

SCARBOROUGH FIRE DEPARTMENT



AN EXECUTIVE ANALYSIS OF STAFFING NEEDS

**PREPARED FOR THE TOWN MANAGER AND
SCARBOROUGH TOWN COUNCIL**

**February 2006
Revised January 2008
Revised March 2013
Revised March 2019**

LETTER OF SUBMITTAL

To: Town Manager Hall & Members of the Town Council
From: B. Michael Thurlow, Fire Chief
Re: Staffing Plan Revision
Date: 3/12/2019

Tom & Members of the Council,

I am pleased to present the attached 2019 revision of the Scarborough Fire Department's Executive Analysis of Staffing Needs. This is the fourth revision of a report that was created in 2006 to illustrate challenges in meeting human resource needs for fire and emergency medical services for the Town of Scarborough.

Since 2006, with the support of the manager and council, the Scarborough Fire Department has added additional full-time and per-diem staffing to address the needs identified in the original plan and its subsequent revisions. Unfortunately, due to budget constraints, previous councils have only been able to make incremental progress including several years (including the past two) where no progress was made.

The specific purpose of this revision is to accomplish the following objectives:

1. Compare the current make-up of available staffing for the Scarborough Fire Department with a cohort of fire departments in Southern Maine with similar call volumes and demographics.
2. Identify established industry benchmarks or standards for adequate fire and EMS staffing levels.
3. Develop updated recommendations to meet adequate fire and EMS service staffing levels based on current information such as; population, service demand, community growth, etc.

This revision builds on previous reports with updated data and comparisons to illustrate key points. It includes an executive summary on the next page which succinctly summarizes each section and the detailed information outlined in the report.

Throughout the report I refer to call members. These are members of the fire department who are Scarborough residents that respond at a moment's notice from home or work when needed, and are paid only when on emergency calls or authorized training. Per-diem firefighters are part-time employees who work assigned duty shifts at a particular station on a more consistent basis.

As you read the report please remember that the fire department is an emergency service department that operates seven days-per-week, twenty-four-hours a day. From weekdays to weekends and holidays, there is never a time, when personnel are not present, on-duty, and available to respond to calls for service. This dynamic is why it requires four (4) full-time personnel to fill one position in the staffing complement to cover that shift 24/7.

An important distinction of this report is that these challenges are not new or are they unique to the Scarborough Fire Department. Adequate staffing for fire and EMS services has been a subject of planning as far back as 1959. The dwindling availability of volunteer and on-call staffing is a local and national trend facing most fire departments in the country. The Scarborough Fire Department, with the support of citizens and elected officials have worked to address them proactively for many years.

I appreciate the opportunity to refresh and update the data in this analysis so that we can get back on track with a proactive, incremental staffing plan that address our current challenges and positions us to meet the fire and EMS needs of our community as it continues to grow at a rate unlike any other community in the State of Maine.

EXECUTIVE SUMMARY

The Scarborough Fire Department continues to be at a transitional point in its evolution. Starting in the early 1900s and for over 70 years volunteer firefighters made up of members from all sections of town were able to meet the fire suppression and emergency medical needs of what was then a small and mostly rural community. By the 1980s the community began to grow at a rapid pace as did calls for service while at the same time call firefighters were starting to become harder to recruit, and less able to meet the growing demands. Our predecessors formed a per-diem day firefighter program which for the next 30 years helped take the day time burden off the call companies while guaranteeing a minimum and timely response to emergencies with a skeleton crew of part-time, paid, per-diem personnel on duty during the day when most call members were at their full time jobs, many outside of the community.

The department remains at a crossroads facing a number of challenges that are going to require long-range planning and an increase in staffing to make sure that our organization is able to continue to meet the challenges a growing community presents. We are confident that with some modification our combination system of full-time, per-diem, and call members will continue to provide a very cost effective, professional, and efficient emergency response system that will serve this community well into the future.

HISTORICAL REVIEW

This report chronicles the formation of the department in the 1930's, the formation of the Scarborough Rescue Unit on 10/13/1951, and the change from an association to a true municipal department operating under Town Charter and Administrative Code in 1982. It includes a chart outlining various milestones in the department including the hiring of the first full time Fire Chief and rescue personnel, and the implementation of the per-diem Day Firefighter Program in 1989 along with the associated calls for service at that time.

CALLS FOR SERVICE ANALYSIS

The most accurate measure of the growth in our community and the demand on the department is in our calls for service volume. The plan includes a graph indicating past experience as well as projections over the next 10 years based on a historical 4.0% average annual increase as actually experienced over the previous 25 years.

COMPARISON WITH SIMILAR DEPARTMENTS

One of the most telling sections of the report is a comparative illustration of similar communities with varying populations, community valuation to protect, calls for service data, and the number of full time personnel each community employs to meet those demands. This data clearly shows that Scarborough is close to the average in terms of population and calls for service however, we employ significantly less full time personnel while operating out of twice as many stations and protecting the second highest total property valuation in the cohort group.

STAFFING PLAN DETAILS

The final section of the plan lays out a detailed annual implementation plan over the next five fiscal years. That plan includes a 3-tiered staffing model at our neighborhood stations based on operational needs, response time, and the apparatus that needs to be staffed.

SUMMARY

The Scarborough Fire Department has and will continue to provide top quality service to the citizens of Scarborough. This staffing proposal is intended to educate the policy makers as to the needs of the department so that we can continue to be proactive rather than reactive when staffing becomes a crisis.

INTRODUCTION

The specific purpose of this revision is to accomplish the following objectives:

1. Compare the current make-up of available staffing for the Scarborough Fire Department with a cohort of fire departments in Maine and New Hampshire with similar call volumes and demographics.
2. Identify established industry benchmarks or standards for adequate fire and EMS staffing levels.
3. Develop updated recommendations to meet adequate fire and EMS service staffing levels based on current information such as; population, service demand, community growth, etc.

The following report is divided into four sections. It will start by providing a historical review of the department and summarize how we have changed and adapted to meet the many changes in our town so we could maintain the high quality service our citizens have come to expect and deserve. It will identify challenges in our current program and identify long term staffing needs and solutions to meet those challenges. On page 11 it provides a comparative look at how other communities of similar demographics and demands for service meet their fire protection and EMS needs. It also includes a five-year plan for additional staffing to meet current and future challenges in a thoughtful and cost effective manner while understanding and acknowledging the fiscal constraints and property tax burden facing our citizens.

The Scarborough Fire Department, and community, have benefitted from a proactive approach in identifying needs and making organizational changes to meet emergency service demands. The Town of Scarborough has gone through many changes including unprecedented growth in both commercial and residential housing projects over the past 25 years. The result of this growth, along with societal changes, has caused an exponential increase in calls for service. These trends are not only going to continue, but will be exacerbated by future development, including the newly approved Scarborough Down's project and the incredible growth forecast over the next twenty years.

We feel it is critical to continue to plan for the future and make the Town Manager and Town Council aware of our future needs with the goal of being proactive rather than reactive as many other communities find themselves. As I interact and work with my peers on regional solutions and initiatives I hear many examples of department's struggling with insufficient manpower and apparatus that doesn't respond or is severely delayed. Many departments are in or near crisis and have to activate multiple stations and towns just to make sure someone answers the call.

HISTORICAL REVIEW

The modern-day Scarborough Fire Department started as a number of separate departments that organized individually in the various neighborhoods of the day in the 1930's. During this time there was a President of the Scarborough Fireman's Association, the Chairman of the Board of Selectman served as the Fire Chief, and each district had their own Chief or Deputy Chief.

1948 brought the first significant organizational change to the department. Ralph Bennett was named the first call Chief of the department and each neighborhood district had a call Captain to run the company. At this time there were 7 districts because Engine 1 at Black Point and Engine 2 at Prouts Neck had not yet merged. This merger took place in the mid 1960's.

On October 13, 1951 the Scarborough Rescue was formally recognized as a company of the Scarborough Fire Department and was designated as Engine 8. In 1952 Henry Gould took over as the part

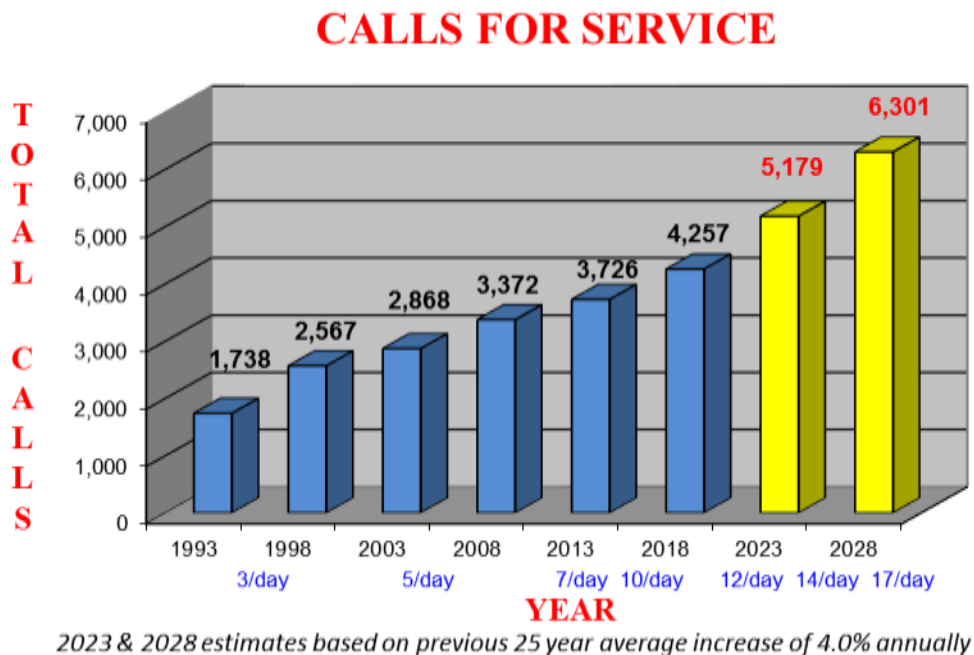
time Fire Chief, a position he held for the next 20 years. In 1973 Eldred Harmon was appointed as the first full time Chief of the Scarborough Fire Department.

The next significant organizational change occurred on March 24, 1982 when the department changed from a volunteer association into a municipal department serving under the full time Fire Chief. The old bylaws were gone and the department operated under a new structure as outlined in the Town's charter and administrative code.

DEPARTMENT STAFFING MILESTONES

Appendix 4 contains a chart that illustrates the various milestones in the history of the department including a measure of the demand for service at that time. That summary clearly illustrates that the department has grown proactively and relatively slowly while the demand for service continues to climb significantly. As emergency medical calls continued to grow due to our aging population and the addition of numerous health care and assisted living facilities, the community understood the need, and supported a multi-year plan, to staff a second ambulance in Dunstan. My predecessor, Chief Carson, developed a very cost effective solution to the department's day staffing problems. He started the Day Firefighter program in 1989 and over a period of years he worked with the Town Manager and previous Town Councils to phase in minimum coverage by staffing the stations with enough per-diem on-duty personnel to assure the front-line apparatus responds during the day to augment the call company members that were available to respond.

The chart below graphically illustrates the demand on our department as represented by total calls for service. The numbers represented by the blue bars are the actual total fire and rescue emergency calls for the years noted. The yellow bars represent the projected calls for service volumes over the next 10 years based upon an average annual increase of 4.0% which was the actual average increase over the past 25 fiscal years. As you can see, last year we averaged over 11 calls/day. Ten years from now, in 2028, we estimate the demand will be approximately 17 calls/day. That volume will undoubtedly become impossible to maintain without additional staffing.



These staffing concerns aren't anything new. A "Joint Fire Protection Program Study by the Scarborough Fire Department, Scarborough Planning Board, and Greater Portland Regional Planning Commission" was included in the 1959 Town of Scarborough Annual Report. It identified the exact same issues of insufficient call members available during the day and growing demands for service facing our department 60 years ago. The report stated *"...It has been more and more difficult during the past few years to find men who are both willing and able to volunteer for service with the fire companies. This is especially true at Dunstan and at Oak Hill, where the large number of alarms in comparison with the number in less populated areas makes considerable demands on the time of every fireman. Furthermore, because of the transformation of Scarborough into a suburban town, the number of younger men employed regularly near their homes has decreased. The time is not far distant – the general estimate is from 3 to 5 years – when the Town will need paid crews, at least at the main stations to maintain an efficient fire-fighting force..."*

CHALLENGES

As we pause and look toward the future there are a number of challenges that the department must face including:

- Rapid increases in annual calls for service (averaging 4.0% over the past 25-years).
- Fewer citizens able and willing to become call members.
- The need to expand coverage in the stations beyond the current schedule of the Per-diem Firefighter program.
- Meeting the national response standards due to the size of, and geographical obstacles, within our community.
- The continuation of rapid residential growth including hundreds of multi-tenant housing units proposed, already approved, or under construction.
- Commercial growth town-wide including the growth of assisted living, nursing homes and other health care related facilities that are driving much of the increase in EMS calls.
- In addition to the normal growth pressures our community has experienced historically, the Scarborough Downs project alone is forecast to significantly increase population, housing units, and commercial/industrial growth over the next twenty years.

Calls for Service Increases

Calls for service are one of the best indicators of the actual demands placed on the public safety departments and they are primarily driven by population growth and commercial development. The Scarborough Economic Development Corporation (SEDCO) recently provided a snapshot of data that helps illustrate these changes over the past 35+ years as illustrated in the chart below:

Historical Demographic Changes		
	Where we were in 1980	Where we are in 2018
Town Valuation	250 Million	3.8 Billion
Population	7,000	20,023
Number of Businesses	400	1,300
School Enrollment	2,425	2,948
Fire Dept. Calls for Service	1,048	4,257
Fire Dept. Call Members	318	87

Source: SEDCO report & Fire Department data

It is clearly evident that with these types of changes in our community we can't expect to continue to do business as normal. We need to ask ourselves what will these same statistics look like in another 10-20 years and will we be positioned to manage the geometric progression of all these factors and be able to deliver the level of service not only required by national standards, but expected by the citizens of our community?

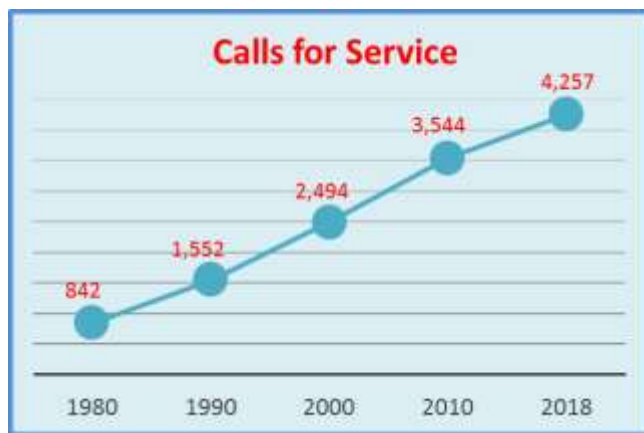
Fewer Call Members

Scarborough is not unique in having a shortage of citizens volunteering to participate as call members. This is a nationwide problem and is driven by many factors. While some may not want to admit it, Scarborough is becoming a suburban community of upper middle class professionals. Many young families that live here require both bread winners work to be able to pay for housing and the cost of living in a desirable community like Scarborough leaving precious little time for the fire department.

Our department is quickly aging. Of the current 178 full-time, per-diem, and call company employees, the average member's age is 39. This is a young person's job and maintaining a viable, active, and properly trained call force continues to be one of our most significant challenges as it was in the 1959 report. The call force is, and will continue to be, a very viable and integral part of our organization. We need to continue to work towards a system that welcomes their tradition, participation, expertise and provides the support necessary to assure the continuation of an active call force for as long as possible.

The work and dedication of the call force and the implementation of the per-diem firefighter program are what have kept the Scarborough Fire Department's current operations as cost effective as they are. We have designed this proposal with the intent that the call force will continue to be a critical component of our emergency services delivery system. The only way to avoid a completely full-time staffed department in the short term is to build a support system for the call members so they are trained and available to respond to the serious calls that require additional manpower, while employing a small support staff of full-time and per-diem members to assure the less labor intensive calls are quickly and efficiently handled. 30 years ago some companies were only answering 100-200 calls/year. During those days when the commitment was to respond to a call or two a week the call force had no problem meeting the need. Now we have call companies that are responding to close to 1,000 calls per year. That volume of calls exceeds the commitment that virtually any call member could possibly give to an organization and it is why we need to continue the transition to gradually hire more full-time staff to augment the call companies so they will continue to thrive and provide the service they have for over 100 years.

The charts below clearly illustrate the scope of this challenge. Over the same period of time as the SEDCO report referenced above, calls for service have rapidly risen, while during that same period of time the total number of call members available to meet those demands has fallen dramatically.

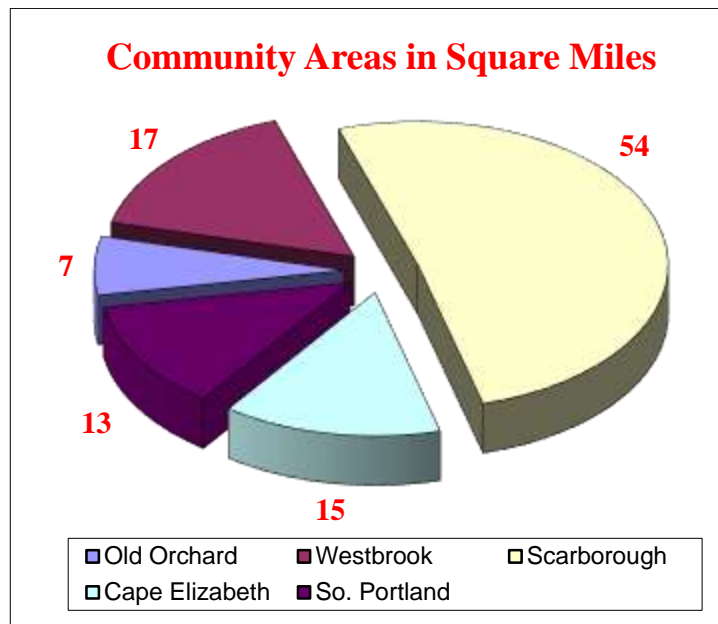


Status of the Per-Diem Firefighter Program

The Per-Diem Firefighter program has been a very successful and cost effective tool to help our call members and postpone the inevitable transition to a fully career department. It has provided a bare minimum number of responders to get the trucks out during the day when the majority of our call members are at their full time jobs and unavailable. Currently the program provides shift staffing on our front-line fire apparatus primarily during the daytime hours when most of our call members are unable to respond due to their own work commitments. Over the past 30 years it has been a tremendous success, but it is very clear that this program has grown to the extent that its efficiency is less than optimal. In 1989 when it started we were one of the only departments around that were employing and scheduling per-diem staff shifts. Now virtually every one of our mutual aid communities, and dozens within southern Maine have copied our program which has caused a shortage of qualified individuals able, qualified, and available to work those shifts. Additionally, with 15 per-diem shifts/day to fill the scheduling, hiring, and oversight of this massive program is challenging at best. Because these are part time shifts, there is less loyalty than a full time career shift. We often find it very difficult to fill shifts on weekends, holidays, or during the summer vacation seasons. Although successful for many years, it is now time to focus on expanding our full time career staffing to assure the Scarborough Fire Department is their primary job and focus.

Meeting National Response Standards

One of the other challenges the Scarborough Fire Department faces is meeting national response standards. Fortunately our forefather's recognized that due to the geographical size of the community (you can fit four of our neighboring communities Old Orchard, Westbrook, South Portland, and Cape Elizabeth within our borders), and the inability to get from one side of town to the other due to our expansive marsh and river system, that we needed a system of neighborhood fire stations to timely and effectively serve each section of the community. The infrastructure we currently have in place is well suited for meeting future demands with the exception of the upper Broadturn Road/Scarborough Corner area. We continue to work with the Town of Buxton and have automatic mutual aid agreements with them as well as all our other neighbors for assistance as needed.



One of the questions that we analyzed as we prepared this document was whether it was possible to close or not man certain stations to make this plan more economical. The conclusion was that we could not. The National Fire Protection Association (NFPA) 1710 - Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments is a national standard that establishes best practices for career fire departments. One of 1710's key provisions is to assure four firefighters (on one vehicle or multiple vehicles) arrive at a fire scene within five minutes (including one minute to don their protective equipment). Meeting that standard would be impossible to do based on travel time alone due to Scarborough's overall size and lack of connecting infrastructure if we closed stations.

NFPA 1710 also recognizes that it takes significant human resources to safely and effectively extinguish a structure fire. The standard requires a minimum of 15 firefighters arrive at a full alarm assignment within nine minutes, 90% of the time. This is just the absolute minimal initial crew needed to commence operations, additional personnel are required to supplement this crew as the operation continues. Meeting these standards with diminishing call membership, particularly at night when per-diem staffing is at a minimum, is becoming a significant challenge.

NFPA 1710 Standard Requires
15 Firefighters arrive at a Full Alarm Assignment
within 9 minutes, 90% of the time

1 - Incident Commander	1 - Fire fighter for backup line support
1 - Pump operator	2 - Fire fighters for search and rescue
2 - Fire fighters on attack lines	2 - Fire fighters for ventilation
2 - Fire fighters on backup lines	2 - Fire fighters to serve as IRIC
1 - Fire fighter for attack line support	1 - Aerial device operator

Minimum Total of 15 Personnel Required
upon initial arrival to safely begin suppression operations

Per NFPA 1410 - Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments

Current response statistics are included in Appendix 3.

Closing stations would also negatively affect our excellent Insurance Services Office (ISO) Class 3 rating because we are barely meeting minimum requirements now. A downgrade of that rating has significant consequences on both residential and commercial fire insurance premiums. Additionally we have developed a very effective emergency medical system where trained responders in the outlying stations provide critical EMS first responder services until the rescue unit can arrive. That level of service would also be compromised by closing the neighborhood fire stations.

Residential and Commercial Growth

There isn't anyone that has lived in the Town of Scarborough for the past 25 years that can't relate to the rapid commercial and residential growth. That growth affects every service the town offers from the need for additional classroom space, to the additional miles of roads that need plowing, and the additional patrol officers required by the police department. The fire department is not immune from those needs. During the analysis of need for a new Public Safety facility, SEDCO recently provided population projections over 20 years from 2015 to 2035 by looking at various available governmental sources as well as our own historical local building permit data which is likely to inform a more accurate projection. Their report is included in Appendix 5. That analysis includes the multiple large new multi-family residential developments already approved by the planning board, and in some cases already under construction.

In addition to that population growth we need to deal with the influx of thousands of employees and shoppers at the 1,300 existing businesses and commercial facilities in town. One segment of that business growth includes the various health care facilities, nursing homes, and assisted living facilities within town. These facilities provide excellent and needed services to the citizens of Scarborough as well as good paying jobs, but as you can see by the table below these types of facilities also place a particular demand on public safety by contributing to a significant number of fire/EMS calls for service each year.

Historical FY Calls for Service Data From Select Health Care Facilities										
Facility	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Maine Health*	89	107	91	102	115	151	263	149	197	253
Piper Shores	89	94	111	138	143	120	115	135	155	149
Bellavita / Atria							10	64	83	144
Maine Veteran's Home	28	30	32	28	41	57	67	58	86	100
Pine Point Nursing Care	121	81	102	102	80	83	89	82	82	92
Scarborough Terrace	69	65	51	44	77	36	68	45	55	38
Totals	396	377	387	414	456	447	612	533	658	776

* Maine Health includes multiple addresses including the research, surgical, primary care, & cancer centers

One major driver of growth in our community over the next 20 years will be the Scarborough Downs project. As the Town Council is well aware, Phase 1 has already been approved and is under construction. The projections developed during the CEA and TIF discussions are staggering in terms of community impacts to population, housing, commercial development, and additional traffic (see table below). Fortunately the Town did its homework and identified the projected costs to service that additional growth. Those new costs were deducted from the CEA agreement with the developers so resources would be available to invest in public safety and other municipal and school department costs that are necessary to meet the growth from this one new development project alone, in addition to the normal growth pressures our community experiences annually.

Forecasted Growth From Scarborough Downs Development Alone				
	Currently 2018	Downs Buildout	New Total by 2038	% of Town
Population	20,023	3,634	23,657	15%
Housing Units	8,508	1,986	10,494	19%
Commercial/Industrial SF	7,632,796	1,931,500	9,564,296	20%

Source: The Downs presentation to the Town Council 10/3/18

All of this growth equates to more calls for fire and EMS service and increased demands for all municipal departments. It is unrealistic to think that we can handle all this change with the status quo of the call company system we are currently operating under. We must accept the changes that are already here and are on the horizon, and start preparing now so we continue to provide the services our citizens expect and deserve.

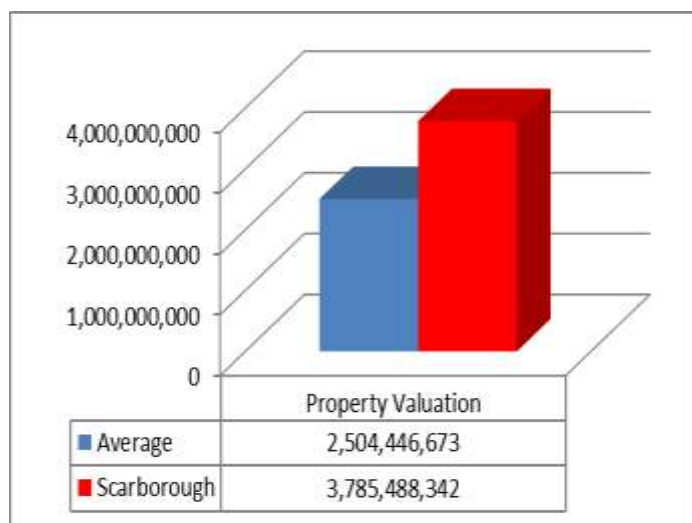
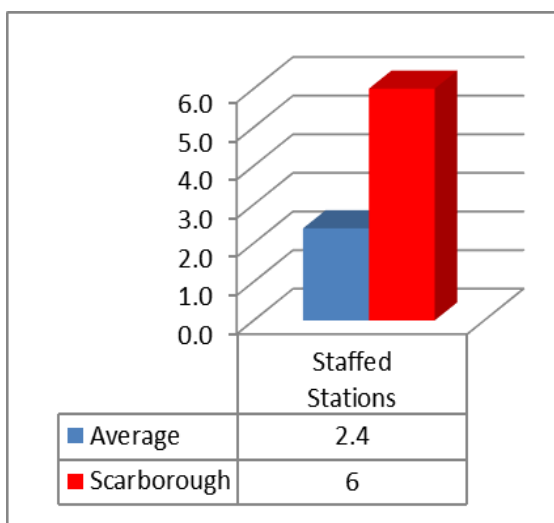
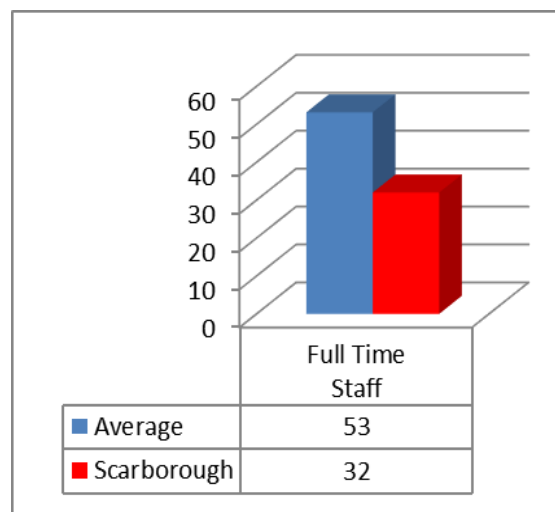
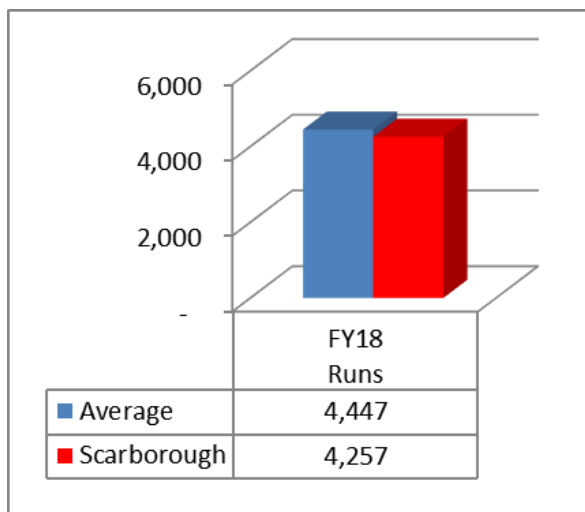
COMPARISON WITH SIMILAR DEPARTMENTS

As we worked to develop a long range plan for the future we thought it would be helpful to see how other cohort departments are structured in communities with similar demographics and populations.

Town/City	2018 Population US Census data	Total Community Property Valuation	FY 2018 Total Calls for Service	Has a Per- Diem Program	Has a Call Force	Total Stations	Staffed Stations	Total FT Staffing (inc. Chiefs)
Westbrook	18,730	1,881,615,300	4,098	Yes	Yes	2	2	44
Augusta	19,136	1,769,273,400	6,430	No	No	5	3	48
Saco	19,485	2,280,978,210	3,651	No	Yes	3	1	37
Scarborough	20,023	3,785,488,342	4,257	Yes	Yes	6	6	32
Brunswick	20,645	2,192,780,400	4,652	No	No	2	2	35
Sanford	20,893	1,324,199,290	3,566	No	Yes	3	2	47
Biddeford	21,282	2,333,094,700	5,395	No	Yes	2	1	45
Portsmouth, NH	21,796	5,468,915,808	4,904	No	No	3	3	65
Auburn	23,052	2,003,206,026	4,695	No	No	3	3	68
Keene, NH	23,406	1,827,082,043	4,816	No	Yes	2	2	47
South Portland	25,483	3,480,000,000	4,625	No	Yes	5	3	71
Rochester, NH	29,752	2,824,430,114	2,997	No	Yes	2	2	40
Dover, NH	31,398	3,150,231,460	5,829	No	No	3	3	69
Lewiston	36,140	2,022,000,000	2,148	No	No	4	4	79

Source direct from individual communities / departments & US Census Bureau. Sorted by population

As the chart above and the graphics developed from that data below help to illustrate, Scarborough is in the mid-range in population with this comparative group of cohort communities. Our call for service run volume is also very close to the average as you might expect since that is primarily driven by population. The data also clearly illustrates that our full time staffing is significantly (40%) lower than the average while we are responsible for staffing more than double the average number of stations due to our geographic size, all while protecting the second highest property valuation in the cohort study group.



These comparative statistics yield two conclusions. First, it is very evident that the combination of our dedicated call force and the proactive institution of the Per-Diem Day Firefighter program have historically been able to keep up with the increasing demands while saving the town millions of dollars over the years. This is particularly telling when you recall that Scarborough is geographically larger than any of the other communities in the study group, and must respond from six stations to meet insurance and Federal response standards. Second, it is very clear that we cannot continue to provide the same level of service without a plan for the future that includes the gradual implementation of more full time firefighter/EMT's.

STAFFING PLAN DETAILS

The Scarborough Fire Department remains at nearly the same crossroads we identified with the first draft of this report in 2006. At that time our goal was to add one full-time firefighter/EMT position 24/7 annually to meet the steadily growing demands. That 24/7 coverage requires adding four new personnel each year. Unfortunately the economic recession that took place shortly after we published the initial plan, and the more recent drastic cuts in revenue from the State to support education has prevented the town from fully implementing those original recommendations. There were seven fiscal years when no new staffing was added and several other years when the plan was only able to be partially implemented.

Our aging call force, a national trend of fewer recruits, and most importantly the growth in population, development, and calls for service all point toward the need for a long term staffing strategy. We feel strongly that sticking to a reasonable, proactive, incremental plan will position the department to serve the emergency response needs of the community well into the future.

To be successful our plan of action must include meeting the following objectives:

- Harnessing the value of additional full-time firefighter/EMTs.
- Establish a tiered staffing plan to efficiently meet the needs of our community.
- Possible expansion of EMS service as a regional joint venture with neighboring communities.
- Working with our mutual aid neighbors on additional mutually beneficial joint efforts including sharing per-diem staff.

Harnessing the Value of Additional of Full-time Staff

As we have documented in detail above, Scarborough is significantly understaffed in terms of full-time personnel when compared with similar communities. Although the per-diem program has and continues to work well there are many benefits to increasing full-time staff. Full-time personnel are more loyal and committed to our department since we are their primary employer; they are much easier to schedule and more reliable; they are better trained and more familiar with our policies, procedures, and the intricacies of our community. Full-time staff provides stability within the department with seasoned personnel that work well together and are known and recognized by the citizens we serve.

The per-diem program has grown to the point that it is becoming more difficult to manage. When it was started 30 years ago we were the only ones with a program. Now it has been copied by so many other departments that finding qualified candidates is difficult, and many of our per-diem employees are working for multiple departments (sometimes in excess of 60+ hours/week) which creates safety and worker's compensation insurance concern.

With the new provision of the Affordable Care Act (ACA otherwise known as Obamacare) which requires the payment of health insurance benefits to part-time employees who work an average of 30 hours/week, the cost differential between a full-time and part-time position is getting smaller and smaller. There has also been a recent ruling by the Maine Labor Relations Board granting part-time, per-diem firefighters the right to unionize and collective bargain in a neighboring community. These changes increase the cost of hiring part-time personnel and help make the case that the benefits of a full-time employee outweighs what is becoming a smaller savings in cost by employing per-diem personnel.

Tiered Staffing Plan

Our tiered staffing plan recognizes that although our town is geographically very large, we can provide a reasonable level of service and protection by varying staffing levels at certain stations based on the apparatus housed there, and the response time from other stations to that district when additional resources are required. Our goal is to provide immediate first response capabilities for the very time sensitive, serious, emergency medical calls to every neighborhood and citizen town-wide as the first priority. Then to recognize that our volume of working structure fires and multiple simultaneous calls for services can be handled with less total staff and potentially longer response times at this point in the department's evolution.

This plan envisions three tiers of stations:

- Tier 1 stations - these are our primary and busiest stations located at Oak Hill and Dunstan on Route 1. These stations respond to all working fires town-wide, and they house our staffed ambulances. On-duty responders from these stations will augment the limited crews in tier 2 & 3 stations for calls within those districts.
- Tier 2 stations – these are our mid-level districts, both of which have special challenges that require a certain minimum amount of staffing. Black Point station which houses Ladder 2, and North Scarborough station which covers our rural water supply area where extra manpower and more labor intensive tactics are required. These stations employ a combination of full and per diem staffing for cost effectiveness.
- Tier 3 stations – These stations are located at our Pleasant Hill and Pine Point districts where we only have one primary front-line apparatus. Response to these districts can be relatively quickly augmented with staffing from one of the tier 1 stations as necessary. On-duty staffing will be limited to one per diem 24/7, primarily for rapid EMS response and cost effectiveness. These stations will be heavily dependent on call and student live-in members.

At this point in the department's evolution we feel this tiered staffing plan is a reasonable solution that should meet the needs of the community for a period of time exclusive of some of the other challenges and potential opportunities described in the subsections below. Appendix 1 illustrates the current and proposed staffing number and types of personnel over the next five years. The tier 1 stations will be staffed primarily with career personnel who will also be responsible for responding to the two tier 3 stations as necessary to augment their crews. The tier 2 and 3 stations will be staffed exclusively by per diem personnel during this next five year phase of the plan. It should be noted that the tier 3 station at Pine Point houses multiple ancillary units including a brush/tank truck and two marine rescue units so we have planned for an additional daytime per-diem shift at that station in year 5 of the plan. Appendix 2 shows the details of the staffing implementation plan changes in each fiscal year.

Fire Inspector, Fire Prevention, Safety, Compliance & Training Officer

The Scarborough Fire Department has long been known as a very proactive department when it comes to fire prevention efforts. In 2013, after the retirement of two key part-time fire inspectors, we worked with the Planning Director to hire and share a full time Commercial Code Enforcement Officer who also serves as the department's Fire Inspector. This new position has worked extremely well and in fact the Town has received awards for this initiative which has streamlined the permitting, life safety, and fire prevention plans review and inspection processes for applicants helping us meet one of our long-term goals to be more business friendly and efficient. This shared position worked so well that it was deemed worthy of continuation, but it is clear that the sheer volume of work is more than one person can share. In FY 2019 the existing position that was originally carried in the Planning/Code Enforcement budget was transferred to the Fire Department, and a new Code Enforcement officer position was added in the Planning Department.

A similar situation exists for the safety, compliance, and training officer's position. Our department routinely attends over 12,000 hours of qualified training. Organizing, meeting federal state and local requirements, and maintaining that system is currently a full-time job that is being accomplished by a dedicated part-time call company deputy chief. We also have a call member serving as our Safety & Compliance officer to assure our policies meet best practices, our health and wellness program is effective, and that we meet the various federal and state compliance directives. After emergency response, the safety and training our personnel is the most important thing we do. We need to plan for a full-time safety, compliance, and training officer at some point during the next few years to continue to meet this critical need.

Mutual Aid Regional Opportunities

The Town of Scarborough isn't growing in a vacuum. Most if not all of our mutual aid neighboring communities are also facing similar issues. Those issues also create opportunities. Approximately 30 years ago Scarborough and Gorham entered into an agreement to house a Gorham tank truck in our station and have the call company at that station draw members and respond to both communities without regard for the geographical boundaries. This agreement has served both communities very well and it is just one example of how fire departments have been true leaders in regionalization. As all of our communities continue to grow we feel that will produce other opportunities to explore regional solutions.

One of those current discussions includes placing another rescue in service from our North Scarborough station at some point in the future in a joint regional program potentially serving the expanding EMS demands of Gorham, Westbrook, South Portland and Scarborough. We have also had conversations with Saco regarding the rapid expansion they have been seeing along Route 1 towards Scarborough. They recently built a new station that is further away from our shared town line and we have had preliminary discussions to look at alternatives like we are currently undertaking in North Scarborough to serve that area of East and North Saco and West Scarborough.

For some time we have known that as growth continues in the upper Broadturn Road and West Scarborough areas that we may need to look at adding a station. Buxton currently has a relatively new station and good equipment just over the town line on Portland Road and we already have automatic aid agreements with them which can be expanded to more formal agreements as necessary rather than investing in a new station and additional apparatus. Similar discussions have also taken place with Old Orchard and South Portland.

The point to keep in context is that the Scarborough Fire Department has a long history of success in regional, cost effective solutions, and we will strive to continue to be a leader in this regard when there are opportunities that are economically beneficial for both communities, or as a cost effective and tactically sound method to meet increased demands. That being said, the staffing plan that we are proposing is designed to help assure we meet the essential emergency response needs within our own community as our first priority. Any of the regional agreements with mutual aid neighbors that we are able to bring to fruition in the future will augment the base capability proposed in this plan and be mutual beneficial to both communities.

Caution

One caution we would offer is that this plan is purposely as conservative and measured as we can make it while meeting the needs of the community. It is based on the assumption that our call force will be able to continue to provide the majority of the coverage required in the evening and night time hours for the next several years. Although we are hopeful that will be the case, we must acknowledge the reality that as population and calls for service demands continue to increase it will become much more difficult. If we aren't successful in meeting that goal in some companies we may need to escalate the implementation of some items earlier in the plan than currently anticipated.

Q & A

In this section we attempt to summarize, in a brief Q & A format, a number of points which are outlined in greater detail in other sections of the report.

? **What is driving the need to make this investment now?**

Since 1980 call membership has fallen by 73% while over the same period the volume of calls for service has increased by over 400%. The average number of call members responding to an incident is now less than 3 and less than 10 for actual structure fires.

? **What is the status of the six neighborhood call companies?**

We are fortunate to have a small core group of well-trained, seasoned, call members that provide a valuable service, but the number of them available is no longer able to sustain the department's growing needs without the support of additional full-time and per-diem personnel.

? **How has growth impacted calls for service and the need for additional staffing?**

Over the past 25 years the increase in call volume has been 4% annually. Applying that same rate of growth, the calls for service will increase by 48% in 10 years to over 6,300 calls annually.

? **Is the Scarborough Downs project included in the calls for service estimates above?**

No, that projection only looks at town-wide historical growth. The approved Scarborough Downs project will increase the town's population by 15% or 3,634 people; increase housing units by 19% or 1,986 units, and add nearly 2,000,000 sf. of commercial/industrial space over the next 20 years.

? **How many firefighters are required at a structure fire to meet national standards?**

NFPA 1710 requires a minimum of 15 personnel to start fire suppression operations. Remember that we are currently responding to an average of over 10 calls/day, many of which are concurrent EMS calls that pull many of our full-time personnel out of town to the hospital for more than an hour/call. This reduces the available staffing below that minimum requirement.

? **How does our department compare with similar cohort departments?**

Our call for service run volume is very close to the average. Our full time staffing is 40% lower than the average, while we are responsible for staffing more than double the average number of stations due to our geographic size, all while protecting the second highest property valuation in the cohort study group.

? **Is closing stations an option to reduce staffing?**

The proposed plan maintains all current stations and apparatus which ensures residents in each neighborhood in town receive a base level of high quality first response, specifically targeted towards time sensitive serious medical calls. This plan also maintains our excellent ISO 3 rating.

? **How do EMS billing revenues support the Fire Department operating budget?**

Each taxpayer in Scarborough supports a portion of the fire department's cost through taxes, but in the 80's we started billing patient's insurance for the cost of providing EMS service. That way those that use the system (particularly those that aren't local taxpayers) also contribute towards the costs. In FY20 we project increased revenues of \$250,000 over last year which results in a net budget reduction of \$9,965 or -0.19%.

? **How have fires changed from legacy to modern construction?**

Historically homes and furnishings were made of natural woods and fibers referred to as legacy construction and materials. Fires in those homes took longer to grow and produced much lower heat than modern construction which is full of plastics and petroleum products that burn much hotter & faster, creating untenable and unsafe conditions for residents & firefighters much sooner.

? **Is there an alternative to hiring four new personnel per year?**

Yes, a mid-year implementation followed by simply picking up the additional full-year cost of those positions in year 2 will accomplish the same goal over 2 fiscal years.

? **When does this staffing plan end?**

As proposed, at the conclusion of year 5 of the plan we will have added sufficient personnel to implement the 3-tierd station staffing solution described. This concentrates full-time personnel at the two busiest Route 1 stations, a mid-level of staffing at the tier-2 stations in No. Scarborough and Black Point, and a minimum level of staffing, primarily for rapid EMS response, at Pleasant Hill and Pine Point stations.

? **Why is FY20's plan so critical to implement?**

With a new public safety building coming on line in the spring of 2020, we now have the opportunity to house more of our on-duty personnel in the district where the majority of our calls originate. To be more efficient and effective our plan calls for re-locating some of our current staff from other stations to the new facility along with our third ambulance to reduce response times. The key need in FY20 is to create a new supervisor's position at the rank of lieutenant to provide effective management for the on-duty crews and new students that we will now be able to house in our busiest station.

SUMMARY

This analysis of current and future staffing issues was developed to provide a framework for discussion. The hiring of full-time employees is never easy or popular, but this must be balanced with our community's ever increasing need for a well-trained, efficient, and effective fire and EMS department ready to meet the needs of the community. The projections clearly show that we can't stand still and expect to be successful with the anticipated population and dramatic calls for service increases looming on the horizon. We remain at a crossroads and this will be the continuation of a process that will evolve over many years to add full time staff at our stations to augment the outstanding dedication and commitment of our call companies.

We have provided a historical review of where we came from and what has been accomplished to meet the current needs of the citizens of Scarborough. We illustrated that when compared to other similar communities our department is providing an excellent level of service with significantly less full-time personnel than almost all of the other towns or cities in the cohort group. The per-diem program which started in 1989 is extremely cost effective and was the first of its kind anywhere in the state. It is a program that has worked well and has been widely copied by numerous departments. We are very proud of that fact and of the employees that make it work and provide the service to our citizens on a daily basis.





Our current combination system of full-time, per-diem, and call personnel has saved the Town of Scarborough millions of dollars over the years. This has been accomplished by being creative and proactive in our approach to using per-diem employees alongside our dedicated call members to fill in coverage gaps as needed. The combination approach we have outlined in this report will continue to work and save taxpayer money for the foreseeable future, but it will require a gradual expansion of full-time personnel to remain successful.

We look forward to the opportunity to discuss these issues with you and work together to implement them with the sole goal of providing an exceptional public safety service to our citizens at a reasonable cost.

APPENDIX 1 TIERED STATION STAFFING PLAN ILLUSTRATIONS

Tier 1 Fire Stations

- Our primary & busiest stations on Route 1 with ambulance service
- These stations respond on all working fires town-wide
- Responders from these stations will augment limited crews in tier 2 & 3 stations for calls in those districts
- Includes a full time officer at each station for supervision of on-duty personnel

		Oak Hill Station		Dunstan Station	
	Position	Current	Proposed	Current	Proposed
	Paramedic	●	●	●	●
	Firefighter/EMT	●	●	●	●
	Operator	●	●	▲	●
	Officer	○	●	●	●
	Crew	○	▲	○	○
	Operator	N/A		●	●
	Officer			○	○
	Crew			○	○
	Operator	▲	●	N/A	
	Officer	○	●		
	Crew	○	●		

-  24/7 Full Time Employee
  24/7 Per Diem Employee
  Position not covered by any on-duty staff
  12 hr. Per Diem Day Shift
- Excludes Chiefs, Fire Inspector Duty Officer (Car 7), includes a FT pool position in each station that covers the 1st & 2nd overtime incurred each shift due to sick, vacation, or injury.

Marine units, Command Van & other ancillary apparatus not shown as they are cross-staffed with personnel from that station





Scarborough Fire Department Staffing Plan

5



Tier 2 Fire Stations

- Our mid-level districts both of which have special challenges that require a minimum amount of staffing
 - Black Point station houses Ladder 2
 - North Scarborough station covers our rural water supply area requiring extra manpower

		Black Point Station		No. Scarborough Station	
		Current	Proposed	Current	Proposed
   Gorham Tank 1	Position				
	Operator	▲	●	▲	▲
	Officer	▲	○	●	●
	Crew	○	○	○	○
	Operator	●	●	N/A	
	Officer	○	○		
	Crew	○	○		
	Operator	N/A			
	Officer				
	Crew				

 24/7 Full Time Employee
  24/7 Per Diem Employee
  Position not covered by any on-duty staff
  12 hr. Per Diem Day Shift

Tank 2 is owned by Gorham and staffed through their per diem program.
 Projected staffing assumes Gorham will increase it's share of the coverage at this station



Marine units, Command Van & other ancillary apparatus not shown as they are cross-staffed with personnel from that station

Scarborough Fire Department Staffing Plan

Tier 3 Fire Stations

- These districts both only have one front-line apparatus and can relatively quickly be augmented with staffing from one of the tier 1 or 2 stations
- On-duty staffing is limited to one per-diem 24/7, primarily for rapid EMS response and cost effectiveness with the exception of Pine Point Station which has been up-staffed with an extra per-diem day shift due to the marine rescue units and brush truck that are also housed out of
- These stations are still heavily dependent on call and student live-in members



● 24/7 Full Time Employee ● 24/7 Per Diem Employee ○ Position not covered by any on-duty staff ▲ 12 hr. Per Diem Day Shift



It should be noted that Pine Point station has multiple ancillary units including a brush/tank truck and two marine rescue units so extra staffing during the day at that station has been included in the proposal

Scarborough Fire Department Staffing Plan

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APPENDIX 2

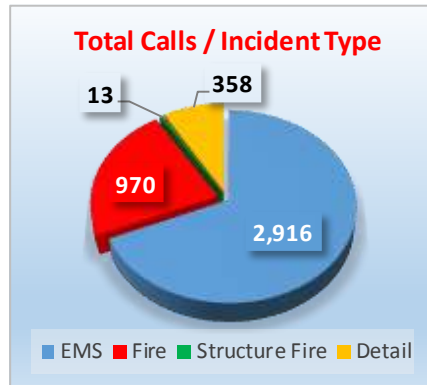
ANNUAL STAFFING IMPLEMENTATION PLAN

Current Staffing	FY 20	FY 21
C7 - Duty Capt. 24/7	C7 - Duty Capt. 24/7	C7 - Duty Capt. 24/7
<u>Black Point Station</u>	<u>Black Point Station</u>	<u>Black Point Station</u>
E1 - Day	E1 - Day	E1 - Day
Swing - Day	L2 - Day	L2 - Day
L2 - Day	L2 - Night	L2 - Night
L2 - Night		
<u>Pleasant Hill Station</u>	<u>Pleasant Hill Station</u>	<u>Pleasant Hill Station</u>
E3 - Day	E3 - Day	E3 - Day
	E3 - Night	E3 - Night
<u>Pine Point Station</u>	<u>Pine Point Station</u>	<u>Pine Point Station</u>
E4 - Day	E4 - Day	E4 - Day
<u>No. Scarborough Station</u>	<u>No. Scarborough Station</u>	<u>No. Scarborough Station</u>
E5 - Day	E5 - Day	E5 - Day
E5 - Day	E5 - Day	E5 - Day
E5 - Night	T1 - 24/7 - Gorham*	T1 - 24/7 - Gorham*
T1 - 12 hr. day - Gorham*		
<u>Dunstan Station</u>	<u>Dunstan Station</u>	<u>Dunstan Station</u>
C8 - Lieutenant 24/7	C8 - Lieutenant 24/7	C8 - Lieutenant 24/7
A2 - Paramedic 24/7	A2 - Paramedic 24/7	A2 - Paramedic 24/7
A2 - FF/EMT 24/7	A2 - FF/EMT 24/7	A2 - FF/EMT 24/7
Pool FF/EMT 24/7 **	E6 - Day	E6 - Day
E6 - Day	L1 - Day	E6 - Night
L1 - Day	L1 - Night	L1 - Day
L1 - Night		L1 - Night
<u>Oak Hill Station</u>	<u>Oak Hill Station</u>	<u>Oak Hill Station</u>
A1 - Paramedic 24/7	C9 - Lieutenant 24/7	C9 - Lieutenant 24/7
A1 - FF/EMT 24/7	A1 - Paramedic 24/7	A1 - Paramedic 24/7
A1 - FF/EMT 24/7	A1 - FF/EMT 24/7	A1 - FF/EMT 24/7
E7 - Day	Pool FF/EMT 24/7 **	Pool FF/EMT 24/7 **
E7 - Night	E7 - Day	E7 - Night
Sq7 - Day	E7 - Night	E7 - Night
	Sq7 - Day	E7 - Day
	Sq7 - Night	Sq7 - Day
	<i>Inc. move to new PSB</i>	Sq7 - Night
Total staffing/shift	Total staffing/shift	Total staffing/shift
18 days (7 FT/11 PD)	18 days (8 FT/10 PD)	19 days (9 FT/10 PD)
11 nights (7 FT/4 PD)	13 nights (8 FT/5 PD)	14 nights (9 FT/5 PD)
Changes Proposed:	Add a FT LT at Oak Hill	Add a FT position on E7
	Move E1 PD swing-SQ7 N	re-allocate 12 hrs. E7 PD
	Gor. 24/7 move E5N-E3N	night to E6 night
notes: Excludes chief, deputies & FI / **pool position covers open shifts vs. Overtime		
Key	FT Personnel 24/7 shifts	Gorham funded T1 shifts
	Per-Diem Day Shift	Per-Diem Night Shift

FY 22	FY 23	FY 24
C7 - Duty Capt. 24/7	C7 - Duty Capt. 24/7	C7 - Duty Capt. 24/7
<u>Black Point Station</u>	<u>Black Point Station</u>	<u>Black Point Station</u>
E1 - Day	E1 - Day	E1 - Day
L2 - Day	L2 - Day	E1 - Night
L2 - Night	L2 - Night	L2 - Day
		L2 - Night
<u>Pleasant Hill Station</u>	<u>Pleasant Hill Station</u>	<u>Pleasant Hill Station</u>
E3 - Day	E3 - Day	E3 - Day
E3 - Night	E3 - Night	E3 - Night
<u>Pine Point Station</u>	<u>Pine Point Station</u>	<u>Pine Point Station</u>
E4 - Day	E4 - Day	E4 - Day
E4 - Night	E4 - Night	E4 - Day
		E4 - Night
<u>No. Scarborough Station</u>	<u>No. Scarborough Station</u>	<u>No. Scarborough Station</u>
E5 - Day	E5 - Day	E5 - Day
E5 - Day	E5 - Day	E5 - Day
T1 -24/7 - Gorham*	T1 -24/7 - Gorham*	T1 -24/7 - Gorham*
<u>Dunstan Station</u>	<u>Dunstan Station</u>	<u>Dunstan Station</u>
C8 - Lieutenant 24/7	C8 - Lieutenant 24/7	C8 - Lieutenant 24/7
A2 - Paramedic 24/7	A2 - Paramedic 24/7	A2 - Paramedic 24/7
A2 - FF/EMT 24/7	A2 - FF/EMT 24/7	A2 - FF/EMT 24/7
L1 - FF/EMT 24/7	L1 - FF/EMT 24/7	L1 - FF/EMT 24/7
E6 - Day	E6 - Day	E6 - FF/EMT 24/7
Swing - Day	Swing - Day	Swing - Day
E6 - Night	E6 - Night	
<u>Oak Hill Station</u>	<u>Oak Hill Station</u>	<u>Oak Hill Station</u>
C9 - Lieutenant 24/7	C9 - Lieutenant 24/7	C9 - Lieutenant 24/7
A1 - Paramedic 24/7	A1 - Paramedic 24/7	A1 - Paramedic 24/7
A1 - FF/EMT 24/7	A1 - FF/EMT 24/7	A1 - FF/EMT 24/7
Pool FF/EMT 24/7 **	Pool FF/EMT 24/7 **	Pool FF/EMT 24/7 **
E7 - FF/EMT 24/7	Pool#2 FF/EMT 24/7 **	Pool#2 FF/EMT 24/7 **
E7 - Day	E7 - FF/EMT 24/7	E7 - FF/EMT 24/7
Sq7 - Day	E7 - Day	E7 - Day
Sq7 - Night	Sq7 - Day	Sq7 - Day
	Sq7 - Night	Sq7 - Night
Total staffing/shift 20 days (10 FT/10 PD) 15 nights (10 FT/5 PD)	Total staffing/shift 21 days (11 FT/10 PD) 16 nights (11 FT/5 PD)	Total staffing/shift 22 days (12 FT/10 PD) 17 nights (12 FT/5 PD)
Add a FT position on L1 re-allocate 24 hrs. PD L1 to Dunstan swing & E4 N	Add a 2nd Pool position at Oak Hill to reduce OT	Add a FT position on E6 re-allocate 24 hrs. PD to E1 night & E4 day
notes: Excludes chief, deputies & FI / **pool position covers open shifts vs. Overtime		
Key	FT Personnel 24/7 shifts Per-Diem Day Shift	Gorham funded T1 shifts Per-Diem Night Shift

APPENDIX 3

SCARBOROUGH FIRE DEPARTMENT FY18 RESPONSE ANALYSIS



Details include mutual aid station coverage, public education, investigations, & other service calls and details

Average Response by Employee Classification

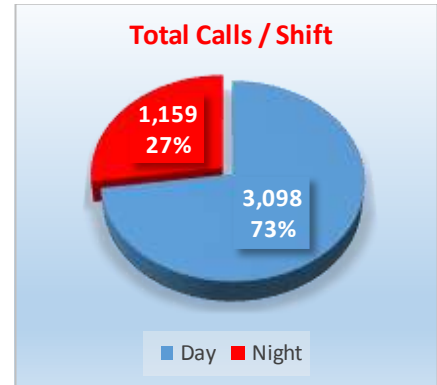
Call Type	FT	PD	CM
EMS	2.2	0.9	2.4
Fire	1.6	1.8	3.3
Structure Fire	4.0	3.8	9.9
Detail	0.8	1.2	3.7
All Incidents	2.0	1.1	2.9

Employee Classifications

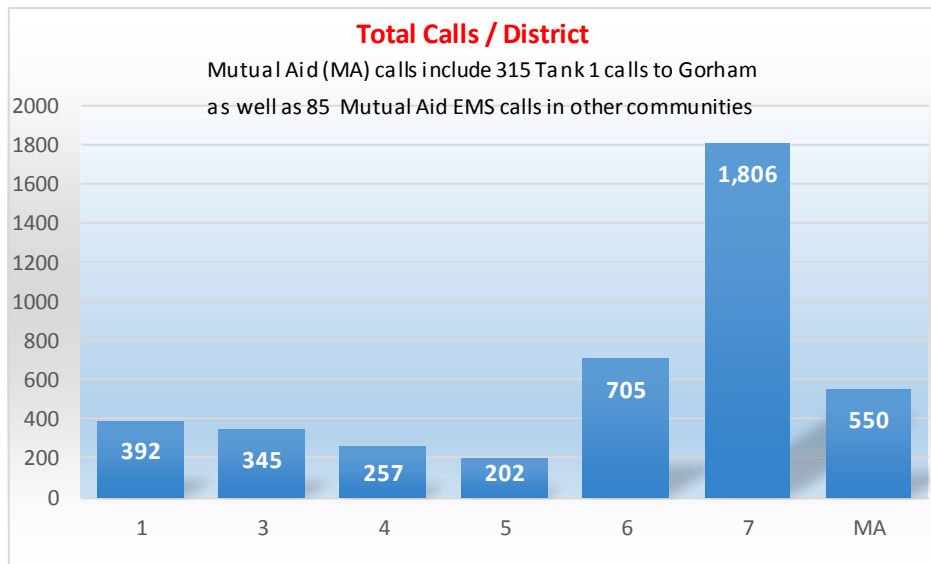
FT - Full-time

PD - Per-diem

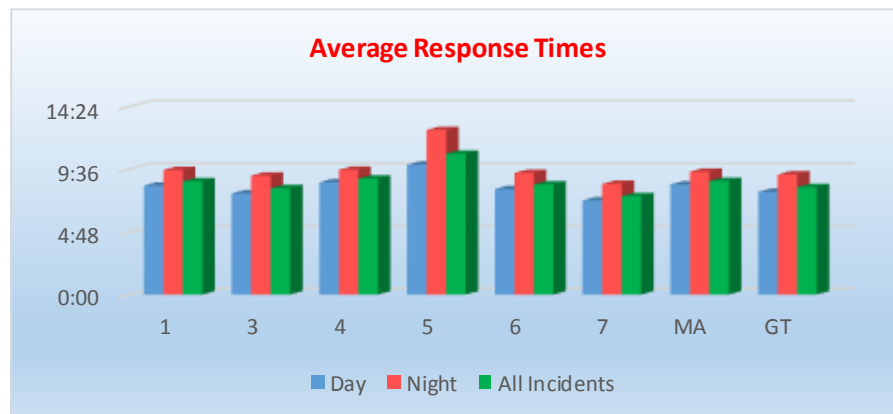
CM - Call members



*Day Shift 0800-2000 hrs.
Night Shift 2000-0800 hrs.*



Total calls / district are based on the address of the incident regardless of which units responded



Average across all Districts: All Calls - 8:14 | Daytime - 7:52 | Nighttime - 9:12

APPENDIX 4

DEPARTMENT STAFFING MILESTONES

The following chart illustrates the various milestones in the history of the department including a measure of the demand for service at that time:

Key: E = Engine or Pumper truck / L = Ladder Truck / R = Rescue Unit or ambulance

Fiscal Year	Milestone	Total Calls for Service
1948	Initial organization into one department	257
1951	Scarborough Rescue Unit formed (first in the State of Maine)	296
1973	First full time Fire Chief	576
1982	Formal change to a municipal department	1,055
1985	First full time Critical Care Technician at Oak Hill, Mon-Fri. days only	1,046
1986	Hired 2 nd full time Critical Care Technician, expanded to 12 hr/7 day coverage	1,217
1987	First full time day Captain (Willie Myers) to assist the Fire Chief	1,315
1989	Hired 2 full time Paramedics for 24/7 rescue coverage at Oak Hill	1,440
	Hired first 4 per-diem day firefighters @ E1, 6, 7, L1, M-F, 9 hrs./day	
1990	Added 1 per-diem firefighter @ E3, M-F, 9 hrs./day	1,552
1991	Hired FT Deputy/EMS director	1,585
	Added 1 per-diem firefighter @ L2, M-F, 9 hrs./day	
1992	Added 1 per-diem firefighter @ E5 M-F, 9 hrs./day	1,580
1993	Added per-diem EMT for rescue during summer (14 wks x 7 days)	1,738
	Added 2 nd per-diem firefighter @ E7 M-F, 9 hrs./day	
1994	Added first per-diem firefighter @ E4 M-F, 9 hrs./day	1,720
1995	Added per-diem EMTs to provide 24/7 coverage w/paramedic @ Oak Hill	1,962
1996	Added 2 per-diem firefighter positions as swing @ E1, & 6 to provide ladder coverage and crew of two on the engine at each station	2,027
1997	Added weekend day firefighter coverage with 2 people @ E1 & 6 and 1 person @ E3, 4, 5, 7	2,583
1998	Hired 2 FT Paramedics and added per-diem EMTs to man Rescue 2 @ Dunstan 12/7 during the day	2,567
2000	FT day Captain retired - position reclassified to FT Deputy. No new personnel	2,494
	Added 2 nd per-diem day firefighter @ E3 M-F, 9 hrs./day	
2001	Hired 2 FT Paramedics & per-diem EMTs to man Rescue 2 @ Dunstan 24/7	2,447
2002	Added 2 nd day firefighter @ E4 M-F, 9 hrs./day	2,657
2003	Council adopted a 4 year phased in call and per-diem pay plan to help with recruitment and retention and to position our department more equitably when compared with neighboring departments.	2,868
2004		2,934
2005		3,153
2007	Hired 2 FT Paramedic Lieutenants 12 hrs/day	3,283
2008	No hiring	3,372

<i>Note: Some positions were phased in over time and budget years. They are chronologically listed in single years for clarity.</i>		
2009	Hired 2 FT Paramedic Lieutenants to make this a 24/7 Duty Officer position	3,703
2009	Hired 4 FT Firefighter/EMTs to staff R1 24/7 with a crew of 2	
2009	Added 42 hrs./week of per-diem coverage @ E5 & E6 from 9-12 hr. shifts	
2010	No hiring	3,544
2011	Hired 4 FT Firefighter/EMTs 100% funded by a 468,000 SAFER grant for a period of 2 years. Assigned to R2 so it is now staffed 24/7 with crew of 2	3,843
	Reallocated the per-diem hrs. that were converted to FT from the grant to inc. per-diem shifts from 9-12 hrs. @ E1, 3, 4 & 7 added a 12 hr. night shift @ E7	
2012	No hiring	3,874
2013	No hiring	3,726
2014	Hired 4 FT Firefighter/EMTs to create a pool position to reduce OT by covering the 1 st vacation or sick slot. Implemented 1/2 year in January	3,694
2015	No hiring	4,191
2016	Added 2 FT FF/EMTs with delayed implementation until 4/1/16. Added 84 hrs./week PD night coverage @ No. Scarborough delayed until 6/30/16.	3,904
2017	Added 2 FT FF/EMTs to augment the 2 from FY16 & create a lieutenants position for additional supervision of duty crews. Promoted C7 to Captain, Added 63 hrs./week PD coverage to convert the remaining 9 hr. shifts to 12 hrs. to cover commute times	4,101
2018	No hiring	4,257
2019	No hiring – transferred Fire Inspector position from Codes/Planning to FD	

APPENDIX 5

SEDCO POPULATION PROJECTIONS



TO: Mike Thurlow
FROM: Karen Martin, SEDCO Executive Director
DATE: March 21, 2017
SUBJECT: Population Projections

At the request of Chief Thurlow and Chief Moulton, SEDCO and the Planning Department reviewed existing population projections and forecasts from multiple sources. The goal was to find or develop a "low-medium-high" set of population and housing unit projections that make sense for the Town of Scarborough.

In our reviews, we looked at the following data sets and forecasts:

- 1) State of Maine's Population Projections to 2034
- 2) PACTS Transportation Projections
- 3) American Communities Survey (ACS) population estimates prepared by the Census Bureau
- 4) Census Bureau Population Estimates (a second series of estimates)
- 5) Building Permit Data for residential units
- 6) Historical Population Counts from the US Census
- 7) Household size trends from the Census and the ACS data set

We found that the data sources varied widely in both estimates and projections. Like Goldilocks, we think some of the projections were way too low, and some of the projections were way too high.

For example, the State of Maine projections result in a Scarborough population of 20,910 in 2035, an addition of 1,219 people over a 20-year period. The projection of 1,219 new people, would yield somewhere between 500 and 600 new housing units, depending on household size.

Based on existing residential building permit data and anticipated projects, we would estimate approximately 1,365 new housing units between 2010 and 2020, more than twice the units needed to accommodate the Maine projection to 2035. The difference between actual permits issued and the Maine projection is too great. The Maine projections are unreasonably low.

On the high side, we have the PACTS projections, which were developed for transportation modeling. These projections anticipate that we would add, on average, 341 units every year between 2009 and 2035, resulting in approximately 17,000 households and a population of above 36,000. The development pattern over the last 10 years, does not support such an aggressive projection of housing units and population for the area.

We've consulted with PACTS regarding the projections. They are currently working on new projections with a more moderate growth rate. These new projections will be available in about 2 months.

To test the responsiveness of projections to current trends, we ran a set of scenarios that rely on historical population growth rates, using a simple annual increase in population. We also ran a set of scenarios where we project housing units based on historical building permit trends, while accounting for the blip of multifamily units currently in the pipeline.

We looked at a .08% growth rate which matches estimated growth between 2010 and 2015. This growth rate is based on estimates from the Census Bureau – and are very conservative, given the number of new units based on building permit data. We also looked at a 1.5% annual growth rate which trends just under the growth rate experienced between 1980 and 2010 (1.7%).

We then looked at tracking residential building permits. In one projection, we used 118 new units per year, which corresponds to the permits issued between 2000-2015. We also looked at permits between 1996 and 2016, which yielded 168 units per year. We then divided these two options to account for changing household sizes as the share of MF households increase.

The following table compares the sets of projections that we evaluated.

Population Projections for the Town of Scarborough by Source

Source	2000	2010	2015	2020	2035	Growth 2015- 2035
State of Maine	16,970	18,919	19,691	20,136	20,910	1,219
.08% Annual Population Growth Rate	16,970	18,919	19,691	20,491	23,093	3,402
118 new units per year MF increases	16,970	18,919	19,691	21,273	25,384	5,693
1.5% Annual Population Growth Rate	16,970	18,919	19,691	21,213	26,521	6,830
168 new units per year- MF increases	16,970	18,919	19,691	21,273	27,126	7,435
PACTS	16,970	18,919	19,691	25,723	36,353	16,662

Notes:

Maine projection was to 2034, SEDCO extended the projection to 2035

Population growth of .08% a year occurred between 2010 & 2015

Population growth of 1.7% a year occurred between 1980 and 2010

PACTS projected Households not population, a HHS of 2.12 was used to project population

The above population projections range from a low of 20,910 to a high of 36,353 for the year 2035. In looking at a common-sense approach to the projections, we think the reasonable low end of the forecast follows the scenario of 118 new units per year between 2020 and 2035, with an increasing percentage of those units in MF developments. By far, we will still have a significant share of housing units in single family developments, but new units over the course of the next 15 to 20 years will be smaller in size and will include more multi-family options. In this scenario we add an additional 5,693 people. This scenario yields approximately 3,100 new units between 2010 and 2035.

For the high-end of the projection, we would anticipate 168 new units per year between 2020 and 2035, again with an increasing percentage of multi-family units. Under this scenario, we would add 7,435 new people between 2015 and 2035. This scenario yields approximately 3,990 new units between 2010 and 2035.

Between 2010 and 2020, we estimate an increase in the number of new housing units of 1,365 new housing units. This estimate of new housing units is based on existing permits plus anticipated completion of just under 600 MF units by 2020. Each of the two scenarios based on an average annual housing unit increase starts with this same number of units for 2020.

