



# Town of Topsfield 24/7 Fire Study Committee Report



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## **I. Introduction**

Under Article 44 of the 2015 Annual Town Meeting, the voters were asked, by Citizens' Petition, to consider whether the Town should "vote to raise and assess or transfer from available funds ... [a sum of money] to fund a 24 hour, seven days per week staffing of the Fire Department for the delivery of fire related duties and emergency medical services to the residents of Topsfield by hiring four additional full time firefighters." In response to this proposal, the Finance Committee recommended "that a Committee of seven (7) be formed, by appointment of the Board of Selectmen, to study the matter and report back to the Selectmen no later than November 1, 2015; and if the matter is supported by the Committee, to be considered in the Fiscal Year 2017 town's budget process." The Finance Committee's recommendation was adopted.

In June and July, 2015, the Board of Selectmen appointed seven members and three alternates to the "24/7 Fire Study Committee" and charged the Committee "to determine what, if any recommended changes should be supported and recommended by the Board of Selectmen. In order to accomplish this objective, the Committee will research and collect data to effectively report on the current operation, organization and activities of the Topsfield Fire Department," including "an overview of available models and [an] outline [of] some of the main advantages and disadvantages of the options."

The Committee met 9 times beginning in mid-July through the end of October, 2015. The Committee's meetings were regularly attended by Chief Ron Giovannacci, Captain Jen Collins-Brown, other Topsfield Fire Department (TFD) personnel, all of whom presented information or responded to questions from time to time. Captain Collins-Brown also presented a substantial number of documents to members of the Committee including data about the current operations of the Department.

Outside the regular meetings of the Committee, Committee members met with Jack Parow (former Chelmsford Fire Chief and a past president of the Fire Chiefs Association of Massachusetts),<sup>1</sup> current Manchester-by-the-Sea Fire Chief Glen Rogers, Chris Ryan at the Regional Emergency Communications Center (RECC), Brian Caponigro, owner of Northeast Ambulance Service, David Laccailade, EMS Coordinator at Beverly Hospital, and six Topsfield call firefighters who requested that their comments be received without attribution. The Committee also conducted some independent research that included staffing and budget information from several nearby or comparable communities, and a report prepared by consultants to the Town of Manchester-by-the-Sea concerning the staffing of its department.<sup>2</sup>

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<sup>1</sup> At the time of our interview, Chief Parow was serving as Interim Acting Chief for the Haverhill Fire Department, and he also served as an interim Fire Chief for the Town of Ipswich. Chief Parow has an unusual degree of experience managing several Fire Departments in very different municipalities, each with its own challenges.

<sup>2</sup> See, [http://www.manchester.ma.us/pages/manchesterma\\_bos/firestudy5.09.pdf](http://www.manchester.ma.us/pages/manchesterma_bos/firestudy5.09.pdf) "Fire Services Organizational Analysis, Manchester-by-the-Sea, MA, Final Report, March 2009" Prepared by Municipal Resources, Inc.

## II. Questions Considered/Summary of Recommendation

The Town Meeting article proposed the hiring of more full-time firefighters for the purpose of keeping the fire station open 24 hours per day, seven days per week. It was apparent, however, that the Fire Chief and others in the Fire Department believe that the Department is facing a critical shortage of adequately-trained personnel even to meet the needs of the Department operating at its current 12/7 level.

On October 19, 2015, in response to an earlier request from the Committee, the Fire Chief submitted a 2-page summary of his recommendations to address these staffing issues. A copy of that summary is attached in Appendix A. In that summary, the Chief made clear that he believes that the Department needs *twelve* additional full time firefighters to allow the Department to meet national standards and “arrive at a safe and reasonable recommendation for our community.” The Chief recommends at least four (and possibly six) additional FTEs as “Phase 1” of this program, followed by a total of 8 new FTEs as Phase 2, and 12 as Phase 3. Phase 1 would allow 24/7 coverage with two FTEs covering each shift; Phase 2 would allow three FTEs covering each shift, and Phase 3 would allow four FTEs covering each shift.

The Committee evaluated the proposal contained in the Town Meeting article in light of the Chief’s overall recommendation. In particular, the Committee voted separately on two questions: (1) Should the Committee recommend an increase in the number of full time firefighters, whether four, or a lesser number, and (2) Should the Committee recommend that the Fire Station be open 24 hours per day, 7 days per week? The reason we considered these questions separately is that one might consider it appropriate to hire more full time firefighters to address existing staffing problems, without necessarily supporting 24/7 Fire Station coverage.

As reported to the Board of Selectmen on November 2, 2015, the Committee voted unanimously in the negative on both of these questions. In general, the Committee was not given sufficient information about the cost and practicability of the Fire Chief’s overall recommendation to support it, whether in whole or in phases. The Committee was also not presented with reliable data to demonstrate that the alleged deficiencies in night-time coverage make a compelling argument for 24/7 Fire Station coverage. Finally, the Committee believes that alternatives to the Chief’s recommendation, including more effective utilization of call fire fighters and private EMS services, must be adequately explored before the Town resorts to significant revenue increases, or cuts in other portions of the Town budget, to fund additional fire fighters.

## III. Fire Department Organization and Budget

### A. Staffing

New England towns utilize different types of fire departments: career, call, volunteer, and combination departments. Career fire departments employ their personnel on a full-time basis and receive regular compensation. Call fire departments receive nominal benefits

and are paid when called out. Volunteer fire departments receive no compensation. A combination department usually has a limited number of full-time personnel, augmented with a call force. Some fire departments, including the TFD, are full-time by day but call by night and/or on weekends. Generally, career departments (i.e., full-time departments) will be more expensive to operate than combination departments, which will be more expensive than call departments, which will be more expensive than volunteer departments.

Typically, regardless of the make-up of a town's fire department, there is a salaried fire chief to organize and direct the efforts of the fire fighters. By state statute, Massachusetts has two types of fire chiefs, commonly referred to as "strong chiefs" and "weak chiefs." A "strong chief," established by a town's acceptance of G.L. c. 48, § 42, has "full and absolute authority in the administration of the department," including the power to appoint a deputy and fire fighters under his command, and to set their compensation. A strong chief may only be removed from his position by the Selectmen for cause. In towns that have not accepted this statute (or have rescinded their acceptance of it),<sup>3</sup> the Chief serves at the pleasure of the Board of Selectmen (subject to any contractual rights they may agree to under G.L. c. 41, § 108O), and the Selectmen retain the right of appointment of firefighters and other subordinate staff. Topsfield accepted the "strong chief" statute in 1998.

Currently the TFD is staffed with 1 Chief, 4 full-time firefighters and 21 call firefighters or part-time firefighters. Topsfield is a combination department that utilizes both full-time and call firefighters for 24/7 coverage. The Topsfield Fire Department provides onsite staffing from 0600 to 1800, 7 days a week and call out response for the remaining time (from 1800 to 0600). In the state of Massachusetts, there are 360 local fire departments, 185 of which are considered full-time, 90 of these being combination departments. Topsfield's configuration of coverage of the department staffs 2 groups of 2 full-time firefighters covering one station from 6 a.m.- 6 p.m. for four days with the next 4 days off. The organization of the department includes a full-time staff comprised of 1 Chief, 2 Captains, and 2 Fire Fighters and a Call Staff comprised of 1 Lieutenant and 21 Call firefighters. The TFD firefighters are not civil servants therefore public safety hires do not have to take the required civil servant physical, psychological or written exams for initial hiring or promotion or adhere to maximum age statutes (age 32 for non-veterans, age 35 for veterans). Call firefighters cover shifts for firefighters attending training and paramedic school, and also when full-time firefighters are sick, injured, or on vacation.

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<sup>3</sup> According to a May 4, 2014 article in the *Boston Globe*, the acceptance of the strong chief law by Pepperell and Merrimac brought the total number of towns with strong chiefs in Massachusetts to 134 statewide, just before Hingham rescinded its approval of the statute. Rescissions are not uncommon; Norwood rescinded its acceptance of the strong chief law in 2012. Towns moving to a town manager form of government sometimes rescind the strong chief law, either directly or by acceptance of a new charter, so that all town departments are under the manager's control. (See, e.g., the Town of Dracut, which rescinded the strong chief law in a 1986 charter establishing a town manager).

The Chief deals predominantly with staffing, budgeting, paperwork and does not go on calls outside of his shift unless it's a structure fire or a major event. Our current chief has a strong chief designation appointed by the Selectmen. He can hire/fire with absolute authority in the administration of the department including compensation of permanent and call members of the department and expend the budget at his discretion as appropriated by the Selectmen. The Chief has described some possibilities for the department expansion include: reorganization of current staff, including a 52 hour work-week and promotion within current staff members of the department; appointment of current call firefighters as full-time staff members; and the hiring of an additional four firefighters. At the committee's request, the Chief submitted his recommendations for a phased plan beginning with the hiring of an additional four firefighters in phase 1 for a total of 8 full-time department members; phase 2 would hire 4 more FTE's for a total of 12 full-time department members; and phase 3 would hire an additional 4 more FTE's for a total of 16 firefighters plus the Chief. This recommendation is based on the OSHA 2 in 2 out safety standards.

The TFD responds to a wide variety of calls ranging from fire services (including structure fires, vehicle fires, fire prevention and inspections, brush fires, etc.) to community services such as car seat installations to EMS services. Data from the National Fire Protection Association ("NFPA")<sup>4</sup> reports that due to rapid improvements in fire safety there has been a dramatic drop in blazes. Buildings are constructed with fire-resistant materials, clothing and curtains are made of flame-retardant fabrics, and municipal laws mandate sprinkler systems and smoke detectors. Since 1980 vehicle fires have declined 64% and building fires have declined 54%. The NFPA reports fewer than 4% of fire department calls are actually for fires.<sup>5</sup> The town of Topsfield aligns with these statistics with .8% of calls for structure fires and .32% of calls for vehicle fires.<sup>6</sup>

The majority of Topsfield Fire Department services are EMS calls, fire prevention and inspections, and other services such as car seat installations. In our research we found the town of Topsfield is the only municipality that diligently filed the exact maps and locations of each of the town facilities' defibrillators so a 911 dispatcher at the RECC can instruct a citizen to help respond in an emergency. According to the RECC center the total EMS calls received by nature of calls during the fourteen-month period of 6/17-8/31/ 2015 total 539 calls. These calls range from psych calls, animal bites, (80) unknown, (119) falls, breathing problems (42), chest pain (42) (non-traumatic), heart problem (9) (undefined), cardio incident (7), traffic transportation incident, back pain, obvious death (2), convulsions/seizures (10), diabetic incident (9), undefined illness (118), and unknown medical (80).<sup>7</sup>

In addition, the TFD transports patients from Middleton. Topsfield has a financial agreement with Middleton effective 1/3/2007 that for any ALS intercept involving one

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<sup>4</sup> See <http://www.nfpa.org/research/reports-and-statistics/the-fire-service/fire-department-calls/fire-department-calls> (also attached as Appendix D).

<sup>5</sup> *Id.*

<sup>6</sup> See RECC printout included in Appendix E.

<sup>7</sup> *Id.*

Topsfield paramedic the town shall receive 42% of the total payment and for any ALS intercept involving two Topsfield paramedics the town shall receive 75% of total payment.<sup>8</sup>

## B. Budget

The FY16 budget detail for the Fire Department includes total compensation to all employees and staff of \$610,132.00 (This includes overtime, longevity pay, etc. paid directly as compensation but does not include retirement or health benefits, which are budgeted for elsewhere in the Town budget and not broken out by department.).<sup>9</sup> This wage/salary compensation has risen from \$503,407 in FY12, an average annual growth rate of about 4.25%. The budgeted salary expense for the four full-time fire fighters alone (excluding overtime, etc.) in FY16 is \$245,540.<sup>10</sup>

The amount of money appropriated for total Fire Department compensation is approximately 2.9% of the Town's total tax levy of \$21,046,138,<sup>11</sup> which is equivalent to about \$285 per household. These figures are well within the range of the expenditures found in other Essex County towns. As shown in Appendix C, however, that range is pretty large: North Andover, for example, spends 6.6% of its taxing capacity on Fire Department compensation, representing \$422/household. By contrast, Boxford spends less: 1.6% of its taxing capacity, and only \$147/household. In general, towns that rely primarily on call firefighters to staff their departments fall on the low end of these ranges, and towns that have enough full-time firefighters to maintain a 24/7 on-duty force spend more.

## C. Services – Growth of Emergency Medical Services as a Component of Workload

When Topsfield established its Fire Department nearly a century ago, its charge was to extinguish fires. Today, its responsibilities also include fire prevention efforts, hazardous materials release response actions, and, most significantly, emergency medical services (EMS). This change in mission reflects national trends. Over the last few decades, the incidence of fires nationwide has dropped dramatically. According to the NFPA, calls to fire departments to respond to fires dropped by about 47% between 1983 and 2013 (See Appendix D). Some of this is attributable to the administration of fire prevention programs (regulation and inspection) carried out by local fire department staff on a non-emergency basis, and which must still be staffed. The increase in demand for firefighters, however, has been driven by their role in providing EMS services – during the same 30-year period, the number of medical calls to fire departments nationwide

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<sup>8</sup> See Service Zone Plan.

<sup>9</sup> See Appendix B.

<sup>10</sup> Id.

<sup>11</sup> We elected to use the tax levy limit rather than the entire budget amount because the total budget amount includes outside sources of revenue, principally state aid for schools and roads. The tax levy limit bears more directly on the taxpayers' ability to absorb increases in the cost of departments, like the fire department, which are funded entirely by local revenues.



increased by 272%.<sup>12</sup> Reflecting this trend, 31.5 % or 539 of the 1710 “toned” calls made to the TFD in a recent fourteen month period were medical calls (See Appendix E).

In order to respond to this shift in the nature of the services it provides, every member of the TFD (call and full-time) is certified as an emergency medical technician (EMT) at the basic level. Currently, two call firefighters are certified paramedics and two full-time members are paramedics. The chief and another full-time firefighter have basic training, while another full-time firefighter has intermediate level training. The Department operates two ambulance/rescue vehicles.

Topsfield also contracts with an outside ambulance service (currently Northeast Ambulance) to provide back-up and transport services at no cost to the Town. Northeast earns revenue from billing patient’s insurance for transport to the hospital. Northeast ambulance is a high performance CAAS (Commission on Accreditation of Ambulance Services) accredited organization that provides 911 primary emergency ambulance service to the City of Beverly and the Town of Topsfield. Northeast also provides back-up service to the towns of Middleton, North Reading, Reading and Manchester-by-the-Sea. Northeast staffs all ALS units with a two-paramedic configuration. In addition to a staff comprised of 36 paramedics and 22 emergency medical technicians, the Northeast company senior leadership managers have an extensive background in EMS and both a clinical director and operations director to certify the company is in compliance with all current HIPAA laws and billing regulations. On average Northeast Ambulance responds to 267 calls per week and Topsfield responds to 6.

According to the current Town of Topsfield EMS Service Zone Plan, the TFD ambulance is the primary designated ambulance and Northeast Ambulance is the primary transporting ambulance. The EMS Service Zone Plan states, “*While medical emergencies involve a variety of circumstances and conditions, some of which may require unique actions in the interest of patient safety, the Town strives to maintain its public safety personnel within the Town to respond to the Town’s needs.*” The Town of Topsfield initiates Basic Life Support (BLS) and or Advanced Life Support (ALS) care as needed. Care is then transferred to Northeast Regional Ambulance staff unless additional resources such as air medical transport and specialty rescue are needed. In the event that Northeast Regional Ambulance does not have appropriate level staff available, Topsfield Fire Department paramedics, if available, will provide the ALS care in Northeast’s BLS ambulance.

This system, created by the EMS Service Zone Plan, is based on the expectation that TFD personnel will arrive at the scene more quickly, because they are locally based; it also builds in back-up capacity in the event that more than one call is in progress at the same time. Mutual aid also plays a role in back-up: as was explained to the Committee, the TFD will occasionally respond to calls in Middleton when both Middleton firefighters and Northeast are committed elsewhere (with adjoining towns presumably offering similar backup to Topsfield).

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<sup>12</sup> See NFPA report, Appendix D.

Ambulance services earn revenue by billing the insurance of the patient utilizing the service. Northeast has a negotiated rate with Blue Cross and Blue Shield of \$583 per ride. Topsfield Fire department utilizes private billing rates of ALS Emergency (1 paramedic configuration) is \$1780, ALS emergency (2 paramedic configuration) is \$1995, BLS Emergency (EMTs) is \$1160.00 with an additional charge on all services of \$34.00 for mileage.

**D. Staffing Issues – Problems of Recruitment, Training, Retention and Participation in regard to Call Firefighters**

As noted above, call firefighters make up the majority of the firefighters in Topsfield. Call firefighters are expected to respond to a minimum of 10% of the dispatched calls in order to be entitled to retain their positions under their collective bargaining agreement. They are also entitled by that agreement to be offered 50% of the day-time shifts that become available as a result of vacation, sick time, or other absence by full-time staff. In practice, however, 10 call firefighters fell short of the 10% requirement in the first nine months of 2015 (6 of those failed to make 5% of the calls, 2 failed to make 1%). (See Appendix F). According to the Chief, even though he is required to offer one out of every two available shifts to every call firefighter before it can be offered to a full-time firefighter, the call firefighters almost never take those shifts, and they are either covered by full-time firefighters or left uncovered.

In addressing the concern that increasing numbers of call firefighters fail to respond to Emergency calls, the Chief put in place the following strategies: 1) an Explorer program to interest young people in a career in fire/EMS services; 2) feedback information from the call firefighters with explanations for lack of response; 3) lunch on Fridays at the firehouse to network with the full-time staff; 4) a Christmas luncheon; 5) grants for training; 6) a recruitment program for citizens at Steward School and the Strawberry festival; 7) a website asking for volunteers; 8) increased call wages; 9) a training committee. It is unclear as to whether or not any of these strategies have provided fruitful gains in personnel and/or call firefighter response to off hour calls.

Members of the Committee met and/or talked with current call firefighters. In addition, the Chief provided feedback received from the call force. Feedback varied: some call firefighters expressed that when they arrive on scene only a few members of the department are allowed to assist in the call and they feel underutilized and unnecessary. Some call firefighters complained of a lack of respect for their services, especially during evening hours when they have been asked to sweep the house or perform another task to fill the hour's pay. Most call firefighters, when asked, cited the need to balance their full time jobs/careers and family life and because of these constraints on their time as a reason to not respond to evening calls.

The Chief and others in the TFD (including some of the call firefighters) also expressed concern about the qualifications of the call department staff. Most of the call firefighters are not paramedics. Some of the call firefighters are not certified to drive the fire trucks,



so if they respond to a call (which requires that they first go to the Station), and the full-time firefighters have already left for the call in the first vehicle, they have to wait at the Station for a qualified driver to arrive before they can go to the call. Some expressed concern that they lacked the training to perform all of the functions that would be required of firefighters in responding to a structure fire, and would be dependent on the presence of full-time firefighters to direct them.

This skills deficiency exists despite the fact that the Topsfield Fire Department prides itself on offering mandatory training sessions every Monday evening throughout the year. Both call firefighters and full-time firefighters attend these mandatory trainings but at this time, the department does not offer training on operating the vehicles. Topsfield firefighters also have simulation trainings for both EMS and fire. The Chief has indicated that it was difficult to get the call firefighters to agree to participate in this much training, and that they are resistant to spending more time in training. In some of our comparisons with other combination departments the average department offered training twice per month. Training courses available through the State Fire Academy or through the colleges offering paramedic training require that the individual devote time to training without compensation.

As was noted in the report prepared for the Town of Manchester<sup>13</sup>, the difficulty in recruitment and training of call firefighters is a regional phenomenon, caused by a number of factors:

Difficulties in recruiting call firefighters are many. Among them are:

- A reduction in leisure time;
- The need to maintain multiple jobs;
- Generational differences;
- Increasing training requirements;
- Affluence of the community; and
- The cost of housing in many destination communities.

The generational and demographic issues are obvious in Topsfield; we no longer have a substantial contingent of people who work locally and are able to drop what they're doing to respond to a fire, as was more common 50 years ago. The cost of housing in Topsfield means that we have fewer young adults. Working age adults are more likely to work out of town, for longer hours, to have children at home, and to share child-care responsibilities – factors that make them unavailable to respond to calls during the day, and that leave little time after hours for other activities, and little flexibility for loss of a night's sleep. In addition, we have an increasing population of senior citizens in Topsfield, who are less likely or unable to volunteer for the fire department (and who themselves increasingly have the need for medical calls). These factors all make it difficult for call firefighters to answer a lot of calls – the fact that the total number of calls is increasing as a result of the transition of the Fire Department to a Fire/EMS

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<sup>13</sup> See Footnote 2.

Department means that *percentage* of calls to which call firefighters will respond will appear even lower.<sup>14</sup>

Despite these difficulties, it is not possible for Topsfield to dispense with its call department. As the Manchester report also states:

... call firefighters in a community the size of Manchester are essential to provide for a greater measure of public safety. Manchester cannot afford an on-duty contingent of 8 to 10 career firefighters to deliver EMS and fire response capability as recommended in the national standards (two pumpers and an aerial ladder as the first-due response package).

Manchester already has a total of 12 career firefighters; if Topsfield were to hire four, it would still be even less equipped than Manchester to abandon reliance on its call force according to the national standards described herein. .

#### **IV. Assessing the Need for 24/7 Coverage and/or More Full-Time Firefighters**

While the Committee heard a great deal of concern about the current staffing model, the question whether the Town needs 24/7 coverage is a different one. The Committee attempted to analyze currently available data to try to determine whether there was a compelling need to staff the Station at night. Two concerns were expressed about this: (1) additional time needed for firefighters to go from home to the Station before responding to a call (which would result in longer response times), and (2) not having adequately trained people respond to the call. As to this latter point, it is assumed that having two full-time firefighters at the Station at night would ensure that the first TFD firefighters to any emergency call would be adequately trained – an assumption not valid with regard to most of the call firefighters.

##### **A. National Standards for Response Times**

The National Fire Protection Association (NFPA) and the Occupational Safety and Health Administration are the two organizations that establish staffing standards for both the staffing of fire equipment and the response to fire related activities. The Commission on Accreditation of Ambulance Services (CAAS) has developed national standards as it relates to the staffing and response to emergency medical service deliveries. In addition, the staffing requirements for ambulances are set by Massachusetts Office of Emergency Medical Services Regulations and local ambulance service medical directors.

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<sup>14</sup> In other words, the ability of a call firefighter to meet the 10% requirement is both a function of how many calls he/she can respond to, and a function of the total number of calls. A call firefighter who can turn out to 50 calls/year would meet the 10% number if there were only 500 calls; if there are 1500, however, the same level of commitment means he/she produces a response rate of less than 4%.

## NFPA & OSHA

The NFPA was founded in 1896 by individuals representing the insurance industry interests to reduce the loss of life and property by setting standards of fire sprinkler and suppression systems. Over the following years, the standards were expanded to include all aspects of fire operations, including equipment, staffing, and fire ground operations. OSHA was established in 1971 to set workplace standards for safety with the goal of reducing workplace injuries. OSHA has established minimum staffing standards for fire department operations to ensure maximum fire fighter safety fire incidents.

## CAAS

CAAS was established in 1990 to encourage and promote quality patient care in America's medical transportation system. Based initially on the efforts of the American Ambulance Association, the independent Commission established a comprehensive series of standards for the ambulance service industry. These standards were developed in cooperation with the American Ambulance Association, the American College of Emergency Physicians, the International Association of Fire Chiefs, the National Association of EMS Physicians, the National Association of EMTs, and the National Association of State EMS Directors.

## Staffing

In terms of operational safety, OSHA recommends a Two In/Two Out rule that requires four firefighters on the scene of an incident prior to initiating an interior fire attack (except to perform a visible rescue). Two fire fighters to advance the hose and two outside the structure performing pump operations and incident command. Once fire-fighting efforts are initiated, NFPA 1710 requires a minimum first alarm assignment of thirteen personnel on scene within eight minutes of a reported structure fire ninety percent (90%) of the time.

CAAS 201.04.01 requires a minimum staffing of two emergency medical technicians (EMT) for all patient care. Massachusetts OEMS regulations require that all Basic Life Support ambulances in the Commonwealth be staffed with a minimum of two EMTs. A Paramedic level ambulance must be staffed with two Paramedics unless the medical director approves an alternative staffing model of one EMT and one Paramedic.

## Response Times

Response time standards for responding fire and EMS services are typically set by the community and are largely self-imposed. The National fire Protection Association (NFPA) 1710.5.2.4.1 sets the minimum standard response criteria for the arrival of the initial fire company to the scene of a fire at six (6) minutes, ninety percent (90%) of the time. CAAS has set the response time standard of an ambulance arriving on scene of a life threatening emergency within eight minutes and fifty-nine seconds (8:59), ninety percent (90%) of the time.

According to the RECC's fire incident analysis, during a fourteen month period (6/17/14-8/31/15), the Topsfield Fire Department responded to 1710 daytime calls and 431 nighttime calls. These numbers included fire alarms, car seat installations, fire prevention and inspections, brush fires, EMS calls, vehicle fires, etc. and can be found as Appendix E to this report. It was a difficult task to sift through this information because we found in our compilation of the RECC data information that was not analogous or consistent in various reports. For example calls received by nature of call states that only 121 total calls occurred between 6/17/14-8/31/15 but in the interest of public safety we have used the highest totals provided (1750 daytime calls and 431 nighttime calls).

Topsfield's EMS Performance Standards outline the following response times: Topsfield Police Department will arrive within 4 minutes 90% of the time, Topsfield Fire Department will arrive within 5 minutes and 59 seconds 90% of the time, and Northeast Regional Ambulance will arrive within 13 minutes and 59 seconds 90% of the time. The town of Topsfield has a backup agreement with the Middleton Fire Department. EMS performance standards are completed by the EMS coordinator to track all ALS skills with minimum benchmarking criteria including first attempt/success IV rate (80%) endotracheal intubation attempt/success (90%) endotracheal intubation failure recognition (100%) and ST elevation Myocardial Infarction. According to the EMS coordinator at Beverly Hospital there have been no problems meeting the benchmarked criteria. Dr. Steven Krendel at Beverly Hospital establishes medical control over the TFD and Northeast, meaning he provides clinical oversight to all components of the EMS system.

It is difficult to determine the effectiveness of a fire department and EMS service based exclusively on response times. However, there seems to be no issue with TFD response times. It should be noted that response times based on transcripts and CAD reports are not straightforward because deployment of these services varies due to the variable nature of EMS calls. For example, an ambulance can be deployed as hot or cold, meaning the ambulance can respond without lights and siren, obeying traffic laws and arriving at an unhurried pace. Often, in these cases, an ambulance will arrive to a scene and the patient will refuse transport because it is not necessary.

In our interviews with the Topsfield police and the EMS coordinator at Beverly Hospital we have found that Topsfield has drastically increased transports to Beverly and other surrounding hospitals despite our contract agreement with Northeast and in contrast with the EMS Service Zone Plan. In fiscal year 2014, Topsfield's total transports more than tripled from 20 in 2013/14 to 65 in 2014/15. A review of transcripts from the RECC center corroborate these numbers and reveal TFD are on track to transport approximately 90 patients in 2015/16. When TFD transports patients then Northeast ambulance service covers the town for EMS.<sup>15</sup>

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<sup>15</sup> The Committee did not compare Topsfield's numbers to other communities in Essex County to determine whether or not this is a trend; nor did the Committee confirm the reasons for any increase in annual transportation of patients from Topsfield to area hospitals by ambulance.

With regard to fire calls, it was noted by TFD staff that none of the small towns in Essex County can meet NFPA requirements for response to a structure fire (thirteen personnel on scene within eight minutes) without substantial turnout from its call department and/or resort to mutual aid. Fortunately, major structure fires are relatively rare.<sup>16</sup> The use of smoke detectors means that building occupants usually get out before firefighters arrive; the need for firefighters to rescue building occupants is rarer still. There is no doubt that, in the event of a significant structure fire between 1800 and 0600, a 24/7 presence at the Fire Station would ensure that two full-time firefighters could be dispatched directly from the station, adding to whatever level of response would occur now from off-duty full-time firefighters and call firefighters.

The risks inherent in having only a night-time call department have always existed in Topsfield. The only difference between the situation now and the situation two or three decades ago (apart from the reduced incidence of fire) is the poor turnout by the call department as documented by the Chief. As will be discussed below, the Committee is not persuaded that the best solution to that problem is a staffed 24/7 fire department or a gradual replacement of the call force with a full time, career department.

## **V. Concerns**

### **1. Lack of Good/Accessible Data from RECC**

The Committee was surprised and disappointed that the Regional Emergency Communications Center (RECC) was unable to produce much useful statistical information about the response times of the TFD. We discovered that this task is a bit more complicated than it first appears, given the differing nature of the calls that the department receives. For example, some calls are identified as non-emergent, and the response times for those calls may skew the average. Statistics that tell you when the first unit arrived in response to a call may not indicate when there were a sufficient number of personnel present to address the emergency. Nonetheless, we think that the RECC's software should allow for the collection of useful data, and the generation of reports for its member towns, in a way that would allow each town to better assess how well its emergency personnel are meeting the benchmarks discussed above. The TFD was able to provide the Committee with some of this information, which is summarized elsewhere in this report, but we think that the Town should expect better from the RECC.

### **2. Insufficient cost analysis**

As stated above, the proposal to add 4 full-time firefighters for 24/7 station coverage makes little sense except as a first phase of a transition to a full-time department, as suggested by the Chief. Neither proposal, however, has been proffered with any kind of analysis regarding how much such a transition would cost, or how the Town would pay

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<sup>16</sup> Although rare, they are devastating in a small town without adequate coverage. A recent house fire during the day in Boxford resulting in a total structure loss due to lack of adequate coverage.

for it (with an override, by cuts in other services, etc.). There is no analysis of the cost of alternative measures, such as increasing financial inducements to call firefighters and recruits, increasing the scope of contracted EMS services, etc.

The Committee made some attempts to sketch out some figures that it might attach to these ideas, but there are too many variables for us to do that in a reliable way; we can only conclude that even the first step in this transition would increase the Town's annual operating budget by hundreds of thousands of dollars. This analysis should be a function of Town management – if the Town or TFD administration is serious about pursuing this objective, and lacks the capacity to do a credible job of it in-house, it should hire professionals to do conduct the analysis. The Committee does not believe, however, that it can recommend such a dramatic step to the Town without a sound analysis of the cost.

### **3. Relations with Call Firefighters**

It was apparent to the Committee that there is a history of poor labor relations between the Chief and the call department. It is unusual for call firefighters to be represented by a separate bargaining unit from the full-time firefighters, if they are unionized at all. The fact that Topsfield call firefighters felt the need for separate representation reflects a division between the full-time staff and the call staff that is reflected in the sharp disparity between the minority, who turn out to 20-30% of calls or more, and the remainder, who turn out for less than 5%.

In our interviews with Chief Jack Parow and Chief Glen Rogers, both men shared ideas that have been used in various Essex County fire departments to allow greater dependence on call firefighters for coverage, including: (1) allowing call firefighters to take scheduled shifts and (2) compensating call firefighters to be on-call (with mandatory turnout) during certain limited windows of time. Individuals also cited the need to be trained to drive the vehicles that require certification, and higher pay generally. There has been little effort implement (or to fund) any of these strategies in Topsfield.

In turn, the Chief expressed visible frustration at the unwillingness of call firefighters to cover absences due to sickness or time off, and the resistance to committing sufficient time to training. The Chief's response to this impasse is reflected in his proposal to end the TFD's dependence on call firefighters, and to transition to a full-time force. Presumably, there would be some opportunity for some of the call firefighters to apply for full-time positions, allowing those whose skills and commitment are favored by the Chief to remain with the department, and relegating the rest to a minor role or cutting them loose.

The Committee believes that this response is at least premature, and probably unrealistic from a cost perspective. Topsfield simply cannot afford to eliminate dependence on an active call force without a substantial increase or reallocation of revenue. The failure to attract, train and effectively utilize an adequate call force reflects both a failure of management and a failure of the Town to allocate sufficient resources to support the call department. Arguably, it also reflects a misallocation of resources toward EMS services



in an effort to monopolize that function (see below). The Committee believes that the Town needs management (inclusive of the Selectmen and the Chief) that is committed to fixing the current problems with the call force, not abandoning it.

#### **4. In-House vs. Contracted EMS Services**

It is apparent that the Chief and the full-time officers in the Topsfield Fire Department would like for the TFD to be the primary EMS service in Topsfield, both for first response and for transport. The effort to purchase vehicles sufficient to support this function, followed by this effort to secure funding for additional staff, reflects this priority. The recent history of support for this by the TFD and the Selectmen shows limited buy-in from the citizens of town. Citizens supported additional training, the hiring of one FTE in 2005, the staffing of the department twelve hours a day, seven days per week, specific medical equipment and the purchase of vehicles. But at the annual town meeting on 5/3/2005, the request for 8 FTE's and the purchase of two ambulances was defeated. The department then purchased an ambulance through the Firefighter Relief Fund with the support of the Board of Selectmen. The Selectmen also approved the Service Zone Plan on 12/7/2009 to list TFD as the Designated Primary Ambulance Service for the Town of Topsfield. In June 2009, the Selectmen went out to bid and awarded the contract ambulance to Northeast Regional Ambulance at \$0.

The TFD's agenda to expand the EMS services of the department has resulted in the decreased utilization of Northeast's Regional Ambulance. In researching our current EMS services, the committee became aware of an increase in cancelled Northeast responses by the Command Firefighters on scene. The TFD significantly increased patient transports to the hospital, leading to an overtaxed department, highlighting the department's focus on a 24/7 EMS service. It has been expressed by Captain Brown that firefighters need these calls to sharpen paramedic skills, a legitimate concern that leads us to question the feasibility of a 24/7 EMS department in this small town on many levels.

The circular logic of justifying the expansion to a 24/7 department because now the town has paramedic-level trained personnel, and has purchased the equipment and trucks, seems an unacceptable solution that will not be palatable to the taxpayers in town. Good EMTs require practice, and currently the town receives good service from a reputable ambulance service that responds to 267 calls a week on average. The average number of calls per week for EMS response in Topsfield is 6.

The Committee believes it is premature and fiscally irresponsible to expand the department without adequately using the resources available to town. Stationing the private ambulance in town could greatly reduce the TFD's concerns about response times and the over-taxation of fulltime firefighters.

The Committee believes that the Town needs management (inclusive of the Selectmen and the Chief) that is committed to utilizing resources in a responsible manner and exploring all options for coverage of the department.

## **VI. Recommendations**

Examining the town's public safety services is a large undertaking for a small group of citizens operating on a short deadline. The Committee has answered the question it was charged to answer in the negative, and this information was relayed to the Board of Selectmen, both at the November 2, 2015 meeting and through the foregoing report. However, as the Committee identified concerns, through the many hours of research and writing that members of the Committee completed, there were several solutions/recommendations/ideas/options that the Members of the Committee discussed at its meetings.

The problems with the TFD discussed above have emerged over a long period of time and can only be solved by skillful management over time. The Committee does not believe that there is necessarily any one solution or approach that will work; it is more important that the Selectmen, the Chief and the Finance Committee work together to identify, fund and implement a plan. The announcement of the Fire Chief's impending retirement obviously means that some of this work will have to be done with a new Chief -- this presents the Board of Selectmen with a challenge, and the opportunity, to make changes in the structure of the administration of the department, if the Board thinks they are necessary, and to find the best person to develop and implement a program.

For those reasons, the Committee is not unanimously recommending any specific course of action be taken in connection with the Fire Department. Instead, we have included below a list of possible approaches that we think the Board should consider in addressing the concerns raised by the Chief and by this report, and in making a transition to a new Chief.

### **1: ELIMINATE "STRONG CHIEF" OPERATION OF TFD.**

The Selectmen bear ultimate responsibility for efficient and effective operation of all town departments. The TFD currently displays weak areas in Operational and Personnel management that need to be addressed by Selectman and the Town Administrator. These management policies have led to some of the current department problems and complaints of an overtaxed dept.

Many Massachusetts towns have moved away from the strong chief model especially where a Town Manager or Administrator has been hired by Selectman. With the resignation of the current Chief imminent the Selectman should take measures to drop the Strong Chief model now. Selectmen can then maintain better oversight and management.

An article must be placed on this year's Town Warrant to remove the Strong Chief designation and this committee recommends the Selectman move on this article.

## **2: AMEND THE CURRENT EMERGENCY SERVICE ZONE PLAN**

Under the current ESZ Plan the TFD is the Designated Primary Ambulance Service for Topsfield. The contracted private ambulance service (Northeast Ambulance Service) is designated as Primary Ambulance Response.

TFD has been steadily increasing the number of patient hospital transports to local hospitals. TFD command personnel often cancel Northeast Ambulance's response to a medical call and opt to transport the patient in the TFD ambulance. This leaves the Town unprotected without in town coverage for the duration of the call which can be 1.5 hour at a minimum. Transport by Northeast Ambulance, except in situations when they are unable to respond in a timely manner, will keep TFD in town.

Amendment of the Emergency Zone Plan to house the private ambulance in town and list it as the Designated Primary Ambulance Service will keep TFD personnel in town to perform their primary duties as they are required to do. Night alarms "stress" may be reduced because the TFD ambulance will remain in town reducing need for volunteers to respond to a second emergency call.

As the number of fires has decreased as noted in this report Fire Departments have tended to expand their services and number of personnel by expanding into the providing of Emergency Medical Services and ambulance transport. This is the stated goal of the Topsfield Fire Command. Better utilization of the contracted ambulance service by Topsfield would better utilize available resources and reduce the need for paramedic level firefighters on the department. Overall a change in the Emergency Service Zone Plan can provide a better utilization of current TFD resources.

The 24/7 Committee has not been provided with a comprehensive multiyear plan for improvement, expansion or justification for more personnel within the Fire Department as requested. The Chief's suggested plan to expand the Fire Department to 18 FT FF's over five years is not indicated and is unsustainable for a town with the number of calls in Topsfield\*. The Chief's expansion plans for the department are based on operating two full time Paramedic Ambulances in town which has not been requested or approved by Selectman or Town Meeting. *(\*Note: 14 months of recent data from Essex County Regional Emergency Communications Center or "RECC" show an average of fewer than 1.4 EMS calls per day.) (Figures for the same 14 months show an average of less than one Fire Incident" per day of any type between the hours of 6PM and 6AM.)*

## **3: SELECTMAN WORK WITH FIRE CHIEF TO PROVIDE SPACE TO HOUSE PRIVATE AMBULANCE AT FIRE HEADQUARTERS**

Northeast Ambulance has offered on a number of occasions to house an Advanced Life Support ambulance in the TFD station on a 24/7 basis. The ambulance would not be dedicated solely to Topsfield but would provide immediate local response in a large number of calls. If it is on a call Northeast may stage another ambulance to cover Topsfield. This result will help keep TFD personnel in town to perform their primary duties. Accommodations may need to be made to move an underutilized fire vehicle to a secondary location to accomplish this. Private Ambulance personnel will need access

to quarters during night hours. The Committee suggests this option be seriously considered.

#### **4: MODIFY THE CURRENT CALL FIREFIGHTER RESPONSE MODEL**

A lack of an existing, consistent, volunteer FF alarm response plan for TFD is a leading contributor to the current “stress” on the volunteers. Between 6PM and 6AM calls may be responded to by as few as one or by many volunteers depending on many factors. No volunteers are assigned to cover nights. Volunteer FF described this as a lack of “structure”.

Analysis of other towns similar to Topsfield provides multiple staffing models for call departments. There are too many to describe here and towns do what works best for them.

A workable plan may assign Call FF’s to cover scheduled shifts during times when the station is not manned. Schedules can be set six months in advance for best planning. A stipend or incentivize to improve the attractiveness of covering may be offered. Furthering the idea may lead to “battalions” or teams that work together regularly to ensure appropriately qualified personnel are responding. Other options can be explored. Compensated shifts become more attractive to volunteers.

On a National basis mixed full time/call and straight call departments suffer a shortage of volunteers. Better recruitment, pay and scheduling may help. An improvement in Command management of current TFD volunteers is indicated from the Committee’s review.

#### **5: MODIFY TRAINING PROGRAMS TO ACCOMMODATE THE NEED FOR MORE QUALIFIED CALL FIREFIGHTERS RESPONDING TO ALARMS.**

Current TFD training programs are for the most part relevant and of high quality.

Department members generally agree the programs are very good.

The committee has however continually heard from TFD Command Personnel at our meetings that it is difficult to ensure the right people show up with the right training for off hours alarm calls. It is recognized that nothing replaces Fire Academy training.

Modification of the program to fill the gaps is recommended. Bringing the entire group up to qualification to drive all the apparatus is one area that was often sighted.

Modification of some of the training session times to accommodate volunteer Call FF’s needs may help qualify more of volunteers as apparatus drivers. The option of Topsfield members participating in training offered by other recognized, qualified agencies may also be considered.

**6: CONDUCT EXTENSIVE OUTSIDE SEARCH FOR NEW FIRE CHIEF HIRE**

Utilize Professional Search Firm in conjunction with Oversight Committee, Selectman and Town Administrator to recruit qualified candidates from outside and inside TFD in order to hire the most qualified, experienced candidate. This is already done for other Topsfield town positions.

**OR ALTERNATIVELY TO ABOVE:****7: ESTABLISH AN ASSESSMENT CENTER TO HIRE NEW CHIEF**

Cities and towns throughout Massachusetts have embraced the use of the Assessment Center Model to hire Police and Fire Department Officers and Chiefs. These Centers use a multifaceted series of exercises designed to test how well a candidate would perform in a job. Combined with a comprehensive job description and use of outside, non-partisan, candidate evaluators an objective method of hiring the most qualified chief from an experienced group of candidates is expected.

The Commonwealth of Massachusetts has many resources to assist towns in forming Assessment Centers. Private firms specialize in reviewing and recommend the best qualified candidate using appropriate scoring systems.

**8: UPDATE AND UPGRADE TFD PERSONNEL JOB DESCRIPTIONS TO RECOGNIZED STANDARDS**

More comprehensive job descriptions for full time are needed to ensure future personnel are appropriately qualified and trained as they enter the dept. National Fire Protection Association, civil service and other sources may be used. Current job descriptions are not comprehensive enough to ensure appropriate hires. Accusations of favoritism over qualification have been suggested by Topsfield citizens about current hiring practices.

TFD Positions should be advertised widely in appropriate publications and job boards in order to attract the most qualified recruits. Only the most qualified/best trained should be hired with review and recommendation by Search Committee or Assessment Center and approval by Town and Board of Selectman.

## **9: ESTABLISH A TRANSITIONAL COMMITTEE**

A long term plan and resource management change is needed to maximize efficiencies in the TFD. Future plans for the TFD must equate with reasonable budget expectations and buy in through Taxpayer acceptance.

Committee may assist Selectmen in choosing an appropriate recruiting firm or developing an Assessment Center to hire a new Chief.

Respectfully submitted,  
24/7 Fire Study Committee,

George Hall, Chairman  
Sue Archer  
Dan Finn  
Phil McManus  
Scott Moore  
Melissa Gnoza Ogden  
David Soffron  
Scott Conley (alt)  
Michael Todd (alt)



# APPENDIX A

## Fire Chief's Recommendations 24/7 Committee

October 19, 2015

Over the last decade, I have documented the need for a structural change in our call system. I have warned that it has been weakening and oftentimes fails to provide an appropriate response to emergencies. The increasing volume of calls for service at night, coupled with the decreased response at night by our call firefighters, leaves us in a very vulnerable position. This problem is not an isolated issue. It is a national issue for reasons we have already discussed ad nauseam. The leadership of the Topsfield Fire Department sensed this national trend and attempted to slow down the deterioration by implementing the following strategies:

Ten years ago, we had an average of 7 firefighters responding to calls during the off hours. Now we have an average of 4 firefighters responding. These firefighters respond when willing and able. They may not yet have the required skills necessary to handle the emergency in a timely manner. This leads to unsafe staffing to those responding and to burnout for those consistently responding.

We asked each member to share with us the reason that they don't come out at night. Those reasons ranged from low pay rates, the recreational consumption of alcohol deterring their ability to respond, work and family obligations, and health concerns.

Well over 10 years ago, we began an Explorer program in cooperation with the Boy Scouts of America. Dozens of boys and girls 12-21 years of age have benefitted from this program and the exposure to a very rewarding job. Our hope was that they would join the department when they became of age. Several have, but most of them moved away after college. Several have gotten jobs in public safety but with other communities.

In 1993, the Call Firefighters got together and met with the then Chief of the Department. They presented a list of concerns and inadequacies that they believed to impact their safety. The concerns included adequate protective gear, uniforms, rotating schedules to address decreased turnout at night and that standard operating guidelines be put in place for uniformity in the station and on the emergency scene. As early as 1993, the call firefighters realized that there was a problem with our night time response and were trying to formulate a solution with the Chief.

To build our team, we invite all members of the call force to attend lunch each Friday. The meal is prepared by the full-time staff and gives our members a chance to network and team build.

We have reached out to the call force to attend a Christmas luncheon each holiday season to network with our team as well as peers from other fire departments and town departments. We have applied for several local and regional grants to increase opportunity for training. Through these grants, we have provided all staff with OSHA compliant turn out gear for their safety. Previously, call firefighters would "go to the attic" and find gear that "fit".

We have implemented a recruitment program by attending the Strawberry Festival and the Health Fair at Steward School annually with the idea of supplying people with information about joining and giving back to our community.

We developed the first website in our Town for the fire department. We frequently posted information about what we do and tried to entice folks to join. We are very active in social media using Facebook, Twitter and Nixle to keep the public informed about our activities and opportunities to participate. Our most recent recruitment drive using a multimedia approach yielded one completed application.

We have increased call firefighter wages to stay competitive with peer departments. We now provide members with uniform allowance, double-time on holidays, overtime, longevity and other perks which we did not provide in the past.

We established a training committee made up of full-time and call members for planning and feedback purposes. This allows both groups to be represented as to the content, frequency, and duration of our training.

A couple of years ago, we increased the training budget to increase EMS skill proficiency, and apparatus operation ability.

The fact of the matter is that the job of a firefighter has changed over time. The training requirements, job duties and hours have increased in all aspects of the job. Additionally, our society has changed. Employers cannot afford to let staff leave work to respond to calls. Employees work longer hours at their jobs. Families value their decreased time together. The demands of training and responding to calls can have a negative impact on the dynamics of that family.

The committee has been supplied with a lot of data for their review. I would consider a lot of it to be in the "nice to know category" and somewhat of a distraction from your mission. I believe we should rely on National standards and best business practices to arrive at a safe and reasonable recommendation for our community.

Therefore, I recommend the following:

Basic Firefighter safety standards (OSHA) 2 in 2 out = 4 Members 24/7 365 would need 12 additional FTE's to accomplish this standard.

Phase 1--- 2 Members 24/7 365... 4 additional FTE's .... Additional funding needed...

Alt Phase 1--- 3 Members 6A-6P ... 3 Members 6P-6A 2 Members... 6 additional FTE's Funds needed...

Phase 2 ---3 Members 24/7 365 ... 8 additional FTE's ...additional funds needed

Phase 3--- 4 Members 24/7 365... 12 additional FTE's ... additional funds needed

# APPENDIX B



Topsfield Fire Department FY 2016 Budget Details												Date Submitted 12/12/2014	Date Revised 3/26/2015
	Acct #	Account Name	2009 Actual	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Budget	2014 Actual	2015 Budget	2016 Proposed	\$ Change	% Change
Salary													
22001	51120	Chief, Appointed	95,408	97,316	97,316	97,316	97,316	97,316	99,262	99,262	99,262	0	0.0%
	51124	Lieutenant	1,050									0	0.0%
	51950	Emergency Management Director				4,000	4,000	4,000	4,000	4,000	4,000	0	0.0%

Topsfield Fire Department FY 2016 Budget Details													Date Submitted 12/12/2014 Date Revised 3/26/2015	
Acct #	Account Name	2009 Actual	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Budget	2014 Actual	2015 Budget	2016 Proposed	\$ Change	% Change		
53440	Printing	210	15	32	178	50	200	188	200	200	0	0.0%		
53450	Advertising		320				0			0	0	0.0%		
53610	Hydro-Static Tank Tests			47	47		90			0	0	0.0%		
53620	Fire Extinguisher re-charge	187	108	214	470	47	200	175	100	200	100	100.0%		
53800	Professional Services	1,645	1,575	1,705	1,220	845	1,900		1,900	1,900	0	0.0%		
53900	Oxygen/Air	991	39				100		100	100	0	0.0%		
54200	Office Supplies	637	1,161	384	600	638	800	254	800	800	0	0.0%		
54300	Building Supplies	2,214	1,752	1,533	2,207	2,682	2,850	1,811	2,850	2,850	0	0.0%		
54400	Fire Equipment Supplies	1,989	2,312	3,147	2,931	5,620	1,000	6,170	1,000	1,000	0	0.0%		
54500	Computer Supplies	1,064	681	661	403	330	500	712	500	600	100	20.0%		
54800	Vehicle Supplies	2,752	1,751	1,835	1,222	2,559	2,000	1,341	2,000	2,500	500	25.0%		
55050	Medical Supplies	5,429	1,791	379	1,941	1,167	2,000	2,853	2,000	2,000	0	0.0%		
55800	Other Supplies	4,877	3,659	3,210	694	179	0	1,166	0	0	0	0.0%		
55810	Personnel Supplies	7,516	6,896	5,850	5,680	6,830	7,400	21,373	7,280	7,905	625	8.6%		
55850	Publications	376	30	218	29		100		100	100	0	0.0%		
57100	Travel & Meeting		71	250			100		100	100	0	0.0%		
57103	Professional Development	1,473					0		0	0	0	0.0%		
57300	Dues	4,103	2,941	3,101	4,716	4,851	4,000	3,143	5,000	5,000	0	0.0%		
57800	Miscellaneous	108		180			100		100	100	0	0.0%		
58510	Office Equipment	1,147			1,577		500		500	500	0	0.0%		
58530	Vehicle Equipment			215	253	195	500	1,028	300	500	200	66.7%		
58580	Medical Equipment	676	4	1	323	240	1,870	7,650	1,870	2,000	130	7.0%		
58590	Additional Equipment	8,084	2,680	3,666	5,605	3,970	8,200	6,304	8,200	8,200	0	0.0%		
58900	Miscellaneous										0	0.0%		
Total Other		140,131	86,801	86,707	81,880	89,169	91,510	104,920	104,255	108,007	3,752	3.6%		
Total Operating Budget		646,698	614,121	590,297	585,287	609,405	605,274	636,222	666,354	718,139	51,785	7.8%		



# APPENDIX C

Town	Per Capita	Median Household	Median Family	Pop.	Number of households	FY16 FD Salaries	Total Property Tax Levy	Exp per household	Exp per capita	% of total tax levy
Manchester-by-the	\$70,075	\$115,650	\$145,409	5185	2,055	\$1,125,231	\$24,286,284	\$547.56	\$217.02	4.6%
Boxford	69,734	\$125,833	\$141,563	8040	2,752	\$406,456	\$25,192,124	\$147.69	\$50.55	1.6%
Marblehead	58,082	\$98,399	\$121,235	19958	8,036	\$3,100,780	\$55,753,986	\$385.86	\$155.37	5.6%
Topsfield	56,488	\$111,696	\$126,653	6211	2,146	\$610,132	\$20,895,838	\$284.31	\$98.23	2.9%
West Newbury	53,144	\$111,652	\$127,880	4305	1,459	\$149,143	\$13,553,791	\$102.22	\$34.64	1.1%
Andover	52,275	\$112,681	\$139,111	33746	12,169	\$6,984,897	\$123,492,069	\$573.99	\$206.98	5.7%
Swampscott	48,611	\$92,258	\$113,456	13862	5,518	\$2,961,465	\$47,262,539	\$536.69	\$213.64	6.3%
North Andover	46,788	\$96,002	\$121,414	28677	10,515	\$4,438,454	\$67,697,726	\$422.11	\$154.77	6.6%
Lynnfield	46,659	\$110,980	\$122,333	11812	4,136	\$1,057,981	\$37,899,752	\$255.80	\$89.57	2.8%
Wenham	46,255	\$127,606	\$148,897	4964	1,340	\$623,636	\$13,192,579	\$465.40	\$125.63	4.7%
Nahant	45,464	\$66,964	\$126,316	3432	1,656	\$861,890	\$8,517,409	\$520.46	\$251.13	10.1%
Hamilton	44,500	\$105,865	\$117,458	7995	2,822	\$563,427	\$25,016,269	\$199.66	\$70.47	2.3%
Georgetown	43,297	\$107,775	\$125,962	8295	2,885	\$345,657	\$18,576,281	\$119.81	\$41.67	1.9%
Ipswich	43,021	\$77,087	\$102,756	13354	5,513	\$1,552,520	\$34,461,158	\$281.61	\$116.26	4.5%
Essex	42,259	\$74,211	\$100,083	3546	1,424	\$220,486	\$11,022,184	\$154.84	\$62.18	2.0%
Groveland	40,222	\$97,463	\$103,634	6675	2,334	\$170,702	\$15,004,762	\$73.14	\$25.57	1.1%
Merrimac	36,605	\$79,423	\$93,615	6440	2,458	\$305,908	\$13,129,048	\$124.45	\$47.50	2.3%

# APPENDIX D



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## FIRE DEPARTMENT CALLS

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Year	Total	Fires	Medical aid	False alarms	Mutual aid	Hazardous materials	Other hazardous conditions	Other
1980	10,819,000	2,988,000	5,045,000	896,500	274,000			
1981	10,594,500	2,893,500	5,019,000	788,000	349,500			
1982	10,548,000	2,538,000	5,258,000	853,500	346,500			
1983	10,933,000	2,326,500	5,660,000	979,500	353,000			
1984	11,070,000	2,343,000	5,735,000	972,000	413,500			
1985	11,888,000	2,371,000	6,467,000	936,500	389,500			
1986	11,890,000	2,271,500	6,437,500	992,500	441,000	171,500	318,000	1,258,000
1987	12,237,500	2,330,000	6,405,000	1,238,500	428,000	193,000	315,000	1,328,000
1988	13,308,000	2,436,500	7,169,500	1,404,500	490,500	204,000	333,000	1,270,000
1989	13,409,500	2,115,000	7,337,000	1,467,000	500,000	207,000	381,500	1,402,000
1990	13,707,500	2,019,000	7,650,000	1,476,000	486,500	210,000	423,000	1,443,000
1991	14,556,500	2,041,500	8,176,000	1,578,500	494,000	221,000	428,500	1,617,000
1992	14,684,500	1,964,500	8,263,000	1,598,000	514,000	220,500	400,000	1,724,500
1993	15,318,500	1,952,500	8,743,500	1,646,500	542,000	245,000	432,500	1,756,500
1994	16,127,000	2,054,500	9,189,000	1,666,000	586,500	250,000	432,500	1,948,500
1995	16,391,500	1,965,500	9,381,000	1,672,500	615,500	254,500	469,500	2,033,000
1996	17,503,000	1,975,000	9,841,500	1,816,500	688,000	285,000	536,500	2,360,500
1997	17,957,500	1,795,000	10,483,000	1,814,500	705,500	271,500	498,500	2,389,500
1998	18,753,000	1,755,500	10,936,000	1,956,000	707,500	301,000	559,000	2,538,000
1999	19,667,000	1,823,000	11,484,000	2,039,000	824,000	297,500	560,000	2,639,500
2000	20,520,000	1,708,000	12,251,000	2,126,500	864,000	319,000	543,500	2,708,000
2001	20,965,500	1,734,500	12,331,000	2,157,500	838,500	381,500	605,000	2,917,500
2002	21,303,500	1,687,500	12,903,000	2,116,000	888,500	361,000	603,500	2,744,000



2003	22,406,000	1,584,500	13,631,500	2,189,500	987,000	349,500	660,500	3,003,500
2004	22,616,500	1,550,500	14,100,000	2,106,000	984,000	354,000	671,000	2,851,000
2005	23,251,500	1,602,000	14,375,000	2,134,000	1,091,000	375,000	667,000	3,009,000
2006	24,470,000	1,642,500	15,062,500	2,119,500	1,159,500	388,500	659,000	3,438,500
2007	25,334,500	1,557,500	15,784,000	2,208,500	1,109,500	395,500	686,500	3,593,000
2008	25,252,500	1,451,500	15,767,500	2,241,500	1,214,500	394,500	697,500	3,485,500
2009	26,534,500	1,348,500	17,104,000	2,177,000	1,296,000	397,000	625,500	3,586,500
2010	28,205,000	1,331,500	18,522,000	2,187,000	1,189,500	402,000	660,000	3,913,000
2011	30,098,000	1,389,500	19,803,000	2,383,000	1,252,000	379,000	720,000	4,171,500
2012	31,854,000	1,375,000	21,705,500	2,238,000	1,326,500	360,000	694,000	4,155,000
2013	31,644,500	1,240,000	21,372,000	2,343,000	1,298,000	366,500	678,000	4,347,000

\*Includes hazardous material, other Hazardous condition and other.

Source: NFPA Survey

Updated 9/14

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# APPENDIX E





# ESSEX COUNTY REGIONAL EMERGENCY COMMUNICATIONS CTR

Fire Incident Analysis, Time Reported

Hour	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Total
00:00-00:59	3	1	3	5	4	5	1	22
01:00-01:59	1	2	4	2	0	3	3	15
02:00-02:59	6	1	4	5	3	0	3	22
03:00-03:59	1	2	1	3	2	2	2	13
04:00-04:59	1	2	4	2	0	2	1	12
05:00-05:59	6	2	3	6	4	4	5	30
06:00-06:59	10	2	6	7	8	6	3	42
07:00-07:59	9	17	5	8	5	6	8	58
08:00-08:59	13	15	13	18	15	4	10	88
09:00-09:59	28	24	29	38	20	16	8	163
10:00-10:59	19	16	42	27	21	19	10	154
11:00-11:59	27	26	12	24	14	26	15	144
12:00-12:59	21	16	14	17	9	21	9	107
13:00-13:59	24	30	27	199	16	12	13	321
14:00-14:59	24	17	29	57	28	17	12	184
15:00-15:59	26	13	23	177	16	15	9	279
16:00-16:59	14	17	24	17	22	17	9	120
17:00-17:59	18	9	8	14	16	16	9	90
18:00-18:59	9	15	18	11	7	14	11	85
19:00-19:59	8	11	7	8	8	6	7	55
20:00-20:59	10	8	9	7	9	7	5	55
21:00-21:59	4	6	9	1	12	11	6	49
22:00-22:59	4	10	5	4	5	1	7	36
23:00-23:59	2	3	8	5	4	3	12	37
Daily Total	288	265	307	662	248	233	178	2181

OSL

431

## Report Includes:

All dates between '00:00:00 06/17/14' and '23:59:59 08/31/15', All agencies matching 'TOFD', All observed conditions, All reported conditions, All condition codes, All locations, All natures



## ESSEX COUNTY REGIONAL EMERGENCY COMMUNICATIONS CTR

Total CAD Calls Received, by Nature of Call

<u>Nature of Call</u>	<u>Total Calls Received</u>	<u>% of Total</u>
FIRE ALARM	255	20.32
Brush Fire	16	1.27
FIRE CO ALARM	31	2.47
FIRE INVESTIGATION	83	6.61
FIRE MUTUAL AID	67	5.34
Fire	437	34.82
FIRE PREVENTION / INSPECTIONS	352	28.05
Structure Fire	10	0.80
Fire in Vehicle	4	0.32

Total reported: 1255

### Report Includes:

All dates between '00:00:00 06/17/14' and '23:59:59 08/31/15', All nature of incidents matching 'FIRE \*', All cities, All types, All priorities, All agencies matching 'TOFD'



## ESSEX COUNTY REGIONAL EMERGENCY COMMUNICATIONS CTR

Total CAD Calls Received, by Nature of Call

<u>Nature of Call</u>	<u>Total Calls Received</u>	<u>% of Total</u>
Abdominal Pain / Problems	17	2.89
Traffic / Transportation Incid	21	3.57
Allergy, Medical Reactn, Sting	20	3.40
Animal Bite / Attacks	2	0.34
Back Pain-Non-Trauma or recent	6	1.02
Breathing Problems	42	7.13
Obvious/expected death	2	0.34
CHEST PAIN (NON-TRAUMATIC)	42	7.13
Childbirth	2	0.34
Choking	5	0.85
Convulsions or Seizures	10	1.70
Diabetic Shock or Coma	9	1.53
Electric Shock	1	0.17
Fall	119	20.20
Headache	1	0.17
Heart Problem	9	1.53
Heat/ Cold Exposure	1	0.17
Hemorrhage	11	1.87
Overdose, Poisoning, Ingest	8	1.36
Psyc Behavr/ Suicide Attpt	21	3.57
Illness	118	20.03
Cardiovascular Accident	7	1.19
Traumatic Injuries	11	1.87
Unconscious Person	24	4.07
Unknown Medical	80	13.58

Total reported: 589

### Report Includes:

All dates between '00:00:00 06/17/14' and '23:59:59 08/31/15', All nature of incidents matching 'M-\*', All cities matching 'TOP', All types, All priorities, All agencies matching 'TOFD'

# APPENDIX F

# TOPSFIELD

## Topsfield Incident Report Summary

Alarm Date Between {01/01/2015} And {09/30/2015}

### Incident Responses

	Day	Night	Total		
FF/EMT D. Ahern	172	118	290	661	43.8 %
FF/EMT T. Ash	138	120	258	661	39.0 %
D. Bishop	0	0	0	661	0.0 %
FF /EMT-IC R. Boeri	5	0	5	661	0.7 %
FF/EMT C. Brown	75	85	160	661	24.2 %
FF/EMT-P C. Brown	254	112	366	661	55.3 %
CAP/EMT-P J. Collins-brown	330	190	520	661	78.6 %
FF/EMT-P R. Courtemanche	57	28	85	661	12.8 %
CAP/EMT-I C. Denault	129	29	158	661	23.9 %
FF/EMT C. Erickson	9	2	11	661	1.6 %
FF/EMT J. Feltault	63	12	75	661	11.3 %
FF/EMT T. Fontaine	217	108	325	661	49.1 %
CHF R. Giovannacci	54	10	64	661	9.6 %
FF/EMT T. Harper	38	33	71	661	10.7 %
FF/EMT J. Horne	25	2	27	661	4.0 %
S. Lemiesz	0	0	0	661	0.0 %
FF/EMT S. Looney	21	5	26	661	3.9 %
CAP/EMT-P D. Moore	25	38	63	661	9.5 %
FF/EMT S. Moore	24	34	58	661	8.7 %
FF/EMT J. Morehouse	34	18	52	661	7.8 %
FF/EMT S. Rea	15	13	28	661	4.2 %
FF/EMT-P J. Reineke	2	0	2	661	0.3 %
FF/EMT D. Soffron	115	78	193	661	29.1 %
FF/EMT B. Taylor	124	51	175	661	26.4 %
FF/EMT S. Winfrey	49	71	120	661	18.1 %
ACT LT C. Wood	87	85	172	661	26.0 %
LT / EMT-I D. Wood	40	12	52	661	7.8 %