

EXETER, NEW HAMPSHIRE

AN ORGANIZATIONAL, EFFECTIVENESS,
AND EFFICIENCY STUDY OF THE
FIRE DEPARTMENT

AUGUST 2007

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I. EXECUTIVE SUMMARY

This *Organizational, Effectiveness, and Efficiency Study of the Exeter Fire Department* was conducted by MMA Consulting Group, Inc. The purpose of the study was to examine the organizational structure and operations of the Exeter Fire Department. The report contains a number of recommendations and the framework for a long-range plan focusing on fire suppression, emergency medical, fire prevention, and related public safety services for the Town.

The Town's resources for fire protection, emergency, and other services are limited, and will continue to be for some time. The need for additional Fire Department resources will grow as the Town grows. Changes in Department structure, operations, and planning will be necessary to ensure that the Department has the capability to respond effectively to a variety of emergency incidents. A strategy should be developed to allow modest growth in Fire Department resources in an orderly manner. This report presents a plan to increase both the capabilities of the Fire Department and its capacity to handle its community protection responsibilities within the confines of a limited budget.

Some of the major findings of the study are:

- The Department has strengthened its command functions with the employment of an additional Assistant Chief.
- The Department has increased its response capability with the addition of one additional firefighter on each shift.
- The deployment of all emergency services (fire and emergency medical services) from one fire station, while reasonably effective, will be less effective as the Town grows. A two fire station configuration will provide a more appropriate service model, assuming that career and call staffing is established at a second station.
- The initial capability of the Department to respond to a major incident is limited and the Department has limited capability to manage simultaneous, or near simultaneous, incidents.

- The assignment of an Assistant Chief to oversee Health Department functions limits the planning and administrative capability of the Fire Department.
- The current communications system requires strengthening.
- There is a need to expand the role of the call component of the Fire Department.

FIRE STATION CONFIGURATION RECOMMENDATIONS

The consultants recommend that the Town provide services using a two-station configuration. A station to serve the northern and western parts of Exeter should be considered. The existing Court Street Station provides good coverage to a significant portion of Exeter. However, this one-station deployment model results in long response times to the western and northern parts of Town. In a two-station deployment approach (assuming the current station at Court Street is retained and a second station is constructed at or near Epping Road), 81 percent of the street miles and an estimated 83 percent of the population can be served in less than four minutes travel time (six minutes total response time). The following exhibit displays current population and road miles serviced with four minutes travel time or six minutes total response time, under the current one-station configuration and the proposed two-station configuration. The exhibit displays data associated with current road mileage and current population. Assuming population growth in the northern and western parts of Exeter, the percent of population and road miles covered will increase.

**EXHIBIT I-1
PERCENT OF COVERAGE WITHIN FOUR MINUTES
CURRENT ONE FIRE STATION SYSTEM COMPARED TO TWO FIRE STATION SYSTEM PROPOSAL**

	CURRENT SYSTEM (ONE FIRE STATION)		TWO FIRE STATION PROPOSAL	
	ROAD MILES	2000 POPULATION	ROAD MILES	2000 POPULATION
	PERCENT	PERCENT	PERCENT	PERCENT
3 to 4 minutes	69.9%	67.6%	81.3%	82.6%

The computer mapping shown in the report presents an analysis of the impact of a two fire station configuration.

- The Town should acquire enough land in the Epping Road area to enable the Town to construct a second fire station in the future.
- The station construction should be linked to a staffing and deployment plan.
- A low-cost (temporary) two-bay station or a permanent two-bay station (with expansion capabilities) should be constructed.
- The proposed station's apparatus bays should be double length to relieve apparatus crowding at the Court Street station. The proposed station should provide space for a first-line pumper and a career staff of two personnel, a call-crew pumper, an ambulance, and the Department's reserve pumper.

The possibility of an additional fire station relocation alternative was presented as this study was concluding. This alternative considered the placement of a fire station near Route 111 and Pickpocket Road. (See the report Appendix which presents a map of this alternative.)

RESPONSE CAPACITY AND CAPABILITY RECOMMENDATIONS

In order to ensure an adequate level of emergency response, and to make progress toward meeting industry benchmarks, it is recommended that the Department and the Town commit to a long-range planning process. Some staffing increases, more effective use of call personnel, and the development of a productive call-back system should be considered by those officials involved in the planning process. The goal of this effort is to create a response system capable of delivering a minimum of 15 responders to the scene of a fire within acceptable time parameters. To accomplish this goal, several recommendations have been made.

- The Fire Department should increase its career personnel by two per shift, increasing shift size to seven personnel (or eight personnel when an Assistant Chief is included in the total count of available personnel).

Two personnel should be deployed at the proposed second station. These personnel should have the capability of responding with a paramedic engine. The employment of four firefighters will reduce overtime costs.

- The call component of the Department should be expanded to supplement the career resources of the Department. The call Department should be utilized to train call personnel who might become career personnel as the Department expands.
- The Fire Department should construct a recall system for full-time personnel. This system should be designed to be activated during major incidents.
- The Fire Department should continue its use of automatic mutual aid.

The following exhibit presents an estimate of the number of emergency personnel available to respond under the staffing/deployment methodology described in this report. The deployment goal is to provide a sufficient number of personnel at a major incident, such as a single family house fire.

EXHIBIT I-2
ESTIMATED NUMBER OF RESPONDERS
PROPOSED STAFFING AND DEPLOYMENT MODEL

PERSONNEL	NUMBER
On-duty personnel	7
Duty chief	1
Career call back personnel	4
Call personnel	4
Total	16

To strengthen the call component of the Fire Department, an Assistant Chief should be given responsibility for working with the call personnel to expand the membership and strengthen the response capabilities of personnel. To enable an Assistant Chief to perform this function, responsibilities for providing health

related services should be transferred to another individual or agency. It appears that additional full-time or part-time health personnel should be employed. To achieve these objectives, the following recommendations have been made.

- The Assistant Chief should be assigned responsibility for developing and expanding the call component of the Fire Department. The duties of the Health Agent should be reassigned.
- When employing new full-time personnel, the Fire Department should consider employing eligible personnel who are trained members of the call component of the Fire Department.

EMERGENCY MEDICAL SERVICES RECOMMENDATIONS

The Fire Department ambulances respond to approximately 1,400 to 1,500 requests for Emergency Medical Services each year. Two rescue units provide EMS response with transport capability. EMS calls for service have increased at an average of nearly five percent per year during the last five years. The Department should make several administrative improvements concerning the delivery of services.

- The Department should increase EMS billing rates, as planned.
- The Department should encourage the training and certification of additional call members as EMS responders. Call personnel should be assigned to assist with the EMS workload. Paramedic call personnel could be assigned to an ALS fly-car (24 hours per day, 365 days per year).

EMERGENCY COMMUNICATION RECOMMENDATIONS

The current process for tracking calls for service, collecting information, initial dispatching, and communication with emergency response personnel is not adequate to meet the needs of the Fire Department. An integrated communications system for Exeter is recommended as a way to provide this critical communication function efficiently. The communication system should be strengthened by taking several actions.

- The Town should employ two Police/EMS/Fire Dispatchers on each shift. (Alternatives are suggested in the text of the report.)
- The Town should provide for training in the application of police, fire and rescue protocols for all dispatchers.
- The Police and the Fire Departments should develop a management and supervisory structure which satisfies the needs of both the Police Department and the Fire Department.
- The Police and the Fire Departments should develop a system of quality assurance to measure performance. The departments should also develop reports which generate more data on emergency responses.
- The Fire Department, working with the Police Department, should train members of the call component of the Fire Department as dispatchers to ensure that sufficient personnel are available in a major emergency.

STAFF SUPPORT RECOMMENDATIONS

Staff support is provided by the Assistant Chief for Operations and Fire Prevention and the Assistant Chief for Training and Emergency Management. A Fire Lieutenant performs fire prevention duties for the Department. The Assistant Chief for Operations also serves as the Town's Health Officer. Two actions should be taken to improve staff functions of the Fire Department.

- The Department should require that at least one company officer per shift be trained to the Fire Inspector I level. In addition, trained and certified call personnel should be used to augment career personnel.
- The Town should plan to employ a full-time Health Officer and restructure health functions so that the Assistant Chief overseeing Town health functions can devote more time to Fire Department activities.

PRIORITY OF RECOMMENDATIONS

On the following pages, major recommendations are listed in the order they are presented in this report, along with assigned priorities. The recommendations have been categorized as follows:

Priority 1: Recommendations which directly affect the safety of personnel or the public, or establish the framework for other recommendations. These recommendations should be addressed immediately.

Priority 2: Recommendations which should be implemented without delay, since they may bear directly on safety, productivity, cost and efficient operation of fire, rescue, or emergency medical services in Exeter.

Priority 3: Recommendations which are important to the efficient provision of fire, rescue, or emergency medical services in Exeter. These recommendations should be implemented as soon as reasonable and practical.

Priority 4: Recommendations which can contribute to the continued improvement of fire, rescue, or emergency medical services in Exeter. These recommendations should be implemented as soon as resources and operating conditions permit.

	RECOMMENDATION	PRIORITY
III-1	Each chief officer should be assigned to act as the duty officer or shift commander, on a weekly rotating basis, responding from work or home on pre-designated types of calls for service.	1
III-2	The management of the Fire Department should systematically monitor the staffing factor of the Fire Department, as one measure of productivity and accountability.	4
III-3	The Department and the Town should adopt a policy calling for the delivery of an appropriately sized team of trained responders to arrive at a major incident in a timely manner.	1
III-4	The Department's deployment strategy should consider the use of career personnel augmented by call personnel and an efficient call-back system.	1
III-5	The deployment strategy should be linked, in the long run, to the construction of a new fire station.	2
III-6	The Department's policy should be to strengthen the call component of the Fire Department and integrate call personnel into all of the Department's services.	2
III-7	The Department should have the goal of using regional approaches to service delivery.	1
III-8	The call component of the Fire Department should be revitalized in order to improve response capability, safety, and productivity of Fire Department operations.	1

III-9	An Assistant Chief should be responsible for strengthening the call component of the Fire Department.	2
III-10	The Fire Department should define the mission of the call component of the Fire Department.	2
III-11	The Department should develop programs to encourage skilled residents, retirees, and students to assist the Fire Department.	3
III-12	The Fire Department and the Town should explore incentives for call personnel.	4
III-13	The Fire Department should assign a pumper and auxiliary vehicles, such as a tanker and medium rescue truck, to the new station. Auxiliary units should be used by qualified responding call personnel.	2
III-14	The Department should train call personnel as dispatchers to enable them to serve as dispatchers during major emergencies and storms.	2
III-15	The Department should train, qualify, and use call personnel to assist with the “fill-in” schedule, and as additional crew members during peak workload hours.	2
III-16	The Department should train, qualify and use call members as safety officers, incident command technicians, auxiliary fire inspectors, and public safety educators. Call personnel should also be trained to support structure fire initial attack teams.	3
III-17	The Town should prohibit a fire officer from filling in as a lower ranking firefighter.	1
III-18	The Department should initiate clear response protocols which have chief officers and Fire Inspectors responding to pre-designated alarms in pre-assigned roles.	1
III-19	The Department should plan to employ eight additional full-time personnel. Two responders should be assigned to each shift. (See station location recommendations.) The Department should consider employing four firefighters as soon as possible.	1
III-20	The Fire Department should continue to participate in all mutual aid arrangements.	4
III-21	The Seacoast Fire Chiefs Association should develop a plan and initiate an appropriate automatic response mutual aid program for pre-designated types of calls.	2
III-22	The Department should continue to strengthen the Rapid Intervention Team (RIT) program by working with regional fire departments and mutual aid member communities.	2

III-23	The Department should continue to promote new programs to identify, train, qualify, and use call members to respond to calls for mutual aid and for the RIT team.	2
III-24	The Fire Department should work within the Seacoast Mutual Aid System to develop a regional Incident Management Team (IMT).	2
IV-1	The Department should retain the current emergency medical system and increase the billing rates, as planned.	1
IV-2	The Department should train and certify more call members as EMS providers, in order to assist career personnel with the EMS workload. Paramedic call members might be assigned to an ALS fly car.	2
IV-3	The Department should develop a system to reduce EMS call response time by receiving notice of EMS calls prior to completion of the EMD process.	2
IV-4	The Fire Department should continue the quality assurance review process for EMS service delivery.	1
V-1	The Town should review the staffing of the dispatch center.	1
V-2	The Town should consider employing additional dispatchers during peak activity periods.	
V-3	Members of the call component of the Fire Department should be trained as dispatchers.	1
V-4	The Police Department and the Fire Department should establish an emergency communications committee consisting of command personnel to ensure effective management of the emergency dispatch system.	2
V-5	The Town should explore the development of new a Computer Aided Dispatch (CAD) system.	3
V-6	An Assistant Chief should be designated as the Fire Department's liaison to the police and fire emergency communications committee.	2
VI-1	The Town should acquire enough land in the Epping Road area so that, if a new fire station is needed in the future, land will be available.	1
VI-2	A low-cost (temporary) two-bay station, or a permanent two-bay station, which may be expanded, should be constructed.	2
VI-3	As part of a long-term plan, the Town should employ a minimum of eight additional full-time firefighters to staff the second station.	4
VI-4	The new station in the Epping Road area should house an ambulance to provide quicker response to the northern, central, and western parts of the Town.	3

VI-5	Living quarters in a new station should include enough space and facilities for call personnel.	4
VI-6	When a new pumper is purchased for the second station, it should be a Quint vehicle (both pump and aerial capability).	2
VI-7	The Department should establish a specific apparatus inventory for the two-station configuration model.	1
VII-1	The Department should require that at least one company officer and/or crew chief per shift is trained to the Fire Inspector I level. Qualified call personnel should be included in the program.	1
VII-2	The Fire Prevention Office should develop checklists, forms, and schematics so that emergency response personnel can participate in pre-planning. The Department's call personnel should participate in pre-planning activities.	2
VII-3	The Department should seek funds and authorization to consult with a Fire Protection Engineer to assist in the review of technical or unusual development plans.	2
VII-4	The Department should develop a public education program which addresses all hazards and focuses on the community at large.	3
VII-5	The Town should plan to employ a full-time Health Officer, so that the Assistant Chief can devote all of his or her efforts to Fire Department activities.	1
VII-6	The Department should require one company officer and/or firefighter on each shift to be trained to the Fire Instructor I level, with the capability of instructing personnel from a defined lesson plan.	2
VII-7	The Department should develop and implement a basic skill refresher training program, followed by NIMS training.	2
VII-8	The Assistant Chief should develop a program to evaluate training provided to personnel. Individual and company training levels can be measured at company drills.	1
VII-9	Consideration should be given to discontinuing the street box system and developing a master box system which is not hardwired.	3
VIII-1	The Fire Chief, chief officers, and company officers should review the survey and discuss its findings to determine if the results suggest specific areas for training or improvement.	2
IX-1	The Town should create an implementation committee to review the recommendations in this report. The committee should consider the interrelationships of the staffing recommendations.	1

REPORT CONTENTS

This report is organized into several chapters. Chapter I, *Executive Summary*, provides an overview of findings and recommendations. Chapter II, *Introduction*, describes the scope of this study. Chapter III, *The Community and the Fire Department*, provides a summary of the Town's growth potential and an overview of the Fire Department. Chapter IV, *Emergency Medical Services*, describes the current service level provided by the Department. Chapter V, *Emergency Communications*, discusses the Town's emergency communication or dispatch system. Chapter VI, *Fire Station Location*, presents the analysis of station location and supports conclusions with computer mapping and related data. Chapter VII, *Staff Support and Services*, outlines the current nature of the Department's administrative support systems. Chapter VIII, *Fire Department Attitude Survey*, presents the results of a survey of firefighters. Chapter IX, *Implementation Plan*, lists each recommendation with an assigned priority and presents an approach to implementing recommendations.

GLOSSARY

Some of the abbreviations included in this report are:

ALS	Advanced Life Support
BLS	Basic Life Support
EMD	Emergency Medical Dispatching
EMS	Emergency Medical Services
EMT	Emergency Medical Technician
GPM	Gallons per Minute
ISO	Insurance Services Office
NFPA	National Fire Protection Association

II. INTRODUCTION

This *Organizational, Effectiveness, and Efficiency Study of the Exeter Fire Department* was conducted by MMA Consulting Group, Inc. The purpose of the study was to examine the organizational structure of the Department and make recommendations to improve its capability, effectiveness, and efficiency. This report contains a range of recommendations which provide a framework for a long-range plan focusing on fire suppression, emergency medical services, fire prevention, and related public safety services.

It is clear from meetings and interviews that Town officials and Fire Department personnel desire to provide the Town of Exeter with adequate fire and emergency medical protection at an affordable cost. To accomplish these goals of adequate service delivery and affordable cost, several factors must be recognized by Town officials, Fire Department personnel, and Town residents. First, resource (and thus, delivery) levels will continue to be limited for some time. Second, because of this, changes in Department structure and operations will be necessary to increase its capability to respond effectively and safely. Third, the need for additional Fire Department and emergency medical resources will increase. As a result, the Town and the Fire Department need a plan which provides an orderly and cost-effective strategy to reflect the changing demand for services.

A phased implementation process is recommended in this report. This process will increase the capability of the Department to respond to community emergencies.

The consultants reviewed the organization of the Department, station location, safety, response capability, productivity, prevention and public safety education, community demographics, funding sources, emergency dispatch, and related areas. The consultants conducted a comprehensive examination consisting of several site visits, extensive interviews of Department and Town officials, union officials, all shift crews, observations in the dispatch facility, several tours of the entire Town, observations of actual emergency responses, and the inspection of apparatus. An extensive document review was conducted, including budgets, labor contracts, overtime reports, workload reports and statistics, training reports, call company status reports, Town maps, organization charts, job descriptions, apparatus and equipment lists, and the proposed new station plans. In addition to

interviews and data analysis, the consultants developed a series of computer maps to assess the response capability of the Fire Department.

In discussions with managers and administrators, it became apparent that Town and Fire Department officials have major concerns about the following service delivery and cost issues:

- ▶ the annual cost of Fire Department overtime
- ▶ the need for, and design of, a second station
- ▶ a suitable location for an additional station
- ▶ the efficiency of the Department's organizational structure and operating protocols
- ▶ resource levels and productivity
- ▶ shift staffing levels
- ▶ Town health issues and related workload
- ▶ Fire inspection workload, code enforcement issues, public safety education, and related workload

This study confirms that these are important concerns which need consideration. The items listed below suggest the need for a strategic planning process with broad public support.

- ▶ the needed augmentation of the initial response force
- ▶ the ability to handle simultaneous calls for service adequately and safely
- ▶ protocols for meeting the OSHA 2 in - 2 out and Rapid Intervention Team legal requirements
- ▶ the further incorporation of the Department's call group into the response running card assignments, inspection, and public safety education duties
- ▶ the absence of critical first-due technical rescue equipment and related training
- ▶ the apparent absence of a designated strategic, long-range planning group
- ▶ the lack of a water tanker or other suitable provisions for the non-hydrant areas
- ▶ adequate, effective public information and education efforts
- ▶ the necessity to have a plan of action so that future officials, Department personnel, and residents will continue to support the Department

III. THE COMMUNITY AND THE FIRE DEPARTMENT

The Town of Exeter is approximately 20 square miles in size, with a current population of about 14,750. It functions as the Rockingham County seat and provides major retail, hospital, and other services for the area. Exeter Academy, which has 1,000 residential students, and a local high school with 1,500 students are located in the Town. The population has grown almost 5.0 percent during the past six years and there has been a steady increase in single-family residences, as measured by building permits issued. Population density is about 716 per square mile, with a built-up downtown area and a large private academy complex. Several major highways and a railroad (with a local station) serve Exeter. There are a few hilly sections with elevations of approximately 200 feet.

GROWTH AND DEVELOPMENT IN EXETER

Maps 1 and 2 graphically summarize the likely future residential and non-residential development in Exeter. The maps are based on an interview with the Town Planner and the Building Inspector and reflect their local knowledge and familiarity with current development proposals and potential development. Their professional judgements about the feasibility of developing various vacant lands within the community were invaluable in developing the maps.

There appears to be a large inventory of vacant land available; however, a large amount of the land cannot be developed. The Conservation Commission administers 1,838 acres of open land. An additional 385 acres are under easements restricting future intensive development. Approximately 2,200 acres are not available for future residential or commercial development.

RESIDENTIAL GROWTH POTENTIAL

The future residential growth of the Town will have a direct bearing on the future of the Fire Department and the services that are provided. Map 1 indicates that a moderate amount of additional residential development is expected in the eastern, central, southwestern, and northern parts of Exeter. Much of the vacant land is available for building, and is not subject to wet conditions, poor drainage, or other limiting factors.

Map 1 generally locates and estimates the number of additional dwelling units that may be feasible. The number of future housing units (single-family, duplexes, condominiums, and multi-family rental units) totals 756. One 248-unit condominium development (mostly two bedrooms) off Route 101, which abuts the Stratham town line, is planned for seniors. This development represents one-third of the total anticipated development.

EXHIBIT III-1
FUTURE DWELLING UNITS (BY TYPE)

TYPE	ESTIMATED NUMBER
Condominium	248
Duplex	30
Multi-Family	118
Single-Family	360
Total	756

While some of these residential units might be built in the next five years, it may be 20 to 30 years before most are developed. The number of people living in these units would probably add 1,500 to 1,700 persons to the current population. This amount of housing and population growth, especially if it occurs over a 20 or 30-year period, will not immediately burden the Fire Department's overall capabilities, provided that there is a phased growth in resources allocated to the Department during this time of expansion.

COMMERCIAL GROWTH POTENTIAL

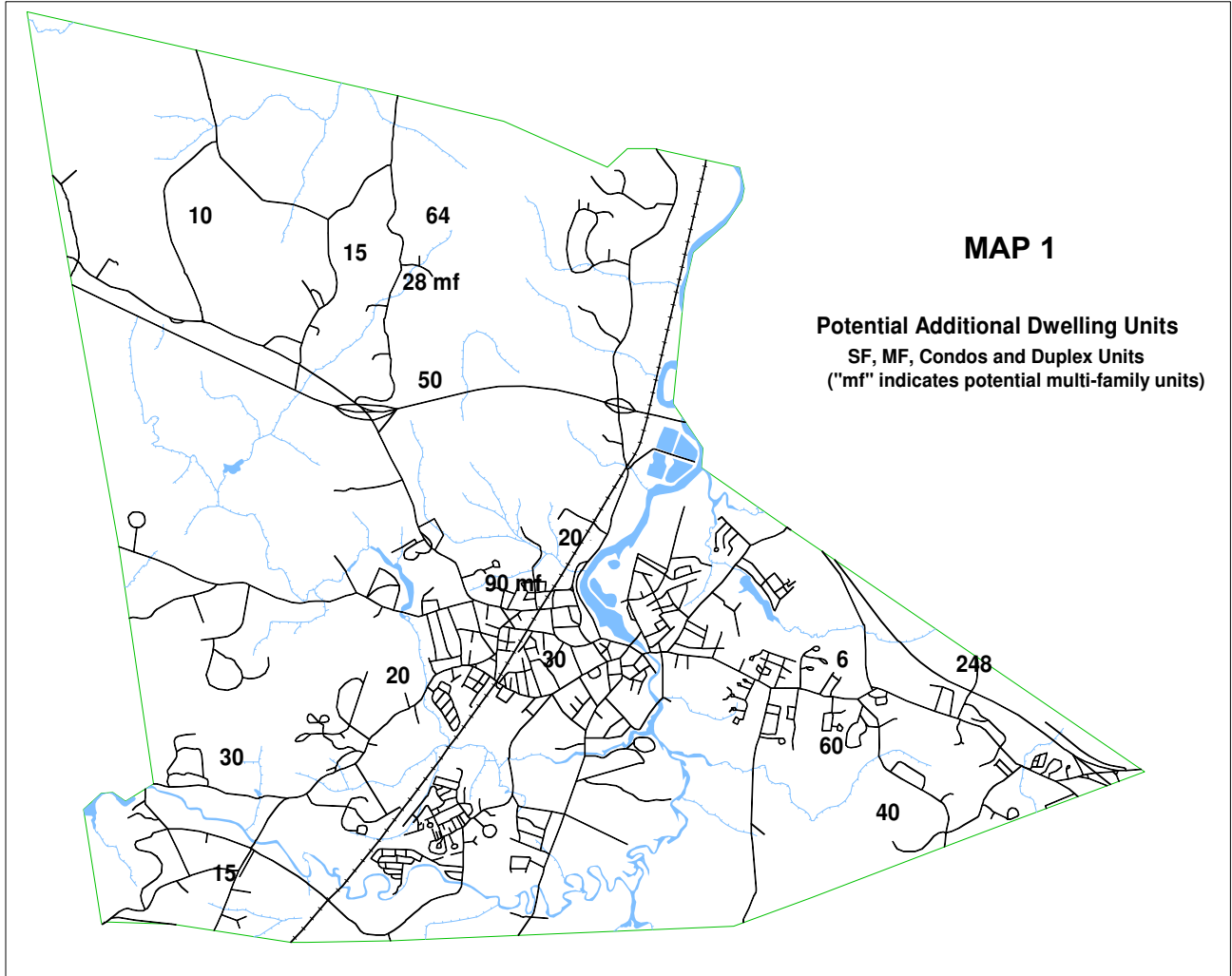
Map 2 locates anticipated additional growth of non-residential property within Exeter (in gross square feet of building space). In the eastern part of the Town, additional commercial and office space is expected along Portsmouth Avenue, Holland Way, and High Street. This is primarily related to medical offices and related services. In the central and northern sections of Exeter, more significant non-residential development will occur along Route 27, between Route 101 and Park Street and, to a more limited extent, north of Route 101.

A total of approximately 68,000 additional gross square footage may be developed throughout the Town; of that, 300,000, almost 65 percent, is expected in the area south of Route 101, along Route 27.

**EXHIBIT III-2
FUTURE NON-RESIDENTIAL DEVELOPMENT (BY TYPE)**

TYPE	ESTIMATED SIZE (SQ FT.)
Manufacturing and Warehousing	58,000
Roadside Commercial (Retail and Service)	67,000
Office (including medical offices)	43,000
Mixed (big box retail, warehouse, lt. mfg., office)	300,000
Total	468,000

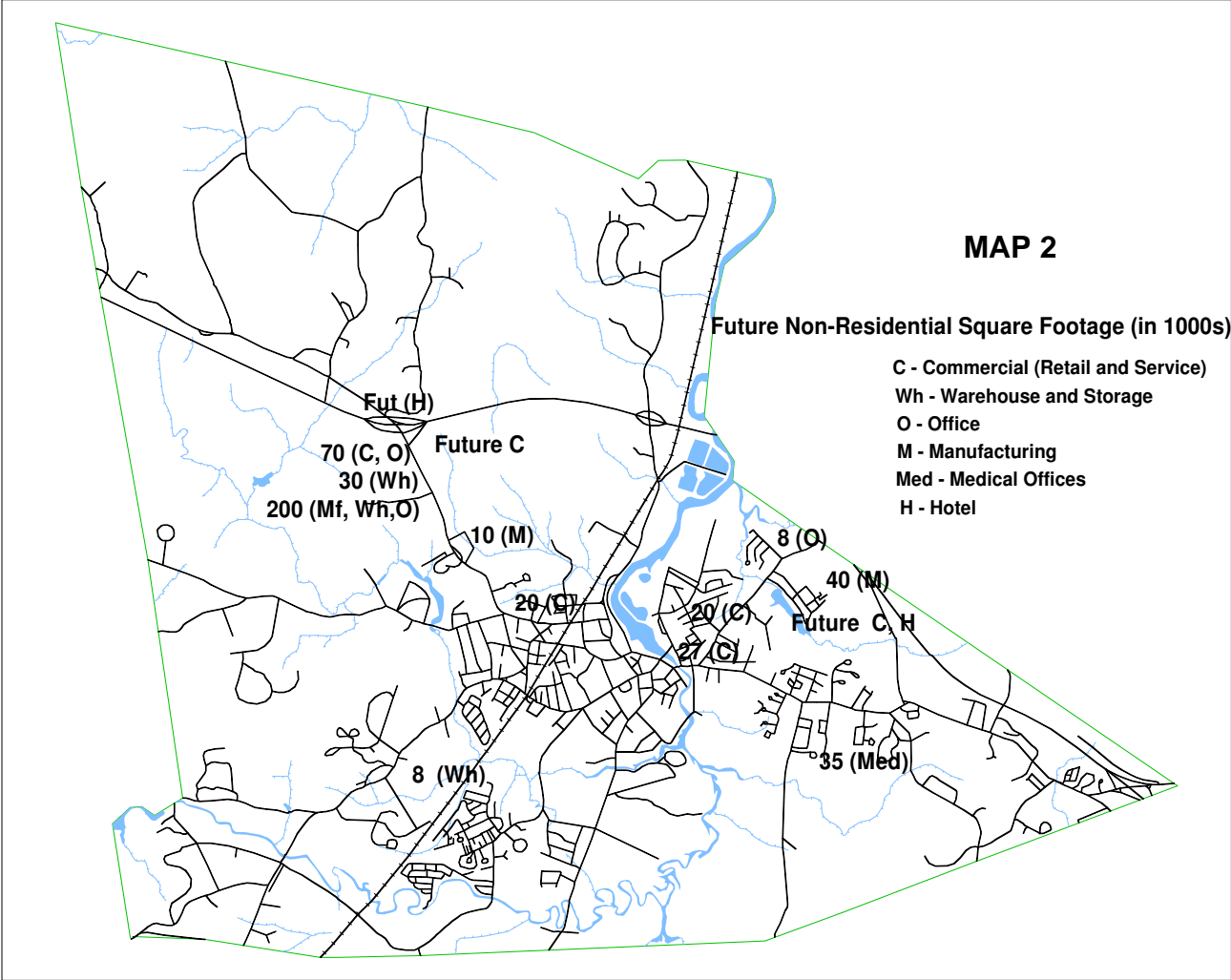
Growth and development potential in the northern and central portions of the Town is a major consideration in future fire station location planning. There is a concentration of commercial uses along Route 27, and more development in this area is anticipated. A 1,500 student high school is situated on the west side of Route 27. In addition, there is residential development already located in the general area, which is likely to increase in the future. Computer mapping analysis identifies the potential coverage that may be attained if a fire station were located to serve this part of Town. The response maps indicate how the proposed station response would be integrated into the existing Court Street central fire station response system. The arrangement would provide effective fire and EMS response in this area, and throughout the community.



MAP 2

Future Non-Residential Square Footage (in 1000s)

- C - Commercial (Retail and Service)
- Wh - Warehouse and Storage
- O - Office
- M - Manufacturing
- Med - Medical Offices
- H - Hotel



THE EXETER FIRE DEPARTMENT

The Exeter Fire Department consists of 26 full-time, career firefighters/emergency medical technicians, and an administrative assistant who also functions as the ambulance billing clerk. There are a number of call firefighting personnel. The call component of the Fire Department has a Deputy Chief, Captains, and Lieutenants.

The Fire Chief, two Assistant Chiefs, the Lieutenant Inspector, and the Administrative Assistant work a 40-hour week. The chief officers and the Lieutenant Inspector are on call for emergencies.

The station personnel work a four-shift schedule of 24 hours on, 24 hours off, and 24 hours on duty, followed by five days off. The on-duty station crew consists of a Lieutenant and four firefighters who staff an ambulance and/or an engine, depending on the type of call. A call-back of off-duty personnel (which results in overtime costs) may be undertaken when necessary, although current policy is to discourage the use of call-backs. The reduction in the number of recalls of off-duty firefighters minimizes overtime costs, but places more responsibility on the shift Lieutenant for making deployment and resource allocation decisions.

Exhibit III-3 displays the current staffing complement of the Fire Department and Exhibit III-4 shows the on-duty deployment of personnel.

**EXHIBIT III-3
STAFFING COMPLEMENT OF THE FIRE DEPARTMENT**

POSITION	NUMBER OF PERSONNEL
Chief of Department	1
Assistant Fire Chief	2
Fire Lieutenant (shift assignments)	4
Fire Lieutenant (inspector)	1
Firefighter	16
Administrative Assistant	1

**EXHIBIT III-4
DAILY SHIFT COMPLEMENT ***

POSITION	NUMBER OF PERSONNEL
Fire Lieutenant (shift assignments)	1
Firefighter	4

* During the normal work week (Monday to Friday) the Chief, Assistant Chiefs, and Lieutenant Inspector may be able to respond to an emergency.

All apparatus (see Exhibit III-5) are currently housed at the 20 Court Street station in the downtown area. Obviously, four first-line pumpers, plus an aerial ladder, a brush truck, and two ambulances cannot be staffed by five on-duty crew members. The recall of off-duty personnel is necessary to take advantage of available apparatus.

**EXHIBIT III-5
FIRE DEPARTMENT APPARATUS AND EQUIPMENT**

	YEAR MFG.	MAKE	PUMP SIZE (GPM)	TANK SIZE (GALLONS)	REMARKS
Engine 5	2002	E-One	1500	750	
Engine 1	1997	Pierce Quantum	1500	1000	
Engine 4	1989	Pierce Arrow	1500	1000	
Engine 2	1986	Mack	1500	1000	
Engine 3	1979	Mack	1500	850	Reserve
Ladder 1	1994	E-one			110" Aerial
Rescue 2, Ambulance	2005	Custom			
Rescue 1, Ambulance	2002	Custom			
Fire Alarm Truck	1993	International			
Forestry 1	1985	Chevrolet	350	200	
Utility 1	2001	Ford Pick-up			
Boat 1					
Car 1	2000	Ford Crown Victoria			
Car 2	2000	Ford Explorer			
Car 3	1998	Ford Explorer			

The Fire Department is constantly challenged to provide fire suppression and emergency services, as well as respond to many other calls for service. It is routine to deploy personnel with different combinations of apparatus. The variety of calls received requires frequent adaptation by the Chiefs and shift officers.

CURRENT FIRE DEPARTMENT EMERGENCY OPERATIONS

The Fire Chief is directly responsible for the line and staff operations of the Department. The Chief oversees staff functions, general administrative support, EMS billing, training, emergency management, operations, and fire prevention. Two Assistant Chiefs provide direct day to day staff supervision in several areas, relieving the Chief of some daily tasks.

Four shifts of five persons provide Fire Department services to the community 24 hours per day, 365 days per year. Each shift is under the direction of a Lieutenant who reports directly to the Fire Chief. The Fire Department operates under an informal duty chief system, in which the two Assistant Chiefs and the Fire Chief are required to be available during off-duty hours to respond to major emergencies. The system is designed to rotate responsibility from week to week, or other time periods, as mutually agreed. The existing arrangement, while reasonable, should be more formally structured in order to eliminate any confusion and minimize the possibility that company officers may find themselves as incident commanders in major emergencies.

***RECOMMENDATION III-1:** Each chief officer should be assigned to act as the duty officer or shift commander, on a weekly rotating basis, responding from work or home on pre-designated types of calls for service.*

CALLS AND RESPONSES

The Fire Department responds to approximately 3,600 calls for service annually. Exhibit III-6 presents a summary of the major types of calls for service for 2004 and 2005, as reported by the Fire Chief in the *Town of Exeter, N.H. Annual Report, 2005*. The average annual number of calls for service, including mutual aid calls, was 3,566 for the two years reported. Approximately 40 percent of all calls required an ambulance. A significant number of calls for service include fires, automobile accidents, hazardous materials incidents and non-emergency type

service calls. The number and types of calls received each day can vary greatly but, on average, there are approximately 10 calls for service each day.

EXHIBIT III-6
EXETER FIRE DEPARTMENT CALLS FOR SERVICE

TYPE	2004	2005
Fire/Non-Medical Emergency (total)	137	129
Structure	8	10
Vehicle	25	23
Other Fire	63	63
Other Emergency	41	33
Hazardous Materials Incident	56	65
Rescue	351	412
Extrication	1	4
Auto Accidents	97	119
Assist Ambulance	239	279
Other Rescue	14	10
Alarm	330	328
Other Emergency	133	152
Service Call	904	976
Mutual Aid	100	206
Given	82	123
Received	18	83
Sub Total: Fire, Emergency and Related	2,011	2,268
Ambulance Call	1,357	1,496
Total: Fire and Ambulance	3,368	3,764

Analysis of 2,711 calls for service responded to by the Department in 2006 indicates that approximately two-thirds of calls occur Monday through Thursday; eight of 10 calls occur Monday through Friday. More than 75 percent of calls occur during the hours of 6:00 a.m. to 6:00 p.m. (2,055 of 2,711). The call pattern in Exeter is typical of suburban communities.

An analysis of calls for service data is shown in several exhibits. Exhibit III-7 shows the calls for service in three-hour increments starting at midnight (2400

hours) and ending at (2359 hours). Exhibit III-8 presents the same data, but shows the percent of calls for service in the same three-hour increments.

Exhibits III-9 and III-10 show calls for service for each hour of the day and the percent of calls occurring during each hour of the day. Data are also organized by day of week. There is variation by day and by hour, but the Monday through Thursday, 6:00 a.m. to 6:00 p.m. pattern of activity cited above is generally the norm; this suggests that it may be possible to provide for some differential staffing (for EMS services) during those times when call volumes are high.

EXHIBIT III-7
CALLS FOR SERVICE IN THREE-HOUR INCREMENTS BY DAY OF WEEK (2006)

TIME	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	TOTAL
2400 - 0259	17	15	11	11	18	11	14	97
0300 -0559	16	6	10	18	16	13	19	98
0600 - 0859	30	80	109	97	100	60	27	503
0900 - 1159	33	95	102	87	90	79	42	528
1200 - 1459	52	81	96	89	102	74	45	539
1500 -1759	64	62	88	60	71	78	62	485
1800 -2059	36	57	33	40	50	64	26	306
2100 - 2359	25	27	26	16	14	18	29	155
Total	273	423	475	418	461	397	264	2,711

EXHIBIT III-8
PERCENT OF CALLS FOR SERVICE IN THREE-HOUR INCREMENTS BY DAY OF WEEK (2006)

TIME	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	TOTAL
2400 - 0259	4.70	3.5	2.3	2.6	3.9	2.8	5.3	3.6
0300 -0559	4.4	1.4	2.1	4.3	3.5	3.3	7.2	3.6
0600- 0859	8.2	18.9	22.9	23.2	21.7	15.1	10.2	18.6
0900 - 1159	9.0	22.5	21.5	20.8	19.5	19.9	15.9	19.5
1200 - 1459	39.4	19.1	20.2	21.3	22.1	18.6	17.0	19.8
1500 -1759	17.5	14.7	18.5	14.4	15.4	19.6	23.5	17.9
1800 -2059	9.9	13.5	6.9	9.6	10.8	16.1	9.8	11.3
2100 - 2359	6.8	6.4	5.5	3.8	3.0	4.5	11.0	5.7
Total	99.9	100	99.9	100	99.9	99.9	99.9	100

EXHIBIT III-9
CALLS FOR SERVICE IN ONE-HOUR INCREMENTS BY DAY OF WEEK (2006)

HOUR	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	TOTAL	
	No.	No.	No.	No.	No.	No.	No.	No.	%
0	11	2	3	3	5	4	4	32	1.2
1	2	10	6	5	6	4	8	41	1.5
2	4	3	2	3	7	3	2	24	0.9
3	5	2	6	6	4	1	10	34	1.3
4	6	1	1	4	6	6	5	29	1.1
5	5	3	3	8	6	6	4	35	1.3
6	7	13	23	29	25	21	3	121	4.5
7	7	33	55	34	44	24	11	208	7.7
8	16	34	31	34	31	15	13	174	6.4
9	17	37	35	31	35	33	14	202	7.5
10	6	28	39	33	32	19	16	173	6.4
11	10	30	28	23	23	27	12	153	5.6
12	18	20	24	30	35	27	17	171	6.3
13	16	32	33	28	37	30	18	194	7.2
14	18	29	39	31	30	17	10	174	6.4
15	23	22	31	28	28	28	11	171	6.3
16	14	25	31	11	19	26	22	148	5.5
17	27	15	26	21	24	24	29	166	6.1
18	14	21	20	9	26	28	10	128	4.7
19	11	25	10	17	12	18	9	102	3.8
20	11	11	3	14	12	18	7	76	2.8
21	10	15	10	4	3	4	13	59	2.2
22	7	5	10	7	8	8	10	55	2.0
23	8	7	6	5	3	6	6	41	1.5
Total	273	423	475	418	461	397	264	2,711	100

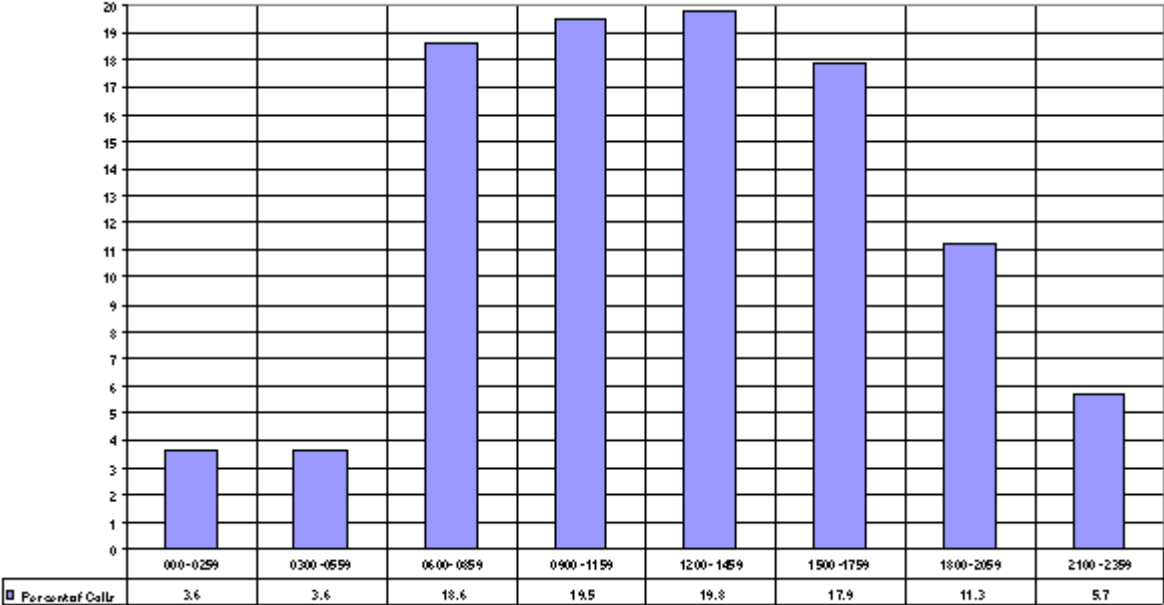
EXHIBIT III-10

PERCENTAGE OF CALLS FOR SERVICE IN ONE-HOUR INCREMENTS BY DAY OF WEEK (2006)

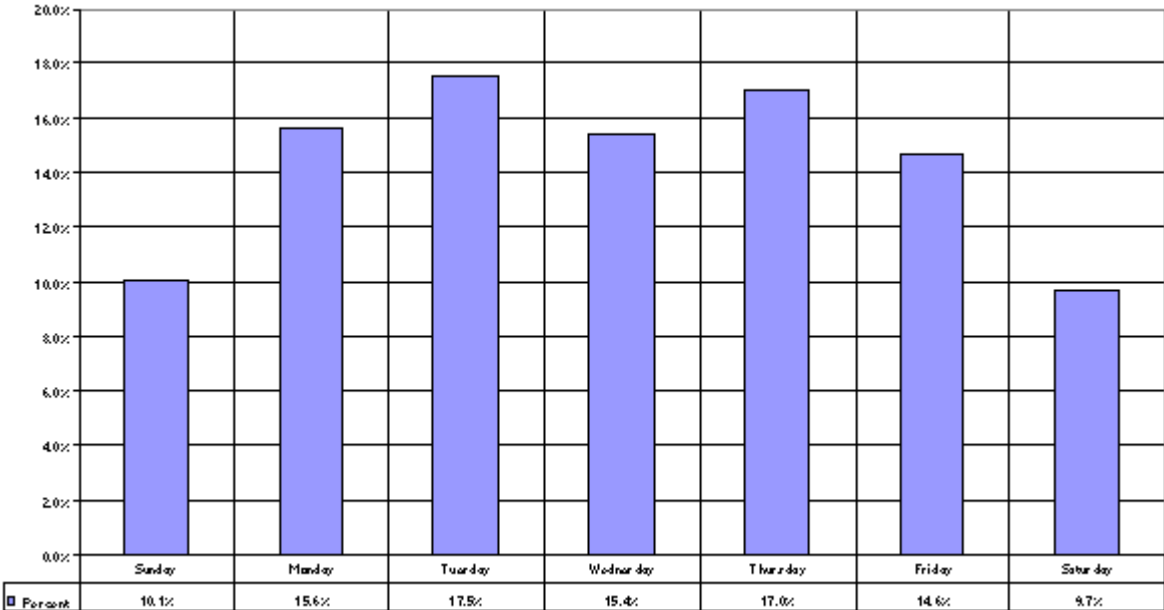
HOUR	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	TOTAL
	%	%	%	%	%	%	%	%
0	4.0	0.5	0.6	0.7	1.1	1.0	1.5	1.2
1	0.7	2.4	1.3	1.2	1.3	1.0	3.0	1.5
2	1.5	0.7	0.4	0.7	1.5	0.8	0.8	0.9
3	1.8	0.5	1.3	1.4	0.9	0.3	3.8	1.3
4	2.2	0.2	0.2	1.0	1.3	1.5	1.9	1.1
5	1.8	0.7	0.6	1.9	1.3	1.5	1.5	1.3
6	2.6	3.1	4.8	6.9	5.4	5.3	1.1	4.5
7	2.6	7.8	11.6	8.1	9.5	6.0	4.2	7.7
8	5.9	8.0	6.5	8.1	6.7	3.8	4.9	6.4
9	6.2	8.7	7.4	7.4	7.6	8.3	5.3	7.5
10	2.2	6.6	8.2	7.9	6.9	4.8	6.1	6.4
11	3.7	7.1	5.9	5.5	5.0	6.8	4.5	5.6
12	6.6	4.7	5.1	7.2	7.6	6.8	6.4	6.3
13	5.9	7.6	6.9	6.7	8.0	7.6	6.8	7.2
14	6.6	6.9	8.2	7.4	6.5	4.3	3.8	6.4
15	8.4	5.2	6.5	6.7	6.1	7.1	4.2	6.3
16	5.1	5.9	6.5	2.6	4.1	6.5	8.3	5.5
17	9.9	3.5	5.5	5.0	5.2	6.0	11.0	6.1
18	5.1	5.0	4.2	2.2	5.6	7.1	3.8	4.7
19	4.0	5.9	2.1	4.1	2.6	4.5	3.4	3.8
20	4.0	2.6	0.6	3.3	2.6	4.5	2.7	2.7
21	3.7	3.5	2.1	1.0	0.7	1.0	4.9	2.1
22	2.6	1.2	2.1	1.7	1.7	2.0	3.8	2.0
23	2.9	1.7	1.3	1.2	0.7	1.5	2.3	1.5
Total	100	100	99.9	99.9	99.9	100	100	100

Exhibits III-11 and III-12 display the percent of calls for service by day of week and by time of day in graphic form. These exhibits are based on Exhibits III-9 and III-10.

**EXHIBIT III-11
PERCENT OF CALLS FOR SERVICE BY TIME INCREMENT**



**EXHIBIT III-12
PERCENT OF CALLS FOR SERVICE BY DAY OF WEEK**



FIRE DEPARTMENT STAFFING AND DEPLOYMENT

The department deploys personnel from one fire station located at the corner of Court and Bow Streets in the center of Exeter. The Fire Department has several front-line fire units, or companies (four engine companies and one ladder company) and two ambulances. The two ambulances are cross-staffed. (The same personnel staff both a fire unit and an ambulance unit.) Most Department personnel are assigned to the direct delivery of emergency services. The Fire Department uses a four platoon, or group, system. Firefighters are assigned to one of four groups. The Department has five positions assigned to each of the four groups. The following exhibit displays the assignment of personnel to groups.

**EXHIBIT III-13
PERSONNEL ASSIGNED TO FIRE COMPANIES**

	GROUP A	GROUP B	GROUP C	GROUP D	TOTAL
Lieutenant	1	1	1	1	4
Firefighter	4	4	4	4	16
Total	5	5	5	5	20

Because of vacation, illness, and other authorized and unauthorized absences, the number of personnel available for fire and EMS operations may be fewer than five personnel. To maintain the authorized levels, it is necessary to provide additional personnel, either on-duty or as call-backs, to fill in for absences. The method which is used to estimate the number of personnel needed to fill a position 24 hours per day, 365 days per year, is to determine the number of shifts or hours an employee is scheduled to work, and subtract the authorized leave time. The number of shifts or hours actually worked is used to develop the Department *staffing factor*. The staffing factor is a multiplier which defines how many personnel are required to maintain one full-time firefighter on-duty 24 hours per day, 365 days per year, taking into account the leave time (vacation, sick, personal, etc.).

The staffing factor, or multiplier, is a general measure of productivity, since it compares the number of hours worked to the hours scheduled to work and the

availability of personnel. The staffing factor can be significantly affected by negotiated labor agreements which establish vacation and other leave practices.

In Exeter, it is difficult to calculate a true staffing factor because the Department has expanded rapidly and patterns of authorized leave have not been fully established. As the work force gains seniority, the time off granted to personnel increases. Based on our experience, it requires approximately 4.8 to 5.2 personnel to fill one position in a fire department 24 hours per day, 365 days per year. In other words, it requires approximately 1.2 to 1.3 persons to fill one on-duty shift position. The staffing factor is used to determine the number of personnel required for staffing in order to minimize overtime. As a general rule, it requires five firefighters to fill four positions.

The consultants believe that, as the workforce becomes stable, the Department should begin evaluating its staffing factor. Analysis of work time indicates a relatively low staffing factor but, as noted, a more senior department will have a higher staffing factor.

Determining the staffing factor requires the adoption of several underlying assumptions concerning the number of hours that firefighters work. The assumptions used in the example include:

- ▶ There are 8,760 hours in a year ($365 \times 24 \text{ hours} = 8,760$).
- ▶ The work week of 42 hours equals 2,184 hours per year ($42 \text{ hours} \times 52 \text{ weeks}$) per firefighter.
- ▶ Each firefighter works 91 duty tours per year ($2,184 \text{ hours}$ divided by 24).
- ▶ Authorized leave amounts to an average of 297 hours per fire suppression person, or 12.4 duty tours per year.

To assess the Department's staffing factor, records of authorized leaves and time off, such as vacation, sick, personal, bereavement, injury, and union leave must be reviewed. The staffing factor is determined by the average leave time taken in the Department and the average time worked by personnel.

To determine the average leave time, the total annual leave time for all personnel is divided by the number of incumbents assigned to fire operations. (The total amount of leave for all categories: vacation, sick, personal, bereavement,

union, and injury is divided by the number of incumbents). This results in the total average leave taken. In the Fire Chief's 2007 budget, the total leave estimated for fire suppression personnel is 5,944 hours (which includes 3,172 hours for vacation, 756 hours for personal leave, 1,440 hours for sick leave, and 576 hours for injury-on-duty leave (IOD). Based on 20 fire suppression personnel, this amounts to 297.2 hours per person, or 12.4 tours of duty (297.2 hours divided by 24 hours = 12.4 tours of duty).

The total hours scheduled to be worked divided by actual hours worked results in the staffing factor, which can be used to calculate additional staff needs to make up for authorized leaves (time-off). In the example, the total hours scheduled to be worked (2,184) divided by the estimated actual hours worked (1,887) results in a staffing factor of 1.2. Thus, to fill one position 24 hours a day, 365 days a year requires 1.2 persons. Six personnel are required to maintain five personnel on each shift. The Department's policy of assigning five personnel to each shift results in the use of a substantial amount of overtime.

RECOMMENDATION III-2: The management of the Fire Department should systematically monitor the staffing factor of the Fire Department, as one measure of productivity and accountability.

CALL PERSONNEL

The following is a description of the call component of the Fire Department and is based on information provided by the Fire Department. The Exeter Fire Department has 16 call personnel. As we understand it, the call component consists of older members and retired career firefighters. The call company is supervised by a call Deputy Chief. There are four captains, three lieutenants, and eight firefighters or EMTs.

Call personnel are organized into three companies and are assigned coverage duties on a rotating monthly schedule. The call members are used at large incidents that require additional personnel. The call company is toned an average of 24 to 28 times each year; however, the actual incidents that require additional personnel occur four to six times each year. The primary duties include interior and exterior fire attack, water supply, salvage and overhaul, and returning apparatus and equipment to service.

Of the 16 members, only six members are trained for interior fire attack; four members are capable of driving the older water supply apparatus, and two members are EMT certified and provide station coverage, when necessary. No call company member is permitted to drive the aerial apparatus. At most incidents requiring the call company, the members arrive at the scene by personal vehicle. The arrival time varies according to the location of the incidents but, as we understand it, call personnel typically arrive between five and ten minutes after the first-due engine.

The call personnel attend training once each month, usually on the first Wednesday. In addition, call personnel hold a meeting on the third Wednesday of each month, when short training sessions are often provided. Much of the training for the call personnel is related to updates on newly acquired equipment, annual refresher training, such as Hazardous Materials, and building familiarization tours.

The working relationship between the call personnel and the full-time staff appears to be strained. This impression is supported by the results of the survey of personnel contained in this report. Some career personnel believe that the call personnel are no longer a viable emergency services response component of the Fire Department.

Based on our experience around the country, a typical call department can be anticipated to respond to an incident with four to seven call firefighters. This relatively low level of response is often the result of lack of availability of personnel who may be working out of town. Thus, it is important to consider the size of a call department, and its role, when planning for the future. In this report, we have suggested a broader role for the call component of the Fire Department.

STAFFING AND EMERGING STANDARDS

There has been an evolving national debate about staffing and response time standards for municipal fire departments. The debate has resulted in the development of National Fire Protection Standard 1710, which is applicable to full-time, career fire departments. (Chapter VI discusses the response time standards.) The consultants used the staffing and response time standards in NFPA Standard 1710 as a measure of performance. It is important to note that NFPA standards do not have the force of law.

As a practical matter, few communities in New England with a population similar to Exeter can achieve these measures all at once. However, this should not delay planning and policy discussions. We have identified the general NFPA 1710 measures and compared them to the Exeter Fire Department's capabilities.

- *Each fire company must have an officer.* Exeter has assigned an officer to each company.
- *Engine companies must be staffed with a minimum of four firefighters.* Exeter staffs an engine company with three personnel; one engine company cross staffs, using two persons as ambulance responders.
- *Ladder companies must be staffed with a minimum of four firefighters.* Exeter staffs the ladder company when needed, and if there are personnel available. Staffing the ladder truck usually requires call-backs of career personnel or mutual aid (no call personnel are currently certified to operate the aerial ladder).
- *A minimum of 15 firefighters, including an incident commander, must be present for a low-hazard structure fire.* Exeter cannot achieve this with on-duty personnel. In addition to a staffing minimum, it is necessary to have two pumpers and a ladder truck, or similar vehicle, be available for such an event.

NFPA Standard 1710 provides benchmarks for planning, evaluation and design of a fire or emergency medical service system. The major consideration is the initial and subsequent response level capability of fire and emergency medical service responders. As a policy matter, response capability objectives should be established by the Town with public input and due consideration of the standards, as well as practical constraints and available financial resources.

There are four emerging safety standards, or benchmarks, which also affect crew size, firefighter safety and response time.

1. OSHA requirements for a minimum of four equipped personnel to be present before entry in a structure fire incident

2. OSHA requirements for a rapid intervention team (RIT) to be present for safety reasons at working structure fires
3. OSHA and NFPA requirements for a qualified incident commander and a qualified safety officer to be present at working incidents
4. NFPA 1710 and industry standards to have a minimum of 15 firefighters, including an incident commander, present for a low-hazard structure fire, and at least two pumpers and a ladder truck, or similar vehicle

STRENGTHENING EMERGENCY RESPONSE CAPACITY AND CAPABILITIES

The Department responds with five on-duty personnel, assuming some or all personnel are not already committed on another call. Simultaneous events occur periodically. Data supplied for the eight-month period, April through November 2006, indicate that simultaneous calls occur frequently.

EXHIBIT III-14 2006 SIMULTANEOUS EVENTS *

MONTH	NUMBER
April	7
May	16
June	10
July	10
August	6
September	8
October	5
November	6
Total Number	68

* For purposes of this exhibit, a simultaneous event is defined as two or more calls occurring within 10 minutes.

In simultaneous events, or if the on-duty force is insufficient to meet the demands of a call, the Department uses a call-back system, tones the call company, and contacts mutual aid companies. Mutual aid has limited impact during the

initial 10 to 20 minutes an incident, since mutual aid companies require time to organize and respond to Exeter.

The Town of Exeter is an active member of the New Hampshire Seacoast Mutual Aid Task Force and participates in their area mutual aid plan. The plan includes 12 original signatories and 15 additional members who have signed on since the original agreement in June 2004. Membership includes 27 fire departments in southern New Hampshire and northern Massachusetts. The mutual aid agreement only requires voluntary actions on the part of participants, depending on their own situation at the time of an incident. Fire departments in the area are, generally, either volunteer or combination fire departments which employ a limited number of career personnel, and do not have the same initial response capacity as the Exeter Fire Department. Response of personnel from the nearest mutual aid fire station takes approximately 12 minutes after the call for aid has been made. As a result, the Exeter Fire Department must handle its own incidents with its on-duty force of five personnel during the most critical ten to 20 minutes of an incident. Call or volunteer responders require additional time to get to their stations and prepare for response to Exeter. Nevertheless, mutual aid is an important resource. For example, on several occasions, the Rapid Intervention Team from Durham has responded to Exeter.

Five Exeter shift firefighters are not sufficient for structural firefighting, but there are enough personnel to provide the necessary resources to evacuate victims. Containing and controlling a fire within the critical time frame requires more personnel than Exeter deploys. Methods of increasing the number of available firefighters need to be considered. The capacity of the Department to handle simultaneous fire and EMS events should be improved. Exhibit III-15 identifies methodologies used to increase the number of personnel at the scene of a major incident.

EXHIBIT III-15

APPROACHES TO INCREASE THE CAPABILITY AND CAPACITY OF THE EXETER FIRE DEPARTMENT

METHODOLOGY	APPLICABILITY TO EXETER
1. Increase the number of on-duty personnel.	There has been a 25% increase in the number of personnel on each shift in Exeter. Shift size has increased from four to five firefighters. Financial resources are not available to hire a significantly larger number of personnel.
2. Recall off-duty crew who will respond quickly.	The Department is attempting to limit recall of personnel to control overtime costs.
3. Use automatic mutual aid.	Mutual aid is currently not automatic. Automatic aid is simultaneous dispatch of prime responder and mutual aid companies.
4. Use call personnel.	The current call group is used minimally.
5. Use differential staffing during peak periods of activity.	The Exeter Department does not use this approach.
6. Use chief officers as incident responders.	The Department uses this practice.

In addition to increasing capability and capacity, the Department should arrange for a quicker OSHA-required Rapid Intervention Team presence on the scene of an incident. The OSHA required 2 in-2 out protocol cannot always be achieved on arrival. These OSHA safety requirements are designed for the protection of firefighters and occupants and should be considered in the future allocation of resources to the Fire Department.

In order to assure an adequate level of emergency response in the future, and make a reasonable effort to meet benchmarks and standards, the Department needs to commit to a long-range planning process. The Chief and Assistant Chiefs recognize this and are committed to making this a regular Fire Department activity. Regular meetings among officers and participation of shift personnel in committees investigating programs or developing programs does occur in the Fire Department. Further development of the committee approach for reviewing apparatus and equipment purchase and maintenance and training program development should be part of the Department's planning processes.

The goal of this planning effort is to create a response system capable of delivering a minimum of 15 responders to the scene of a fire within acceptable time parameters. The planning process should consider several approaches that are linked together.

- *Increase the number of personnel on a shift in conjunction with construction of a second fire station.* The Fire Department should increase its career complement of personnel by two personnel per shift. With two additional personnel on a shift, the Department would substantially increase its capability. This staffing increase would allow the Department to deploy eight personnel (seven shift personnel and the Assistant Chief). The two additional personnel should be assigned to the proposed second station. These personnel should have the capability to respond with a paramedic engine, which increases both fire and EMS response capability.
- *Increase the capability of the call complement of the Fire Department in order to deploy more personnel during an emergency.* The call component of the Department should be expanded and utilized as a training ground for new career personnel and as a needed supplement to the Fire Department. Using our own experience, we have found that in call and volunteer fire departments, it is necessary to have between four and seven call personnel or volunteers available to ensure that one firefighter is available to respond to an incident. Assuming a call department has 20 personnel, it is anticipated that four or five emergency responders would be available. The Exeter Fire Department should develop a plan to increase the number of call personnel.
- *Develop an efficient call-back system for the Fire Department.* The call-back system should be carefully constructed and provide for the recall of full-time personnel according to clear guidelines. The system should be designed for use during major incidents. We assume that with an expanded career department, a call-back system will result in a response of at least four personnel.
- *Expand the automatic mutual aid system.* The Fire Department should continue the development of an automatic mutual aid system.

Using the staffing/deployment methodology suggested above, the following exhibit displays the estimated number of emergency responders which the Department should be able to provide at the scene of a major incident.

EXHIBIT III-16
ESTIMATED NUMBER OF RESPONDERS
PROPOSED STAFFING AND DEPLOYMENT MODEL

PERSONNEL	NUMBER
On-duty personnel	7
Duty chief	1
Career call-back personnel	4
Call personnel	4
Total	16

***RECOMMENDATION III-3:** The Department and the Town should adopt a policy calling for the delivery of an appropriately sized team of trained responders to arrive at a major incident in a timely manner.*

***RECOMMENDATION III-4:** The Department's deployment strategy should consider the use of career personnel augmented by call personnel, and an efficient call-back system.*

***RECOMMENDATION III-5:** The deployment strategy should be linked, in the long run, to the construction of new fire station.*

***RECOMMENDATION III-6:** The Department's policy should be to strengthen the call component of the Fire Department and integrate call personnel into all of the Department's services.*

***RECOMMENDATION III-7:** The Department should have the goal of using regional approaches to service delivery.*

***RECOMMENDATION III-8:** The call component Fire Department should be revitalized in order to improve response capability, safety and productivity of Fire Department operations.*

RECOMMENDATION III-9: *An Assistant Chief should be responsible for strengthening the call component of the Fire Department.*

RECOMMENDATION III-10: *The Fire Department should define the mission of the call component of the Fire Department.*

The consultants believe the mission of the call component of the Fire Department should be clearly defined. As the Town considers the development of a second fire station and the possibility of additional career personnel, the call component of the Fire Department should increase its capability to support operations.

The Town should consider the following role for call personnel.

- The call component of the Fire Department should have the capability to deliver four to six personnel to the emergency scene, when needed.
- The call component should be trained to standards established by the Fire Chief.
- The call personnel should be trained (at least some members should be trained) to serve as dispatchers to support emergency communications during the course of a major incident or a major storm.
- The call component of the Fire Department should be a source of new career personnel.

RECOMMENDATION III-11: *The Department should develop programs to encourage skilled residents, retirees, and students to assist the Fire Department.*

The Fire Department, under the direction of an Assistant Chief, should encourage citizens to offer expertise to the Fire Department, particularly in the areas of training, public education, management systems and reporting, human resources management, insurance, contracts, and other appropriate technical and professional areas. Retired teachers, managers, firefighters, and college students would be a good source of volunteers.

RECOMMENDATION III-12: The Fire Department and the Town should explore incentives for call personnel.

The Fire Department should actively develop a program which provides financial or other incentives to call personnel to encourage participation and recruitment and selection efforts. Effective recruitment, retention, and development of the call company personnel should be based on recognition that each call member may be motivated by different concerns. A program which develops a range of benefits is often the most appropriate mechanism. Under a menu benefit structure, each call member meeting appropriate activity and membership standards would be entitled to a certain dollar level of benefits. Each volunteer would select from an approved list of benefits. While the recruitment and selection plan should clearly define the type of incentives and benefits, some major benefits would include insurance and a length of service retirement program. Benefits provided and the retention of benefits would depend on meeting defined standards and requirements.

Many types of benefits are possible, including:

- ▶ allowances for clothing, gasoline, car mileage, etc.
- ▶ health club membership
- ▶ child day care
- ▶ education/training costs
- ▶ non-fire related education costs
- ▶ computer/Internet fees
- ▶ dental insurance
- ▶ uniform allowance
- ▶ department-owned or low-cost rental housing
- ▶ professional magazine subscriptions, text books
- ▶ professional development
- ▶ instructor training
- ▶ washer/dryer use in station
- ▶ exchange visits with other departments
- ▶ dollar payments for billable runs

While an actual list should be developed by surveying volunteers, the benefits offered should be reviewed with legal counsel to ensure compliance with tax laws.

RECOMMENDATION III-13: *The Fire Department should assign a pumper and auxiliary vehicles, such as a tanker and medium rescue truck, to the new station. Auxiliary units should be used by qualified responding call personnel.*

RECOMMENDATION III-14: *The Department should train call personnel as dispatchers to enable them to serve as dispatchers during major emergencies and storms.*

RECOMMENDATION III-15: *The Department should train, qualify, and use call personnel to assist with the “fill-in” schedule, and as additional crew members during peak workload hours.*

RECOMMENDATION III-16: *The Department should train, qualify and use call members as safety officers, incident command technicians, auxiliary fire inspectors, and public safety educators. Call personnel should also be trained to support structure fire initial attack teams.*

In this chapter, the consultants have made a number of recommendations relating to the call component of the Fire Department. Exhibit III-17 provides a summary of those recommendations.

EXHIBIT III-17

SUMMARY OF APPROACHES TO STRENGTHEN THE CALL COMPONENT OF THE FIRE DEPARTMENT

- ▶ Strengthening of the call element of the Department must become a priority of the Department.
- ▶ The training level of personnel should be assessed and the appropriate size of the component should be established.
- ▶ The Fire Department should review its chain of command and determine if a reorganization is necessary.
- ▶ The mission of the call component must be fully defined. The development of the mission will help define the training required.
- ▶ The leadership of the Fire Department must make a strong effort to minimize conflict between career and call personnel and ensure full integration of personnel in emergency situations.
- ▶ The leadership of the Fire Department should develop a systematic recruitment and selection process for call personnel.
- ▶ The Department should consider recruiting some call personnel who would only provide Emergency Medical Services.

The Fire Department should make several management improvements to ensure that command and leadership are clearly defined. The role of a company officer must be clear to all firefighters at all times. The chain of command becomes even more critical as the Department expands.

***RECOMMENDATION III-17:** The Town should prohibit a fire officer from filling in as a lower ranking firefighter.*

***RECOMMENDATION III-18:** The Department should initiate clear response protocols which have chief officers and Fire Inspectors responding to pre-designated alarms in pre-assigned roles.*

***RECOMMENDATION III-19:** The Department should plan to employ eight additional full-time personnel to staff the proposed second station. Two responders should be assigned to each shift. (See station location recommendations.) The Department should consider employing four firefighters as soon as possible.*

MUTUAL AID

To support its emergency response capability, the Exeter Fire Department is an active participant in the Seacoast Mutual Aid System. Mutual aid is an essential part of response plan for the Town, especially during a major incident.

The possibility of an automatic mutual aid agreement with an adjoining fire department should be explored, although this would appear to be a somewhat limited option for Exeter. Under automatic mutual aid systems, participants would agree to automatically respond to incidents, when the mutual aid units are closer than the home unit's station or when specialized vehicles are needed. This type of closest unit response is essential to get appropriate aid to the scene as quickly as possible, as well as to deliver additional emergency responders to a large incident requiring more personnel than Exeter has available.

Automatic mutual aid is an approved, useful methodology that usually performs best when there are reasonably staffed and equipped fire departments in the surrounding area. The system should function well under the following conditions:

- ▶ There are clear and specific agreements among departments.
- ▶ The nature of the response is clearly identified by the exact areas and addresses to be serviced.
- ▶ The participants in the system adjust dispatch running cards at the dispatch center to ensure that proper deployment automatically occurs.
- ▶ The departments responding to an adjacent jurisdiction immediately notify the jurisdiction of the alarm.
- ▶ The departments have clearly defined pre-agreements for establishing incident command.
- ▶ The departments standardize equipment and tactics.
- ▶ The departments participating in the mutual aid plan jointly prepare pre-plans of target hazards.
- ▶ The departments develop joint training programs.
- ▶ The departments conduct annual reviews of incidents.

There is an active mutual aid system in the Exeter area. In 2004, the Exeter Fire Department provided mutual aid in 82 instances and received support in 18

incidents. In 2005, Exeter provided mutual aid in 123 incidents and received aid in 83 instances.

***RECOMMENDATION III-20:** The Fire Department should continue to participate in all mutual aid arrangements..*

***RECOMMENDATION III-21:** The Seacoast Fire Chiefs Association should develop a plan and initiate an appropriate automatic response mutual aid program for pre-designated types of calls.*

The automatic response plan should also enable fully qualified members of the outside member departments who are physically in Exeter at the time of a structural fire to respond as approved mutual aid firefighters. The checklist above should be the guideline for plan preparation.

RAPID INTERVENTION TEAM (RIT)

The Department does participate in a regional Rapid Intervention Team (RIT) program. An RIT is a national safety program whose objective is to improve firefighter safety and prevent loss of life or serious injury to firefighters. An RIT is a designated firefighting team or crew activated for firefighter rescue purposes during firefighting operations. This RIT is placed on stand-by for the sole purpose of being immediately ready to rescue a trapped or injured firefighter who is unable to provide for himself or herself during firefighting operations. Since the Exeter Fire Department does not always have sufficient personnel to assign its own RIT beyond the initial response capability, continued support for and development of a regional RIT is recommended.

***RECOMMENDATION III-22:** The Department should continue to strengthen the Rapid Intervention Team (RIT) program by working with regional fire departments and mutual aid member communities.*

***RECOMMENDATION III-23:** The Department should continue to promote new programs to identify, train, qualify, and use call members to respond to calls for mutual aid and for the RIT team.*

INCIDENT MANAGEMENT TEAM (IMT)

The Department has not provided for a formal Incident Management Team (IMT) for emergency operations. IMTs function under the Incident Command System (ICS) as a trained management group. IMTs are established from within a department, or from a group of departments. Exeter does not have the resources to establish its own IMT, but should participate in a regional IMT.

Incident Management Training is being provided (free of charge) in all 50 states and U.S. Territories. Each state/territory is being offered two classes. ICS training has been completed in the Department, to include ICS 100, 200, 700, and 800. ICS 300 and 400 are also being offered across the country free of charge, by DHS/USFA contracted personnel. This could easily be incorporated within the Seacoast Mutual Aid System.

IMT members should be trained and proficient in the command and general staff functions of the Incident Command System, as required under the National Incident Management System (NIMS). Under NIMS, the adoption of a formal ICS-IMT system is mandatory. NIMS has established national standards for compliance by fire departments. Fire departments were required to adopt a formal ICS-IMT concept by 2005. An incident command system is designed to allow a department, or group of departments, to effectively combat natural and man-made disasters.

An IMT typically consists of an incident commander and other staff positions (e.g., operations, logistics, planning, and others) each with a defined role. It is recommended that a regional IMT be established with members from the various fire departments. The IMTs would be a mutual aid resource. The Fire Chief should work with the fire departments in the region to establish and organize these teams.

RECOMMENDATION III-24: *The Fire Department should work within the Seacoast Mutual Aid System to develop a regional Incident Management Team (IMT).*

IV. EMERGENCY MEDICAL SERVICES

The goal of Emergency Medical Service is to provide rapid medical aid to a patient and immediate care and transport to a receiving hospital. Typically, the lowest level of EMS is called First Responder, which initiates very quick assistance at a basic level, with CPR and defibrillator applications. First Responder units are most often fire department vehicles which carry trained first responders and suitable equipment for basic life support and defibrillation. The Exeter Fire Department supports ambulance response with a first responder fire apparatus 250 to 300 times annually.

The Fire Department ambulances respond to approximately 1,400 to 1,500 requests for Emergency Medical Services each year. Two rescue units provide EMS response with transport capability. The Exeter Hospital also has an Advanced Life Support (ALS) response unit that responds in the Seacoast District, and occasionally backs up the Exeter fire units. The overwhelming majority of personnel in the Exeter Fire Department are EMT-I (Intermediate) or EMT-P (Paramedic) certified.

Recent data show that ambulance responses by the Fire Department increased from 2001 to 2005. Exhibit IV-1 displays the number of ambulance responses from 2001 to 2005.

**EXHIBIT IV-1
EXETER ANNUAL AMBULANCE RESPONSES**

YEAR	NUMBER	ANNUAL PERCENT CHANGE
2001	1,253	
2002	1,328	5.9
2003	1,417	6.7
2004	1,387	-2.1
2005	1,496	7.9
Average	1,376	4.6

Exeter Fire Department personnel serve as both firefighter and EMS responders. The Department responds with an ambulance and has the capability of providing basic life support and advanced life support services. The Department does not provide emergency medical dispatch; this is accomplished by the State E-911 communication system.

It should be noted that the Town's approved ambulance budget for FY 2006 (ambulance personnel salaries and wages only) was \$231,242. This budget represents approximately 90 percent of collections for 2005. However, when all costs are included (fringe benefits, insurance, supplies, maintenance, fuel, capital expenditures, training and certification, supervision and support staff), the cost of the ambulances is approximately \$440,069 per year. A justifiable increase in billing rates is being considered and should be supported. Exhibit IV-2 displays the amount of billings and revenue from EMS in 2004 and 2005. Exhibit IV-3 shows the estimated cost of ambulances services for 2006.

**EXHIBIT IV-2
EMS BILLINGS**

	2005	2004
Accounts Billed	1,294	1,142
Amount Billed	\$244,912	\$235,876
Amount Collected	\$210,838	\$192,800

**EXHIBIT IV-3
ESTIMATED 2006 COST OF AMBULANCE OPERATIONS**

Salaries/Wages (Ambulance)	\$240,605
Salaries/Wages (Support & Supervision)	\$106,357
Medical Supplies and Equipment	\$30,570
Contracted Training	\$4,500
Vehicle Repairs, Fuel	\$7,400
Capital Outlay	\$50,000
Other	\$637
Total	\$440,069

RECOMMENDATION IV-1: The Department should retain the current emergency medical system and increase the billing rates, as planned.

RECOMMENDATION IV-2: The Department should train and certify more call members as EMS providers, in order to assist career personnel with the EMS workload. Paramedic call members might be assigned to an ALS fly car.

There are many demands on the Department's resources and limited ways to satisfy many of those demands. Earlier in this report, the consultants recommended that the Department strengthen the call component of the Fire Department. Call personnel should assist in providing emergency medical services. For example, call personnel could be deployed using fly cars.

Patients are typically transported to the one hospital located in Exeter. Transport (in-service) time can vary from 20 minutes to 45 minutes, leaving a rescue unit out of service for other calls during that time. Traffic, time of day, and weather conditions all affect travel to, and turn around time from, the receiving hospital. This negatively affects response capabilities within the Department when a unit(s) is out of service, a situation which will occur often because of the number of calls for service.

As we understand the communication system in New Hampshire, emergency medical calls for service are triaged at the State's communication center. The State's communication center uses an emergency medical dispatch (EMD) system. An EMD system is a medically approved system used by many dispatch centers to allocate appropriate aid to medical emergencies. EMD consists of a process of caller interrogation, pre-arrival instructions, and procedures to match an assessment of the need for service with an appropriate response. Generally, 60 percent of EMS requests are determined to require a BLS response, while 40 percent of EMS requests require an ALS response. Since an EMD system requires time to properly interrogate a caller, a fire department may not immediately deploy personnel to an EMS incident until the dispatching process has been completed. As a result of the call screening process, the Fire Department may not be aware of an EMS call until the triaged process has been completed. To improve response time, some cities or towns in New Hampshire have a separate computer terminal or system in which they are notified when an EMS call has been initiated, before the

dispatch protocols are completed. In these instances, fire department personnel are alerted to a call and prepare to leave the station prior to knowing the nature of the call. Thus, when the nature of the call is provided to the local dispatch center, personnel are already prepared to respond. This practice reduces response time, which can be important in critical medical emergencies.

RECOMMENDATION IV-3: The Department should develop a system to reduce EMS call response time by receiving notice of EMS calls prior to completion of the EMD process.

The Fire Department does have an Emergency Medical Services quality assurance program, as a component of their EMS training program. Quality assurance is an integral part of the continuing education process between emergency responders and hospital personnel, including doctors, nurses, and hospital-based ALS providers. However, the quality assurance program must extend to regular review of dispatch operations. Continuous evaluation of EMS dispatching is an essential part of the pre-hospital care system. The purpose of this quality assurance process is to continuously improve performance.

RECOMMENDATION IV-4: The Fire Department should continue the quality assurance review process for EMS service delivery.

V. EMERGENCY COMMUNICATIONS

Communication and information are critical to all emergency response agencies. Currently, a civilian dispatcher is assigned to dispatching duties in the Exeter Police Department. Emergency dispatch functions are more complex than often acknowledged. Each call requires the dispatcher to apply a protocol to a particular situation and make an immediate judgment (usually with limited supervisory review) about the type of response required. In the current system, the dispatch process is regularly duplicated in the initial (police), and subsequent (fire) assignment steps. Dispatchers also page or tone out surrounding fire departments for response, as needed.

The current process of tracking calls for service, collection of information, initial dispatching, and communication with emergency response personnel requires review. The current software is oriented to law enforcement, and is a database system. Additionally, it requires the dispatcher to enter all information manually while trying to communicate on the telephone and communicate with field personnel.

This system has little capability to generate situation reports, management reports, and data. The dispatcher is also required to function as the receptionist when the public enters the complex, and to answer the police phones when the secretary is away from her desk.

There are four general ways in which emergency dispatching services are organized.

1. *Consolidate communication/dispatch functions within a region.* Under this approach, fire, police, and EMS dispatching is coordinated by a regional organization, composed of cities and towns. New Hampshire has an effective state-wide E-911 system. Some areas of the state have supplemented the state-wide system with regional dispatch systems.
2. *Separate police and fire communication/dispatch operations within a Town.* Under this approach, the fire department and the police department in a town have their own communication/dispatch centers.

3. *Consolidate communication/dispatch functions within a police department or a fire department.* This is the current situation in Exeter. Under this model, a communications department is organized under one of the public safety agencies, typically the police department.
4. *Consolidate the communications functions in a separate department reporting to the Town Manager, or other management authority.* Under this approach, there is a separate communications/dispatch department.

Ideally, Exeter should consider working with a number of towns to develop a regional communication system. A regional system can be both cost effective and efficient. The likelihood of creating a regional communication system in the Exeter area is probably remote. Initial start-up costs and reluctance of Town officials to transfer authority to a regional agency are factors which make the creation of a regional agency unlikely.

Organizationally, the current communication structure (see #3, above) can continue, or a separate department could be established. The Town should consider making some changes in dispatching, including an increase in the number of dispatchers.

The Police and Fire Departments should review the staffing of the dispatch center. The current dispatch center appears to have a significant activity level, which suggests that the Town should consider employing two police/fire/EMS dispatchers, 24 hours per day, 365 days per year. It may be possible to operate with one dispatcher on the night shift.

RECOMMENDATION V-1: The Town should review the staffing of the dispatch center.

The dispatch center should continue to be staffed with civilian personnel. As we have suggested above, serious consideration should be given to employing two Police/Fire/EMS dispatchers on duty at all times. To implement this recommendation, the Town would have to employ four or five additional full-time dispatchers. Initial staffing may have elements of trial and error, but regular monitoring should identify the best mix of personnel. A preliminary estimate of the cost is provided below.

Operating a communication/dispatch center 24 hours a day, 365 days a year with two personnel requires filling 17,520 hours of dispatch time annually. To fill one position 24 hours a day, 365 days a year, 8,760 hours of dispatch time is required ($365 \times 24 \text{ hours} = 8,760$) assuming one dispatcher. Assuming personnel work conventional shifts of eight hours, and 40 hours per week (2,080 hours per year), more than four personnel (4.2 persons) are required to fill the 8,760 hours.

However, it is also necessary to account for authorized time off for employees. A typical employee assigned to work 40 hours per week generally works 1,700 to 1,800 hours annually. In Exhibit V-1, we have estimated that dispatchers work 1,816 hours per year. Thus, to account for time off, it would be necessary to employ five persons to staff one dispatch position around the clock ($8,760 \text{ total hours} \div 1,816 \text{ hours} = 4.8 \text{ persons}$). To employ two dispatchers per shift requires the employment of approximately nine to ten personnel.

EXHIBIT V-1
ESTIMATED DISPATCHER HOURS WORKED

Dispatcher Scheduled Hours	2,080
Time Off	
Vacation (10 days x 8 hours)	80
Holidays (10 days x 8 hours)	80
Sick (5 days x 8 hours)	40
Personal (3 days x 8 hours)	24
Training (5 days x 8 hours)	40
Total Estimated Hours Off	264
Estimated Hours Actually Worked	1,816

For the purposes of illustration, we have used the cost of a civilian dispatcher in the Police Department. Currently, the Town of Exeter pays dispatchers \$13.35 to \$17.95 per hour, or \$27,560 to \$37,336 per year. Assuming the Town employs five additional dispatchers, the estimated cost would be \$172,250 to \$233,350. This cost assumes wage and benefits. Benefits are estimated

to cost approximately 25 percent of salary. Each dispatcher's actual direct cost (including benefits) is approximately \$35,450 to \$46,670.

Employing five additional dispatchers may be viewed as cost prohibitive. However, the Town could consider employing two or three additional dispatchers and assign them to work at the peak activity periods. In addition, during the case of a major fire or related incident, or major storm, the Town should have additional dispatchers available for duty. One approach to meeting this staffing need would be to train members of the call component of the Fire Department. These personnel could be recalled in the case of a major fire or rescue incident.

RECOMMENDATION V-2: The Town should consider employing additional dispatchers during peak activity periods.

RECOMMENDATION V-3: Members of the call component of the Fire Department should be trained as dispatchers.

Because of the workload of dispatchers, there has been some level of dissatisfaction with services provided to fire personnel. One approach to addressing concerns would be to establish a formal process to address problems and concerns. The Police Department and the Fire Department should create a joint working emergency communications committee consisting of command personnel from the Police Department and the Fire Department. The committee should meet monthly to review communications problems, review training needs, and conduct quality assurance reviews.

RECOMMENDATION V-4: The Police Department and the Fire Department should establish an emergency communications committee consisting of command personnel to ensure effective management of the emergency dispatch system.

The emergency communications committee should have several specific responsibilities.

- ▶ Review and discuss complaints from citizens and police or fire personnel.
- ▶ Review the need to employ additional Police/EMS/Fire Dispatchers on each shift.

- ▶ Review the training of all dispatchers in the application of fire and rescue protocols guided by NFPA Standard 1061, *Professional Qualifications for Emergency Telecommunicators*.
- ▶ Develop a process to train selected members of the call component of the Fire Department in dispatch operations and protocols.
- ▶ Develop a system of quality assurance to measure performance and address needed improvements.

RECOMMENDATION V-5: The Town should explore the development of new a Computer Aided Dispatch (CAD) system.

A new CAD system should include total integration of all phases of call tracking, personnel/vehicle location and GPS capabilities. Additionally, some redundancy capabilities should be included (both hardware and software) which can be installed when and if a new fire station is built and staffed.

The internal communications committee should be part of the process when plans for the hardware and software necessary to implement a modern computer aided dispatch system are developed. Development of specifications and bid documents should be the end product of these activities.

RECOMMENDATION V-6: An Assistant Chief should be designated as the Fire Department's liaison to the police and fire emergency communications committee.

VI. FIRE STATION LOCATION

In preparing this report, the consultants reviewed the *Fire Infrastructure Study* prepared in 2001 and the information prepared by the Town's Fire Station Committee in 2003. The Committee concluded that a second fire station was necessary in the northern and central part of Town at a location on the east side of Epping Road somewhat above the Continental Drive intersection. The recommendation was rejected by Town Meeting. However, a station to serve this area of Exeter should continue to be a part of the Town's planning process. Coverage from the existing Court Street Station is reasonable in a significant portion of Exeter, but lengthy EMS and fire response times occur in other parts of the Town.

We have undertaken a computer mapping analysis of possible alternatives, including a one-station configuration retaining the present Court Street location and two two-station alternatives. One alternative considers providing services from the Epping Road location and the Court Street site; the second alternative presents a two fire station model with two new site locations (one in the Epping Road vicinity and the other in the Hampton Road/Holland Way area in the eastern part of Town. The results of the analysis are included in the maps and data shown in this chapter.

Fire station location, staffing, and the ability to respond rapidly are interrelated. Exhibit VI-1 shows the number of personnel typically working at the Court Street Station and apparatus assigned to that station.

**EXHIBIT VI-1
COURT STREET STATION TYPICAL DAILY DEPLOYMENT**

PERSONNEL	APPARATUS
1 Lieutenant 4 Firefighters	4 Pumpers 1 Reserve Pumper 1 Ladder 2 Ambulances

Computer mapping allows a review of alternative strategies and approaches to service delivery. One of the major considerations in deploying personnel and

equipment is the response times that can be achieved by the system from different locations. In addition, the mapping process assists in estimating the size of the firefighting team that can be assembled in a reasonable time at any emergency scene.

For purposes of our analysis, we have adopted the benchmarks presented in NFPA 1710 as measures of performance. The standard presents response time measures and staffing goals and also stipulates that these response time performance objectives should be achieved in at least 90 percent of the incidents. The response time standards are summarized below.

Fire Suppression Incident: Four minutes (240 seconds) or less for the arrival of the first arriving engine company at a fire suppression incident and/or eight minutes (480 seconds) or less for the deployment of a full first-alarm assignment at a fire suppression incident. * **

Emergency Medical Incident: Four minutes (240 seconds) or less for the arrival of a unit with first responder (or higher) level capability at an emergency medical incident. Eight minutes (480 seconds) or less for the arrival of an advanced life support unit at an emergency medical incident, where this service is provided by the fire department. * **

** These response time performance objectives should be achieved not less than 90 percent of the time.*

*** These NFPA Standard 1710 time lines do not include dispatch and turn-out time. One additional minute is allowed for dispatch and one minute is added for turn-out time, for a total of two minutes.*

MAPPING METHODOLOGY

Response coverage provided by the Court Street Station in Exeter was analyzed using the consultant's computer mapping capabilities. The computer model identifies the streets that can be reached by apparatus from any fire station

responding to its surrounding area within a given time. To do this, an assumed average speed(s) of the responding vehicles is given to the model. Alternatively, the computer can work with distances, but this is slightly less useful than working with time components. Ultimately, the computer produces color-coded maps which describe all parts of the community that can be reached within defined time ranges. The time ranges are typically one-minute intervals from a given fire station.

In summary, the mapping methodology consists of the following steps:

- Prepare a digitized base map representation of the street and highway network of Town.
- Locate the fire stations to be analyzed with respect to that network.
- Assign an average speed to reflect reasonable response expectations.
- Generate color-coded maps indicating travel times from the fire stations in one-minute increments to the borders of the community.

The local street network is derived from the United States Census Bureau TIGER files. Adjustments are made for major new streets, or streets not identified in the local network. Once the longitude and latitude of the fire station location is established relative to the street network, the program simulates travel in all directions from the fire station. The last step is production of color-coded bands showing all locations falling within the specified time intervals.

For the Exeter maps, all local highways, streets, and roads were assigned an average speed of 38 miles per hour. This takes into account the amount of good access provided by various state roads in Exeter, as well as some limiting factors, such as time of day, season of the year, weather, traffic, etc. It is quite possible that speeds both lower and higher than these could occur, under different traffic and road conditions. Our experience with emergency vehicles in suburban towns suggests that, given the road configuration, stop lights, and other features in Exeter, an average speed could range from 25 to 45 miles per hour for emergency vehicles running with lights and sirens, and that 38 miles per hour would be a reasonable average. On the limited access Route 101, the average speed assigned was 65 miles per hour, but on the access ramps 38 miles per hour was used.

The following three maps are presented in this chapter.

- Map 3 Travel Time from Existing Station (One-Minute Intervals)
- Map 4 Travel Time from Existing Station and Location A (One-Minute Intervals)
- Map 5 Travel Time from Location A and Location B (One-Minute Intervals)

The maps depict over-the-road travel, or running, times. Two minutes for notification, dispatch, and turn-out time must be added to these times in order to give a reasonably conservative estimate of total response capability. Generally, one minute or less must be allowed for dispatching and one minute or less for turn-out time. Thus, a four-minute travel time response represents only part of the response time to an incident. Two minutes are added to the travel time to establish the total response time.

The following exhibit describes the color key depicted on the maps.

EXHIBIT VI-2
MAP COLOR KEY

COLOR	TRAVEL TIME
Pink	Less than one minute (0 to 0.99 minutes)
Green	More than one minute, but less than two minutes (1 to 1.99 minutes)
Yellow	More than two minutes, but less than three minutes (2 to 2.99 minutes)
Blue	More than three minutes, but less than four minutes (3 to 3.99 minutes)
Grey	More than four minutes, but less than five minutes (4 to 4.99 minutes)
Purple	More than five minutes, but less than six minutes (5 to 5.99 minutes)
Orange	More than six minutes, but less that seven minutes (6 to 6.99 minutes)
Rose	More than seven minutes, but less than eight minutes (7 to 7.99 minutes)

Map 3, Travel Time from Existing Station (one-minute increments), shows travel times from the Court Street Fire Station to various parts of the Town. The map indicates that the entire Town can be reached in less than eight minutes over the road. Again, this is travel time and up to two minutes must be added to allow for total response (adding dispatch and turn-out time). In six minutes or less travel time, a significant portion of the Town is covered, but generally limited coverage is provided in the western and northern areas of the Town.

Exhibits VI-3 and VI-4 present statistical data derived from Map 3, and show the coverage provided by the current fire station. *Exhibit VI-3, Response Capability from Existing Court Street Station, Area, Street Miles and 2000 Population Covered (within Time Segments)*, shows area covered, street miles covered, and population reached in one-minute time increments. For example, 11.3 percent of road miles are covered within one minute; an additional 21.8 percent of road miles are covered within two minutes.

Exhibit VI-4, Response Capability from Existing Court Street Station, Cumulative Area, Street Miles and 2000 Population Covered (within Time Segments) displays the cumulative area, street miles, and population covered in each time increment. For example, the Fire Department can respond to 33.1 percent of the road miles in the Town within two minutes; within six minutes travel time, fire units cover 97.2 percent of roads.

EXHIBIT VI-3
RESPONSE CAPABILITY FROM EXISTING COURT STREET STATION
AREA, STREET MILES, AND 2000 POPULATION COVERED (WITHIN TIME SEGMENTS)

	AREA		STREETS		2000 POPULATION	
	SQ. MILES	PERCENT	MILES	PERCENT	EST. POP.	PERCENT
1 minute or less	0.74	3.7%	11.88	11.3%	955	6.8%
1 to 2 minutes	2.26	11.4%	23	21.8%	2,410	17.1%
2 to 3 minutes	3.76	18.9%	21.49	20.4%	3,399	24.2%
3 to 4 minutes	3.64	18.3%	17.42	16.5%	2,746	19.5%
4 to 5 minutes	4.16	20.9%	19.25	18.2%	2,292	16.3%
5 to 6 minutes	3.3	16.6%	9.5	9.0%	1,364	9.7%
More than 6 minutes	2.05	10.3%	2.97	2.8%	892	6.3%
Total	19.91	100.0%	105.51	100.0%	14,058	100.0%

Exhibit VI-4 shows the cumulative response in one-minute time increments. For example, within three minutes, 48.1 percent of the population of the Town can be covered; but within four minutes, 67.7 percent of the population of the Town can be covered.

EXHIBIT VI-4
RESPONSE CAPABILITY FROM EXISTING COURT STREET STATION
CUMULATIVE AREA, STREET MILES, AND 2000 POPULATION COVERED (WITHIN TIME SEGMENTS)

	AREA		STREETS		2000 POPULATION	
	SQ. MILES	PERCENT	MILES	PERCENT	EST. POP.	PERCENT
1 minute or less	0.74	3.7%	11.88	11.3%	955	6.8%
2 minutes or less	3.0	15.1%	34.88	33.1%	3,365	23.9%
3 minutes or less	6.76	34.0%	56.37	53.4%	6,764	48.1%
4 minutes or less	10.4	52.2%	73.79	69.9%	9,510	67.6%
5 minutes or less	14.56	73.1%	93.04	88.2%	11,802	84.0%
6 minutes or less	17.86	89.7%	102.54	97.2%	13,166	93.7%
More than 6 minutes	2.05	10.3%	2.97	2.8%	892	6.3%
Total	19.91	100.0%	105.51	100.0%	14,058	100.0%

It is interesting to note that within four minutes travel time (or six minutes total response time), a responding unit can travel over approximately 70 percent of the road network and serve 68 percent of the residential population. Within six minutes (eight minutes total response time), most streets are covered and the Department can reach approximately 94 percent of the resident population. This is relatively good response coverage for fire calls in the currently built-up areas, given the road network of the Town and its total square miles.

For EMS calls, however, the response should be better. An initial BLS response should be on-scene within four minutes after dispatch, 90 percent of the time. Approximately 70 percent of the Town receives coverage from Court Street in the desired time frame. The initial EMS coverage is not as rapid in the areas of the Town where growth potential exists. This suggests that a second fire station is warranted. Alternatives I and II analyze two two-station alternatives:

- Alternative I
1. Existing Court Street Station
 2. Future station along Epping Road (near Continental Drive)
- Alternative II
1. Future station along Epping Road
 2. Future station near Holland Way/Hampton Road in east Exeter

Alternative I is similar to a fire station location proposal prepared by Town officials several years ago. Analysis indicates that the proposal has substantial merit and should be given serious consideration.

Alternative II proposes the retirement of the current Court Street Station as a fire facility. This alternative proposes a new Epping Road location along with a second (new) station in the eastern part of the Town. For analysis purposes, the eastern location chosen is near the intersection of Holland Way and Hampton Road.

Response coverage for Alternative I is shown on Map 4 and the statistical results of this mapping are shown in Exhibits VI-5 and VI-6. Alternative II is shown on Map 5 and the statistical results of this mapping are shown in Exhibits VI-7 and VI-8.

EXHIBIT VI-5
TWO-STATION RESPONSE CAPABILITY
(EXISTING COURT STREET STATION AND EPPING ROAD) – ALTERNATIVE I
AREA, STREET MILES, AND 2000 POPULATION COVERED

	AREA		STREETS		2000 POPULATION	
	SQ. MILES	PERCENT	MILES	PERCENT	EST. POP.	PERCENT
1 minute or less	1.41	7.1%	16.55	15.7%	1,229	8.7%
1 to 2 minutes	4.22	21.2%	29.92	28.4%	3,205	22.8%
2 to 3 minutes	5.43	27.3%	23.62	22.4%	4,075	29.0%
3 to 4 minutes	4.53	22.8%	16.48	15.6%	3,109	22.1%
4 to 5 minutes	3.12	15.7%	15.01	14.2%	1,869	13.3%
5 to 6 minutes	0.59	3.0%	3.61	3.4%	265	1.9%
More than 6 minutes	0.61	3.1%	0.32	0.3%	306	2.2%
Total	19.91	100.0%	105.51	100.0%	14,058	100.0%

Map 4, which displays Alternative I, indicates good coverage within four minutes travel time. In Alternative I, 81 percent of the street miles and an estimated 83 percent of the population can be served within four minutes travel time. Under this alternative, as the northern and western areas are developed, the area, street miles, and population coverage will improve.

EXHIBIT VI-6
TWO-STATION RESPONSE CAPABILITY
(EXISTING COURT STREET STATION AND EPPING ROAD) – ALTERNATIVE I
CUMULATIVE AREA, STREET MILES AND 2000 POPULATION COVERED

	AREA		STREETS		2000 POPULATION	
	SQ. MILES	PERCENT	MILES	PERCENT	EST. POP.	PERCENT
1 minute or less	1.41	7.1%	16.55	15.7%	1,229	8.7%
1 to 2 minutes	5.63	28.3%	46.47	44.0%	4,434	31.5%
2 to 3 minutes	11.06	55.5%	73.09	69.3%	8,509	60.5%
3 to 4 minutes	15.59	78.3%	86.57	82.0%	11,618	82.6%
4 to 5 minutes	18.71	94.0%	101.58	96.3%	13,487	95.9%
5 to 6 minutes	19.3	96.9%	106.19	100.6%	13,752	97.8%
More than 6 minutes	0.61	3.1%	0.32	0.3%	306	2.2%
Total	19.91	100.0%	106.51	100.9%	14,058	100.0%

Alternative II is presented on Map 5 and the statistical representation of the mapping is shown in Exhibits VI-7 and VI-8. While Alternative II improves coverage in the east, coverage in the older central part of Exeter is less than under the existing one-station system, or under Alternative I. Coverage in the south and west is also diminished.

EXHIBIT VI-7
TWO-STATION RESPONSE CAPABILITY
(EPPING ROAD AND HOLLAND WAY) – ALTERNATIVE II
AREA, STREET MILES, AND 2000 POPULATION COVERED

	AREA		STREETS		2000 POPULATION	
	SQ MILES	PERCENT	MILES	PERCENT	EST. POP	PERCENT
1 minute or less	1.19	6.0%	10.25	9.7%	957	6.8%
1 to 2 minutes	3.4	17.1%	22.72	21.5%	2,650	18.9%
2 to 3 minutes	5.47	27.5%	31.72	30.1%	3,936	28.0%
3 to 4 minutes	4.46	22.4%	15.89	15.1%	2,978	21.2%
4 to 5 minutes	3.34	16.8%	16.78	15.9%	2,315	16.5%
5 to 6 minutes	1.28	6.4%	7.13	6.8%	854	6.1%
More than 6 minutes	0.77	3.9%	1.02	1.0%	368	2.6%
Total	19.91	100.0%	105.51	100.0%	14,058	100.0%

EXHIBIT VI-8
TWO-STATION RESPONSE CAPABILITY
(EPPING ROAD AND HOLLAND WAY/HAMPTON ROAD) – ALTERNATIVE II
CUMULATIVE AREA, STREET MILES, AND 2000 POPULATION COVERED

	AREA		STREETS		2000 POPULATION	
	SQ MILES	PERCENT	MILES	PERCENT	EST. POP	PERCENT
1 minute or less	1.19	6.0%	10.25	9.7%	957	6.8%
1 to 2 minutes	4.59	23.1%	32.97	31.2%	3,607	25.7%
2 to 3 minutes	10.06	50.5%	64.69	61.3%	7,543	53.7%
3 to 4 minutes	14.52	72.9%	80.58	76.4%	10,521	74.8%
4 to 5 minutes	17.89	89.9%	97.36	92.3%	12,836	91.3%
5 to 6 minutes	19.14	96.1%	104.49	99.0%	13,690	97.4%
More than 6 minutes	0.77	3.9%	1.02	1.0%	368	2.6%
Total	19.91	100.0%	105.5%	100.0%	14,058	100.0%

The possibility of an additional fire station relocation alternative was presented as this study was concluding. This alternative considered the placement of a fire station near Route 111 and Pickpocket Road. (See the report Appendix which presents a map of this alternative.)

STAFFING A SECOND STATION

It would be difficult to staff a second fire station with the current career staffing level. The existing five-person crew at the downtown station should not be reduced. Acquisition of land can precede construction of a station. However, a new station construction plan should be accompanied with a staffing plan.

We note that Town officials have considered the purchase of a suitable building lot in the northern area of the Town in an area near the location used in the computer mapping analysis. The acquisition of suitable land should be encouraged.

***RECOMMENDATION VI-1:** The Town should acquire enough land in the Epping Road area so that, if a new fire station is needed in the future, land will be available.*

The fire station location and design plan, which was rejected, included a fire station with administrative offices and other facilities. We recommend a less comprehensive design. Under this approach, the Town would erect either a low-cost (temporary) two-bay station on the site, or a permanent two bay station, with expansion capability. Apparatus bays should be double length to relieve the crowded apparatus floor at the current station. There should be sufficient space for a call-crew pumper, a first-line pumper, an ambulance, and the Department's reserve pumper.

***RECOMMENDATION VI-2:** A low-cost (temporary) two-bay station, or a permanent two-bay station, which may be expanded, should be constructed.*

***RECOMMENDATION VI-3:** As part of a long-term plan, the Town should employ a minimum of eight additional full-time firefighters to staff the second station.*

As suggested earlier in this report, a new fire station configuration plan should be accompanied by a staffing plan. The staffing plan should provide for both an enlarged career department and a strengthened call fire department component. The employment of eight personnel is designed to provide two firefighters on-duty at the new station 24 hours a day, 365 days per year. However, with authorized leave, it will actually require the equivalent of ten personnel to provide full-time coverage. Staffing coverage in the new station could be accomplished by a using full-time personnel and selective use of call personnel.

***RECOMMENDATION VI-4:** The new station in the Epping Road area should house an ambulance to provide quicker response to the northern, central, and western parts of the Town.*

***RECOMMENDATION VI-5:** Living quarters in a new station should include enough space and facilities for call personnel.*

***RECOMMENDATION VI-6:** When a new pumper is purchased for the second station, it should be a Quint vehicle (both pump and aerial capability).*

A quint vehicle which has pump and aerial capability should be assigned to the new fire station. A quint vehicle provides response flexibility. The Department may have to consider suitable equipment for technical rescue and initial haz mat response because of major highways, construction, and development.

RECOMMENDATION VI-7: The Department should establish a specific apparatus inventory for the two-station configuration model.

The following is an inventory of apparatus needed under the two-station deployment model.

- ▶ two front-line pumpers (one a quint)
- ▶ two pumpers for use by call personnel or recalled crew
- ▶ one ready reserve pumper for use as a fill-in
- ▶ one aerial ladder
- ▶ one tanker
- ▶ one brush truck
- ▶ one medium technical rescue/haz mat truck.

**EXHIBIT VI-9
APPARATUS ASSIGNED TO STATIONS**

HEADQUARTERS	NEW STATION
1 front-line pumper 1 aerial ladder 1 pumper for use by call/recalled crew 1 medium technical rescue/haz mat truck 1 tanker 1 brush truck	1 front-line pumper (quint) 1 pumper for use by call/recalled crew 1 ready reserve pumper

Note: Other deployment strategies are possible.

FIRE STATION LOCATION CONSIDERATIONS

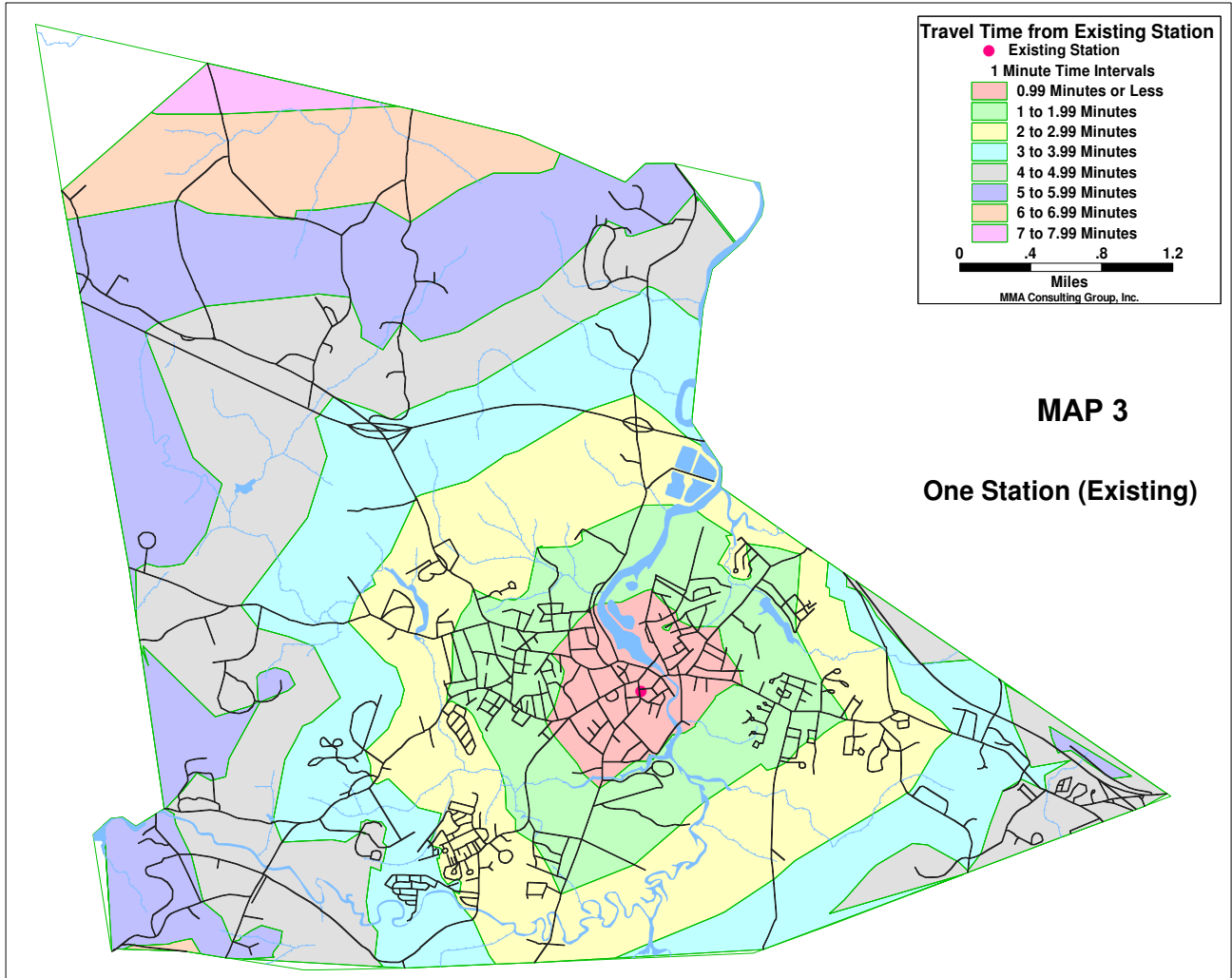
We have summarized basic fire station location and site factors that should be taken into account when selecting a final site. These are merely guidelines which may not all be operational at any specific location in Exeter. The Epping Road area may not meet all aspects of the listed criteria, but there are many mitigating factors which affect the location of stations, such as available resources to pay for a facility, the availability of land, and access and egress considerations. The

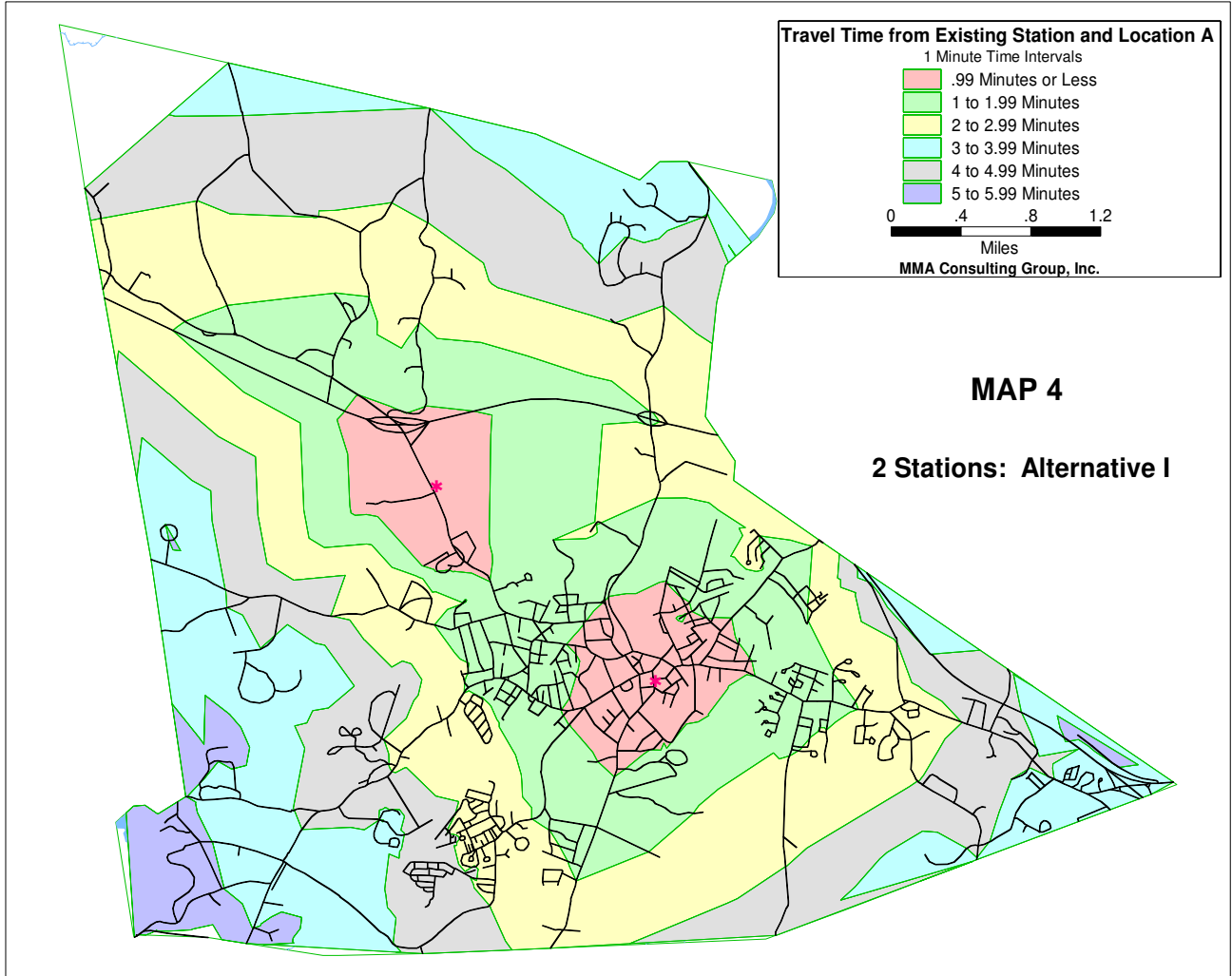
location of a new fire station is often a result of compromises which reflect local circumstances. The general fire station guidelines are provided below.

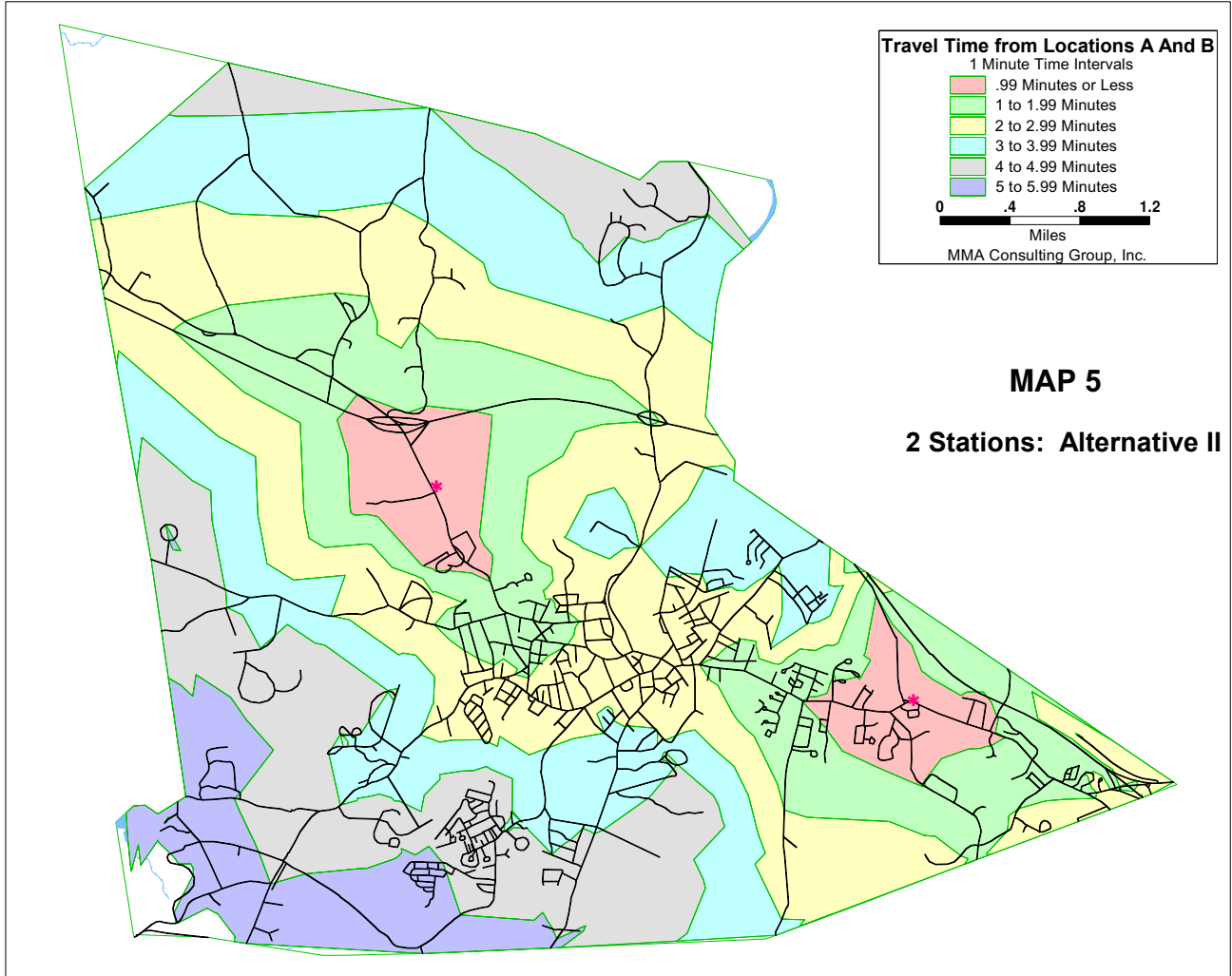
- ▶ A fire station should be situated in or near areas of need. Consideration should be given to community growth and development.
- ▶ A fire station should be located on or near good multi-directional response routes.
- ▶ A fire station location should allow apparatus to leave and return to a station safely.
- ▶ A fire station should be appropriate for the neighborhood.
- ▶ A fire station should be planned and constructed for ease of maintenance
- ▶ A fire station structure should be designed to accommodate expansion.
- ▶ A fire station should be sited on a lot which allows for building expansion, a ramp of sufficient length, off-street parking, and room to maneuver apparatus.
- ▶ A fire station should have drive-through bays, preferably double bays.
- ▶ A fire station should have adequate storage and training space.
- ▶ A fire station may include community room to allow for civic and public meetings.
- ▶ A fire station's grounds should be planned for ease of maintenance.

A fire station should comply with the safety provisions of Chapter 9 of NFPA Standard 1500, *Standard on Occupational Safety and Health Program*, and Chapter 3 of NFPA 1581, *Standard on Fire Department Infection Control Program*. Fire stations should also comply with other firefighter safety standards, including the following.

- ▶ Smoke and carbon monoxide detectors are required; the building should be fully-sprinklered.
- ▶ Living areas are required to be separate from apparatus storage areas to prevent exposure to diesel exhaust emissions.
- ▶ Facilities must be provided for cleaning, disinfection, and disposal of protective clothing, protective equipment, and medical supplies.
- ▶ Kitchens, sleeping areas, and bathrooms must be provided.







VII. STAFF SUPPORT AND SERVICES

Staff support in the Fire Department is coordinated by two Assistant Chiefs, one who is responsible for Operations and Fire Prevention and the second who is responsible for Training and Emergency Management. The Operations/Prevention Chief is also the Town Health Agent; assistance is provided by a part-time health inspector. This has proven to be a demanding, time-consuming duty, with little significance to fire service delivery or fire prevention.

FIRE PREVENTION PROGRAM

The fire prevention and public health inspection program is managed by the senior Assistant Fire Chief. The senior Assistant Fire Chief supervises a part-time public health inspector and a full-time fire inspector who holds the rank of Lieutenant. The two inspectors have a heavy workload, which includes performing numerous State-mandated inspections on a range of occupancies. The Assistant Fire Chief for Operations and Fire Prevention devotes the majority of time to managing these personnel, as well as conducting the majority of the public health inspections. Additionally he and his staff perform the following functions:

- ▶ required plan review and site plan review
- ▶ required inspections of all commercial occupancies
- ▶ required inspections of all public assembly occupancies
- ▶ required inspections of schools and nursing homes/assisted care facilities
- ▶ required smoke detector inspections
- ▶ required public health inspections

Exhibit VII-1 shows the Department's Fire Prevention activities. The exhibit identifies major types and number of inspections.

**EXHIBIT VII-1
FIRE PREVENTION STATISTICS**

ACTIVITY	2005	2006
Plan Review	101	110
Fire Drills/Public Education	39	42
Pre-planning	80	101
Permits Issued	166	223
Inspections		
Assembly	149	120
Education	14	4
Healthcare	13	9
Residential	62	19
Mercantile	6	0
Business	47	23
Industrial/storage	1	0
Hazard Inspection	12	0
Oil Burner Inspection	34	32
Site Inspection, Multi-Family	88	129
Total	810	812

It seems evident that the Fire Lieutenant's workload is more than one person can reasonably perform. Ideally, the Lieutenant should get additional support from the fire companies. However, no fire company members are trained as inspectors; as a result, there is no inspection assistance available. The required training would need to be budgeted, planned for and implemented in order for the on-duty personnel to be ready to assist the Lieutenant.

***RECOMMENDATION VII-1:** The Department should require that at least one company officer and/or crew chief per shift is trained to the Fire Inspector I level. Qualified call personnel should be included in the program.*

While operations personnel have a limited, or no, role in the inspection process, they perform some pre-planning activities. However, the pre-planning

process is not fully coordinated. In addition, there is no process to train personnel in the collection and organization of materials for the pre-planning process.

***RECOMMENDATION VII-2:** The Fire Prevention Office should develop checklists, forms, and schematics so that emergency response personnel can participate in pre-planning. The Department's call personnel should participate in pre-planning activities.*

Given the limited resources and the call/response load of the Department, every effort should be made to effectively use all available personnel, including call and career personnel, in fire prevention efforts. Fire companies should support the Fire Inspector in conducting fire inspections and pre-planning. The Department may also wish to consider employing a Fire Protection Engineer, on an hourly basis, to assist the Lieutenant in conducting engineering reviews.

***RECOMMENDATION VII-3:** The Department should seek funds and authorization to consult with a Fire Protection Engineer to assist in the review of technical or unusual development plans.*

The Assistant Chief for Operations and Fire Prevention has not had the opportunity to develop a formalized public education program. Currently, the program is limited to having school children visit the fire station and having the Assistant Chief, Fire Inspector, or fire companies visit the school. Ideally, the Assistant Chief (once there is relief from the inspection workload) should develop a community-based fire prevention program. There are a number of prevention programs which have been developed for use by fire departments. For example, the NFPA has several prevention programs which can be adopted.

***RECOMMENDATION VII-4:** The Department should develop a public education program which addresses all hazards and focuses on the community at large.*

TOWN HEALTH AGENT

Town health services are currently under the direction of the Fire Department. The Assistant Chief for Operations and Fire Prevention also serves as the Town Health Agent. A part-time inspector carries out a regular inspection

program. While it is reasonable to assign the Fire Department responsibilities for health related services, the workload of the Assistant Chief suggests that additional full-time or part-time assistance is required.

Health related tasks include the following:

- ▶ Pandemic Flu Planning Program: The Health Agent is the official “point of contact” and fiscal agent for 17 communities.
- ▶ Mosquito Program: The Health Agent coordinates, develops, and supports the mosquito control program.
- ▶ Sportsmen’s Club: The Health Agent coordinates the effort to correct lead and arsenic problems associated with the local gun club.
- ▶ Salt Marsh Restoration: The Health Agent, in conjunction with the mosquito control program, coordinates and seeks funding for salt marsh restoration.
- ▶ Water and Sewer Complaints: The Health Agent investigates complaints and checks on private systems and dumps adjacent to the waterways.
- ▶ Tenant Rights: The Health Agent is responsible for tenant rights issues and certain eviction issues.
- ▶ Communicable Diseases: The Health Agent assists in the investigation of communicable disease outbreaks and cases of food poisoning.
- ▶ Food Inspections: The Health Agent inspects or oversees inspections of food processing plants and facilities.

RECOMMENDATION VII-5: The Town should plan to employ a full-time Health Officer, so that the Assistant Chief can devote all of his or her efforts to Fire Department activities.

TRAINING AND SAFETY

An emergency response agency requires continuous training. In Exeter, the Fire Chief has recognized the need for an organized approach to training in the Department. This resulted in the employment of an Assistant Chief with responsibility for developing and managing a training program. Since the position was created, a well structured and managed training program has been created. The scope of training required in Exeter is considerable. There is always a need for refresher training in basic fire and rescue techniques, required continuing

education (e.g., EMS re-certification), special operations training, supervisory training, and safety training.

The training officer should not only provide training directly, but more importantly, should ensure that key employees in the Fire Department are capable of developing and delivering a training program. The Assistant Chief has ensured that company officers, and other qualified operational personnel, are able to provide training.

There are several categories of training which must be considered by the Fire Department, including basic skills training and middle management/supervisory training. Basic skills training focuses on structural firefighting operations and is taught in recruit training. Basic skills training is repetitive, but essential, since application of basic firefighting skills is rarely required. Ensuring that firefighters have the necessary firefighting skills is an integral part of meeting the intent of NFPA 1710.

In Exeter, there are few structural fires. As a result, there are limited opportunities to apply firefighting skills. To maintain skill levels, the Assistant Chief has developed a plan for fire suppression training. The program should be designed so that all fire officers can use lesson plans to train personnel. This training effort should incorporate a quarterly performance evaluation program in which the Assistant Chief can evaluate the quality of instruction. The program should focus on basic skills to ensure continuity between shifts and operational capabilities at the incident scene.

***RECOMMENDATION VII-6:** The Department should require one company officer and/or firefighter on each shift to be trained to the Fire Instructor I level, with the capability of instructing personnel from a defined lesson plan.*

In addition, the Assistant Chief has incorporated basic NIMS training for all personnel. Advanced NIMS training (ICS 300 and 400) should be provided to all officers in the Department. The training should be evaluated during the course of field training and at company drills.

RECOMMENDATION VII-7: The Department should develop and implement a basic skill refresher training program, followed by NIMS training.

RECOMMENDATION VII-8: The Assistant Chief should develop a program to evaluate training provided to personnel. Individual and company training levels can be measured at company drills.

It should be noted that some firefighters in Exeter have participated in National Fire Academy (NFA) field or resident training courses. NFA courses are free and provide a defined professional development program for those in the fire and emergency medical services industry.

FIRE ALARM SYSTEM

The Department operates a fire alarm box communication system, which consists of hardwired street boxes and master boxes. The Department has assigned personnel who are responsible for the maintenance and repair of the system and ensuring that the system meets NFPA Standard 72. Industry practices and standards require annual maintenance and testing of the alarm system.

Generally, consultants do not see the pressing need for a hardwired street box system, or a hardwired master box system. The Department should consider discontinuing the street box system.

RECOMMENDATION VII-9: Consideration should be given to discontinuing the street box system and developing a master box system which is not hardwired.

VIII. FIRE DEPARTMENT ATTITUDE SURVEY

Fire Department employees were given the opportunity to anonymously respond to an attitude survey. In this chapter, the results of the attitude survey of career and call members of the Fire Department are presented. The purpose of the survey was to gather information concerning firefighters' views of the work they perform, the services they provide, and the support they receive. It is important to recognize the attitudes and opinions of employees as one indicator of the health of an organization.

SURVEY DESIGN

The Fire Department survey form is composed of several parts. Sections I through IV ask respondents to evaluate each of a series of statements, using a five point scale. The fifth section asks respondents about their future plans with the organization. At the end of the survey, respondents are given the opportunity to give short narrative answers to four general questions. The surveys were distributed to career and call personnel; 26 responses were received.

COMPILATION OF SURVEY RESULTS

The following charts provide a compilation of all responses received. In the compilation of survey results, every effort has been made to be accurate. In some instances, e.g., when individual questions were not answered, two responses were given to a question, or a response was not legible, responses had to be excluded from the compilation. For purposes of the analysis in this section, all percentages have been rounded to the nearest whole number.

Questions 1 through 15 (Section I) ask members for opinions on practices and procedures, as well as their degree of personal satisfaction as a member of the Department. Exhibit VIII-1 presents the responses of personnel to each statement in Section I.

**EXHIBIT VIII-1
RESPONSES TO QUESTIONS 1 THROUGH 15**

I. Please indicate in the box before each statement the response that best describes your opinion on each of the following statements. Use the following scale.

		5 Strongly Agree	4 Agree	3 No Opinion	2 Disagree	1 Strongly Disagree
1	I receive adequate direction and support from my supervisor.	7	16	1	2	0
		27%	62%	4%	8%	0%
2	I receive adequate training for my job.	3	13	5	5	0
		12%	50%	19%	19%	0%
3	My work is goal oriented.	4	16	5	1	0
		15%	62%	19%	4%	0%
4	The Fire Chief is clearly concerned about the needs of employees.	3	8	6	8	1
		12%	31%	23%	31%	4%
5	In my job, I feel like a member of a team, not just an individual employee.	7	14	3	2	0
		27%	54%	12%	8%	0%
6	Discipline in the Fire Department is handled in a fair and consistent manner.	4	7	8	6	1
		15%	27%	31%	23%	4%
7	We have a good working relationship with other Town departments.	3	18	3	2	0
		12%	69%	12%	8%	0%
8	The citizens of Exeter appreciate the work of our department on their behalf.	6	16	1	3	0
		23%	62%	4%	12%	0%
9	Fire prevention is an important part of my job.	4	11	8	3	0
		15%	42%	31%	12%	0%
10	Promotions in this department are based on merit and qualifications, rather than on favoritism and personal influence.	3	6	9	6	2
		12%	23%	35%	23%	8%
11	The Exeter Fire Department is a progressive agency.	3	11	7	5	0
		12%	42%	27%	19%	0%
12	Good performance is recognized and rewarded in this department.	1	5	6	9	4
		4%	19%	23%	35%	15%
13	My work is governed by clear standards of performance.	1	13	5	6	0
		4%	50%	19%	23%	0%
14	Safety is emphasized and enforced.	9	9	5	2	1
		35%	35%	19%	8%	4%
15	I enjoy my work.	18	7	1	0	0
		69%	27%	4%	0%	0%

The following summarizes personnel responses to Questions 1 through 15.

- ▶ 96% enjoy their work.
- ▶ 85% believe that the citizens of the Town appreciate their work.
- ▶ 81% believe they are members of a team.
- ▶ 70% believe that safety is emphasized and enforced.
- ▶ 57% believe that prevention is part of their job.
- ▶ 62% believe that they receive adequate training.
- ▶ 54% agree that there are clear standards governing their work; 23% disagree that standards are clear.
- ▶ 54% believe the Department is a progressive organization.
- ▶ 43% believe that the Fire Chief is clearly concerned about the needs of employees.
- ▶ 42% believe that discipline is fairly and consistently administered; 27% do not believe this is the case.
- ▶ 35% believe that promotions are based on merit; 31% do not believe this.
- ▶ 23% believe that performance is recognized or rewarded; 50% do not believe that performance is recognized.

These results show that a very high proportion of employees enjoy the work, believe that they are members of a team, and think that they are appreciated by the public; these are very positive measures of job satisfaction and morale. A large number of personnel (54 percent) believe that the Department is a progressive organization, but 27 percent have no opinion and 19 percent do not believe the Department is a progressive organization. Twenty-three percent of employees believe that good performance is recognized, and 50 percent do not agree that good performance is rewarded.

Exhibit VIII-2 presents the responses to questions 16 through 29 (Section II). The questions in this section ask respondents to rate a variety of services provided by the Department.

**EXHIBIT VIII-2
RESPONSES TO QUESTIONS 16 THROUGH 29**

II. Please rate your department on each item listed below. Use the following scale.

		5 Excellent	4 Very Good	3 Good	2 Fair	1 Poor
16	Incident command	5	11	9	1	0
		19%	42%	35%	4%	0%
17	Prevention & public education	4	12	7	3	0
		15%	46%	27%	12%	0%
18	Customer service attitude	4	11	10	1	0
		15%	42%	38%	4%	0%
19	Pre-planning	1	6	8	8	3
		4%	23%	31%	31%	12%
20	Technical rescue	3	5	8	7	2
		12%	19%	31%	27%	8%
21	Haz Mat response	5	7	7	5	1
		19%	27%	27%	19%	4%
22	Public service calls	8	9	9	0	0
		31%	35%	35%	0%	0%
23	Emergency Medical Services	17	9	0	0	0
		65%	35%	0%	0%	0%
24	Rapid Intervention Team	9	6	5	6	0
		35%	23%	19%	23%	0%
25	Dispatch & emergency communications	2	1	2	8	13
		8%	4%	8%	31%	50%
26	Fireground operations	6	13	7	0	0
		23%	50%	27%	0%	0%
27	Natural disaster response	7	7	8	4	0
		27%	27%	31%	15%	0%
28	Multiple casualty incidents	4	6	8	6	0
		15%	23%	31%	23%	0%
29	Bio-chem incidents	4	4	5	9	2
		15%	15%	19%	35%	8%

The responses indicate that personnel generally think that the services provided are good and the Department has reasonable capabilities. Respondents

provided very positive responses in several categories. Department performance in Emergency Medical Services is considered excellent, or very good, by all members (100 percent of respondents); 73 percent indicated that fire ground operations are excellent, or very good; 61 percent indicated that incident command was excellent, or very good; 61 percent considered prevention and public education to be excellent, or very good; 57 percent indicated that the Department has a sound customer service attitude. Respondents appear to be critical of the Department's capability in a number of other areas, such as pre-planning, technical rescue, and dispatch and emergency communications. Below is a summary of how personnel evaluate services provided by the Department.

- ▶ 100% rated Emergency Medical Services as excellent or very good.
- ▶ 73% evaluated fire ground operations as excellent or very good.
- ▶ 66% rated the Department's responses to public service calls as excellent or very good.
- ▶ 61% evaluated incident command as excellent or very good.
- ▶ 57% rated the Department's customer service attitude as excellent or very good.
- ▶ 31% rated technical rescue as excellent or very good; 35% rated it as fair or poor.
- ▶ 27% rated the Department's pre-planning as excellent or very good; 43% rated preplanning as fair or poor.
- ▶ 12% rated dispatch and emergency communications as excellent or very good; 81% rated it as fair or poor.

Exhibit VIII-3, *Responses to Questions 30 through 49*, presents responses to Section III of the survey. The questions generally seek information on the degree of employee satisfaction with various support items and functions generally thought to contribute significantly to the morale of members.

**EXHIBIT VIII-3
RESPONSES TO QUESTIONS 30 THROUGH 49**

III. Please indicate your opinion about each item listed below. Use the following scale.

		5 Very Satisfied	4 Satisfied	3 No Opinion	2 Dissatisfied	1 Very Dissatisfied
30	Town support	4	7	3	9	3
		15%	27%	12%	35%	12%
31	Equipment	9	14	1	2	0
		35%	54%	4%	8%	0%
32	Vehicle types	4	17	5	0	0
		15%	65%	19%	0%	0%
33	Vehicle maintenance	4	14	4	3	1
		15%	54%	15%	12%	4%
34	Rules and regulations	3	15	7	1	0
		12%	58%	27%	4%	0%
35	Discipline	3	11	10	2	0
		12%	42%	38%	8%	0%
36	Internal communications	2	4	6	12	2
		8%	15%	23%	46%	8%
37	Provisions for health & safety	4	9	8	5	0
		15%	35%	31%	19%	0%
38	Staff support services	2	6	11	7	0
		8%	23%	42%	27%	0%
39	Encouragement to be innovative	0	11	8	7	0
		0%	42%	31%	27%	0%
40	Fringe benefits	0	14	7	3	2
		0%	54%	27%	12%	8%
41	Stations and other facilities	2	6	5	12	1
		8%	23%	19%	46%	4%
42	Training programs	1	5	5	13	2
		4%	19%	19%	50%	8%
43	Training facilities	1	7	6	12	0
		4%	27%	23%	46%	0%
44	Safety at incidents	5	8	5	6	1
		19%	31%	19%	23%	4%
45	Promotional procedures	3	8	4	6	5
		12%	31%	15%	23%	19%
46	Standard Operating Guidelines	4	13	9	0	0
		15%	50%	35%	0%	0%
47	Supervision & management	4	9	7	6	0
		15%	35%	27%	23%	0%
48	Training & education opportunities	1	15	2	7	1
		4%	58%	8%	27%	4%
49	Mutual aid	5	16	4	0	
		19%	62%	15%	0%	0%

Responses to survey questions 30 through 49 provide members' opinions regarding support and related functions. Opinions were often mixed. For example, while many respondents are satisfied with equipment, vehicles and maintenance of equipment, there are varying degrees of dissatisfaction with internal communication, town support, stations, and facilities. The opinions of personnel regarding support services are summarized below.

- ▶ 89% are very satisfied or satisfied with equipment.
- ▶ 80% are very satisfied or satisfied with vehicle type.
- ▶ 23% are very satisfied or satisfied with training programs; 58% are dissatisfied or very dissatisfied.
- ▶ 65% are very satisfied or satisfied with standard operating guidelines; 0.0% are dissatisfied or very dissatisfied; but 35% have no opinion.
- ▶ 23% are satisfied with internal communications; 54% are not satisfied; 23% have no opinion.

It is interesting to note that a majority of personnel are very satisfied or satisfied with fringe benefits (54 percent), safety at incidents (50 percent), mutual aid (81 percent) and promotional procedures (43 percent). However, 47 percent are dissatisfied or very dissatisfied with support from the Town; 23% are dissatisfied or very dissatisfied with supervision and management; 42 percent are dissatisfied with promotional procedures.

There are three fairly distinct areas from which employees derive job and career satisfaction:

task orientation, which relates directly to those survey items having to do with the preparation for, and actual response to, emergency incidents

interaction orientation, which relates directly to those survey items having to do with management, supervision, fairness, respect, and team operations

self orientation, which relates directly to those survey items having to do with the individual's general satisfaction

Attention to these three areas and the issues and concerns brought up by the attitude survey is of vital importance in further improving the performance of the Department, job satisfaction, retention of personnel, and customer service.

Section IV of the survey (questions 50 through 57) focused on individuals' relationships with supervisors, peers, and personnel in other Town departments. Members were asked to evaluate how satisfied they are with these relationships.

**EXHIBIT VIII-4
RESPONSES TO QUESTIONS 50 THROUGH 57**

IV. Please indicate below how you feel about your relationship with each of the following persons or groups. Use the following scale.

		5 Very Satisfied	4 Satisfied	3 No Opinion	2 Dissatisfied	1 Very Dissatisfied
50	Relationship with your immediate supervisor	12	12	1	0	1
		46%	46%	4%	0%	4%
51	Relationship with your Deputy Chief	5	9	9	1	1
		19%	35%	35%	4%	4%
52	Relationship with the Fire Chief	5	12	6	1	2
		19%	46%	23%	4%	8%
53	Relationship with fellow firefighters	13	13	0	0	0
		50%	50%	0%	0%	0%
54	Relationship with Town residents as you perform your job	8	16	1	1	0
		31%	62%	4%	4%	0%
55	Relationship with Town elected officials	0	9	7	8	2
		0%	35%	27%	31%	8%
56	Relationship with Town administration	0	8	4	6	7
		0%	31%	15%	23%	27%
57	Relationship with other Town department personnel with whom you may need to work on a project or incident	1	16	7	1	
		4%	62%	27%	4%	0%

Questions 50 through 57 present the views of respondents regarding relationships. Personnel show a fairly high level of satisfaction with their relationships with their immediate supervisors, the Fire Chief, fellow firefighters, and Town residents. Below is a summary of how personnel evaluate services provided by the Department. The following summarizes personnel evaluations of their relationships within the Department.

- ▶ 92% expressed satisfaction in their relationship with their immediate supervisor.
- ▶ 65% are satisfied with their relationship with the Fire Chief.
- ▶ 54% are satisfied with their relationship with the Deputy Fire Chief.
- ▶ 100% believe their relationships with fellow firefighters are satisfactory.
- ▶ 93% of respondents are satisfied with their relationships with Town residents as they perform their jobs.
- ▶ 35% of respondents are satisfied with their relationship with Town administration; 15% had no opinion; 50% were dissatisfied.
- ▶ 66% of respondents are satisfied with relationships with Town personnel with whom they may need to work.

NARRATIVE COMMENTS

The remaining portion of the survey solicited narrative responses. While it is not the intent to quote all of them here, a general summary of the comments is included below. Some comments have been edited, but no attempt has been made to change the content of a comment. We are reporting our understanding of the comments made and cannot attest to accuracy of any allegation.

What management changes would you like to see in the Department?

Active, enthusiastic officers who will ensure there is training on a regular basis

The Town Manager needs to go

Better communication from top down

No changes at this time

Crew chief position being awarded to the highest test scorers

Clear definition of roles, more communication

Better use of the call department

More emphasis on safety

What operational changes would you like to see in the Department?

More training to increase comfort with team members

Increase in shift staffing

Operational changes, change with the times

In the long-term more staffing and second station; in the short-term enough funding to use present personnel efficiently

More training for the call department and work more with full-time personnel
More live fire training for call firefighters
Full and part-timers should train together
More involvement by firefighters in policy and procedure development
Call firefighters should be allowed to come in when a box is struck
Fully staff a second fire station
Remove health and emergency management from the department

What do you like most about the Department?

People I work with
The Town itself and the members of the Department
Appropriate staffing on-duty for station coverage
Having been in the Department for an extended period of time I can take on some additional responsibilities
High level of training, good equipment
A job where I am able to help people
Good equipment and good crews
Working the job and getting recognized for doing well
Community spirit

What do you like least about the Department?

The lack of training and the political aspects of our work
I can't say there is anything I dislike about my Department; I would like to see more training on buildings and roof construction in town
Staffing, need more personnel
Having a training chief that isn't able to conduct frequent training due work load
Lack of promotion
I feel there is room for management to be a little more forthcoming with informational updates and think before sending memos
With recent response changes in emergencies, I believe that many steps were taken backwards with regards to safety of personnel
Not always feeling that staff is on the same page as management.
Lack of trust in upper management and complete lack of trust from Town management

Feelings between full-and part-time personnel have change dramatically –
and not for the better
Always underfunded
Call personnel are under utilized and under appreciated
Dislike having to continually justify our jobs to the public and selectmen
Many suggestions have been made to no avail

SURVEY INTERPRETATION

It is possible to interpret individual comments and the results of any one question in many ways. However, an overall view of the survey indicates that:

- The personnel of the Department like their jobs and enjoy assisting the people of the community.
- The communication up and down the chain of command may not be sufficient. However, it should be noted that with four shifts, communication is often difficult to achieve. Staff meetings and circulation of staff meeting minutes may help improve communication.
- The Department personnel rate themselves relatively well on the delivery of many services, but they also identify many areas where they feel there are weakness. For example, the survey results suggest that there may be a need for improved pre-planning and more training in certain areas. This information could be useful when considering training plans.
- The survey suggests that safety at the scene of an incident needs to be carefully reviewed.
- There are some relationship problems between full-time career personnel and the call personnel. While such relationship problems are common in fire departments, the Chief should carefully monitor any conflicts between career and call personnel.

RECOMMENDATION VIII-1: The Fire Chief, chief officers, and company officers should review the survey and discuss its findings to determine if the results suggest specific areas for training or improvement.

IX. IMPLEMENTATION PLAN

This report contains many major recommendations which represent a plan for the future development of the Exeter Fire Department. The proposed two fire station configuration and deployment model, which includes additional career and call personnel, should be implemented in a systematic manner over several years. While the deployment and reconfiguration approach is a critical part of this report, there are a number other important recommendations which should be considered.

Many recommendations in this report require specific decisions by elected officials. Other recommendations require action by the Town Manager or Fire Department chief officers. To fully evaluate these recommendations and ensure that there is a systematic implementation of some of the primary recommendations in this report, a specific implementation strategy should be adopted.

FIRE DEPARTMENT REPORT IMPLEMENTATION COMMITTEE

A critical part of this implementation process would be to establish an implementation committee composed of several key members of the Fire Department, as well as Town officials. The role of the committee should be to review report recommendations, assess the practicality of proposals, establish priorities, identify officials responsible for recommendation implementation, establish time lines and hold officials accountable for progress. The implementation committee should be instituted as soon as possible and meet regularly to monitor progress. The committee should consist of several Fire Department officials, the Town Manager or a designee, and two or three other officials.

RECOMMENDATION IX-1: The Town should create an implementation committee to review the recommendations in this report. The committee should consider the interrelationships of the staffing recommendations.

Both long-term and short-term recommendations are contained in this report. Many of the recommendations are linked to one another. For example, the construction of a new fire station is linked to increased staffing capability.

Recommendations are designed to establish a measurable response standard for the Fire Department. It should be the goal of the Fire Department to respond to the scene of an incident within four minutes travel time (six minutes total response time), with a team of firefighters to provide fire and emergency medical services, in 90 percent of all incidents. In addition, within eight minutes travel time (10 minutes total response time), a full alarm assignment should be at the scene of a major incident in 90 percent of all incidents.

This goal cannot be met in the current situation, and may never be fully met, but it should be considered a goal for the Fire Department. Many of the recommendations in this report are designed to help the Department achieve this goal.

INITIAL IMPLEMENTATION ACTIONS BY THE COMMITTEE

The following exhibit displays several major recommendation and a general time line for implementation. Some of the recommendations listed below need to be completed prior to implementing other recommendations. These recommendations establish the foundation for restructuring service delivery.

EXHIBIT IX-1
TIMETABLE FOR IMPLEMENTING RECOMMENDATIONS (NEXT 12 MONTHS)

TASK TO BE COMPLETED	COMMENT	TIMETABLE
Review the report and identify actions that can be accomplished administratively and identify issues which will require consensus within the Town, such as staffing and station construction recommendations.	The committee should review recommended priorities to determine if they are appropriate.	1 Month
Employ four firefighters as soon as possible.	The employment of four firefighters will reduce overtime costs.	3 Months
Consider recommendations regarding the fire station deployment model. Establish a plan for acquiring land and eventual construction of a fire station.	This will require a commitment by selectmen and other officials.	3 Months
Relieve Assistant Chief of Health Department responsibilities.	This can be accomplished by hiring a full-time health agent.	3 Months
Assign the Assistant Chief responsible for working with call personnel the job of developing a plan of action for the call component of the Department.	This will require discussion with current call personnel and career personnel. Employment, recruitment, and retention standards need to be developed.	3 Months
Review dispatch needs and develop police-fire emergency communications committee.	This will require a careful review of needs and discussion of protocols.	3 Months
Develop a plan of incentives for call personnel.	This will require a review of the cost of incentives.	6 Months
Begin implementing a call personnel recruitment plan.		6 to 12 Months
Identify specific sites for a fire station,	This will require reviewing available sites and estimating costs.	12 Months
Review dispatch recommendations and develop a specific plan of action.	Police and fire officials should consider a joint committee, the training of call personnel, and working closely with the State to addresses EMS calls for service.	12 Months

STATION LOCATION AND STAFFING RECOMMENDATIONS

The staffing and fire station location recommendations are related. Therefore, it is important to consider both staffing and station location recommendations at the same time.

FIRE STATION SITE LOCATION

There are three primary considerations relating to station.

- *Fire Station Site Location* – Local leaders should identify a location for a fire station.
- *Type of Station Construction* – Officials should consider providing a temporary structure, or a permanent structure which is expandable. A temporary structure should have a limited life cycle (no more than three to five years).
- *Fire Station Construction* – The construction of a new fire station should coincide with the increase in career and call personnel.

INCREASING CAREER AND CALL PERSONNEL RESOURCES

There are several important steps which must be taken to increase the capability of the call component of the Fire Department. One of the first tasks should be to assign a command officer to the work with call personnel to increase membership and the capability of the call component. As the call component of the Fire Department is strengthened, the Department should develop a plan to increase the number of call personnel. Several steps are required to strengthen the staffing capability of the Fire Department:

- *Assign an Assistant Chief to work with call personnel.* The Assistant Chief must assess the capability of the Department, develop appropriate standards for personnel, and develop a recruitment program. The Assistant Chief should work with existing call personnel to develop standards and a recruitment plan.
- *Implement a plan to increase the number of call personnel.* This plan should be implemented by the Assistant Chief and call personnel. Ideally, other career personnel should be involved in the implementation process.

- *Develop a time line to employ additional career personnel.* The Fire Department should develop a plan to employ eight firefighters. Four firefighters should be employed as soon as possible. Four additional firefighters should be gradually employed over the next several years.

Exhibit IX-2 presents a possible time line for implementation of staffing and station construction recommendations.

EXHIBIT IX-2
TIMETABLE – STAFFING AND FIRE STATION CONSTRUCTION

	2008	2009	2010	2011	2012	2013
Station Location						
Identify station location	✓					
Acquire land		✓				
Plan for construction of station			✓			
Construct station				✓		
Increase personnel						
Plan/develop standards for call personnel	✓					
Add call personnel		2	2	2	2	2
Add career personnel	4*	1	1	1	1	

* Initially, additional personnel should be used to reduce overtime.

There are costs associated with recommendations in this report. Some costs can be estimated and other costs, such as station site acquisition and construction, are difficult to estimate. Several million dollars may be required for station location and construction costs. Exhibit IX-3 shows estimates of staffing and some additional training costs associated with the recommendations made in the report. Costs reflect estimates in today's dollars.

**EXHIBIT IX-3
SELECTED COST ESTIMATES**

	2008	2009	2010	2011	2012	2013
STATION LOCATION						
Acquire land		Unknown				
Plan for station construction			Unknown			
Construct station				Unknown		
PERSONNEL						
Recruitment of call personnel & Incentive costs	\$3,000	\$30,000	\$35,000	\$50,000	\$60,000	\$80,000
Call personnel training		\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Employment of call personnel *		\$58,500	\$58,500	\$117,000	\$117,000	\$117,000
Employment of full-time personnel	\$216,772	\$54,193	\$54,193	\$54,193	\$54,193	

The cost of eight new personnel would be \$433,544, assuming current rates of pay and benefits. In addition, assuming that call personnel were compensated for training and emergency response at approximately \$20.00 per hour, and personnel participated in 200 to 250 hours of work, the cost per call department member would be \$4,000 to \$5,000, not including insurance, personal equipment, and related training costs. Assuming that there are 20 active members (committed to 200 hours annually), it would cost the department approximately \$80,000 for the call component of the Department.

A comparison of current overtime costs to the costs of employing new personnel indicates that the employment of four firefighters is cost effective. A review of the Fire Department's analysis of overtime indicates that the salaries of four firefighters would be \$147,202 (\$36,800 per firefighter). Additional benefits costs are equal to 47 percent of a firefighter's salary or \$17,393 per firefighter. The cost per firefighter would be \$54,193, or \$216,772 for four firefighters.

The employment of six firefighters on each shift will allow the Fire Department to fill approximately 5,280 hours of authorized leave time with on-duty personnel. This will result in a savings of \$179,990 in overtime wages. Assuming that 75 percent of the hours are filled by new personnel, the Department will save \$134,993 in wages and an additional \$30,612 in required benefits contributions, for a total savings of \$165,604 (\$134,993 + 30,612).

The Department also estimates that savings would be realized by the reduction and modification of the emergency recall procedure. Reducing or eliminating recall will result in a savings of \$71,282, not including benefit contributions. Assuming that 75 percent of recall hours are filled by new personnel, the Department will save \$53,462 in wages and \$9,286 in required benefits contributions, for a total of \$62,748. A grand total of \$228,252 (overtime of \$165,604 plus recall of \$62,748) will be saved. Thus, the difference between the savings of \$228,352 and the cost of four new firefighters (\$216,772) is \$11,580.

These financial data are based on estimates made by the Fire Department. These data were reviewed by the consulting team and found to be reasonable estimates.

PRIORITY OF RECOMMENDATIONS

Although all recommendations in this report are important and should receive full consideration, this section assigns priorities to them in order to provide a logical sequence for their implementation. The recommendations below are listed in the order they are presented in this report, along with their assigned priorities. The recommendations have been categorized as follows:

- Priority 1:** Recommendations which directly affect the safety of personnel or the public, or establish the framework for other recommendations. These recommendations should be addressed immediately.
- Priority 2:** Recommendations which should be implemented without delay, since they may bear directly on safety, productivity, cost and efficient operation of fire, rescue, or emergency medical services in Exeter.
- Priority 3:** Recommendations which are important to the efficient provision of fire, rescue, or emergency medical services in Exeter. These recommendations should be implemented as soon as reasonable and practical.

Priority 4: Recommendations which can contribute to the continued improvement of fire, rescue, or emergency medical services in Exeter. These recommendations should be implemented as soon as resources and operating conditions permit.

**EXHIBIT IX-3
RECOMMENDATIONS**

	RECOMMENDATION	COMMENT	PRIORITY
III-1	Each chief officer should be assigned to act as the duty officer or shift commander, on a weekly rotating basis, responding from work or home on pre-designated types of calls for service.	The Department should have a duty-chief available at all times.	1
III-2	The management of the Fire Department should systematically monitor the staffing factor of the Fire Department, as one measure of productivity and accountability.		4
III-3	The Department and the Town should adopt a policy calling for the delivery of an appropriately sized team of trained responders to arrive at a major incident in a timely manner.		1
III-4	The Department's deployment strategy should consider the use of career personnel augmented by call personnel and an efficient call-back system.		1
III-5	The deployment strategy should be to linked, in the long run, to the construction of a new fire station.	Personnel could be employed over a multi-year period, to gradually enhance operations.	2
III-6	The Department's policy should be to strengthen the call component of the Fire Department and integrate call personnel into all of the Department's services.	This requires working with career personnel to avoid conflict and clarify roles.	2
III-7	The Department should have the goal of using regional approaches to service delivery.		1
III-8	The call component of the Fire Department should be revitalized in order to improve response capability, safety, and productivity of Fire Department operations.	This should be a high priority, but should be linked with other efforts.	1

III-9	An Assistant Chief should be responsible for strengthening the call component of the Fire Department.		2
III-10	The Fire Department should define the mission of the call component of the Fire Department.	Some new call personnel could have limited duties, such as serving as EMS responder only.	2
III-11	The Department should develop programs to encourage skilled residents, retirees, and students to assist the Fire Department.		3
III-12	The Fire Department and the Town should explore incentives for call personnel.	A number of possible incentives are suggested in this report.	4
III-13	The Fire Department should assign a pumper and auxiliary vehicles, such as a tanker and medium rescue truck, to the new station. Auxiliary units should be used by qualified responding call personnel.	Initially, the second station might be staffed with career personnel on a limited basis, but with call personnel at certain times.	2
III-14	The Department should train call personnel as dispatchers to enable them to serve as dispatchers during major emergencies and storms.		2
III-15	The Department should train, qualify, and use call personnel to assist with the “fill-in” schedule, and as additional crew members during peak workload hours.	This will strengthen communications in an emergency. Personnel should be trained with the dispatchers.	2
III-16	The Department should train, qualify and use call members as safety officers, incident command technicians, auxiliary fire inspectors, and public safety educators. Call personnel should also be trained to support structure fire initial attack teams.		3
III-17	The Town should prohibit a fire officer from filling in as a lower ranking firefighter.		1
III-18	The Department should initiate clear response protocols which have chief officers and Fire Inspectors responding to pre-designated alarms in pre-assigned roles.		1

III-19	The Department should plan to employ eight additional full-time personnel to staff the proposed second station. Two responders should be assigned to each shift. (See station location recommendations.) The Department should consider employing four firefighters as soon as possible.	Employing four additional personnel will reduce overtime costs.	1
III-20	The Fire Department should continue to participate in all mutual aid arrangements.		4
III-21	The Seacoast Fire Chiefs Association should develop a plan and initiate an appropriate automatic response mutual aid program for pre-designated types of calls.		2
III-22	The Department should continue to strengthen the Rapid Intervention Team (RIT) program by working with regional fire departments and mutual aid member communities.		2
III-23	The Department should continue to promote new programs to identify, train, qualify, and use call members to respond to calls for mutual aid and for the RIT team.		3
III-24	The Fire Department should work within the Seacoast Mutual Aid System to develop a regional Incident Management Team (IMT).		2
IV-1	The Department should retain the current emergency medical system and increase the billing rates, as planned.	The current system appears effective.	
IV-2	The Department should train and certify more call members as EMS providers, in order to assist career personnel with the EMS workload. Paramedic call members might be assigned to an ALS fly car.	This will continue to strengthen EMS response.	1
IV-3	The Department should develop a system to reduce EMS call response time by receiving notice of EMS calls prior to completion of the EMD process.	This will require working with state officials and changing internal protocols.	2
IV-4	The Fire Department should continue the quality assurance review process for EMS service delivery.		2

V-1	The Town should review the staffing of the dispatch center.	Recommendations V-1 and V-2 should be considered at the same time.	1
V-2	The Town should consider employing additional dispatchers during peak activity periods.	Recommendations V-1 and V-2 should be considered at the same time.	1
V-3	Members of the call component of the Fire Department should be trained as dispatchers.	This may be critical during a major ice storm, for example.	2
V-4	The Police Department and the Fire Department should establish an emergency communications committee consisting of command personnel to ensure effective management of the emergency dispatch system.	Fire Department personnel express concern regarding dispatching services.	1
V-5	The Town should explore the development of new a Computer Aided Dispatch (CAD) system.		2
V-6	An Assistant Chief should be designated as the Fire Department's liaison to the police and fire emergency communications committee.		3
VI-1	The Town should acquire enough land in the Epping Road area so that, if a new fire station is needed in the future, land will be available.	Land should be acquired to ensure future availability.	2
VI-2	A low-cost (temporary) two-bay station, or a permanent two-bay station, which may be expanded, should be constructed.	The initial cost of a new fire station should be minimized.	2
VI-3	As part of a long-term plan, the Town should employ a minimum of eight additional full-time firefighters to staff the second station.		2
VI-4	The new station in the Epping Road area should house an ambulance to provide quicker response to the northern, central, and western parts of the Town.		4
VI-5	Living quarters in a new station should include enough space and facilities for call personnel.		3

VI-6	When a new pumper is purchased for the second station, it should be a Quint vehicle (both pump and aerial capability).	Recommendations VI-6 and VI-7 should be considered at the same time.	3
VI-7	The Department should establish a specific apparatus inventory for the two-station configuration model.	Recommendations VI-6 and VI-7 should be considered at the same time.	3
VII-1	The Department should require that at least one company officer and/or crew chief per shift is trained to the Fire Inspector I level. Qualified call personnel should be included in the program.	This expands the Department inspection capability substantially with limited cost.	1
VII-2	The Fire Prevention Office should develop checklists, forms, and schematics so that emergency response personnel can participate in pre-planning. The Department's call personnel should participate in pre-planning activities.		1
VII-3	The Department should seek funds and authorization to consult with a Fire Protection Engineer to assist in the review of technical or unusual development plans.		2
VII-4	The Department should develop a public education program which addresses all hazards and focuses on the community at large.		2
VII-5	The Town should plan to employ a full time Health Officer, so that the Assistant Chief can devote all of his or her efforts to Fire Department activities.	The health function could remain in the Fire Department. Additional staffing is required.	1
VII-6	The Department should require one company officer and/or firefighter on each shift to be trained to the Fire Instructor I level, with the capability of instructing personnel from a defined lesson plan.	This expands the Department training capability and provides professional development opportunities for personnel.	3
VII-7	The Department should develop and implement a basic skill refresher training program, followed by NIMS training.		2

VII-8	The Assistant Chief should develop a program to evaluate training provided to personnel. Individual and company training levels can be measured at company drills.	This must be linked with call company training and other recommendations.	2
VII-9	Consideration should be given to discontinuing the street box system and developing a master box system which is not hardwired.		2
VIII-1	The Fire Chief, chief officers, and company officers should review the survey and discuss its findings to determine if the results suggest specific areas for training or improvement.		3
IX-1	The Town should create an implementation committee to review the recommendations in this report. The committee should consider the interrelationships of the staffing recommendations.		1

**APPENDIX
ADDITIONAL PROPOSED STATION LOCATION**

This Appendix includes Map 6 which presents the impact of locating a fire station in the area near Route 111 and Pickpocket Road. This location is identified as Location C. (See Maps 4 and 5.) This alternative location proposal was generated as this study was being completed. The exhibits below present data generated from Map 6. The first exhibit displays response within time segments and the second exhibit displays the cumulative area, street miles, and population covered in each time increment.

**RESPONSE CAPABILITY FROM ROUTE 111 & PICKPOCKET ROAD
AREA, STREET MILES, AND 2000 POPULATION COVERED (WITHIN TIME SEGMENTS)**

	AREA		STREETS		2000 POPULATION	
	SQ. MILES	PERCENT	MILES	PERCENT	EST. POP.	PERCENT
1 minute or less	0.48	2.4%	3.27	3.1%	194	1.4%
2 minutes or less	1.1	5.5%	7.67	7.3%	474	3.4%
3 minutes or less	1.07	5.4%	8.89	8.4%	582	4.1%
4 minutes or less	1.76	8.8%	17.52	16.6%	1,523	10.8%
5 minutes or less	2.65	13.3%	18.88	17.9%	2,243	16.0%
6 minutes or less	4.02	20.2%	18.94	18.0%	2,919	20.8%
7 minutes or less	3.4	17.1%	11.77	11.2%	2,352	16.7%
8 minutes or less	3.11	15.6%	10.48	9.9%	2,213	15.7%
More than 8 minutes	2.32	11.7%	8.09	7.7%	1,558	11.1%
Total	19.91	100.0%	105.51	100.0%	14,058	100.0%

**RESPONSE CAPABILITY FROM ROUTE 111 & PICKPOCKET ROAD
CUMULATIVE AREA, STREET MILES, AND 2000 POPULATION COVERED**

	AREA		STREETS		2000 POPULATION	
	SQ. MILES	PERCENT	MILES	PERCENT	EST. POP.	PERCENT
1 minute or less	0.48	2.4%	3.27	3.1%	194	1.4%
2 minutes or less	1.58	7.9%	10.94	10.4%	668	4.8%
3 minutes or less	2.65	13.3%	19.83	18.8%	1,250	8.9%
4 minutes or less	4.41	22.1%	37.35	35.4%	2,773	19.7%
5 minutes or less	7.06	35.5%	56.23	53.3%	5,016	35.7%
6 minutes or less	11.08	55.7%	75.17	71.2%	7,935	56.4%
7 minutes or less	14.48	72.7%	86.94	82.4%	10,287	73.2%
8 minutes or less	17.59	88.3%	97.42	92.3%	12,500	88.9%
More than 8 minutes	2.32	11.7%	8.09	7.7%	1,558	11.1%
Total	19.91	100.0%	105.51	100.0%	14,058	100.0%

