

Maynard Fire Department

Strategic Planning Document



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Executive Summary

The Maynard Fire Department has developed a strategic plan to help guide it through the next five to ten years. This plan has been developed based on information garnered from multiple sources. The first source was a management study conducted by Resource Management Associates. The study broke the department operation down into multiple areas, outlined any problems noted and made specific recommendations for organizational improvement. The second source of information was an internal stakeholder survey. This asked employees of the Maynard Fire Department to rate on a scale of one to five, how the department was doing in multiple areas and was comprised of fifty questions. Although not mandatory, this survey had a participation level of greater than 80%. The third source of information was a survey sent out to other Maynard Department heads that either interact or have the potential to interact with the fire department. Department heads were asked ten questions based on their experiences with, and their knowledge of the fire department and their operational mission. The fourth source of information was a survey created for the citizens of Maynard and posted on the Town of Maynard website. This survey asked citizens to prioritize what they felt was important to them as a resident regarding what the fire department does and where it should focus its energy. The fifth source of information was committee comprised of a group of external stakeholders to give some input into what is important from their perspective and where the department plan should point

them. This group was comprised of business owners and representatives as well as civic groups within the community. The sixth and last bit of information were taken from internal meetings and observations of the fire chief as well as community demographic data. All the information has helped create a vision of where the fire department should be headed moving forward. The results of all surveys can be found in the appendix section of this report.

Introduction

A strategic plan is developed by organizations to give them a roadmap for success based on research, careful planning, and educated forecasting. The Maynard Fire Department has developed a strategic plan keeping those criteria in mind. This plan will focus on where the department needs to go over the next five-plus years based on the Resource Management Associates study, internal survey results, external survey results, external stakeholder committee input, personal observations of the fire chief, interviews with shift captains and community demographics. The intent is to use this information to implement best practices and to create specific, measurable, attainable, realistic and timely goals (SMART Goals). These goals will give the Maynard Fire Department the direction needed to move as an organization with those goals being benchmarks to measure where the organization is and what it has left to accomplish. Moving forward the Maynard Fire Department will use this plan to help prepare for accreditation by the Commission on Fire Accreditation International, a partner with the Center for Public Safety Excellence. The concepts of this plan will also underscore the principle of organizational teamwork based on the theory that the organizational whole is greater than the sum of its individual's. This plan also takes into account community demographics, statistical data and the organization's mission and vision for the future, as well as its values as an organization. It is understood that while this plan is being reduced to writing, it is, in fact, a working document and meant to be used as a guideline and may need to be changed or modified based on unforeseen circumstances, community developments or even unforeseen funding issues.

When comparing the Resource Management Associates study of the Maynard Fire Department, submitted to the Board of Selectman in April 2011, and the internal survey conducted in March of 2012, there were not surprisingly many parallel issues. Strengths for the organization are seen to be the public education program, manageable workload for the duty crews, an effective promotional process, mutual respect between firefighters and their supervisors and the perception of public support of the Maynard Fire Department. Conversely, the organizational weaknesses center on training deficiencies in that opportunity for internal and external training opportunities are limited. Additionally, the fire station being in a state of disrepair and communicating long term plans with employees were also seen as organizational weaknesses. The high and low scores are illustrated below in a graph presented in Appendix A.

The survey conducted for other Town of Maynard Department heads yielded very few results, but the central theme seemed to be that the Maynard Fire Department needs to communicate better with other town departments. Respondents were asked seven questions based on their relationship with the Maynard Fire Department. The results and associated graphs are listed in Appendix B.

The survey conducted for our citizens yielded 29 responses to 3 different areas of focus, respondents were asked to rate on a scale between 1 and 8, with 1 having little or no value to the respondent, and 8 having the greatest value to the respondent. The results and associated graphs are listed in Appendix C.

The results of an external stakeholder committee comprised of business owners, community leaders and civic groups were helpful as well. The diversity of the group meant different priorities. However, the business owners and representatives felt that fire department could work with them to develop emergency response plans, work toward increasing communications with the business community on code or inspectional changes before annual inspections take place. This was of particular importance to business owners who rely on passing all relevant inspections to maintain both their occupancy and liquor permits. A pre-inspection walk through in the spring was suggested as a way to convey the needs for the pending annual inspection. The representatives from the citizen's groups were interested in creating educational partnerships to get safety messages out to those in need before them needing it. It was suggested that as part of our public education campaign that we add other resources that may be available and information on emergency services such as shelters and or warming centers if needed in the winter months and cooling centers in the summer months.

The last part of the puzzle involves community demographics (see Appendix D), and personal observations of the fire chief since February of 2012, interviews and discussions with the shift commanders and the labor group representing the Maynard Firefighters and Officers. The underlying feeling I got from these is that the firefighters and officers here at the Maynard Fire Department are a capable and dedicated group of fire service professionals. The past few years have been tough for this group as they understand the need for an updated fire station and don't necessarily feel the issue has been promoted enough to the community. There is also a strong sense that succession planning, employee, and leadership development have not been a focus of the organization. This

situation is certainly not unique to the Maynard Fire Department but a problem never the less. The responses on the internal survey and the results of the Resource Management Study seem to bear this out.

Opportunities will arise from organizational weakness, and in light of the apparent community support the department has, the categories labeled as a weakness can be turned around. Also, community support, organizational pride, and employee interest give the Maynard Fire Department the ability to provide an unparalleled level of service.

Threats to municipal organizations come from both internal and external sources.

Internally the organization needs to create an atmosphere based on mutual respect for each other and the mission of the department. This will take some time and will require that relationships be built and nurtured on mutual trust. A new facility will go a long way toward changing the perception internally that the work the fire department does is not respected or appreciated. Externally the threat from private entities always looms large, particularly in a poor economic climate when the potential exists for service to be replaced or outsourced for monetary reasons.

Fire departments are service providers; as such it becomes necessary to prioritize the needs of the organization to ensure that organizational success is achieved based on its continued ability to provide service to the community stakeholders. This plan will focus on the where the fire department needs to go based on three priorities, responding to emergency calls for service (priority 1), preparing for emergency calls for service (priority 2), and everything else needed to support responding to emergency calls for service (priority 3). Based on these priorities, the Maynard Fire Department Strategic Plan will focus on the following areas:

- Organizational Best Practices
- Core Services
- Readiness, Training and Employee Development
- Effectiveness and Efficiency
- Staff Support
- Partnerships
- Apparatus/Equipment Maintenance, Repair, and Replacement
- Facilities Development and Maintenance

It is the goal of the Maynard Fire Department to continue providing the very best service imaginable with as little of an impact on the taxpayers as possible. We will do this by creating, developing and nurturing relationships with internal and external stakeholders, including the Maynard Fire Department Labor Group, to ensure the Maynard Fire Department is operating to its fullest potential. We will also establish internal benchmarks to measure the success, failure or progress of our stated goals moving forward. This document is intended to provide a roadmap for not only the fire department but for the community for financial and planning purposes.

Mission Statement

It is the mission of the Maynard Fire Department to protect the lives and property of the citizens and visitors of Maynard from disasters both natural and man-made, with compassion, motivation, teamwork, commitment and quality fire protection and education.

Vision Statement

It is the vision of the Maynard Fire Department to provide service to its stakeholders in a fashion that is unparalleled in public service in a cost effective manner that exceeds expectations, and to be the benchmark by which all service delivery agencies measure themselves and their progress. We shall accomplish this by continuously investing in our people, creating meaningful partnerships, evaluating our impact in the community and adapting to the needs of our stakeholders.

Core Values

Teamwork
Integrity
Commitment
Duty
Quality

Organizational Priorities

Today's fire departments have been charged with responding to a constantly increasing array of emergencies. Fire departments were first established to deal with the ever increasing need to control the ravages of fire and reduce the impact on each respective community. Since that time we have added responses to motor vehicle accidents, industrial accidents, hazardous materials spills, service calls and most notably medical emergencies. While the responsibilities of today's fire departments have expanded, the overall mission of protecting life and property remains as true today as ever. To meet this mission successfully, fire departments have to prioritize their daily activities, we have broken down the strategy we employ to meet our mission into three distinct categories as mentioned in the introduction:

1. ***Responding to emergency calls for service (priority one)***: It is the mission of the Maynard Fire Department to protect the lives and property of the citizens and visitors of Maynard from disasters both natural and man-made, with compassion, motivation, teamwork, commitment and quality fire protection and education. While the best approach is to *prevent* human suffering, it is not realistic to expect this to be a 100% attainable goal. Our most realistic approach to meeting this mission is performing emergency response with a highly trained and capable staff of Firefighters and Fire Officers able to meet any and all challenges presented. Examples of Priority 1 calls for service:

- Fires of all types such as but not limited to:
 - Fire in Buildings
 - Fires in automobiles
 - Fire in dumpsters or refuse
 - Fires involving electrical equipment
 - Fires involving wild land

- Fire involving natural gas or propane
- Medical emergencies such as, but not limited to:
 - Cardiac Arrest
 - Myocardial infarction (heart attack)
 - Cerebral vascular accidents (stroke)
 - Diabetic shock
 - Insulin shock
 - Accidental overdose or drug interaction
 - Sudden death
 - Trauma from:
 - Motor vehicle collisions
 - Falls
 - Stabbings
 - Gunshots
 - Being hit by objects
 - Breathing difficulty from:
 - Diseases such as cancer and emphysema
 - Chronic obstructive pulmonary disease
 - Chemical exposure
 - Illness or allergy
 - Asthma
 - Psychiatric issues
 - Behavioral issues
 - Alcohol related issues
 - Pediatrics emergencies
 - Drowning and near drowning
- Technical rescues such as:
 - Rescues from heights
 - Automobiles involved in collisions
 - Industrial machinery
 - Confined spaces

- Collapsed buildings
- Water/Ice
- Trench collapses
- Hazardous materials response to all types of chemical releases or spills, (mostly petroleum based in this area)
- Weather related emergencies
- Mutual aid responses

2. *Preparing to respond to emergency calls for service (priority two)*: This category encompasses a wide range of activities that support priority one activities. While the main part of a fire department mission revolves around emergency response to limit or prevent human suffering, there are essential functions that support these responses. While not necessarily as visible to the general public, without such programs responses to an emergency would be either non-existent or be severely diminished or inefficient increasing the cost of emergency response both in financial terms and in human suffering. While listed as the second priority, in reality, priority two should be considered interdependent with priority one. Such programs are essential to the success of the organization, examples of such programs and duties are:

- A comprehensive and up to date training program aimed at keeping Maynard's firefighters ready to respond to a multitude of emergency requests for service, this is particularly true since the events of September 11, 2001, when the mission of fire departments all across the country was suddenly expanded. This includes maintaining basic skills and increasing the knowledge, skills, and abilities of all personnel.
- An up to date vehicle and equipment maintenance program to keep all apparatus and emergency equipment, including protective clothing, in a constant state of readiness. With the age of our firefighting fleet, this is paramount to our firefighters being able to respond in a timely, efficient and safe manner. This includes short and long term replacement planning.

- An aggressive fire prevention program. While some might argue that this is a program that belongs in the priority” three” category, the fact is that prevention is a clear and specified part of our mission statement and as such needs to be given top priority. In the overall scheme of emergency response, the best approach is prevention.

3. *Everything that doesn't fall into category one or two(Priority three):* While this category sits third on our list of priorities, it does encompass the largest portion of our time, yet the priority on these items remains flexible enough to ensure there is no delay or deficiency in emergency service delivery. As the Maynard Fire Department plans for the future, the third priority becomes more important to the top two priorities. Examples of priority three classifications:

- Strategic planning for:
 - Training goals
 - Staffing goals
 - Apparatus replacement
 - Station placement and replacement
 - Equipment replacement and updating
 - Hazard and risk assessment for:
 - Natural Disasters, Fires, Medical Emergencies, Mass Casualties, Technical rescues, Weapons of Mass Destruction, Hazardous materials release
 - Changes or upgrades to service delivery
- Budgeting for short, intermediate and long-term goals
- Public education
- Voluntary home inspection services
- Public appearances or standbys
- Training classes
- Station maintenance and upkeep
- Continuous quality improvement programs for our emergency response programs

Administrative Best Practices

Introduction/Overview: As we move forward it will be the goal of the Maynard Fire Department to continually evaluate where we are as an organization and to strive to provide the very best services possible to the citizens and visitors of Maynard. Best practices for fire departments are designed to assist the organization effectively in reaching its full potential. All too often we rely on the “That’s the way we always did it in the past”, or “That’s the way all departments around here do it”. In tough economic climates such as what we are just beginning to climb out of now, that is no longer an acceptable way to do business. Fire Departments need to adapt to new methods and look at the long-term mission and vision of the organization and come up with creative ways to get there. A large part of this process involves a partnership between labor and management to develop a clear path of where the fire department needs to go and how both groups can help us get there. We are a service provider and as such, it is difficult to base goals and objectives on a strict monetary basis. Service organizations need to look at the best practices in the industry and strive to be the benchmark for those best practices. This can be accomplished best by developing a comprehensive approach to continuous quality improvement for various fire department programs and services. We will strive to create an organizational continuous quality improvement group aimed at an objective review of where we are as compared to where we need to be and to set the course to get there. We also need to create internal committees to look at employee hiring, operating guidelines and procedures, grant request priorities and other programs as identified. If we, in fact, reach our vision, we must create a new benchmark to strive for; this will allow us to move forward continually in incremental steps.

Program Goal	Timeline of implementation from 2012 and Program Supporter
Safety Committee*	Already in place
Continuous Quality Improvement Program for Emergency Medical Services*	0-4 years Fire Chief/EMS Captain
Continuous Quality Improvement Program for Fire Prevention Program	3-5 years Fire Chief(s)/Fire Prevention Captain
Continuous Quality Improvement Program for Public Education Program	2-4 years Fire Chief/Public Education Coordinator
Employee assessment program	4-5 years Fire Chief/Captains/Labor Group
Employee hiring program*	0-3 years Fire Chief/Labor Group
Standard Operating Guideline, General Order Review Committee*	1-5 years Fire Chief/Captains
Budget/Grant Development Group(s)	1-2 years Fire Chief/Administrative Assistant/Fire Captains/Program Coordinators
Computerized organizational tracking system to integrate all department areas into a singular and central data point, including the ability to pull organizational statistics for budgeting and future planning*	0-5 years Fire Chief/Captains/Administrative Assistant/Outside Vendor
Development of the following Guides/Programs: <ul style="list-style-type: none"> • Firefighter Accountability • Firefighter Wellness 	1-3 years Fire Chief/Labor Group

Action Steps: The aspect of program development such as those mentioned above is employee involvement. The need for such programs needs to be conveyed to the labor group. This will be done through continuous communication and feedback with and from the labor group leadership. Because the labor group understands it has a stake in the outcome of such programs, it is anticipated committee involvement will take place.

Benchmarks: The benchmarks for these programs will be pretty straightforward in that committee involvement, recommendations and reports from said committees and predicted outcomes have been achieved will be our benchmarks. Some of these committees will be dynamic in that a direction change may occur multiple times before this plan is re-written, an example would be an accountability system. As technology advances and the needs of our mutual aid partners increase, it may be necessary to update such a program already in place. For this reason, the benchmarks set forth must be flexible and dynamic.

*Note: The * indicates that this program is already well along in development.*

Services

Introduction/Overview: Being in a service industry, the Maynard Fire Department is positioned so that they can be pro-active in providing services to the community. Most of the operational services we provide will not change in the coming years, but many of these services will be expanded. The support services we offer will not only be expanded but added to as well. Much of the development of additional programs or the changing or

upgrading of existing programs is the result of the citizen survey we conducted as well as the external stakeholder committee recommendations. The areas of service where we expect expansion and addition are:

- 1) EMS delivery: it is our goal to expand the services we offer to include advanced life support (ALS), transport service. This will provide a quicker service to the citizens of Maynard than they currently have, and it will help generate revenue for the community to offset the costs associated with emergency services such as training, equipment and apparatus purchasing. Our *current* employee certification model does not allow for Maynard to be an ALS service provider. Our plan calls for:
 - a. Replacing firefighter/emergency medical technicians with firefighter/paramedics through attrition. This should allow us to put between 2 and four firefighter/paramedics in place in the next 3-6 year span.
 - b. Train existing firefighters to become firefighter/paramedics; this may result in 3-4 firefighters attaining paramedic certification in the next 3-5 year span.

This plan should put between 5 and seven firefighter/paramedics from the Maynard Fire Department. This should allow us to look at transitioning to an ALS service provider at the 5-7 year mark. Based on collection figures this year, it is projected that we would see a considerable increase annually, but it is difficult to forecast exactly how much as billing rules and the future of health care coverage are in a state of flux. More important than increased revenue is increased service delivery to the

community. The Maynard Fire Department currently works with a private vendor to provide advanced life support. The vendor provides an advanced life support intercept service so that in the event these skills are needed, this team of paramedics responds directly to the scene or meets the Maynard Fire Department ambulance and a prearranged meeting spot. While this system has proven to be effective, response times could be improved if the Maynard Fire Department provided the service. Additionally, there is no guarantee of the stability of the current service and its ability to continue providing advanced life support indefinitely. This would qualify as a new program, and even while working toward this program we expect to see an improvement in our current basic life support program.

2) Moving forward in the fire service, Public Education Programs will be a larger part of the already expanding mission of the fire department. Since the United States Fire Administrations publication of “America Burning” (1970), the fire service has made significant strides in the area of fire prevention. As a consequence we have seen a drastic reduction in fire-related deaths, however, the number is still too high, and a large majority of those deaths are occurring in the home. This is where the fire service needs to educate its customers in not only fire prevention but other areas such as medication safety, slip and trip and fall safety as well as water safety among others. The National Fire Protection Agency (NFPA) identifies two age groups as being particularly vulnerable to injury or death in the home. These are the very young and the older population. Maynard has a higher than average amount of the very young, children five years and

younger. Our citizen survey results told us that educating Maynard's Children in fire safety is a top priority. Maynard is also right at the National average for what the NFPA describes as seniors, 65 and older. Our society is aging, daily we have more and more baby-boomers retiring, and many are encountering medical problems. The 2010 United States Census tells us that the percentage of Americans 65 and older represents the fastest growing demographic in our society. Since 1990, accidental overdoses have tripled, with the increasing amount of medications now being prescribed in our society; this trend will only increase in the coming years. The Maynard Fire Department plans on being pro-active in educating our aging population in areas such as slips, trips, and falls, fire safety, prescription drug safety just to name a few. By being pro-active in public education, we are hoping to prevent parallel growth in responses to the aging of the population. It is our goal to reduce human suffering through a pro-active approach to public education. There are some areas we will focus on in the next 2-3 years:

- c. We have already implemented a home safety inspection program geared toward helping residents identify hazards in their home that jeopardize their safety. This would qualify as a new program. This program focuses on multiple high hazard areas, a few of which are:
 - i. House number identification
 - ii. Smoke and carbon monoxide detector safety
 - iii. Pool safety for small children
 - iv. Electrical safety

- d. Nationally our population is aging; it is the intent of the Maynard Fire Department to help our population age safely by conducting a continuous education program. This would be considered an enhancement of our existing program and would involve:
- i. Cooking safety
 - ii. CPR and AED
 - iii. Fall prevention
 - iv. Medication safety
- e. We plan on expanding our fire safety outreach to high school aged children. This would be considered an enhancement of our existing program and would involve:
- i. CPR and AED
 - ii. Fire extinguisher use

Program Goal	Timeline of implementation from 2012 and Program Supporter
Implementation of Advanced Life Support Transport Service	5-7 years Fire Chief/EMS Captain
Voluntary Home Safety Inspection Program*	0-2 years Fire Chief/Public Education Coordinator
Enhanced Public Education for Seniors and Schools	1-4 years Fire Chief/Public Education Coordinator

Action Steps: The increasing of services will again involve working with the labor group to come to a consensus on how and when such services are implemented. Preliminary discussions have already begun in the area of upgrading to an advanced life support transport service. The labor group understands the importance of and the positive impact on the community and has been very receptive to this process. We will continue working together to achieve the goal of providing advanced life support services to the citizens of Maynard. Advanced life support was given the third highest priority rating in the limited citizen survey we conducted. The necessary action steps for the voluntary home inspection programs and public education for older citizens will involve outreach to the community to ensure they understand that services such as this are offered and the importance of such programs. This will be a marketing plan that will utilize local media and website information. We will also be working with civic groups such as the Council on Aging and the Maynard Citizens Corp to get the word out. We are hopeful that in time these programs will market themselves based on customer responses to these programs.

Benchmarks: The benchmark for the implementation of an advanced life support transport service is as simple as implementing the program. Once the program has been started, the benchmark has been achieved. Once the program is up and running, however, it will fall into the category of a program and a continuous quality improvement program will be needed to ensure it is not only in place, but effective. In our case, it will merely be a matter of expanding our existing program. As far as the home inspection and public education programs the benchmarks initially will involve tracking the amount of people touched by the program. In the years to come, we will be looking at trends in the areas

the programs cover and our success will be measured by the reduction or the lack of an increase of incidents involving these areas.

Facilities

Introduction/Overview/Background: An adequate and up to date fire station is critical in helping the fire department work toward its stated mission. Fire departments provide service to the citizens they are charged with protecting. A modern facility that meets federal disability requirements has adequate training facilities, allows the community to purchase apparatus based on the needs of that community, allows for the storage and protection of firefighter turnout gear and self-contained breathing apparatus are but a few reasons where service to the community can be maximized.

The Maynard Fire Station was built in 1958. Originally this building housed both the Fire and Police Departments. The Maynard Police Department moved to a new facility in 2008 after the renovation of the former library location attached to the town hall was completed based on the needs of the Maynard Police. There are multiple deficiencies with the current facility including, but not limited to:

1. Roof leaks (2)
2. Exposed Asbestos (2 clean-ups by a professional hazardous materials clean-up company because of friable asbestos breaks since 2010)
3. Heating system not balanced properly or efficient despite being updated recently
4. No central air conditioning

5. Inadequate floor space for apparatus
6. Inadequate storage for supplies, equipment, and files
7. Inadequate parking for employees/customers
8. No access, or limited access for physically challenged customers
9. No central conference or meeting area for customer consultations
10. No training facility for employee training
11. Difficult response routes from the present site due to its location

Some of these issues are more pressing than others, but all need to be addressed at some point. The biggest obstacle we currently face is the inadequate apparatus floor space. This has forced us to buy equipment based on its size and ability to fit into the station rather than what fits the needs of the department and more importantly the community. The biggest example of that would be our aerial ladder. The Maynard Fire Department aerial ladder was custom-built to fit the current building. The ladder as it stands right now is not necessarily best set up to suit our needs. Because the vehicle needed to remain low, it was built as a mid-ship mount aerial. This significantly reduces the reach of the aerial and limits where it can be placed when needed reducing its effectiveness. As it stands right now, it does not make sense to replace any of our firefighting equipment that would need to be custom built around the fire station until a long-term solution has been addressed. If a new facility is not obtainable within the next few years, extensive renovations to the existing facility would be to maintain safety and efficiency to the best degree possible, but that will not sufficiently address the problem of inadequate space.

Needs/Benefits:

A modern and up to date fire station is more than just a garage with a small building attached to it. It becomes a vital piece of infrastructure to a community and a place that represents professionalism, efficiency and commitment to providing the very best services to the citizens of Maynard. Components of a modern and efficient fire station are as follows:

Responder quarters- Firefighters spend long periods of time at the fire station in which they work. They often sleep in the firehouse at night, although that is not an easy task. Firefighters also study for exams they will be taking and classes that they may be involved in to expand their knowledge, skills, and abilities, or to maintain a certification. Most of our firefighters are involved in a physical fitness program to keep them strong healthy. They also eat regular meals at the fire station as a group. As such we need to look at sleeping quarters that are large enough to provide storage areas for each shift of firefighters including a bed and a desk in each room. We need to provide locker-room facilities large enough so that multiple firefighters, both career and on-call can clean-up after physical fitness or an incident where they became soiled. We need to provide a fitness area capable of housing all the equipment we currently have, somewhere in the area of 1200 square feet. We also need to provide a kitchen area large enough to prepare and eat food for on-duty firefighters and occasionally off-duty firefighters here for standby or call-back. It is not uncommon for large amounts of firefighters to be at the station for multiple days after a weather event like an ice storm or flooding. There should also be an area for firefighters to congregate during down time when they are not studying, training or doing chores. This too should be large enough to accommodate the on-duty crew and a few beyond that.

Office area- Today's fire stations are also places of business. Administrative staff and suppression staff performing administrative functions in addition to their regular duties need adequate office space. This space should include areas where the public can enter and conduct needed business like scheduling inspections, pulling permits, picking up reports or consulting with inspectors. This area needs to be compliant with the Americans with Disabilities Act. We also need adequate storage space for office supplies, plans that have been submitted and file storage areas that can be secured. Up to date facility would have restroom facilities that are adequate for both administrative staff, and the general public when they are conducting business, or when firefighters are conducting tours for children or civic groups.

Training facilities/EOC/Meeting- Being prepared for emergencies is a very large part of firefighter's daily duties. As such we need to provide a facility adequate to ensure that can happen. A training classroom capable of holding 30-40 people should be built. This facility needs to have up to date electronic equipment such as overhead projectors and smart boards, and should have the ability to double as an emergency operations center (EOC). As an EOC this facility should have the ability to be separated by sliding partitions and be large enough to accommodate 20-25 phones and computer stations. The size of this area should be about 2250 square feet and configured so as to be a secure facility in the event of an EOC activation (this is also the reason for a large kitchen area). This space could be utilized for public meetings as well. In addition to the training classroom/EOC area, the construction of a new fire station opens up the possibility of creating some hands-on training props that will cost very little in the overall construction budget, but that will greatly enhance the ability of firefighters to train on-duty and on-

site. Indoor SCBA maze, confined space prop, water supply prop, building construction prop and rappelling station would be very low-cost, high benefit items just to name a few. An outside pump training testing tank should be installed that would collect and utilize rainwater. This could be installed for minimal dollars, and also be used for irrigation of any green space on the property.

Gear/equipment storage-Firefighters use turn-out gear for a majority of the fire calls they respond to. As such the gear becomes contaminated with all sorts of items found at emergencies. A fire station needs to be equipped with adequate space to clean and dry this equipment, and to store it when firefighters are off-duty. Firefighters are usually issued a primary set of gear as well as a back-up set. As we are planning on adding on and building up a call firefighter force, we need adequate space for 70-80 sets of gear. Because rack storage can be utilized, this space only needs to be 350-400 square feet. In addition to gear storage, firefighter's need space to store and repair clean items such as self-contained breathing apparatus, radios, and spare radio batteries. This, like the gear storage, should be near the apparatus floor and should be around 150 square feet. An alternative to a clean area needs to be provided that is also around 150 square feet to conduct repairs on gas powered equipment and to house and ventilate flammable liquids and oils used for maintenance and repair. A secure area needs to be provided to store medical equipment; this will become even more important as Maynard Fire makes the transition to an advanced life support transport service. This space needs to be 50 square feet or so.

Apparatus floor-This is where all the fire apparatus is stored, and it needs to accommodate a range of vehicles. It needs to be large enough to house *all* fire department

vehicles to help extend the life of them, and it also needs to be large enough to accommodate vehicles purchased based on need and not size and lastly it needs to be large enough to house spare or reserve apparatus. When designing a fire station, the height of the ceiling of the apparatus floor must be considered. In general, we need to look at building high enough for a person to stand on top of a truck to repack hose or replace equipment, This would require a ceiling height of 16-18 feet, and an overall floor space of 9,000-10,000 square feet (this may be on two floors so reserve apparatus is below.

Communications- A new building will be an opportunity to design and build an up to date communications centers to house a community-wide civilian dispatch center. As previously mentioned, one of the goals we have set forth is a civilian-based dispatch center for all of our emergency services, Fire, Police, and Ambulance.

Other elements-In this day and age, with a new building being the goal, it would be wise to design the station to be more energy efficient than current models. The roof of the apparatus floor and even common hallways in living and office areas should be constructed to take advantage of natural light to reduce electrical costs. And the use of geothermal could be considered for heating and cooling purposes that would save costs down the road.

Overall the stations should be in the area of 17,000-19,000 square feet to meet the needs of today and tomorrow.

A community fire station should be looked at as a critical piece of infrastructure for the community. An investment for the next 60 plus or so years, as such it needs to be planned

for and built with future needs in mind so that we don't find ourselves in a similar situation as today where we have long outgrown a vital community resource.

Goal	Timeline/Supporter
Removal of friable asbestos from fire station storage areas	1-2 years Fire Chief/Public Health
Fire Station direction	1 year Fire Chief/Town Administrator
New Fire Station Plans	1-2 years Fire Chief/Town Administrator/Outside vendor
Fire Station funding warrant, this includes searching for alternative funding opportunities via grant or another source	2-4 years Fire Chief/Town Administrator
Fire Station renovation/addition if no plans are in place for a new fire station	2-4 years Fire Chief/Town Administrator

Action Steps: The most fixable and pressing need is to ensure the friable asbestos is removed. The fire chief is working with the health department to ensure that gets done promptly. The fire station is a pressing intermediate and long term issue. The actions steps are to determine a direction that is the best for the community. The next step is to estimate a cost and determine a funding mechanism that makes the most sense to Maynard and has the least impact on the tax base all while keeping in mind that a fire station must be viewed as a long-term investment in the community's infrastructure. The Fire Chief and Town Administrator have had extensive conversations regarding the most suitable location to serve the long-term needs of the community, and those will continue.

Moving forward a vendor to develop suitable plans to meet the needs of the project will be selected.

Benchmarks: Obviously the largest benchmark will be the new fire station itself, however, choosing a suitable site will also be a benchmark, as will choosing a vendor for plans, development of plans and each phase of the building project itself. Building community support and finding a funding mechanism will also be benchmarks for this project.

Staffing

Introduction/Overview: Firefighting is an extremely labor intensive profession when a fire occurs, the number of people required to combat that fire safely quickly depletes the on-duty staffing of most area communities. It is for this reason that the Maynard Fire Department participates in a strong mutual aid system comprised primarily of departments in District 14. Fortunately, the fire service has done a tremendous job in promoting up to date fire prevention practices, and building fires are dwindling nationally, however, protecting citizens from the perils of fire is still a large part of any fire department's primary mission. To effectively meet that mission, fire departments need to have to staff adequate to perform necessary emergency functions based on an evaluation in multiple areas. This evaluation is a form of risk assessment and carries multiple factors to be accurate.

The first area for risk assessment is population. This is a key component because it also ties directly to a community's ability to fund adequate fire department staffing. The

community of Maynard at just over 10,000 people may not be considered a large population by comparison; however, a closer look will reveal an even more important statistic as it applies to population, density. Density refers to the number of people per square mile; Maynard is just over 1938 people per square mile. By contrast, the City of Marlborough has over 38,000 residents but a density of 1845 people per square mile. Based on the density of Maynard, it is considered an urban community. Assessment of population must further look at the risk of that population. The NFPA characterizes two groups of people as more at risk than the majority of the general population. Those groups are the very young, children under the age of 5 years, and seniors, persons over the age of 65 years. Maynard's population of very young accounts for 7.1% of the overall population, above both the state and federal averages respectfully. Maynard's share of seniors sits at 12.8% slightly below the state and federal averages respectfully. Because of Maynard's urban characteristics, it becomes more difficult to use models of communities with similar populations and more urban staffing models should be followed.

The second area of risk assessment involves the building demographics of the community. Maynard's building construction represents a high-risk factor in that over 82% of all structures in the community were built in 1979 or before, and 37.5%, by far the largest group, were built pre-World War II. This is significant in that as each era of the building has progressed, changes in materials and techniques have been profound. A large percentage of buildings built before World War II would constitute "balloon frame" construction. This type of construction leads to a rapid spread of fire in a relatively short period because of the lack of fire stops and other fire reducing techniques. There is also a

significant amount of building space that falls into the “Heavy Timber” type of construction. While this type of construction is resistant to fire spread, once it does occur, a fire can end up being a catastrophic event. Here in Maynard, that event would be magnified as our heavy timber buildings constitute a large amount of business space and revenue for the community. The age of the building will also indicate evidence that older electrical wiring might still be in use making it a more likely source for a fire than its newer counterpart. There is an upside to this age of building however in that they usually withstand higher amounts of fire exposure before significant failure occurs. Buildings built in the last 30 years or so, about 17.5% of Maynard’s structures, contain more modern building techniques and fire protection. However, their lightweight construction can lead to the total collapse and destruction of a building in under 20 minutes when exposed to even moderate volumes of fire.

A community’s geographic size plays a part in community risk assessment in that fire station placement becomes crucial when it comes to response times. Maynard, at 5.2 square miles does see a benefit in that the size of the community makes for reasonable response times in a majority of emergency responses, in fact, most are found to be at or below 4 minutes and our average is 2.62 minutes per response, excellent by any standard. This is dependent upon the current location of the fire station in that it is located near the overall center of the populated portions of the community. This will need to be a consideration when the existing fire station is replaced with a modern building more able to meet the needs of the citizens (this is addressed in another section of the plan).

Response times are critical in that they have a great impact on the outcome of any incident. Response times are a tool to measure how quickly fire department resources

make it to the scene of an incident to begin efforts for a positive outcome. There are multiple components to response times, some which are out of the control of the responder, some which are not. The first factor of response times is notification. The quicker emergency personnel are notified of an emergency, the quicker resources are deployed; this is one hundred percent out of the control of the fire department. The second part of this process is reflex time, and that is the time when an emergency call is received until resources are dispatched. A highly trained, staffed and efficient dispatch center will keep this time to an absolute minimum. The final component for our purposes is that time it takes to get personnel from where they are when dispatched to the scene; this is called turn-out time. It is the goal to have all fire department resources arrive safely so efficiency is the key to reducing this time as opposed to outright speed. Efficiency for these purposes refers the ability of fire personnel to get ready and respond after the initial dispatch. Effective training and administrative procedures will aid in this process particularly as it applies to drivers knowing not only the vehicle they are operating but knowing exactly where they are going when they respond. Although not directly part of response times, there is another factor that is crucial to beginning mitigation of the emergency and that is referred to as set-up time. Set-up time is that time it takes for firefighters to get themselves or their equipment in a position to work on a solution to whatever problem presents itself. A firefighter is staffing most influences set-up time in that it takes multiple people working together at the outset of any incident. The goal of a fire department response to a building fire is to limit the spread of destruction by getting adequate resources to a scene to keep flashover from occurring. Flashover refers to the growth of fire to the point where the entire contents of the room or building

become so heated they burst into flame simultaneously, drastically increasing the size of a fire. The goal of fire department response to a medical emergency is to stop or limit human suffering as quickly as possible. The same principles of response time apply to medical emergencies as do a response to building fires. The same is true for other types of responses as well. The key difference in responses to building fires, medical and other types of emergencies is what is needed to be done during the set-up phase of the response. If we were to break down categories into broad areas and look at what “set-up” is for each, it would break down as follows:

Building/Other Fires= Optimum notification to set-up, less than 10 minutes

1. Set the engine, engage the pump (pump operator)
2. Secure water supply (pump operator and or 2nd due company)
3. Assessment of conditions to formulate strategy and tactics, this includes relaying resource requests back to dispatch, completing a building walk around, establishing the incident command system and giving orders to incoming resources (Captain or Chief Officer if available)
4. Get off the truck and begin deploying a hand line to the point of entry into a building (tailgate firefighter)

Responses to life-threatening medical emergencies= optimum notification time to set-up less than 10 minutes (example: Cardiac Arrest)

5. Park ambulance, grab requisite equipment based on knowledge of the problem
6. The first firefighter begins CPR; second begins setting up the automatic external defibrillator and preparing for its use.

7. The third firefighter is assisting with CPR
8. The fourth firefighter preparing transport equipment, backboard, stretcher other
9. Fifth firefighter (currently assigned to dispatch duty), is gathering information about the incident, “What happened, what medications is the patient on, do they have any allergies, do they have any other medical conditions, what is their medical history, etc.”

At the ALS level, a goal for the Maynard Fire Department, firefighters will be preparing to insert intubation tubes and intravenous lines to administer lifesaving drugs. Ideally, all of these need to be conducted between the 5 and 10-minute mark of the onset of notification. With our current response times, this will be attainable once we are operating at that level.

Other types of emergencies such as car accidents, or industrial accidents will have similar scenarios and set-up time is equally important. There will be an occasion whereby set-up time includes waiting for an appropriate mutual aid response. Examples of these types of incidents would be building collapse, confined space rescue or large hazardous materials leak or explosion.

The types of emergency’s firefighters will also face an important factor in risk assessment. While we are familiar with the fact that firefighters respond to fires, medical emergencies and another type of incidents, these incidents are further characterized by the risk and frequency associated with them. Our most common type of response today is a medical emergency. About 55% of the medical emergencies we respond to are considered basic life support. For our purposes, we could characterize those types of incidents as Low Risk/High Frequency. We would characterize them like that because

those are everyday responses that firefighters have become accustomed to, and the classification as a basic level emergency infers there is little risk involved for the responder. Most advanced life support incident would also fit into this category in that responders are familiar with how they will deal with such an emergency; however, there are exceptions to these situations such as childbirth or amputation just to name a few. An example of a Low Risk/Low-Frequency incident might be a specific call for service, perhaps assisting an elderly person who has fallen or an emergency lock-out. Building fires, even though way down statistically, would be categorized as High Risk/High Frequency. This reasoning for this is simple. First there is obviously a high risk to firefighters and certainly occupants; but when it comes to frequency, although we are responding to fewer building fires, our training, equipment and mindset are still geared toward this type of response. In fact, a great deal of a rookie firefighters training is geared around this response. The knowledge, skills, and abilities developed during this training allow firefighters to respond to these high-risk encounters as though they were more frequent in number. This doesn't mean that firefighters will not encounter a situation outside of their comfort zone or training, however. The last category is the High Risk/Low-Frequency category. This would be a response to something outside of the comfort zone of firefighters, something such as a confined space rescue or hazardous materials incident. These are dangerous in that they don't often occur enough to build up the knowledge, skills, and abilities those emergencies in other categories do, nor are funds adequate to allow for consistent training in these areas to build up the requisite cognitive reflex that we see with responses to building fires.

The challenges we face with staffing are certainly not unique to Maynard, Massachusetts. Funding to optimum levels is difficult all over the country particularly given the fact that we are just now climbing out of a recession. We are left with the task of balancing how many firefighters we need to do the job required and the ability to pay for that protection. The NFPA recommends that a minimum of 4 firefighters is assigned to each respective fire suppression apparatus and that a total of 15 firefighters should be at the scene of a building fire within 10 minutes give or take. Neither of those scenarios is practical for a community such as Maynard insofar as staffing goes. While we need to be mindful of our worst case scenario, we must also be realistic when we set our staffing levels. Our current staffing matrix is four firefighters and one captain per shift, with one firefighter performing dispatch duties. When the *transition is made* to a civilian dispatch, our current staffing levels of 4 firefighters and one captain will put us at 1.980 firefighters per 1000 residents. A study of metro area departments puts the average staffing levels at 2.414 firefighters per 1000 residents (Appendix E). While this will put us below the average, it should allow us to staff adequately for a *majority* of our incidents. We will also be trying to expand our group of on-call firefighters to help supplement the career staff. This will take a few years to implement and long-term commitment to growing this group to the point of effectiveness and efficiency. There will be exceptions where our manpower needs will exceed our duty staffing. However, there are very few communities where this is not indeed the case. It is also difficult to forecast simultaneous events when multiple emergencies are occurring at the same time. The same is true of cascading events in which one incident leads to another. An example might be a car fire that ends up involving a building or wild land. In cases such as these, we will continue to rely on

mutual aid as we do now for similar incidents and those incidents that quickly deplete our resources.

The Maynard Fire Department is also exploring the possibility of entering into agreements with other bordering communities on a joint fire prevention inspector. There is no present plan in place, but we envision this as a position where an inspector is hired to conduct the same types of inspection for multiple communities. While there is not inspectional enough to work to justify hiring a full-time inspector here in Maynard, by spreading the responsibilities out to multiple communities, the position will certainly be fully utilized. The benefits of such a program are many, but most importantly inspections are being conducted promptly and cost-effective fashion. Another benefit that would be realized by such an endeavor is the consistency of inspections between the communities being serviced by this project. This will also allow communities to free up on-duty crews to focus their energy in other areas such as public education, pre-fire planning and more importantly training. Moving forward, if a joint community inspector does not work out, the Maynard Fire Department may look at creating a hybrid position where training and inspectional services, among other responsibilities, are grouped together in one position. Below is a list of inspectional needs that would be addressed:

1. Smoke and Carbon Monoxide Detectors
2. LP gas installations
3. Oil burner installations
4. Commercial cooking compliance inspections
5. Tank Truck inspections

6. Fire alarm installation, upgrade and repair inspections
7. Sprinkler system installation, upgrade and repair inspections
8. Underground Storage Tank removal inspections
9. Annual inspections of Night Clubs and Bars for the Liquor License Renewal
(Chapter 304 of the Acts of 2004)
10. Annual Rooming House inspections
11. Quarterly Theater inspections
12. Annual inspections of state operated residential facilities
13. Other duties that are coordinated by Fire Prevention / Code Enforcement
14. Annual School inspections
15. Quarterly fire drills in all schools and day care facilities
16. Annual apartment building / multifamily inspections

Staffing Goal	Timeline of implementation from 2012 and Program Supporter
The daily operational staff of (4) Firefighter/EMT or Firefighter/Paramedics, (1) Fire Captain. Staffing: Engine: Captain, Driver, Firefighter Ambulance: (2) Firefighter/EMT or Firefighter/Paramedic Dispatch: Civilian	2-3 years Fire Chief
Shared Fire Prevention/Inspection Officer	2-3 years Fire Chief(s)
Shared Training Officer/ Shared Fleet Mechanic	5-10 years Fire Chief(s)
Implementation of the on-call division of the fire	1-3 years

department in a tiered process 2-5 per year until some 12-15 firefighters are achieved.	Fire Chief/Captains
Shift coverage funding alternatives through a joint management/labor initiative	Fire Chief/Labor group immediately 0-2 years
Increased budget funding for shift coverage, other cost categories.	Immediately

Action Steps: These areas will need to be a collaborative effort between the fire chief, town administrator, elected officials and area fire chiefs as well as the labor group. Some of the groundwork for these items has already begun and more needs to be done moving forward. I have already had multiple discussions with the labor group, and they have been very receptive to developing strategies where everyone realizes a benefit.

Benchmarks: These again will be tough to gauge progress because so much is dependent upon other departments or even communities. Periodic updates will be available and given to mark progress in the collaborative efforts.

Training

Introduction/Overview: Up to date training is necessary to keep Maynard's Firefighters ready to carry out the mission of the organization. Part of our organizational vision states that we will achieve our goals by continuously investing in our people. Our personnel is our single biggest investment, and the investment we make in training our firefighters will pay dividends for decades. Investing in training, and essentially our people will help us achieve a culture of change, trust, competence and employee satisfaction. Both the

Resource Management Associates Report and the internal survey conducted pointed to an inadequacy in the department's approach to training. By putting a clear focus on developing a comprehensive training approach, we will indeed work toward solving some underlying organizational culture issues. This will involve a commitment to broadening the experiences of our firefighters by exposing them to training outside of Maynard and even Massachusetts. A long-term goal will be to allow firefighters the ability to attend training programs at the National Fire Academy in Emmitsburg, Maryland. Having attended this institution on multiple occasions, I can attest first hand that there is no better learning experience currently being offered in our industry. This will take a commitment to funding this long-term goal to see benefits 5-10 years from now.

Because the mission of our industry has evolved over the years, our training focus has changed along with it, yet it is certainly no less important. Currently, our firefighters and officers are performing training on a monthly basis to keep their present skills intact and retain cognitive reflex. Moving forward you will see a greater focus on topics other than just traditional firefighting techniques. Some of these topics will focus on specialty areas such as hazardous materials response, technical rescue(s), emergency medical response, fire prevention and public education just to name a few. The Maynard Fire Department is also committed to developing a succession plan to allow for a smooth transition for fighters moving up to the rank of Captain, and for Captains moving up to the rank of a Chief Officer. This will require a focus on leadership development to give candidates for promotion an idea of what issues they will face and arm them with the tools necessary to handle them. We will also need to develop a specialized training program to enhance our service delivery in Emergency Medical Response. We will utilize NFPA, OSHA, and

ISO Standards as our benchmarks for success in this category. The training coordinator and the chief will meet on an annual basis to set organizational goals for the upcoming year and periodically to ensure these goals are being met and alter the direction of the program as needed.

Training Goal	Timeline of implementation from 2012/Project Supporter
Expand opportunities for training outside of the Maynard Fire Department with the implementation of a professional development program.	1-3 years Fire
Implement and develop an in-house training program that accounts for 15-20 hours of monthly on-duty training, documented training in the areas critical to meeting the mission of the fire department.	1-2 years Fire Chief/Training Coordinator
Develop an in-house leadership skills development program for firefighters. This program will expand the leadership and decision-making skills of firefighters to allow for an easier transition to the rank of Captain if and when the opportunity presents itself. This program will be part of a succession planning program and will be based on the present and projected job description for Captain.	1-3 years Fire Chief/Fire Captains
Develop an in-house leadership skills development program for the Captain(s). This program will expand the leadership and decision-making skills of firefighters to allow for an easier transition to the rank of Fire Chief if and when the opportunity presents itself. This program will be part of a succession planning program and will be based on the present and projected job description for Fire Chief. This will involve outside training such as the Executive Fire Officer Program or other relevant professional development programs.	1-3 years Fire Chief
Train up to four (4) firefighters as Hazardous Materials Technicians. Although part of a regional team, this training will be for decision making here in Maynard in the event such expertise is needed.	3-5 years Fire Chief/Training Coordinator
Develop a comprehensive in-house water rescue training program to meet the needs of the Town of Maynard. This will involve multiple, and eventually all firefighters be	4-5 years Fire Chief/Training

trained in the latest techniques in rescue and removal of victims.	Coordinator
Advanced life support training. Training as many current firefighters as Paramedics, with a minimum goal of four-five (4-5) firefighters. It is anticipated that we will gain as many as four-six (4-6) firefighter/paramedics through attrition during this period.	4-5 years Fire Chief/EMS Captain
Introduce an in-house emergency medical training program delivered by an outside vendor. The purpose is to provide continuing EMS training and to expand the skill set of our firefighter/EMT and eventually our firefighter/paramedics.	2-3 years Fire Chief/EMS Captain

Action Steps:

An organizational review of the strengths and weakness' of each respective firefighter and officer will certainly help in setting the course of the training program. The direction has also been set in part due to the results of both the RMA study and the internal survey results. Some action steps have already been put in place with more to come. Much of this involves getting to the point where we have a Captain comfortable with overseeing the training division. While I was certainly hoping this process would be further along at this point than it is, we are moving toward our goals. Another part of this process involves securing adequate funding for proper shift coverage. Training is one of the most important aspects of any fire department and gives firefighters the tools necessary to provide the very best service possible to the community. While the direct cost of training personnel has little impact on our operating budget, the indirect cost of providing shift

coverage for personnel attending training that falls on their duty days can be significant. I would like to, in essence, create a budget of hours for each firefighter and officer as part of the salary line in the operating budget. This will allow us the ability to budget properly to ensure our shifts are covered when needed.

Benchmarks:

Benchmarks are certainly difficult to set for an overall training program, but when we get to the point where specific programs are involved, then clear and attainable benchmarks will be set. An example would be a department-wide confined space entry rescue program or department-wide public education training program. As this plan is implemented and evolves over time, this area will be revisited based on the changing needs of our customer base. Training benchmarks also need to consider the demographics of the community to keep in mind that Maynard might not be as susceptible to certain types of emergencies as another community and vice versa. Training benchmarks will also be tied to the expansion of services offered by the Maynard Fire Department as well. As we move toward providing an advanced life support service, much of our focus will be on developing the knowledge, skills, and abilities of our firefighters to provide that service.

Equipment

Introduction/Overview: The purpose of this section of our strategic plan is to detail the mission and status of each fire department vehicle, and major pieces of equipment make recommendations as to when a vehicle or piece of equipment should be replaced or refurbished or branded as obsolete. Each fire department vehicle or piece of equipment serves

a different purpose with multiple vehicles able to serve more than one function. It should also be noted that each vehicle and piece of equipment was designed for a specific purpose and when it was originally purchased and placed in service. It also met the latest version(s) of the appropriate National Fire Protection Associations (NFPA), or other recognized safety standard.

Apparatus

NFPA 1901 is the recognized standard for fire department vehicles and take into account the mission of each vehicle and addresses both function and safety. The most current version of NFPA 1901 is the 2009 edition; we currently have no fire apparatus that meet this standard. As apparatus ages it can sometimes fail to meet the latest version of NFPA 1901, however, this does not automatically qualify it as unsafe or no longer road worthy, there are many factors that assist fire departments in making that determination as outlined in NFPA 1901.

Such factors include but are no means limited to:

1. Age of apparatus
2. Mission of apparatus
3. Number of miles/hours
4. Quality of miles/hours (1 hour of work equals about 40 miles of driving)
5. Driving conditions
6. Driver skill/training
7. Preventative maintenance program
8. Quality of the apparatus/parts upon original purchase

It should be noted that the larger fire department emergency apparatus, that is Engines (Pumpers), Ladder (aerial) Truck and Ambulance are equipped with diesel-powered engines, and the Command, Utility, and Forestry Trucks are equipped with gasoline powered engines. When talking about the larger apparatus such as engines and ladders, their lifespan does not necessarily equate to mileage such you would see in an ordinary passenger vehicle. The motors in these vehicles serve a dual purpose, for engines, the motor and drive train also power the pump, the motor of a ladder truck powers the aerial device itself allowing it to be raised, extended, moved side to side, etc. Because of these features, there are many times where a piece of fire apparatus will sit for extended periods of time at very high idle to power each respective device. Because of this high idling for extended periods of time, the engine life may deteriorate even with a seemingly insignificant amount of miles on the apparatus. For example, it is not uncommon for a fire engine to pump for periods of longer than five or six hours, nor is the use of a ladder truck for that much time uncommon.

Engines are the backbone of fire department emergency response. First line engines carry a group of firefighters, and in Maynard the shift commander (Captain), this makes up a company. Engine 1 is the primary apparatus for most fire-related responses and includes the previously mentioned company of firefighters, although circumstances may dictate that the group takes another apparatus to a reported emergency. Engine 2 is currently used as a mutual aid apparatus and a second due engine for any significant incidents in Maynard, and those cases are staffed with off-duty personnel. Engine 3 is utilized primarily for response to rescue related emergencies but is also utilized as a third due engine in the case of a building fire. Engine 4 is a forestry truck designed for off-road use in containing wildland fires. The mission of an engine has evolved over time, originally used primarily for fire attack carrying hose

nozzles, etc. Today's engines carry a complement of other equipment and respond to any call imaginable. Our primary engines carry gas powered hydraulic pumps with cutting and spreading tools for vehicle extrication, gas detection equipment designed to find and quantify flammable or combustible gas leaks, or toxic chemicals such as Carbon Monoxide. All of our engines carry spill control equipment, specialized fire extinguishers for Class B and C fires, ground ladders, forcible entry and cutting tools as well as emergency medical equipment including oxygen and automatic external defibrillators (AED), among other items.

The mission of the ladder truck is to respond to building fires, box alarms or any rescue situation from heights situation. Ladder Trucks are used for reaching upper floors of buildings or the roof of a building to perform rescue operations or giving firefighters access to perform ventilation operations when needed. Ladder 1 carries a complement of both hand and gas powered tools and saws designed to force entry into a building or cut holes for ventilation.

The Maynard Fire Department Ambulance is used for all emergency medical responses here in Maynard, and on occasion in other communities when mutual aid is requested. The ambulance typically racks up high mileage in a relatively short period and is the most frequently replaced vehicle in our fleet, as is the case with other fire departments.

Description of each apparatus:

Engine 1 is a 2001 "Emergency One" Class A rated fire department pumper with a 1250 gallon per minute pump and a 500-gallon water tank. It was placed in service in April of 2001 and currently has 26,057 miles and 2,849 hours. It currently runs as the first due engine for fire related incidents. In the next few years, I would recommend dropping this engine to second due, essentially swapping roles with engine 2 when it is replaced. The reasoning for this is to

help extend its effective service life. It is slated to be replaced in 2023; however, that may be extended based on its condition and activity level at that time.

Engine 2 is a 1991 “Emergency One” Class A rated fire pumper with a 1250 gallon per minute pump and a 500-gallon water tank. It was placed in service in December of 1991 and currently has 40,541 miles and 2504 hours. This vehicle is nearing the end of its safe and effective service life and should be replaced in the next two years. If it is replaced, my plan would be to put the replacement pumper as the first new first due engine, essentially swapping roles with engine 1. This would serve two purposes. First, it would allow the current engine 1 to have its effective service life extended, or at the least maintained so it will last the requisite amount of years. The second and more important factor are that it ensures a majority of the responses for an engine are being done in a currently approved NFPA Class “A” pumper with the latest safety features.

Engine 3 is a 1997 “Emergency One”, pumper on a freightliner cab and chassis. The mileage is 26,000 and the hours are just above 3450. The primary mission of this truck has been to assist the Ambulance on Advanced Life Support medical emergencies and respond to motor vehicle accidents. We have recently changed that model so that engine 1 responds to support medical emergencies. Engine 3 also serves a third due engine for building fires and generally acts as a water supply engine and also specialty rescue type emergencies. This truck is limited in that it has a conventional cab that only holds 2 firefighters and has a limited water tank capacity of 500 gallons of water. A long term plan for this will need to be examined in the coming years. As the number of specialty rescues is increasing or at least the probability

increases, it may be prudent to rotate a rescue truck into the mix when this truck meets the end of its service life.

Ladder 1 is a 1986 “Emergency One” custom built mid-ship ladder tower. This truck was custom built to fit the existing dimensions of the fire station located at 1 Summer Street. The current design is that of a mid-ship mount, which limits the length of the ladder when needed as it restricts the ability to place the turntable of the apparatus in line with the objective of the ladder.

Forestry 1 (Engine 4), is 2011, Ford F-350 flatbed truck with a skid unit installed on the bed. The skid unit contains a 225-gallon water tank and a pump. While the truck itself is new, the skid unit is approaching 20 years old and will need to be replaced in the coming years.

Significant Equipment

There are certain categories of equipment that are integral to the mission of the organization, yet they are costly enough to be considered capital improvement items. These items are used daily, or may be used daily and are needed to ensure firefighter safety. These items are self-contained breathing apparatus (SCBA), radios (both portable and mobile), radio box equipment and firefighter turn-out gear. There are also items used in the non-emergency capacity that supports priority 1, priority 2 and priority three categories. The main piece of equipment here is computer equipment and software¹. The goal of the Maynard Fire Department is to update to a web-based computerized system for mobile data terminals (in

¹ The Maynard Fire Department is currently working with a vendor to produce a prototype of a comprehensive fire department records management system (discussed in services), this would save the town a considerable amount of money when completed and will allow us to be 2 years ahead of schedule.

certain vehicles), and the software to support emergency and non-emergency data storage. A brief description of each is below:

Radios are used in every aspect of communication on the fire ground or otherwise.

Firefighters are each equipped with portable radios designed to keep them in contact with each other and the incident commander. These are also equipped with emergency call buttons in the event a firefighter becomes trapped, injured, lost or otherwise incapacitated. Mobile radios are in each respective fire apparatus and have a longer transmission capacity than portable radios, and are used to communicate with Fire Alarm, each apparatus, and portable radios, as well as with our mutual aid partners. Along these lines we are also looking at transitioning to a radio box transmission and phasing out the existing hard-wired system. This is discussed in more detail later in this document.

Turn-out gear consists of firefighter protective coats, pants, helmets, gloves, boots and hoods. Each part of the gear is designed to protect part of a firefighter's body, and when used in with self-contained breathing apparatus (SCBA). SCBA are used to protect firefighters from toxic atmospheres. Such atmospheres may contain any number of products which can and will cause acute or chronic respiratory problems and may even cause death upon exposure. Many of these toxic gasses such a hydrogen cyanide, vinyl chloride and carbon monoxide are found in building fires. Others such as hydrogen sulfide, chlorine, ammonia or a combination of toxins, can be found in confined spaces, hazardous materials releases, motor vehicle accidents, suicides and terrorist acts (domestic or otherwise). The total protective ensemble protects the

entire body and respiratory system of a firefighter. This gear is designed to be used for protection from thermal or steam burns associated with all types of fires.

A web-based computer program is designed to give firefighters up to date access to pertinent information in the field during emergencies. This would be things like pre-fire planning information on a building involved in an emergency, chemical information if they respond to a hazardous materials incident just to name a few. This program will also be part of a total organizational management program aimed at tracking apparatus, training, inspectional services, daily activities and scheduled appointments as well as an interface with the Maynard civilian dispatch center. This will allow for electronic submission of up to date run cards, chemical inventory, building layout and pre-fire planning information to be utilized by both fire and police.

Item/Replacement Goal/Mission Change	Replacement Fiscal Year/Estimated cost
Engine 1 (rotate back to first due Engine)	2024/ \$710,000.00
Engine 2 (rotate to first due Engine)* we have request \$429,000.00 through the 2012 Assistance to Firefighters Grant for this.	2015/ \$477,000.00
Engine 3 (rotate out/replace with rescue or engine)	2022/ \$677,000.00
Engine 4	2031/ \$100,000.00
Ladder 1	2016/ \$1,215,206.00
Ambulance (Car 9) Done	2012/ \$200,000
SCBA	2017/ \$187,215.00

Radios* We have request \$109,000.00 through the 2012 Assistance to Firefighters Grant for this.	2015/ \$96,000.00
Turnout Gear* We have requested \$10,000 for the 2012 Assistance to Firefighters Grant for some this.	2018/ \$52,400.00
Command Car (Car 10) Done	2012/ \$35,000.00
Computer software	2014/\$70,000.00
Mobile data terminals	2016/ operating budget
Radio box transmission equipment	2014

Action Steps: To determine a replacement schedule of apparatus and equipment based not only on need but also to ensure that there are not large purchases grouped together in the same year(s). This will allow for better capital expenditure financial planning. This step has already been completed and a plan carrying the fire department through 2032 has been submitted to the Capital Planning Committee. While we understand this may need to be changed or altered, the basic plan should allow for the timely replacement of apparatus and major equipment. It should also be noted that much of the equipment needing to be replaced in the coming years has been identified, and requests have been made to fund these items on Federal Grant(s). While there is certainly no guarantee that funding of these request will be granted, there is also no harm in asking. If awarded any of these grants, the savings to Maynard would be significant. The items requested were:

1. Class A Pumper to replace Engine 2
2. 30 Portable Radios to replace current cache
3. Self-contained breathing apparatus compressed air cylinders

4. Turn-out gear, ten complete sets

As previously mentioned, we are currently working with a computer software developer and are helping to develop prototype software that will be marketed nationally. As part of this process, it has been explained to us that the Maynard Fire Department will be given software for the cost of license fees which is already an annual cost. This too will help us realize tremendous long-term cost savings while also allowing us to push up or timetable for a department-wide records management program to be implemented.

Fire Prevention/ Communications

The Maynard Fire Department Fire Prevention program consists of multiple different areas all concentrating on preventing human suffering by limiting or eliminating the potential for fire-related losses. Working under the Code of Massachusetts Regulations, the fire department is responsible for a myriad of inspections including, but not limited to:

1. Smoke and carbon monoxide detector inspections.
2. LP gas installations
3. Oil burner installations
4. Commercial cooking compliance inspections
5. Tank Truck inspections
6. Fire alarm installation, upgrade and repair inspections

7. Sprinkler system installation, upgrade and repair inspections
8. Underground storage tanks
9. Annual inspections of Night Clubs and Bars for the Liquor License Renewal
(Chapter 304 of the Acts of 2004)
10. Annual Rooming House inspections
11. Quarterly Theater inspections
12. Annual inspections of state operated residential facilities
13. Quarterly fire drills in all schools and day care facilities
14. Annual mercantile inspections
15. Annual apartment building / multi-family inspections

Going forward the Maynard Fire Department is exploring the possibility of sharing the services of an inspector to perform these tasks, but in the interim, it will continue to fall on the shoulders of the duty crew. We will also be looking at updating our by-laws as they apply to fire prevention and notification procedures. This would apply to all of our commercial building as well as multi-family buildings. We will be implementing a comprehensive pre-fire planning program to ensure that firefighters have the most up to date and accurate information on a particular building as possible. Also, this program can also be used as a pre-inspection walk-through to give business owners an idea of changes they may need to comply with, or deficiencies they need to fix before an annual inspection takes place each fall and early winter. This will give the business owner an opportunity to plan for needed repairs before they fail an inspection and put any license renewals in jeopardy. This idea was discussed during the external stakeholder committee

meeting. Communications for the Maynard Fire Department is the ability to field emergency calls or requests for service. Traditionally organizations have used a municipal signaling system so that alarms can be received at the fire department and or the dispatch center. In the coming years, it is the intent of the Maynard Fire Department to continue to maintain our municipal signaling capability while transitioning to a more modern radio box system. This will save money down the road on the cost of maintaining a hardwired system, and will also cost business owners less money in the cost of an initial system. This does mean we will have two notification systems until the municipal alarm system is phased out, but this is the most cost-effective and efficient approach. With the goal of a civilian-based dispatch center being located in the current Maynard Police Station or the future Maynard Fire Station, we will need to re-transmit our municipal alarm signals to that location. We have a few options for this in that we can either run a hard wired system to complete the circuit to the Dispatch Center. The second option would be to re-transmit alarms to the Dispatch Center utilizing radio box technology. This second option will involve more up-front costs but will be a better long-term option in that maintenance cost for the current municipal signaling system will increase. As we transition to a radio box system, we will lose a few of the current services we currently have. First, this would, in essence, eliminate unassigned street boxes. Although not a large source of the notification of emergencies today, it will be a change. Long term the elimination of maintenance cost and the potential for nuisance alarms being sent outweigh the loss of a street box system. The second drawback is the medical emergency calls boxes we have throughout the community, and the same items apply to these as well. With most of us living in a cell phone world, the loss of both of these notification

methods should have no impact on notification of the fire department. This program will be ongoing and will be partly dependent upon the timetable for the civilian based dispatch center. Part of this process should involve transitioning from a municipal fire alarm signaling that involves multiple low voltage circuits throughout the community to a radio box system that transmits signals wirelessly.

It is our goal to improve the efficiency of the current fire prevention and communications programs respectively by implementing the following:

Goal/Program	Years until implementation/supporter
Community-wide pre-fire planning program with a prioritized focus on target hazards. Program will be equally divided and be updated annually	1-3 years Fire Chief/Fire Captains
Develop a graduated plan for compliance issues with target hazards. Partnership with deficient occupancies so that they can come into compliance in 3-5 years.	1-3 years Fire Chief/Fire Prevention Captain
Develop and implement a computerized tracking system for the communities commercial occupancies	1-4 years Fire Chief/Administrative Assistant/Fire Captains
Update Town by-laws as they apply to fire prevention	1-4 years Fire Chief/Captains/Town Administrator
Switch the municipal fire alarm system to a radio box based program	1-8 years Fire Chief/Communications Captain/Town Administrator

Action steps: Some of these have already begun such as a pre-fire planning program, but will, in fact, be upgraded as we move toward a web-based records management system. Other action steps involve internal discussion as well as a plan to implement the radio box system. This will be coming in the next few months.

Benchmarks: The most important benchmark for the radio box system will be making a decision to move forward and outlining a plan for implementation. Most of the other items will be a matter of implementation with some prior planning.

Summary

As previously outlined, this document is meant to be dynamic, and it will change based on the needs of the fire department, its internal and external stakeholders and the community as a whole. We have attempted to characterize what we do, why we do it and how we plan to improve upon it in the coming years. We may come across an item that needs to be added in the coming years, and it is certainly our intent to review this document often. In fact, we will need to revisit this plan annually to ensure we are still on the course we set and our mission and vision are still relevant to this plan. There will be other factors that may entail a significant change and or approach in updating this document as well. Like most public sector projects or plans, there will be obstacles faced during this process. The largest obstacle we will face will be financial. Our biggest expenditures will be large equipment purchases, a functional fire station and the staffing needed to protect the citizens of Maynard. The Maynard Fire Department understands the fiduciary responsibilities that the Maynard Board of Selectmen, Town Administrator and Finance Committee face, and we are prepared to maintain open lines of communication and to adapt to community needs while focusing on carrying out this strategic plan. Being a service provider, the Maynard Fire Department is keenly aware that measuring success

or failure of a plan such as this is problematic in that it is very hard to establish benchmarks. As our industry transitions from reactive to pro-active service providers, it becomes difficult to establish a benchmark in that it is essentially proving a negative. Our focus is changing to include much more preventative measures in not only fires but other areas as well. As mentioned earlier, we are increasing the focus we will place on public education. A large portion of public education involves behavior modification so that safety can be achieved long term. We may not realize the benefits of a pro-active public education program for years to come. We are also trying to limit the increases we see in national safety trends; trends such as accidental overdoses of prescription medication, slips, trips and falls among seniors as well as drownings among children. These broad goals are all attainable but difficult to measure in a traditional sense. As we move forward with programs aimed at behavior modification our benchmarks will be numbers and not necessarily outcomes. Over time we will be able to look back and by using comparative data, be able to measure and predict outcomes. As always our immediate goals will be to measure our success or failure of our programs based on stakeholder feedback, positive or negative.

Respectfully submitted,

Anthony Stowers/Fire Chief

Appendix A

Questions for internal survey:

1= The Maynard Fire Department is not doing anything and falling well short in meeting your expectations or what you feel should be the department standard

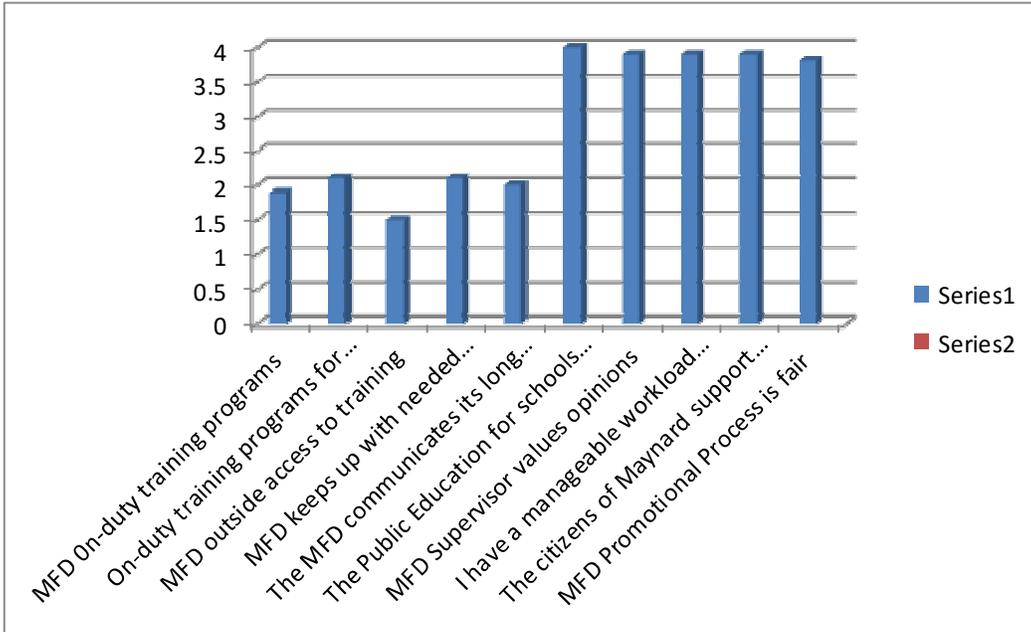
2= The Maynard Fire Department is doing some, but still very little in this area and still falling short of your expectations or what you feel should be the department standard.

3= The Maynard Fire Department is doing well in his area and only slightly below what you would expect or what you feel the department standard should be.

4= The Maynard Fire Department is meeting what you would expect or what you feel the department standard should be.

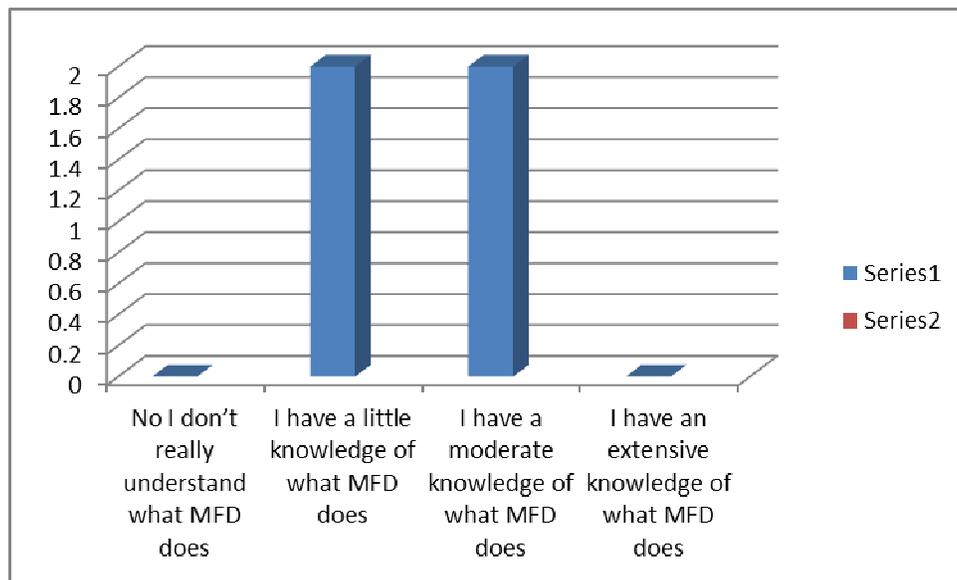
5= The Maynard Fire Department is exceeding what you expect or what you feel the department standard should be.

Results (highs/lows) of Internal Survey

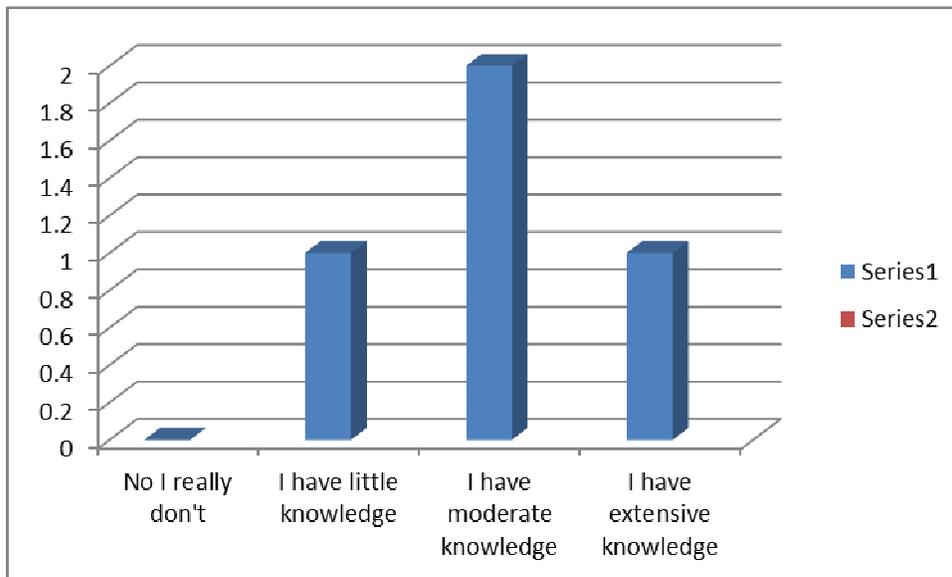


Appendix B

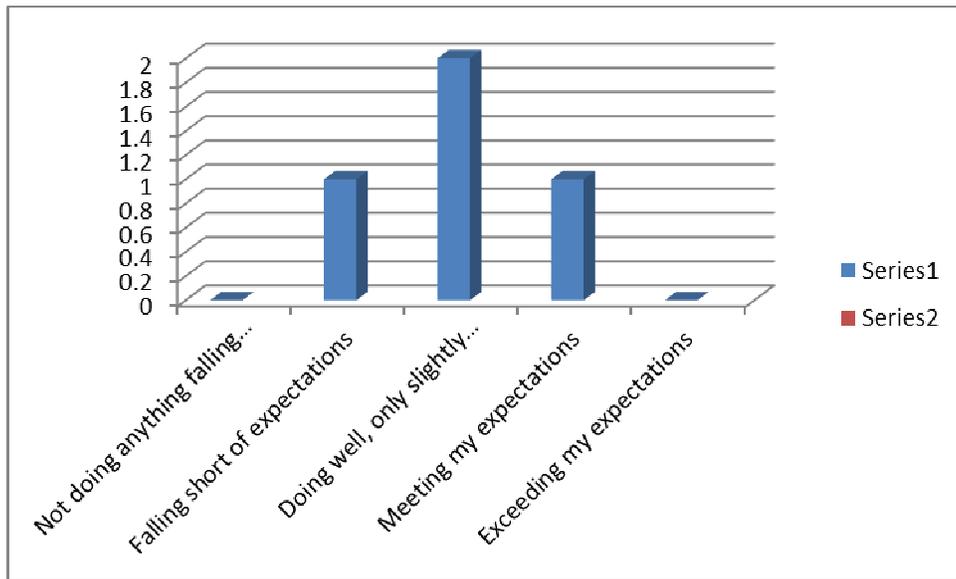
- 1) As Town of Maynard Department, do you feel you understand what the Maynard Fire Department does on a daily basis in carrying out their organizational mission?



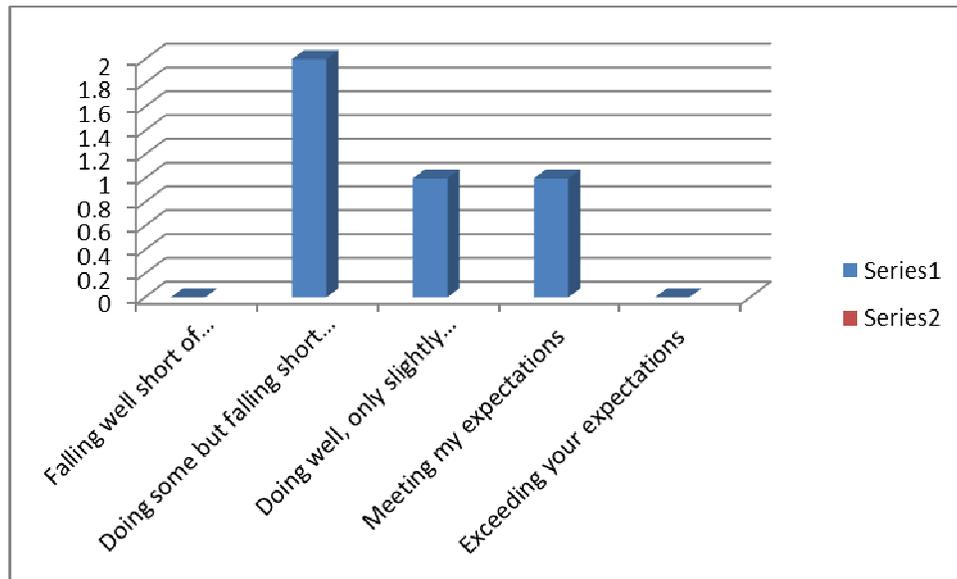
2) As another town department, do you feel you have a good understanding of the core services the Maynard Fire Department offers?



3) As another town department, please rate how well you think the Maynard Fire Department communicates with your department.



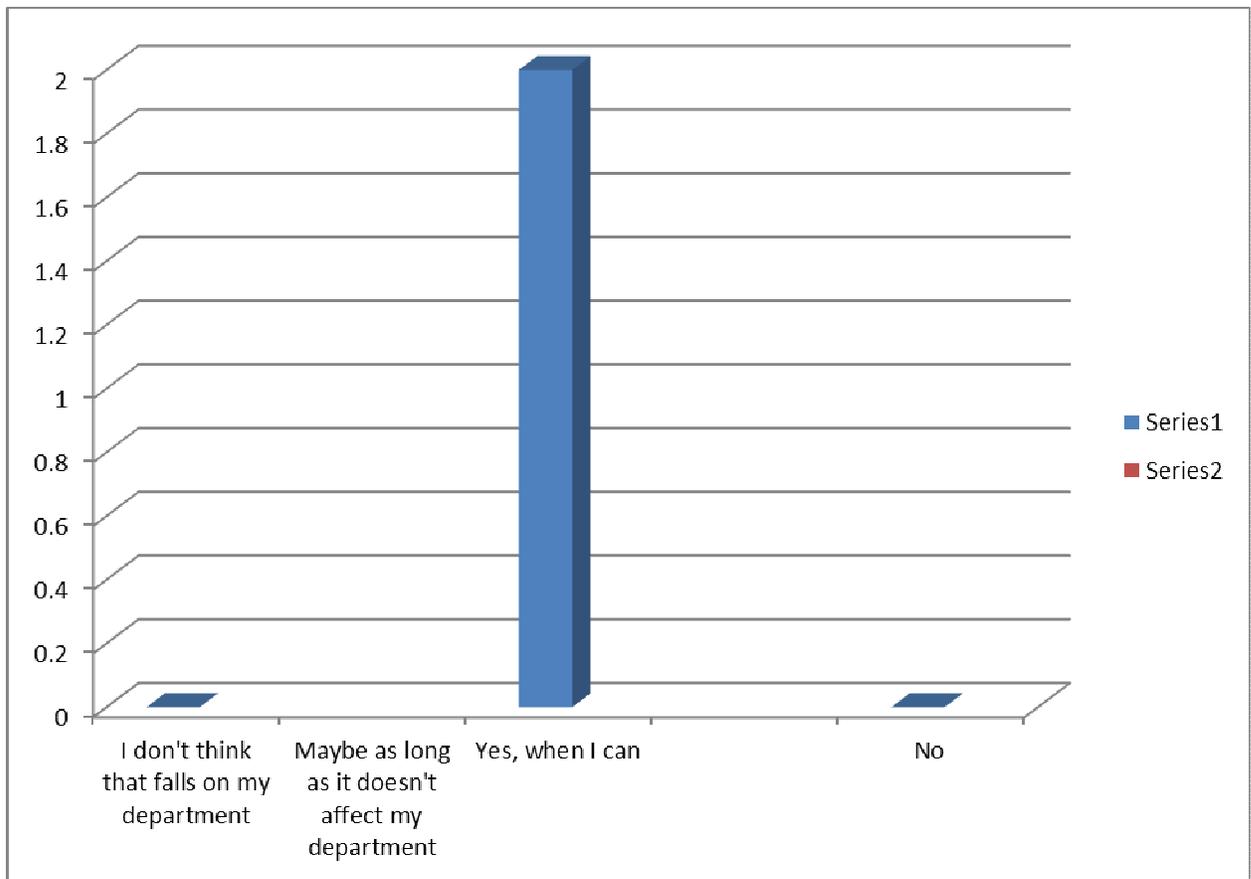
4) As another town department, please rate how well you feel the Maynard Fire Department markets itself.



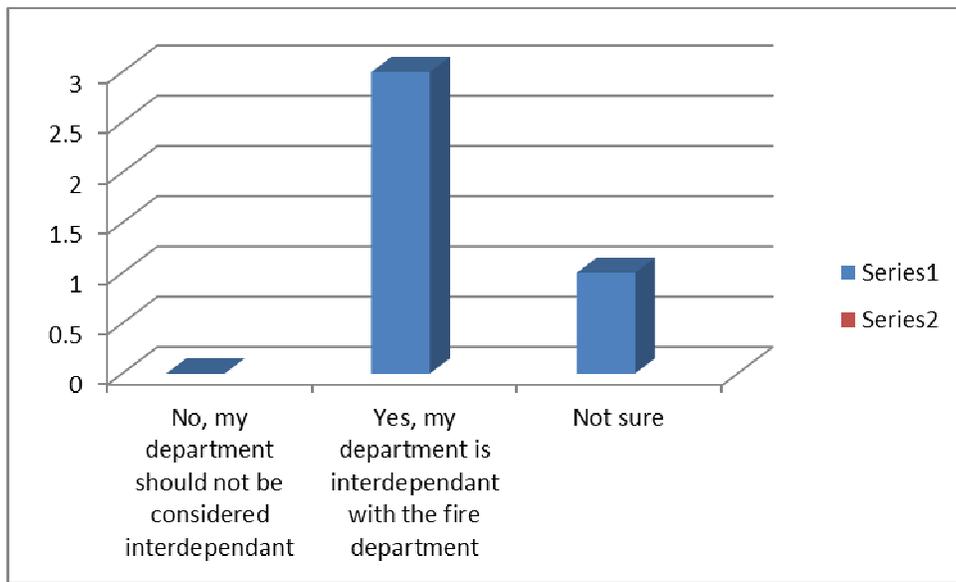
5) As another town department, please rate how good a partner the Maynard Fire Department is to other town departments.



6) As another town department, are you willing to help the Maynard Fire Department promote its mission to the public?

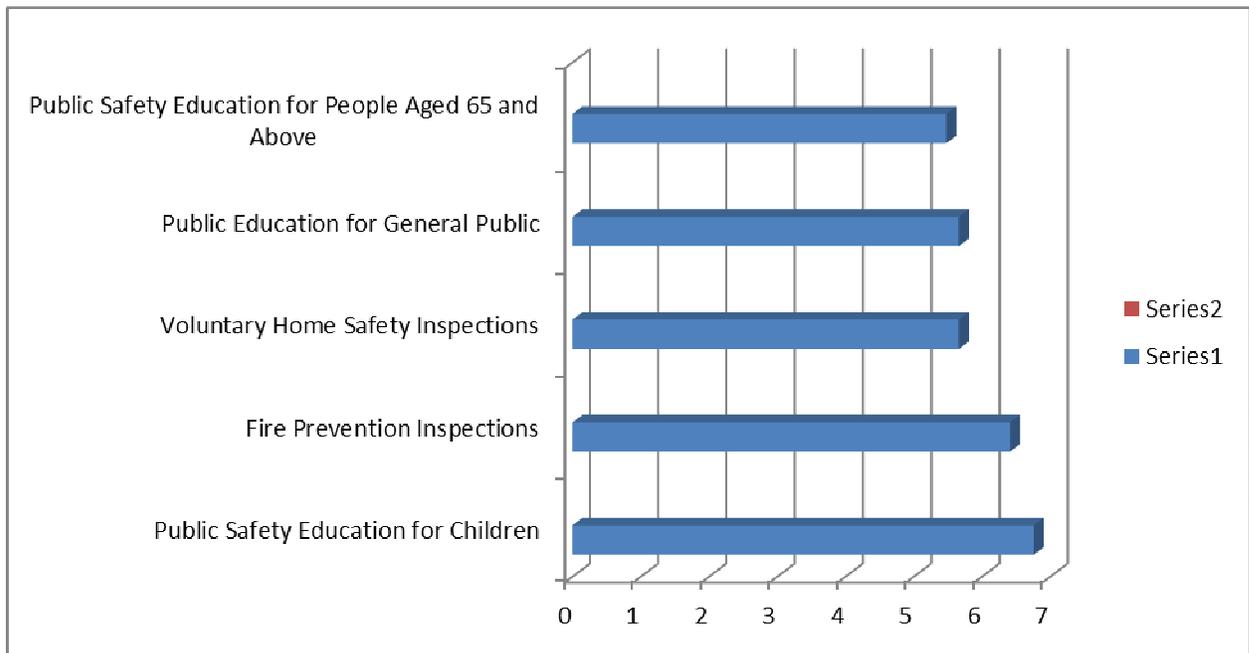


7) As another town department, do you feel your department is interdependent with the fire department?

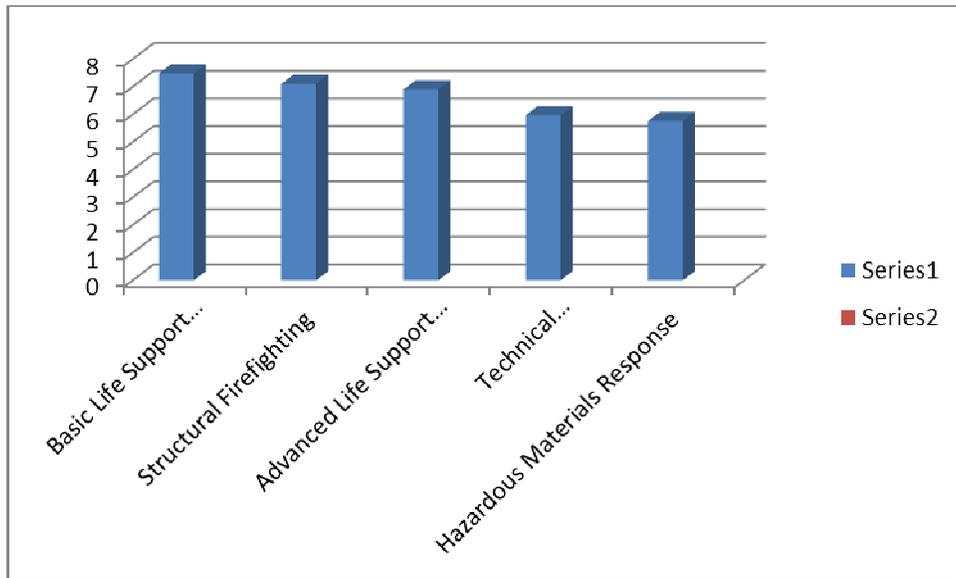


Appendix C

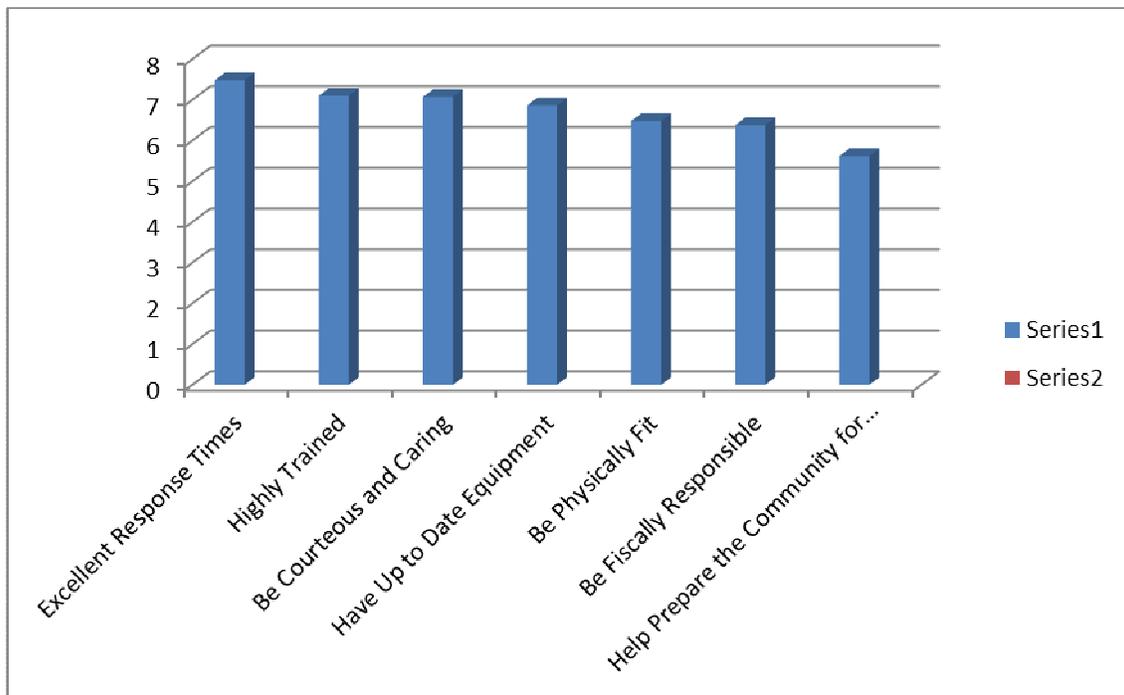
- 1) Please rate on a scale of 1-8, with 1 being the least important and 8 being the most important, the following services the Maynard Fire Department currently offers, or may offer in the future.



2) Please rate on a scale of 1-8, with 1 being the least important and 8 being the most important, the following emergency services the Maynard Fire Department currently offers, or may offer in the future.



3) Please rate on a scale of 1-8, with 1 being the least important and 8 being the most important, what you expect from the Maynard Fire Department and or Maynard Firefighters.



Appendix D

Community Demographics

Population: 10,106 this is according to the 2010 United States Census and represents a drop in population of 3.1%

Land area: 5.21 miles

Density: Maynard has a population density of just over 1938 people per square mile; this is higher in comparison to the state of Massachusetts which is listed at 839 people per square mile and the United States at 85 people per square mile.

Housing units: There are 4,337 housing *units* in Maynard according to 2010 statistics. At 68%, owner-occupied housing units are about 4% above the state average. The median value of owner-occupied housing is \$341,600.00, about \$11,000.00 less than the state average.

Median incomes: The median income for Maynard residents is just under \$35,000.00 about \$1000.00 above the state average. The median household income for the residents of Maynard is \$75,597.00 compared to the state median of \$64,509.00. Maynard has 3.6% of its population at or below the poverty level as opposed to the state level of 10.5%.

Commercial Structures: 137

Single Family Structures: 2564

Multiple Family Structures: 329 for a total of 1293 units

Condominium Structures: 92 for a total of 480 residential units

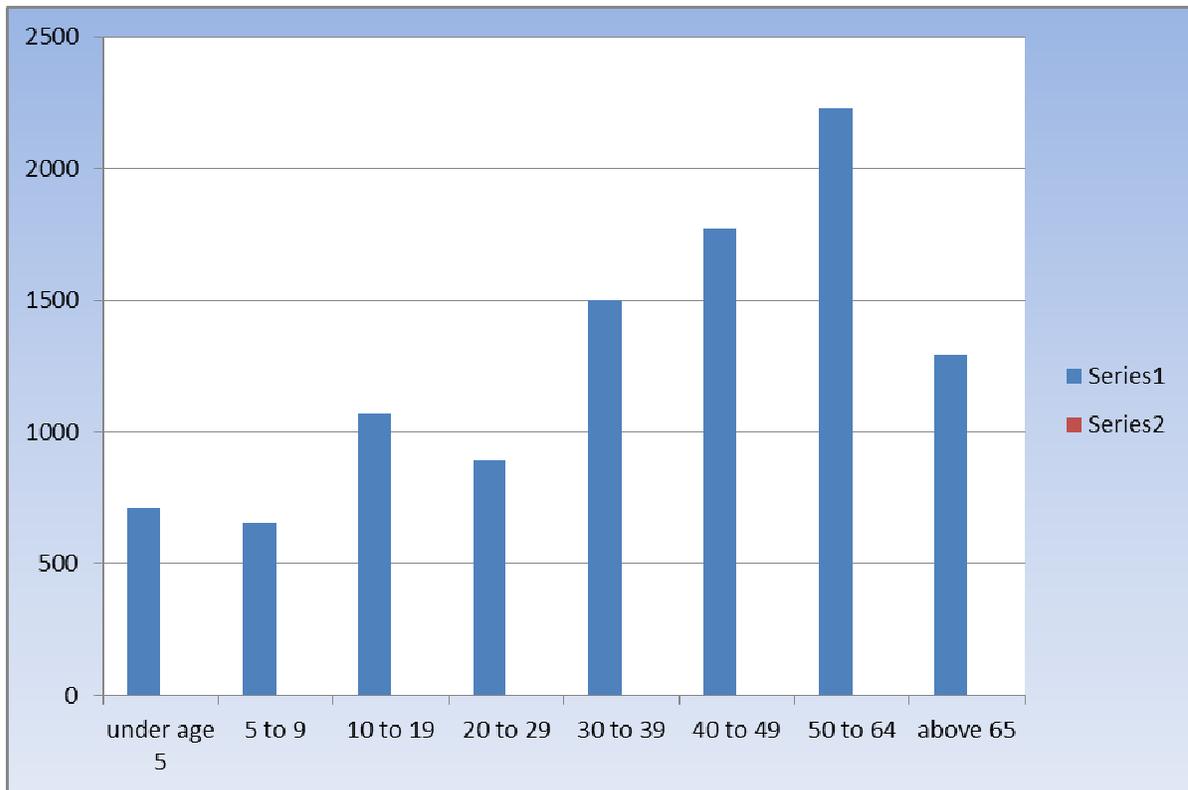
Largest target hazard: Clock tower place at 1.1 million square feet

Critical Infrastructure Protected: Town Hall, Police and Fire Department, Department of Public Works, Wastewater Treatment Facility, Community Water Supply, various bridges and main thoroughfares, FEMA Regional Headquarters, State Police Crime lab.

High-risk population: The National Fire Protection Agency (NFPA) has identified children under the age of 5 years old, and adults above the age of 65, as being at a higher risk of succumbing to the perils of fire than other segments of the population. The percentage of children 5 and under-represents 7.1% of Maynard's population; this is 1.5

and 2% more than the state of Massachusetts and the United States respectively. At 12.8%, Maynard's population of people aged 65 and older is right in line with the United States, and slightly below that of the State of Massachusetts, but it is expected to climb in coming years significantly. The median age of Maynard's citizens climbed over three full years since the 2000 census and now stands at 41.3 with the national average around 37 years. See Appendix D for breakdown by age.

1) Population breakdown for Maynard by age classification.



Appendix E

Metro Fire Staffing Statistics

Community	Firefighters and Fire Officers	Population 2010 (US Census Bureau)	Firefighters per 1000 Residents	Ambulance Service provided by Fire Department
Saugus	43	26,628	1.615	no
Randolph	52	32,112	1.619	yes
Arlington	70	42,884	1.632	yes
Stoneham	35	21,437	1.633	no
Weymouth	91	53,743	1.693	no
Malden	107	59,450	1.800	no
Winthrop	32	17,497	1.829	no
Lexington	58	31,394	1.847	yes
Revere	96	51,755	1.855	no
Woburn	71	38,120	1.863	yes
Lynn	171	90,329	1.893	yes
Reading	47	24,747	1.899	yes
Wellesley	54	27,982	1.930	no
Milton	53	27,003	1.963	no
Wakefield	49	24,932	1.965	no
Somerville	152	75,754	2.006	no
Quincy	186	92,271	2.016	no
Medford	116	56,173	2.065	no
Newton	179	85,146	2.102	no
Melrose	57	26,983	2.112	no
Winchester	46	21,374	2.152	yes
Belmont	54	24,729	2.184	yes
Needham	64	28,886	2.216	yes
Everett	95	41,667	2.280	no
Boston	1420	617,594	2.299	no
Burlington	57	24,498	2.327	yes
Braintree	85	35,744	2.378	no
Dedham	61	24,729	2.467	no
Chelsea	89	35,177	2.530	no
Watertown	83	31,915	2.601	yes
Brookline	154	58,732	2.622	no
Cambridge	276	105,162	2.625	yes
Weston	30	11,261	2.664	yes

Waltham	165	60,632	2.721	no
Maynard	20	10,100	1.980	yes
Average			2.214	