

FALMOUTH FIRE-EMS



**PRESENTATION TO TOWN COUNCIL
JANUARY 27, 2020**

FALMOUTH FIRE-EMS

- Over its 107-year history, **Falmouth Fire-EMS has evolved from 5 all-volunteer fire companies to a combination Fire-EMS department** made up of six full-time staff (including one office administrator), thirty part-time per diem firefighter/paramedics and firefighter/EMTs, and sixty call firefighters and emergency medical technicians. Of the firefighters and EMTs nearly 1/3 of them reside outside Falmouth. The Department's call volume and duties have also vastly expanded.
- These changes in staffing structure, including decreased availability of call members, increased call volume, and expanded services have resulted in **staffing challenges** for the Department.

FALMOUTH FIRE-EMS

- In July 2019, the Town issued an RFP for a **study of current and future Falmouth Fire-EMS Department staffing needs**. The goal of the study is to determine the adequacy of current staffing and future needs for full-time, per-diem members (part-time), and paid-on-call.
- Town staff reviewed the four firms who submitted proposals and selected Criterion and Associates to conduct the study.
- The Fire-EMS staffing study is expected to be submitted soon and staff is preparing to present it to the Town Council at their February 10, 2020 meeting.
- In advance of that report, this presentation will **review the Department's current and past staffing structure and the related challenges facing the Department**.

FALMOUTH FIRE-EMS

The challenges are broken into 5 categories:

1. Call Volume has Increased Significantly
2. Availability of Call Members has Decreased
3. Adequate Number of Members are Needed to Respond
4. EMS Protocols have changed
5. On-duty Staff Perform many other Important Duties

CALL VOLUME HAS INCREASED SIGNIFICANTLY

Falmouth Fire-EMS Incidents 2011-2019

Type of Incident	2011	2012	2013	2014	2015	2016	2017	2018	2019
Building Fire	6	10	13	14	13	8	11	8	6
Electrical Fire	23	12	11	23	9	10	8	9	12
Chimney Fire	5	1	3	5	11	0	1	5	2
Cooking Fire	8	4	3	5	9	6	22	12	15
Fuel Boiler Malfunction	5	2	1	5	7	2	11	6	7
Vehicle Fire	6	9	8	7	8	8	10	9	3
Smoke Investigation	44	24	35	47	50	35	36	41	21
Brush Fire	21	16	15	26	25	11	23	5	19
Unauthorized Burning	5	16	17	9	7	10	12	10	8
Power Lines Down	41	39	16	28	14	50	39	32	35
Fire Alarm / Detector / Sprinkler Activation	162	165	172	184	237	202	175	179	190
Carbon Monoxide Alarms	28	21	26	30	32	31	33	25	23
Emergency Medical Services	1022	967	1072	1063	1246	1181	1308	1254	1395
Motor Vehicle Crashes	103	114	94	109	112	137	125	105	125
Rescue Other – Animal, Elevator, etc.	5	2	3	6	6	5	16	12	12
Hazardous Materials – Fuel Spills & Leaks	14	15	21	21	28	27	29	14	43
Assist Other Agency	28	4	9	5	7	29	24	11	12
Good Intent Call / Public Assist	41	15	5	11	6	15	8	10	17
False Alarm	20	21	13	2	6	11	3	2	2
Cover Assignment	21	42	24	34	29	30	21	20	24
Coverage at Sporting Events	*	27	18	22	17	21	22	17	24
Weather Related	9	4	11	21	7	11	4	7	12
Inspections – Occupancy, Woodstove, Fire Alarm, etc.	20	19	3	6	3	6	23	3	74
Prevention – Pre-plans, Detector Installs, EMA, etc.	**	**	34	113	82	43	55	23	135
Total Incidents	1637	1549	1627	1796	1971	1889	2019	1819	2216

*

Coverage for Sporting Events was not tracked until 2012.

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Fire Prevention Activities were not tracked until 2013.

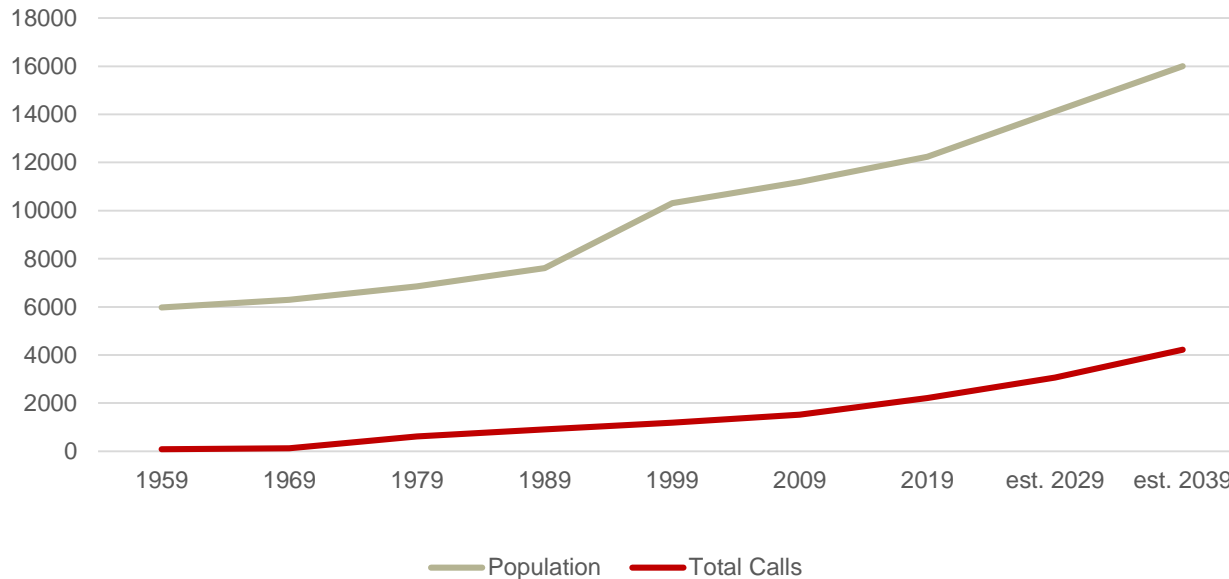
CALL VOLUME HAS INCREASED SIGNIFICANTLY

YEAR	FIRE CALLS	EMS CALLS	TOTAL CALLS
1959	91	0	91
1969	127	13	127
1979	210	400	610
1989	335	579	914
1999	494	688	1182
2009	*	*	1517
2019	821	1395	2216
<i>Proj 2029**</i>	<i>1133</i>	<i>1925</i>	<i>3058</i>
<i>Proj 2039**</i>	<i>1564</i>	<i>2656</i>	<i>4220</i>

* Note: From 2005 – 2010 EMS calls were not separated.

** Projected 2029 and 2039 assumes 38% growth

Fire-EMS Calls & Population



CALL VOLUME HAS INCREASED SIGNIFICANTLY

Emergency Calls Per Apparatus

Apparatus	2011	2019	% Change
Ambulances	1372	1858	35%
Engine 1 (Foreside Road)	186	269	45%
Engine 2 (Bucknam Road)	318	415	31%
Engine 4 (Winn Road)	230	204	(11%)
Tower 2 (Bucknam Road)	175	183	5%
Tank 4 (Winn Road)	71	64	(10%)
Rescue 1 (Heavy Rescue)	177	N/A	(100%)
Utility 4 (1 st Response - West Station)	N/A	154	N/A
Utility 5 (UTV)	N/A	12	N/A
Utility 6 (1 st Response – Bucknam Road)	N/A	99	N/A

Average Response Time in Minutes (from time dispatched to time on scene):

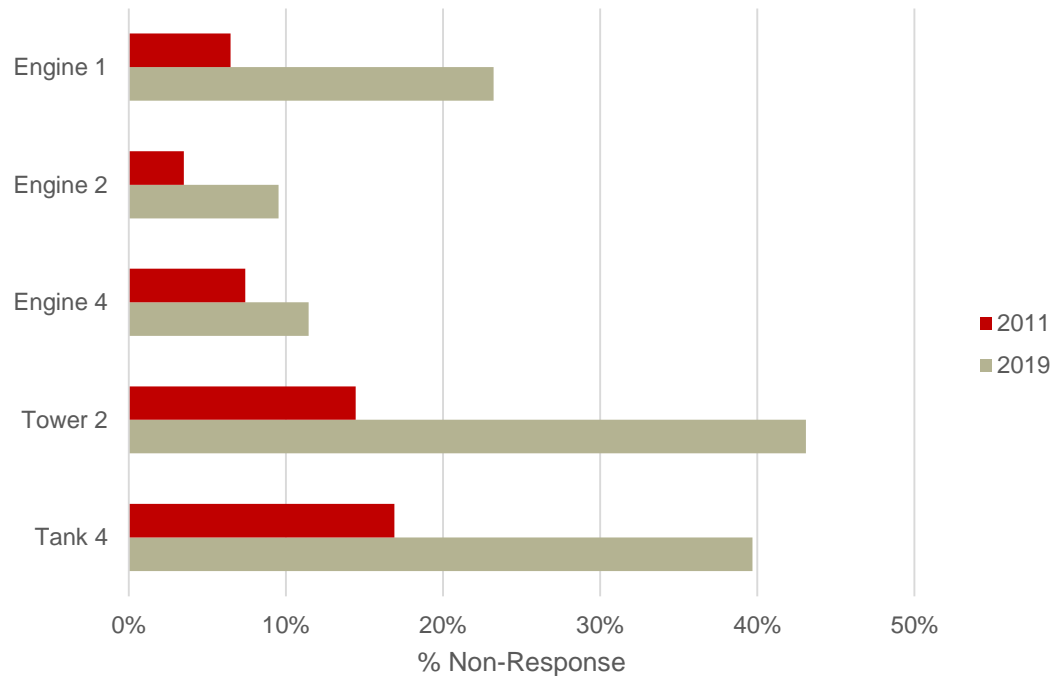
Apparatus	2017	2018	2019
First Due Ambulance	6.86	6.59	7.20
Second Due Ambulance	18.60	15.62	7.73
Engine 1	11.10	11.10	10.80
Engine 2	12.40	11.40	10.10
Engine 4	15.30	13.80	14.30

In December 2019 we responded to 162 calls including 29 concurrent calls.

CALL VOLUME HAS INCREASED SIGNIFICANTLY

Apparatus that was Called to a Scene but did not Respond (did not have a driver and/or a crew)

Apparatus Called to Scene but did not Respond

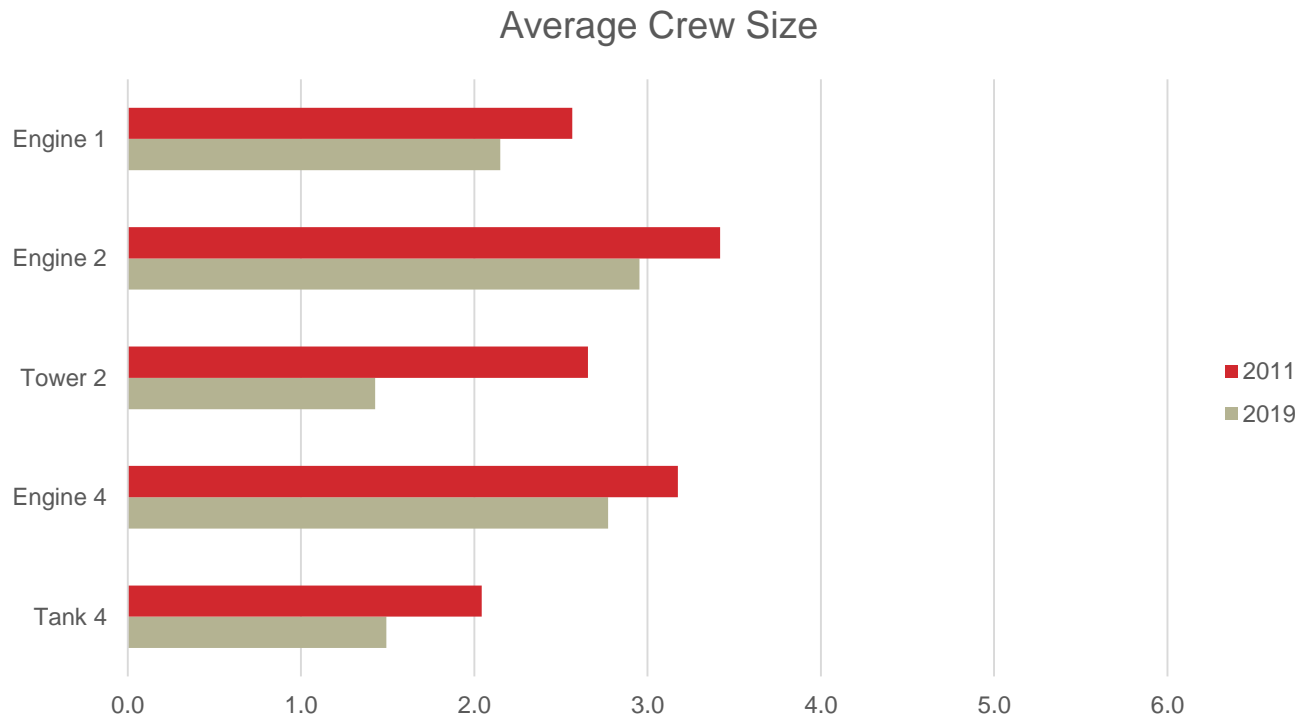


Apparatus	Station	2011	2019	Change
Engine 1	Foreside Road	6%	23%	17%
Engine 2	Bucknam Road	4%	10%	6%
Tower 2	Bucknam Road	14%	43%	29%
Engine 4	Winn Road	7%	11%	4%
Tank 4	Winn Road	17%	40%	23%

* When one apparatus does not respond another one is dispatched. All calls are covered.

CALL VOLUME HAS INCREASED SIGNIFICANTLY

Average Crew Size for Fire Apparatus 2011 versus 2019



Apparatus	2011		2019	
	Calls	Avg. Crew	Calls	Avg. Crew
Engine 1	186	2.6	267	2.1
Engine 2	318	3.4	409	3.0
Tower 2	175	2.7	181	1.4
Engine 4	230	3.2	201	2.8
Tank 4	71	2.0	63	1.5

DECREASE IN ACTIVE CALL MEMBERS

New Call Members Added

Year	New Call Members	Still Active as of 1/1 2020	% Still Active
2010	14	2	14%
2011	23	2	9%
2012	12	1	8%
2013	15	2	13%
2014	17	2	12%
2015	12	1	8%
2016	8	2	25%
2017	16	3	19%
2018	10	6	60%

Number of different members volunteering to cover an EMS shift:

	2011	2019	% Change
September	22	10	(45%)
October	24	11	(46%)
November	23	10	(43%)

Average Training Attendance:

Monday Night Department Training	2011	2019	Variance
Average Training Attendance	47	30	(36%)

DECREASE IN ACTIVE CALL MEMBERS

**In past 10 years, 29 active FF/EMT have obtained new fulltime fire-ems job:
Biddeford, Bridgton, Brunswick (2), Buxton (2), Gardner, Lewiston (2), Old Town, Portland (3), Saco, Scarborough (2), South Portland (5), Westbrook (4), Brattleboro, VT, Nashua, NH, Seekonk, MA, Winooski, VT**



In the past 10 years, nine Volunteer EMTs have gone on to medical school!

Moved out of Town:

In past 5 years, we have had members move to:

- California
- Colorado
- Connecticut
- Hawaii
- Indiana
- Massachusetts
- Michigan
- New Hampshire
- New York
- Pennsylvania
- Vermont

Others have stayed in Maine but moved too far away to respond:

- Bangor
- Bridgton
- Lebanon
- New Gloucester
- Richmond
- Saco
- Topsham
- Waterboro
- Northern Maine

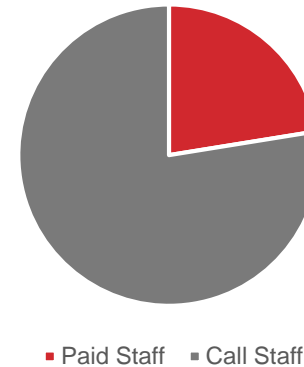
DECREASE IN ACTIVE CALL MEMBERS

Average Crew Size for All Calls:

In 2011 – 8707 people responded to 1637 incidents

Fulltime / Per Diem	1955	22%
Call Staff	6752	78%

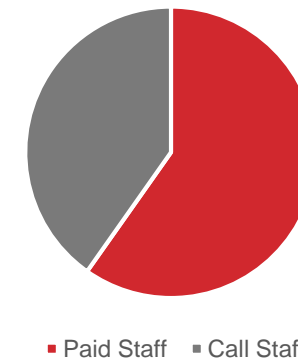
2011 Responders



In 2019 – 8514 people responded to 2216 incidents

Fulltime / Per Diem	5089	60%
Call Staff	3425	40%

2019 Responders



That's a 49% drop in call staff response and a 154% increase in paid staff response from 2011 to 2019.

DECREASE IN ACTIVE CALL MEMBERS

Current FT employees cannot complete the jobs they were hired to do if always on calls:

- EMA, EMS Supervision, Fire Prevention, Building Pre-plans, Life Safety Inspections, Truck Maintenance, etc.
 - The **EMA and EMS/Prevention Captains have performed a combined 124 EMS Transports and responded to 238 Fire Calls in just 9 months** (over 140 hours on EMS transports).
- ***Officers filling lower operational positions.*** Staffing shortages that result in the fire chief driving the fire truck or fulfilling the responsibilities of other line firefighters is another sign of a serious staffing problem. (IAFC, Red Ribbon Report)
 - OSHA last month cited a Fire Department in Illinois for having a Fire Chief as the pump operator, during an incident that result in a FF death.

MEMBERS ARE NEEDED TO RESPOND

NFPA Staffing 2020 Edition

1720 – Combination: A fire department having emergency service personnel comprising less than 85 percent majority of either volunteer or career membership.

Based on a low-hazard occupancy such as a 2000sq. ft. two-story, single-family home without basement and exposures.

Falmouth Fire-EMS is a combination fire department (60% volunteer/call).

West of Middle Road – Rural <500 people/sq. mile (source: US Census)

NFPA 1720 recommends minimum of 6 personnel within 14 minutes

2011 – 52.5% of the time

2019 – 43.3% of the time

East of Middle Road – Suburban 500-1000 people/sq. mile (source: US Census)

NFPA 1720 recommends minimum of 10 personnel within 10 minutes

2011 – 4.3% of the time

2019 – 1.7% of the time

MEMBERS ARE NEEDED TO RESPOND

2 In, 2 Out rule, otherwise known as the OSHA Respiratory Standard Standard (29 CFR 1910.134(g)(4)):

Procedures for interior structural firefighting. In addition to the requirements set forth under paragraph (g)(3), in interior structural fires, the employer shall ensure that:

1910.134(g)(4)(i)

At least two employees enter the IDLH atmosphere and remain in visual or voice contact with one another at all times;

1910.134(g)(4)(ii)

At least two employees are located outside the IDLH atmosphere; and

1910.134(g)(4)(iii)

All employees engaged in interior structural firefighting use SCBAs.

Note 1 to paragraph (g): One of the two individuals located outside the IDLH atmosphere may be assigned to an additional role, such as incident commander in charge of the emergency or safety officer, so long as this individual is able to perform assistance or rescue activities without jeopardizing the safety or health of any firefighter working at the incident.

Note 2 to paragraph (g): Nothing in this section is meant to preclude firefighters from performing emergency rescue activities before an entire team has assembled.

Falmouth Fire-EMS must have 4 trained and equipped firefighters (w/ SCBA) on scene before an investigation can occur.

MEMBERS ARE NEEDED TO RESPOND

Residential Fire Alarm Response:

2 Engines, 1 Tower, 1 Ambulance (if available and not on another call).

Daytime Staffing:

Chief (Incident Commander) - 1

Engine 2 (Asst. Chief, EMS Captain, FP Captain) - 3

Ambulance 2 (2 Per Diems) – 2 (if available and not on another call)

Tower 2: Call Staff - ?

Engine 4 or Engine 1 - Call Staff - ?

Chief is command. 1st Engine investigates. 2nd Engine goes to hydrant for water supply, Tower sets up in front in case roof access is needed. Ambulance assists investigation. Need minimum of 10 FF's to investigate.

What if on Fire? Need crews for Search/Rescue, Ventilation, Backup Line, RIT, Rehab, replacement crews, etc. (15+ FF)

Commercial Fire Alarm Response:

3 Engines, 1 Tower, 1 Ambulance (if available and not on another call).

Daytime Staffing:

Chief (Incident Commander) - 1

Engine 2 (Asst. Chief, EMS Captain, FP Captain) - 3

Ambulance 2 (2 Per Diems) – 2 (if available and not on another call)

Tower 2: Call Staff - ?

Engine 4 Call Staff - ?

Engine 1: Call Staff - ?

Chief is command, 1st Engine investigates, 2nd Engine goes to hydrant for water supply, Tower sets up in front in case roof access is needed, 3rd Engine goes to back of building or to Sprinkler System to boost pressure, Ambulance assists investigation. Need minimum of 13 FF's to investigate.

What if on Fire?? Need additional crews for Search/Rescue, Ventilation, Backup Lines, RIT crew, Engine for 2nd hydrant, 2nd ladder, Rehab, replacement crews, etc. Need additional 30+ FF's.

MEMBERS ARE NEEDED TO RESPOND

Average Crew Size for Non-EMS calls:

In 2011: 7.3 average members responded to 629 non-EMS calls

>10 members 144 times or 22.9% of the time

>20 members 18 times (high of 43 members)

- There were 36 Desk Boxes (reported fire or smoke) and 4 house fires in 2011

In 2019: 5.5 average members responded to 826 Non-EMS calls

>10 members 85 times or 10.3% of the time

>20 members 2 times (high of 26 members)

- There were 36 Desk Boxes and 1 house fire in 2019

CHANGES IN EMS PROTOCOLS

Cardiac Arrests:

Early cardiac defibrillation and uninterrupted high-quality CPR has been shown to significantly increase the survivability of patients in Cardiac Arrest. To do this, **we must perform CPR where the patient is found for a minimum of 20 minutes before deciding whether to transport them to the hospital.**

Cardiac Catheterization Lab Activation

Falmouth Fire-EMS personnel now can identify a ST Elevated Myocardial Infarctions (STEMI) in the field. This **allows them to deliver patients suffering from Myocardial Infarctions (heart attacks) directly to the Cardiac Cath Lab at MMC**, where they can receive immediate treatment drastically improving their medical outcomes.

Stroke: Direct to CT Program at Maine Medical Center

In 2019 our crews partnered with other services and Maine Medical Center to **quickly identify a patient having a stroke and make a call in to the hospital to initiate a program where the patient will get a CT Scan within 25 minutes of arrival at the hospital.** This allows for quicker treatment and better long-term prognosis of PT's suffering from a Cerebral Vascular Accident.

CHANGES IN EMS PROTOCOLS

EMS Supplies:

In the past 5 years Maine Medical Center and Mercy Hospital no longer supply area EMS services with disposable supplies such as oxygen masks, IV solution (saline), IV needles, tubing, etc. **Falmouth Fire-EMS must purchase, stock and maintain our own supplies. Supplies are checked and monitored daily.**

Over the past 3 years **Falmouth Fire-EMS must purchase and maintain their own medication supplies.** “Drug boxes” used to be maintained and replaced by the hospitals after calls. Now departments maintain their own “drug boxes”, which is done daily to keep track of expiration dates and supply levels.

Lift Assist Calls, Medical Alarm Calls, No-transport:

In 2019 our crews responded to a documented 87 calls where we only lifted a person up off a floor, up or down a set of stairs, into a bed, into a car for an appointment, etc. This does not include the calls where we are called for a lift assist and find the patient needs to be transported for injury. These range from residents who have temporary needs due to a surgery or illness, to those that live alone in their homes and need help often. There are other calls like Medical Alarms, where we respond and there is no patient found. These calls take time to investigate.

OTHER IMPORTANT DUTIES



OTHER IMPORTANT DUTIES

Other duties When not responding to calls:

Community Outreach:

- We **visit schools, daycares, senior housing, and others** to promote fire and injury prevention, teach the use of fire extinguishers to staff, and perform emergency evacuation drills (visited 13 schools and over 800 kids).
- We **host a monthly car seat inspection station** at Central Station with SafeKids Maine (200 seats).
- We **host 2 days for Fire-EMS at the Annual Summer Cop Camp** held at Community Programs (30 kids/year).
- Crews also **visit businesses and private homes with Knox Box lock systems and with fire alarm systems to test for access and to test the alarms** (125 tests in 2019).
- **Conduct Pre-plans of Buildings** in Town (68 pre-plans in 2019).
- Crew also **conduct numerous CPR and 1st Aid classes** both at the Fire Station and at various off-site locations including daycares, the high school, and private businesses.
- Crews **install Smoke and Combination Smoke & Carbon Monoxide Detectors in houses** in Falmouth (over 1,000 Smoke and 700 CO detectors in past 5 years).

OTHER IMPORTANT DUTIES

In the past 5 years our staff has held various **Membership Drives to Recruit Call Members:**

- At the Open House at Central Station every October
- At the Volunteer Day put on by the Town at OceanView
- At the annual SMCC Open House to promote our membership to Fire Science and Paramedicine students
- At TD Bank
- At Walmart during Fire Prevention Week
- At the Homecoming Football Game each year when we volunteer to run the Snack Shack
- At Foreside Station with a BBQ on Memorial Day. Also put an article in the Forecaster and in the Portland Press Herald.
- At Winn Road Station in conjunction with Summit Gas informational meeting. Also put an add in the Forecaster and placed a “Help Wanted” sign board in front of Station 4.
- At the Annual Easter Egg Hunt at the Church on Falmouth Road.

STAFFING TIMELINE

Year	Event	FT	PT (FTE)	Total FTE
1987	First FT Fire Chief hired	1	0	1.0
2002	First FT EMS Provider hired	2	0	2.0
2004	Added PT daytime coverage (6 am to 6pm) of a paramedic	2	2.2	4.2
2007	FT Fire Chief Hired	2	2.2	4.2
2008	FT Office Administrator Position Added	3	2.2	5.2
2008	Added FT Assistant Chief position (Replaced full-time Deputy Chief of EMS)	3	2.2	5.2
2009	Pleasant Hill Fire Station (Station 3) closed	3	2.2	5.2
2009	Added PT nighttime coverage (7 pm to 7 am) of a per diem FF/Paramedic at Central Station	3	4.4	7.4
2009	Added \$15/night stipend for overnight EMS volunteers to respond with overnight per diem	3	4.4	7.4
2009	Added 4 SMCC Live-in Students at West Station	3	4.4	7.4

STAFFING TIMELINE

Year	Event	TF	PT (FTE)	Total FTE
2009	1st in-house Firefighter Level I and II class held – Graduated 33 members	3	4.4	7.4
2010	Started allowing call EMS members to live outside Falmouth (24 hours of coverage at Central).	3	4.4	7.4
2010	1st in-house Fire Instructor I and II class held – Graduated 12 members	3	4.4	7.4
2010	Hired 3 PT EMA planners to work with senior housing, schools and daycares	3	5	8.0
2010	Put 3rd Ambulance in service (did not trade older ambulance)	3	5	8.0
2011	1st in-house Fire Officer I and II class held – Graduated 24 members	3	5	8.0
2013	Increased overnight volunteer EMS stipend to \$30/night	3	5	8.0
2014	Added daytime PT FF/EMT per diem position from 7 am to 7 pm	3	7.2	10.2
2014	Added 2 SMCC Live-in Students at Foreside Station	3	7.2	10.2

STAFFING TIMELINE

Year	Event	FT	PT (FTE)	Total FTE
2015	Added nighttime PT FF/EMT per diem position. From 7 pm to 7 am.	3	9.4	12.4
2015	Added FT Assistant Fire Chief position	4	9.4	13.4
2016	Overnight stipends added to pay weekend duty officers (\$50/night)	4	9.4	13.4
2017	Held membership drive during home football game (repeated in 2018 & 2019)	4	9.4	13.4
2017	Added 2 PT per diem FF/EMS on Weekends and Holiday days from 8 am to 4 pm to cross-staff A3/E2	4	10.3	14.3
2017	Started doing Pre-plans in the community	4	10.3	14.3
2017	Hosted Basic Fire Officer Class – Graduated 16 students (9 Falmouth Fire Officers)	4	10.3	14.3
2018	Labor Day membership drive at Foreside Station	4	10.3	14.3

STAFFING TIMELINE

Year	Event	FT	PT (FTE)	Total FTE
2019	Added FT EMA Captain position. The 3 former part-time EMA Planners no longer able to provide hours. EMA Captain to ramp up outreach in community through pre-plans and inspections.	5	9.7	14.7
2019	Added FT FF/EMT/Driver on Monday through Friday from 7 am to 4 pm. Focus is operating Engine 2 and Ambulance 3. While not on calls this position performs equipment and station maintenance and helps coordinate truck maintenance.	6	9.7	15.7
2019	Membership drive at West Station.	6	9.7	15.7
2019	Hosted Advanced Fire Officer Class – Graduated 16 students (4 Falmouth Fire Officers)	6	9.7	15.7
2019	Awarded bid to produce staffing study to Criterion Associates to help understand staffing needs, station placements, and project future staffing needs for next 20 years.	6	9.7	15.7

QUESTIONS?

Thank you,

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