous materials cases investigated was higher than estimated. The projections for FY 2020 and FY 2021 remain the same.

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Operations Division

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 30 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	Prior Year Actuals			Current Estimate	Future Estimate
	FY 2017 Actual	FY 2018 Actual	FY 2019 Estimate/Actual	FY 2020	FY 2021
Output					
Patients transported	54,375	54,361	53,500/54,854	55,000	55,000
Service Quality					
ALS transport units on scene within 9 minutes (National Standard 90%)	89.42%	88.20%	90.00%/87.45%	90.00%	90.00%
AED response rate within 5 minutes (National Standard 90%)	56.06%	55.81%	60.00%/52.71%	60.00%	60.00%
Outcome					
Cardiac arrest patients arriving at the Emergency Department with a pulse (National Average 21%)	38.7%	9.5%	40.0%/22.8%	30.0%	30.0%

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 30 percent of cardiac arrest patients to arrive at Emergency Departments with a pulse in FY 2021.

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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	Prior Year Actuals			Current Estimate	Future Estimate
	FY 2017 Actual	FY 2018 Actual	FY 2019 Estimate/Actual	FY 2020	FY 2021
Output					
Total incidents responded to	101,326	103,926	103,000/104,937	105,000	105,000
Efficiency					
Cost per suppression and EMS incident	\$2,342	\$2,358	\$2,467/\$2,416	\$2,793	\$2,866
Service Quality					
Fire suppression response rate for arrival of an engine company within 5 minutes, 20 seconds (National Standard 90%)	50.88%	48.82%	52.00%/50.98%	52.00%	52.00%
Fire suppression response rate for 15 personnel within 9 minutes, 20 seconds (National Standard 90%)	82.18%	79.02%	85.00%/76.36%	85.00%	85.00%
Outcome					
Fire loss (millions)	\$14.7	\$27.2	\$16.0/\$18.1	\$16.0	\$16.0
Fire loss as percent of total property valuation	0.01%	0.60%	0.01%/0.01%	0.01%	0.01%
Property value saved from fire (billions)	NA	\$3.9	\$2.5/\$3.5	\$2.5	\$2.5
Total civilian fire deaths	2	6	2/3	2	2
Civilian fire deaths per 100,000 population	0.18	0.52	0.18/0.26	0.17	0.17
Civilian fire-related burn injuries	6	20	15/27	15	15
Civilian fire-related burn injuries per 100,000 population	0.5	1.8	1.3/1.8	1.3	1.3

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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	Prior Year Actuals			Current Estimate	Future Estimate
	FY 2017 Actual	FY 2018 Actual	FY 2019 Estimate/Actual	FY 2020	FY 2021
Output					
Time spent on SIOC/WIOC activities	13,986	1,771	0/1,067	7,000	3,000
Efficiency					
Cost of SIOC materials per single family home reached	\$0.34	\$0.86	\$0.00/NA	NA	NA
Service Quality					
Fire & Life Safety Information door hangers distributed to homes	12,484	1,471	0/1,067	4,000	3,000
File of Life (FOLs) distributed.	668	102	0/160	150	150
Outcome					
Number of smoke alarms distributed and installed.	1,870	391	0/1,067	7,000	3,000
No. of FOLs used as resource in patient encounters.	1,335	1,854	0/460	400	400

In FY 2018, the FRD initiated a new fire suppression outcome measure, which is tracking the property value saved from fire suppression activities. In FY 2019, the property value lost was \$18.1 million and the property value saved was \$3.6 billion, or 99.5% of total property value. 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 82,000 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	Prior Year Actuals			Current Estimate	Future Estimate
	FY 2017 Actual	FY 2018 Actual	FY 2019 Estimate/Actual	FY 2020	FY 2021
Output					
Volunteer operational hours	84,695	81,598	82,000/81,364	82,000	82,000
Volunteer emergency vehicles available for staffing	24	24	25/24	25	25
Efficiency					
Average operational service hours per volunteer	282.5	267.8	270.0/267.5	270.0	270.0
Average number of volunteer-staffed emergency vehicles in service per day	4.7	4.5	4.7/4.6	4.6	4.6
Service Quality					
Percent of volunteer candidates who complete firefighter training	85%	85%	85%/85%	90%	90%
Percent of new volunteers who are active in VFD at end of one year	74%	75%	75%/78%	77%	77%
Outcome					
Times volunteer-staffed emergency vehicles are placed in service annually	1,719	1,648	1,700/1,358	1,600	1,600
Percent change in volunteer operational service hours	(10%)	(4%)	1%/0%	1%	1%

The plan is to implement another SAFER funded recruitment and retention initiative which is anticipated to bring in an influx of new volunteers.

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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	Prior Year Actuals			Current Estimate	Future Estimate
	FY 2017 Actual	FY 2018 Actual	FY 2019 Estimate/Actual	FY 2020	FY 2021
Output					
Recruit schools started	2	2	2/2	1	2
Career recruits enrolled	80	72	52/57	80	110
Efficiency					
Operating cost per career recruit	\$61,085	\$57,644	\$59,014/\$85,505	\$74,840	\$67,180
Service Quality					
Percent of recruit firefighters graduating	95%	92%	96%/65%	92%	90%
Outcome					
Trained career firefighters added to workforce	76	66	50/37	74	99

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 \$21.3 million.

Performance Indicators

Indicator	Prior Year Actuals			Current Estimate	Future Estimate
	FY 2017 Actual	FY 2018 Actual	FY 2019 Estimate/Actual	FY 2020	FY 2021
Output					
Bills processed	53,341	55,052	53,785/53,393	53,927	53,927
Efficiency					
Program costs as a percentage of revenue	6.4%	5.6%	6.9%/5.8%	6.8%	6.9%
Service Quality					
Percent of complaints resolved to the complainant's satisfaction	100%	100%	100%/100%	100%	100%
Outcome					
Annual transport revenue billing (in millions)	\$21.2	\$21.3	\$20.8/\$21.2	\$21.3	\$21.3