

# Fire and Rescue Department

## FY 2020 Adopted Budget Plan: Performance Measures

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### 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 3 or less.

#### Performance Indicators

Indicator	Prior Year Actuals			Current Estimate	Future Estimate
	FY 2016 Actual	FY 2017 Actual	FY 2018 Estimate/Actual	FY 2019	FY 2020
<b>Output</b>					
Preschool and kindergarten students served	23,746	25,024	25,000/10,572	20,000	20,000
Senior citizens served	9,028	11,763	10,000/7,506	10,000	10,000
School age child care students (SACC) served	19,832	18,585	16,000/17,644	16,000	16,000
<b>Efficiency</b>					
Cost per high risk citizen served	\$6.47	\$6.46	\$7.27/\$10.40	\$8.58	\$8.76
<b>Service Quality</b>					
Percent of respondents satisfied with life safety program	100%	100%	100%/100%	100%	100%
<b>Outcome</b>					
Children (5 years and under) deaths due to fire	0	1	0/0	0	0
Children (5 years and under) burn injuries	0	3	1/0	1	1
Senior citizen (over age 60) deaths due to fire	2	1	1/5	1	1
Senior citizen (over age 60) burn injuries	4	3	2/3	2	2

In FY 2018, the total number of SACC students served remained higher than estimates due to additional programs offered to children in the summer and after school day-care programs as well as leveraging partnerships in the region to participate in more education events. 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 90 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, 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 2016 Actual	FY 2017 Actual	FY 2018 Estimate/Actual	FY 2019	FY 2020
<b>Output</b>					
Fire investigations conducted (including arson cases)	350	335	380/296	300	300
Arson investigations conducted	60	58	60/47	55	55
Hazardous materials cases investigated	259	103	125/155	170	170
<b>Efficiency</b>					
Average fire and hazardous materials cases per investigator	75.0	78.0	75.0/96.0	80.0	80.0
<b>Service Quality</b>					
Percent of cases that peer reviewed by a Case Manager	95.0%	95.0%	95.0%/92.7%	95.0%	95.0%
<b>Outcome</b>					
Percent total fire investigation cases closed (fires, bombings, threats and arson)	87.1%	85.0%	85.0%/91.1%	90.0%	90.0%
Percent arson cases closed	85.0%	61.0%	60.0%/41.0%	40.0%	40.0%
Percent hazardous materials cases closed	85.0%	94.0%	95.0%/98.7%	95.0%	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 95.0 percent of all fire prevention services costs per year.

### Performance Indicators

Indicator	Prior Year Actuals			Current Estimate	Future Estimate
	FY 2016 Actual	FY 2017 Actual	FY 2018 Estimate/Actual	FY 2019	FY 2020
<b>Output</b>					
Fire inspection activities conducted	20,520	19,981	21,500/16,659	19,000	19,000
Systems testing activities conducted	11,936	9,905	11,000/10,289	11,000	11,000
Revenue generated for all inspection activities	\$5,252,496	\$5,042,863	\$5,158,559/\$7,378,543	\$6,846,300	\$6,940,381
<b>Efficiency</b>					
Net cost per inspection (revenues in excess of average cost)	\$11.93	\$9.87	\$8.97/\$51.79	\$4.63	\$11.42
Average revenue generated per inspection/systems testing activity	\$161.83	\$168.74	\$158.72/\$273.81	\$228.21	\$216.89
<b>Service Quality</b>					
Percent of fire prevention services cost recovered	93.0%	94.4%	94.7%/123.3%	98.0%	95.0%
<b>Outcome</b>					
Total fire loss for commercial structures	\$1,813,000	\$2,639,547	\$2,000,000/\$3,800,000	\$2,000,000	\$2,000,000

In FY 2018, the total number of inspections were down due to vacancies of front line inspections staff and inspection complexity. Shell construction of new building will bill a commensurate number of hours; however, fewer inspections are performed because they are more complicated, require two inspectors, and take more time to perform. In FY 2018, total revenue collected from inspection activities was higher than estimated. In addition, the revenue generated per inspection/systems test activity and the percent of fire prevention services cost recovered was significantly higher than estimated due to industry paying for overtime hours to meet development schedules. In FY 2018, 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 2019 and FY 2020 have been adjusted.

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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 2016 Actual	FY 2017 Actual	FY 2018 Estimate/Actual	FY 2019	FY 2020
<b>Output</b>					
Patients transported	52,415	54,375	53,500/54,361	53,500	54,000
<b>Service Quality</b>					
ALS transport units on scene within 9 minutes (National Standard 90%)	89.63%	89.42%	90.00%/88.20%	90.00%	90.00%
AED response rate within 5 minutes (National Standard 90%)	54.17%	56.06%	60.00%/55.81%	60.00%	60.00%
<b>Outcome</b>					
Cardiac arrest patients arriving at the Emergency Department with a pulse (National Average 21%)	40.2%	38.7%	40.0%/9.5%	40.0%	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 2020.

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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 2016 Actual	FY 2017 Actual	FY 2018 Estimate/Actual	FY 2019	FY 2020
<b>Output</b>					
Total incidents responded to	97,204	101,326	100,000/103,926	103,000	103,000
<b>Efficiency</b>					
Cost per suppression and EMS incident	\$2,345	\$2,342	\$2,460/\$2,358	\$2,467	\$2,592
<b>Service Quality</b>					
Fire suppression response rate for arrival of an engine company within 5 minutes, 20 seconds (National Standard 90%)	50.69%	50.88%	52.00%/48.82%	52.00%	52.00%
Fire suppression response rate for 15 personnel within 9 minutes, 20 seconds (National Standard 90%)	81.40%	82.18%	85.00%/79.02%	85.00%	85.00%
<b>Outcome</b>					
Fire loss (millions)	\$14.9	\$14.7	\$16.0/\$27.2	\$16.0	\$16.0
Fire loss as percent of total property valuation	0.01%	0.01%	0.01%/0.60%	0.01%	0.01%
Property value saved from fire (billions)	NA	NA	NA/\$3.9	\$2.5	\$2.5
Total civilian fire deaths	3	2	2/6	2	2
Civilian fire deaths per 100,000 population	0.26	0.18	0.18/0.52	0.18	0.18
Civilian fire-related burn injuries	22	6	15/20	15	15
Civilian fire-related burn injuries per 100,000 population	1.9	0.5	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 2016 Actual	FY 2017 Actual	FY 2018 Estimate/Actual	FY 2019	FY 2020
<b>Output</b>					
Time spent on SIOC/WIOC activities	35,125	13,986	15,000/1,771	0	NA
<b>Efficiency</b>					
Cost of SIOC materials per single family home reached	\$1.26	\$0.34	\$0.29/\$0.86	\$0.00	NA
<b>Service Quality</b>					
Fire & Life Safety Information door hangers distributed to homes	30,418	12,484	12,000/1,471	0	NA
File of Life (FOLs) distributed.	2,534	668	1,000/102	0	NA
<b>Outcome</b>					
Number of smoke alarms distributed and installed.	3,908	1,870	1,800/391	0	NA
No. of FOLs used as resource in patient encounters.	1,354	1,335	1,300/1,854	0	NA

In FY 2018, the FRD initiated a new fire suppression outcome measure. In addition to civilian deaths, burn injuries, and property loss from fire, the FRD is tracking the property value saved from fire suppression activities. In FY 2018, the property value lost was \$27.2 million and the property value saved was \$3.9 billion or 99.4 percent of total property value. As a result of changing priorities in FY 2018, the SIOC/WIOC programs were significantly decreased. The current strategy is for operational personnel to canvas neighborhoods delivering fire prevention and life safety materials after a major fire or significant incident. In addition, File of Life forms are distributed when requested. The SIOC/WIOC programs are being re-evaluated.

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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 1,700 times annually.

#### Performance Indicators

Indicator	Prior Year Actuals			Current Estimate	Future Estimate
	FY 2016 Actual	FY 2017 Actual	FY 2018 Estimate/Actual	FY 2019	FY 2020
<b>Output</b>					
Volunteer operational hours	94,257	84,695	89,000/81,598	82,000	82,000
Volunteer emergency vehicles available for staffing	24	24	24/24	25	25
<b>Efficiency</b>					
Average operational service hours per volunteer	255.0	282.5	280.0/267.8	270.0	270.0
Average number of volunteer-staffed emergency vehicles in service per day	4.2	4.7	4.8/4.5	4.7	4.8
<b>Service Quality</b>					
Percent of volunteer candidates who complete firefighter training	85%	85%	85%/85%	85%	85%
Percent of new volunteers who are active in VFD at end of one year	78%	74%	80%/75%	75%	75%
<b>Outcome</b>					
Times volunteer-staffed emergency vehicles are placed in service annually	1,525	1,719	1,750/1,648	1,700	1,700
Percent change in volunteer operational service hours	7%	(10%)	6%/(4%)	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 2016 Actual	FY 2017 Actual	FY 2018 Estimate/Actual	FY 2019	FY 2020
<b>Output</b>					
Recruit schools started	2	2	2/2	2	2
Career recruits enrolled	78	80	85/72	52	70
<b>Efficiency</b>					
Operating cost per career recruit	\$73,491	\$61,085	\$59,142/\$57,644	\$59,014	\$62,048
<b>Service Quality</b>					
Percent of recruit firefighters graduating	89%	95%	91%/92%	96%	92%
<b>Outcome</b>					
Trained career firefighters added to workforce	78	76	85/66	50	65

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 \$20.8 million.

#### Performance Indicators

Indicator	Prior Year Actuals			Current Estimate	Future Estimate
	FY 2016 Actual	FY 2017 Actual	FY 2018 Estimate/Actual	FY 2019	FY 2020
<b>Output</b>					
Bills processed	52,962	53,341	53,341/55,052	53,785	53,785
<b>Efficiency</b>					
Program costs as a percentage of revenue	7.0%	6.4%	7.1%/5.6%	6.9%	7.1%
<b>Service Quality</b>					
Percent of complaints resolved to the complainant's satisfaction	100%	100%	100%/100%	100%	100%
<b>Outcome</b>					
Annual transport revenue billing (in millions)	\$19.9	\$21.2	\$20.2/\$21.3	\$20.8	\$20.8