

FINAL REPORT

**LACONIA FIRE DEPARTMENT
OVERTIME, SHIFT COVERAGE,
AND
SCHEDULING REVIEW**

MARCH 2013

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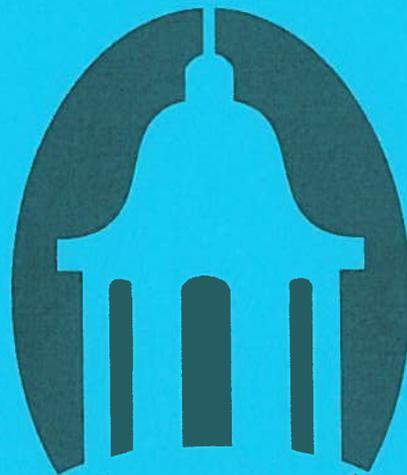
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LACONIA FIRE DEPARTMENT OVERTIME, SHIFT COVERAGE, AND SCHEDULING REVIEW

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CHAPTER 1

INTRODUCTION AND SCOPE OF WORK

Municipal Resources, Inc. (MRI) was retained by the City of Laconia, New Hampshire, to perform a comprehensive review of the fire department's scheduling practices, overtime staffing, and shift coverage to determine if there is a more cost-effective approach based on current staffing levels.

This study provides the city with a comprehensive review of the manner in which fire, rescue, emergency medical services, and dispatch services are provided within the community. MRI has made recommendations for improvements that take into consideration the current and future financial ability of the community, appropriate modifications to the delivery systems to provide optimum service to the entire community, adequacy of physical facilities and equipment, efficient use of resources, and whether the current organizational structure is appropriate or should be modified. We have also made a series of recommendations for sharing of fire and EMS services with neighboring communities above and beyond the programs that have been established under the fire mutual aid system.

In performing this study, MRI has focused on the following aspects of fire department operations:

- Community risk, vulnerabilities, and concerns
- Community target hazard analysis
- Organizational structure and governance
- Organizational, managerial, and operational practices
- Staffing levels
- Fire department apparatus and equipment
- Fire department facilities
- Fire department operations
- Emergency medical services delivery
- Employee perceptions and morale
- Long-term issues and solutions

During this project, the MRI study team made numerous visits to the city and conducted the following activities:

- Interview with the city manager
- Interviews and meetings with the fire chief
- Interviews with members of the fire department leadership and administrative staff, including the deputy fire chiefs and clerical staff
- Interview with the leadership of the Laconia Firefighters Local 1153, International Association of Fire Fighters (IAFF)
- Group interviews with each on-duty group
- Interviews with the coordinator and deputy coordinator of the Lakes Region Mutual Fire Aid Dispatch Center, and observation of the dispatch center

- A review of existing department policies, procedures, and practices
- Inspection of all fire department facilities, apparatus, and equipment
- Review of training and fire prevention/inspection records
- Review of the fire department incident reporting system and EMS patient care reporting system
- Review of mutual aid capabilities
- Review of numerous documents, including municipal budget, fire department budget, and fire department collective bargaining agreement
- Comparative analysis of fire department capabilities of similar type and size communities in New Hampshire
- Tours of the city to evaluate fire risk
- Evaluation of planned growth in the City of Laconia

The recommendations that have been proposed in this report are consistent with nationally recognized standards, guidelines, and best practices, such as those that have been promulgated by the National Fire Protection Association (NFPA), Insurance Services Office (ISO), Commission on Fire Accreditation International (CFAI), Commission on Accreditation of Ambulance Services (CAAS), U.S. Department of Homeland Security (DHS), as well as the statutes and regulations of the State of New Hampshire. Since every community has unique characteristics, challenges, and resource limitations, our recommendations are *specifically designed* to address the immediate and long-term needs of the City of Laconia.

It is our sincere hope that this report will be used by the city, the fire department leadership, and its membership as a road map for improving the delivery of fire and emergency medical services in the community. The city and the fire department leadership should determine a reasonable time line and plan for adopting the recommendations that have been proposed by the MRI fire study team.

The role of MRI is to identify immediate and/or potential problem areas and make recommendations for improvement. Our intent is not to embarrass the department or any individuals, but rather to point the way for progress to be made. The hope and expectations that come with the delivery of a report of this nature are that with time and direction, many of the recommendations will be adopted and result in a much better functioning organization.

The mission performed by the fire department is one of the fundamental functions of government: to ensure the safety and protection of its residents and visitors. The expectations for the quality and quantity of fire and EMS services must come from its residents and other taxpayers. There is no “right” amount of fire protection and EMS delivery. As expanded later in this report, the decision relative to how much protection a community should purchase is a risk management decision. The more protection provided, the lower the risk profile of the community. It is apparent to the MRI study team that the level of acceptable risk seems to be the question that should be addressed both within the city and within the fire department.

The level of protection required to offset the risk mentioned above is constantly changing based on the expressed needs of the community. It is the responsibility of elected officials to translate community needs into reality through direction, oversight, and the budgetary process. It is their unenviable task to maximize fire, EMS, and other services within the reality of the community’s ability and willingness to pay, particularly in today’s economic environment.

The report should be studied in its entirety to gain a complete picture of MRI’s recommendations. City and fire department leaders should develop their own priorities; modify our recommendations based on the ever-changing needs of the city and the fire department; and coordinate solutions based on time, personnel, and fiscal realities.

In spite of the issues identified in this report, the citizens of Laconia should feel confident that the Laconia Fire Department is a professional public safety organization that is providing a critical service to the community day in and day out. We continue to be impressed with the dedication and commitment of its members and the exceptional teamwork of the chief and his leadership team. We also commend the city manager and the city council for their willingness to address these very complex issues in an open and positive manner.

In order to address the recommendations that have been identified in this report, the city and the fire department should:

1. Approach them strategically and systematically.
2. Use them to develop a long-term strategic plan for change and improvement.
3. Break them down to reasonably sized components.
4. Categorize them as short-term and long-term goals, i.e., items that can be accomplished within existing resources and items that will require additional funding and/or time to accomplish in the coming years.

5. Refer to them when making recommendations, check them off as they are accomplished, and most importantly, recognize the positive achievements publically.

The MRI study team would like to thank City Manager Scott Myers, Fire Chief Ken Erickson, and the men and women of the Laconia Fire Department for their cooperation and assistance in preparing this report. Laconia is a proud and vibrant community with high expectations for the performance and professionalism of its public servants. It is our goal to provide the community with a road map and template for strengthening the level of fire and emergency medical services. As with any public safety organization, there is always room for improvement, but the citizens of Laconia should be proud of the quality and performance of their firefighters who provide round-the-clock protection and care.



CHAPTER 2

BACKGROUND AND COMMUNITY RISK PROFILE

The Laconia Fire Department is a career fire department that provides fire suppression, technical rescue, hazardous materials response, fire inspection/code enforcement, and emergency medical services (EMS) to a seasonal Lakes Region community with a population of 15,951 (U.S. Census, 2010). The summer population reportedly swells to approximately 35,000 people and the annual Motorcycle Week event can draw over 350,000 visitors over a ten-day period. The fire department provides advanced life support (ALS) ambulance transport services and participates in the Lakes Region Mutual Fire Aid mutual aid district.

In 2012, the Laconia Fire Department responded to 1,428 fire calls and 2,220 EMS incidents, with 1,745 patient transports. Total property damage from fire in 2012 was estimated at over \$800,000.

Fire department staffing includes the following:

- Fire chief, who also serves as the city's emergency management director (responsible for the coordination of disaster planning and disaster management)
- Three (3) deputy fire chiefs, each having a specific area of responsibility:
 - Operations and training
 - Fire prevention
 - Emergency medical services, who also serves as the city's health officer (this position is funded by Lakes Region General Hospital and provides EMS oversight in seventeen (17) communities in the LRGHealthcare catchment area)
- Two (2) fire captains
- Six (6) fire lieutenants
- Twenty-four (24) firefighter/EMTs who are certified at the paramedic, EMT-Basic, or EMT-Intermediate level

The captains, lieutenants, and firefighters are represented in collective bargaining by Local 1153 of the International Association of Fire Fighters. The most recent collective bargaining agreement (CBA) expired on June 30, 2010, and the city and the union have not been able to reach agreement on a new contract. According to the leadership of Local 1153, they are the only bargaining unit in the city that is currently operating without a contract.

The total land area of Laconia is 20 square miles, with an additional 6.5 square miles of water within the city limits. There are 9,879 housing units in Laconia, but 2,293 (23%) are classified as seasonal, recreational, or other use (SROU). In 2010, 54 of the 199 single-family residential construction permits in the Lakes Region were issued for new homes in Laconia. Laconia has consistently been in the top five communities that have issued the greatest number of residential (both single-family and multi-family) permits in recent years in the region [source: Lakes Regional Planning Commission].

City government is organized under a city manager and city council. For FY2013, the fire department's total budget is \$3,424,475. The city receives a subsidy of approximately \$800,000 from Lakes Region General Hospital (LRGH) to support the operation of the fire department's ALS ambulance service.

The city has received a rating of "3" (on a scale of 1 to 10, with 1 being the most favorable) from the Insurance Services Office (ISO) Public Protection Classification Program (PPM). Areas outside the hydrant district in the northern end of the city are classified at "9". The PPM rating is based on an evaluation of the fire department, the emergency reporting and communications system, the municipal water system (including fire hydrants and fire flows), code enforcement (both building code and fire code), and the building environment. Contrary to common perception, the municipal water system is the most heavily weighted factor in the scoring methodology. The ISO rating is the basis for fire insurance rates for commercial and residential properties.

Community Risk

The MRI study team conducted a basic risk assessment of the City of Laconia. The greatest fire safety concern is the potential life loss in fires that occur in non-sprinklered, single- and multi-family dwellings during sleeping hours, which is consistent with national trends. Based on our review, the risk of fire should not be underestimated as Laconia has experienced the fire incidents of cities several times its size.

Many of the fire protection challenges in Laconia are consistent with what is found in small- to medium-sized cities throughout New England. Older housing stock, large numbers of multi-family residential occupancies, a congested downtown business district, and former mill buildings all contribute to a high-risk environment that has the potential for fires that can quickly overwhelm the initial capabilities of the fire department if adequate personnel and equipment does not arrive in a timely fashion. Specifically, older multifamily dwellings that lack many of the protective features of current codes pose the greatest risk for life safety. As many of these structures are located in proximity to one another this would contribute to rapid fire spread between structures and produce a situation that could easily overwhelm the resources of the Laconia Fire Department.

New buildings are built to modern building and fire codes, and most larger structures (new) are designed with automatic fire detection systems and/or automatic fire sprinkler systems. As older buildings are rehabilitated, they are brought into compliance with current codes and are equipped with enhanced fire protection features. Generally speaking, buildings that are provided with active and passive fire protection features do indeed reduce community risk and require fewer fire department resources.

Laconia has fire protection issues and conditions that pose significant challenges for the fire department, including, but not limited to:

- At least twenty-seven (27) buildings that exceed three (3) stories in height, including three (3) seven-story buildings
- Regional hospital and trauma center (137 bed facility)
- Marinas, with significant off-season storage of boats
- Significant fluctuations in seasonal population
- Large population special event (Motorcycle Week)
- Lakefront commercial and residential properties with limited access
- Nursing homes, assisted living, residential care facilities, and group homes
- Maritime risks, including water rescue, ice rescue, boat fires, island incidents, and the M/S Mount Washington
- Hotels and motels
- Places of assembly, including restaurants, bars, high school auditorium, etc.
- Fuel oil and propane gas bulk storage
- Natural gas pipelines and building services
- Vacant buildings, including seasonal homes and facilities (according to the 2010 U.S. Census, 3,041 of the 9,871 housing units [30.8%] in Laconia are classified as vacant)
- "At-risk" population that includes elderly and physically and mentally handicapped individuals
- Lengthy travel times for the response by mutual aid fire departments
- A moderate level of projected residential growth

Economic factors are a double-edged sword for the Laconia Fire Department. Improved economic conditions can result in renovations and building/fire code updates to older, high-risk buildings, but also can result in increased permanent and transient populations and increased building construction and density. Poor economic conditions can result in the deterioration of buildings and more calls for service from at-risk residents (low-income, elderly and physically/mentally disabled), as well as the potential for increased arson crimes.

Based on our analysis, the MRI study team does not expect that there will be a significant, overall reduction in fire safety risks in Laconia for the foreseeable future. The availability of a well-trained, properly staffed, and equipped fire and EMS agency will continue to be the primary means of mitigating the impact of fires and other catastrophic events in the city.



CHAPTER 3

FIRE & EMS OPERATIONS

OVERVIEW

Firefighting, emergency medical services and rescue operations, an incident command system, and safety procedures are critical components of an effective municipal fire department. Because the greatest number of calls for service is predominantly for emergency medical incidents, in reality, many fire departments have shifted from being fire service agencies that provide EMS, and have become EMS agencies that provide fire protection services.

NFPA 1710, *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations and Special Operations to the Public by Career Fire Departments*, 2010 edition (National Fire Protection Association, Quincy, MA), addresses the organization and deployment of fire suppression operations, emergency medical operations, and special operations to the public by career fire departments.¹ NFPA 450 *Guidelines for Emergency Medical Services (EMS) and Systems*, 2009 edition (National Fire Protection Association, Quincy, MA), provides a template for local stakeholders to evaluate an EMS system and to make improvements based on that evaluation. The State of New Hampshire regulates EMS agencies and certain federal Medicare regulations are also applicable.

An additional source of evaluation of an EMS service is provided through the Commission on the Accreditation of Ambulance Services (CAAS). CAAS sets standards for both operational and administrative aspects of an EMS agency and serves as a national benchmark. CAAS accredited agencies are recognized as providing an exceptional service. In New Hampshire, the Derry Fire Department has navigated the accreditation process and could be a useful resource. Laconia should consider becoming accredited over the next three years.

In addition to structural firefighting and emergency medical services, the fire department is tasked with responding to and managing a broad spectrum of other types of emergencies, including, but not limited to, vehicle crashes, building collapse, water and ice rescue, mass casualty incidents, weather related emergencies, and natural and technological disasters. These types of incidents require specialized equipment and specialized training. In

¹ NFPA 1710 is a nationally recognized standard, but it has not been adopted as a mandatory regulation by the federal government or the State of New Hampshire. It is a valuable resource for establishing and measuring performance objectives in the Laconia Fire Department, but should not be the only determining factor when making local decisions about the city's fire and EMS operations.

all types of emergency responses, an incident command system (ICS) should be utilized that conforms to the National Incident Management System (NIMS) guidelines that have been promulgated by the U.S. Department of Homeland Security.² While safety is the primary focus throughout all operations, a formal component of the ICS program includes the consistent assignment of an on-scene safety officer when appropriate.

Mutual aid enables communities to rapidly share resources in the event of simultaneous incidents or major events that exceed the day-to-day emergency response capabilities of the community. No town or city can be expected to staff and equip its fire department to handle all foreseeable events without assistance from other public safety agencies at the local, state, and federal level. Mutual aid is provided at no financial charge to the municipality that is receiving the service. The Lakes Region Mutual Fire Aid system is especially effective as automatic aid assists communities in meeting the national standards described above. A review of incident history demonstrates that this system is a tremendous value to the City of Laconia.

Fire department mutual aid is a great example of how municipalities can share services during emergencies. As fiscal resources become more limited, municipalities should seek additional opportunities to share a broad range of services on an inter-municipal or regional basis, including, but not limited to, administration, information technology, purchasing, inspections and code enforcement, training, and recruitment.

Fire department operations and service delivery can be dramatically improved in those departments that commit resources to goal-setting, master planning, risk assessment, and performance measurement. A number of tools and resources are available to guide management in these efforts from organizations such as the US Fire Administration (USFA), Federal Emergency Management Agency (FEMA), National Fire Protection Association (NFPA), International Association of Fire Chiefs (IAFC), International Association of Fire Fighters (IAFF), the NH Division of Fire Standards, Training and Emergency Medical Services, and the U.S. Department of Transportation (USDOT).

OBSERVATIONS

Fire Operations, Incident Command System, and Safety

The Laconia Fire Department is equipped and staffed to respond to a wide variety of emergency incidents. Although EMS calls are more prevalent, the department must still be prepared to

² In order to remain eligible for fire, EMS, law enforcement, and emergency management grants from the U.S. Department of Homeland Security, the City of Laconia must adopt and implement NIMS/ICS for all emergency incidents. ALL personnel who have emergency management and disaster response duties, including the city administration, fire, police, and public works must receive NIMS/ICS training.



fulfill its firefighting mission. As with most communities in the United States, the primary focus of firefighting operations is on fires in residential occupancies (single- and two-family dwellings, multi-family units, etc.) due to the high potential for loss of life. Firefighting in commercial occupancies is important to the economic well-being of the community, but large commercial occupancies are often equipped with automatic fire suppression systems to reduce risk and damage from fire. Until residential fire sprinkler systems become commonplace as a critical lifesaving feature in homes, the fire department will continue to be the only “front-line” resource available for firefighting and rescue.

Based on our review of fire department procedures, it is apparent that the Laconia Fire Department has fully implemented the incident command system (ICS) for all responses. When deployed, ICS is intended to establish an appropriate span of control and level of supervision for all operating units, ensure that safety procedures are being followed, and provide for the appropriate allocation and coordination of resources.

The role of safety officer at major incidents is normally assigned to a deputy chief. The safety officer is responsible for ensuring that all personnel are operating in accordance with established SOPs and SOGs. He/she monitors the incident scene for deteriorating and changing conditions that could endanger personnel. He/she recommends changes in tactics, strategies, personnel placement, and equipment deployment to the incident commander, and has the authority to order immediate actions if personnel are in imminent danger. The role of safety officer is a critical component of the ICS system.

The Lakes Region Mutual Fire Aid system provides support to supplement the ICS structure at major incidents. On second alarm incidents, the mutual aid coordinator and/or the deputy coordinator respond to the scene to assist the incident commander with logistics, mutual aid deployment, resource allocation, and communications capabilities. Mutual aid chief officers and/or company officers are often assigned to ICS roles as needed.

As discussed in Chapter 4, Fire Department Staffing and Overtime, the Laconia Fire Department has an unusually high line-of-duty injury rate. The fire department administration was told by Primex, the city’s insurer, that the firefighter injury rate is the highest of any municipal fire department that they insure. Based on this injury history, emphasis should be placed on the rapid development incident management system and safety on the incident scene. The response of both the mutual aid coordinator and area chief officers is essential to initiate the development of an incident management team that can make strategic decisions that benefit the community and safeguard personnel operating on the incident scene.

Mutual Aid

Laconia is a long-standing member of the Lakes Region Mutual Fire Aid Association (LRMFA), which currently includes 35 communities (see *Appendix A* for a map of New Hampshire’s



mutual aid districts). In addition to the Lakes Region Fire Communications Center, the association is responsible for a number of specialized response capabilities that are available for incidents in Laconia:

- Central New Hampshire Hazardous Materials Response Team (in partnership with the Capital Area Fire Mutual Aid District)
- Mobile command post
- Incident management team
- Hazardous materials response trucks and decontamination trailer
- Technical rescue equipment trailer
- Mass casualty incident trailer
- Air cascade system trailers for refilling air bottles
- Emergency management trailer (disaster scene coordination)
- Special operations trailer
- Communications interoperability trailer
- Mobile emergency generator

The mutual aid system has established a standardized personnel accountability system for use at emergency scenes to keep track of the location of all individuals who are working in the hazardous operations zone.

LRMFA also sponsors drills, training exercises, and professional development programs for its member departments. Planning activities for disasters, mass casualty incidents, wildfires, and hazardous materials incidents are coordinated by LRMFA.

Emergency Medical Services (EMS)

The Laconia Fire Department provides advanced life support (ALS) and basic life support (BLS) ambulance transport services. Fire department personnel are primarily certified at the paramedic or emergency medical technician-intermediate (EMT-I) level. Two ambulances are assigned at the central fire station, and one ambulance is located at the Weirs Beach station.

Only one ambulance is fully staffed; two are cross-staffed as needed by personnel who are assigned to fire suppression duties.

Lakes Region General Hospital (LRGH) makes an annual contribution to the city of approximately \$800,000 per year to support the EMS system. This contribution covers the salary of the EMS deputy fire chief, firefighter/paramedic salaries and benefits, training and recertification, and some overtime costs (including overtime for the annual Motorcycle Week). The purchase of new ambulances and other capital equipment, such as defibrillators, is funded by LRGH with a separate contribution. Ambulance transport services are billed by the hospital to patients and insurers, but the hospital retains all revenues to offset its contributions to the city. This unique and highly commendable arrangement has enabled the fire department to provide high quality EMS delivery to the citizens of Laconia. This innovative and mutually beneficial partnership is unique to Laconia and should be considered a municipal best practice that should continue.

Laconia enjoys a remarkable pre-hospital cardiac arrest save rate of twenty-four percent (24%). This higher than average save rate is testimony to the placement and use of automatic external defibrillators (AED) throughout the city, the skills and experience of the fire department paramedics and EMTs, the proximity of the hospital, and the capabilities of the LRGH emergency department.

The EMS deputy fire chief is responsible for overseeing a continuous quality improvement (CQI) program. Each ALS call is evaluated for protocol compliance, and when necessary, the deputy chief takes steps to correct less than acceptable patient care through training, counseling, or disciplinary action.

The NH Bureau of Emergency Medical Services is in the process of transitioning the EMT-I level of certification to the EMT-Advanced level that has been developed by the National Registry of Emergency Medical Technicians. Current EMT-I's will have the option of taking a comprehensive refresher training course and sitting for a computer-based examination or reverting back to EMT-Basic certification. This change will require significant adjustments in the current EMS refresher training that is provided to fire department personnel.

Focus on Core Mission

Fire departments throughout New Hampshire have a proud tradition that includes the willingness to take on new responsibilities that they deem to be important to the safety and welfare of the citizens of their respective communities. Over the past fifty years, the fire service has transitioned beyond traditional firefighting duties and has embraced such programs as advanced life support care, hazardous materials response, disaster planning and response (including pandemic planning), and specialized technical rescue functions. The desire to provide more services to the public does have a downside. At some point, there are simply not

enough resources in personnel, time, and money to support all of the “nice to be able to do” activities.

With today’s fiscal limitations and taxpayer concerns, it is incumbent upon the Laconia Fire Department to conduct a top-to-bottom review of its service capabilities and take steps to shed activities or responsibilities that (1) are not consistent with the core mission of the department; (2) are low priority and take away valuable resources (staff time, training time, funding); or (3) could be accomplished by another city, regional or state agency.

MRI has identified two areas of concern that should be examined more closely. The fire department operates a dive team that responds to reported drownings and underwater incidents, such as victims who have fallen through the ice. In our experience, a dive team response is more often than not a recovery effort, not a rescue effort. An underwater recovery operation is a dangerous, resource intense, and time consuming effort. The fire department should still maintain a capability for water *rescue*, but we believe that underwater recovery should be left to the NH Fish and Game Department, which has statewide responsibility. We make this recommendation reluctantly, given the emotional and financial commitment that the fire department and the community have made to the dive team in memory of Lieutenant Mark Miller. We believe that the department’s existing and future resources could be re-focused on open water rescue (including swift water rescue and ice rescue) and marine firefighting.

The second area of concern is the grant-writing function of the fire department. The deputy chief for training and operations has a highly commendable track record of successful grant applications that have enabled the department to acquire equipment, training, and other resources that could not have been budgeted by the city. Given the other priorities that have been identified in this report relative to training, safety, injury prevention, SOP/SOG development, and overall operations, we believe that the deputy chief’s priorities should be re-focused on these areas. Grant writing could be delegated to other members of the department, or perhaps all grant writing for the city could be centralized at city hall. It might also be possible for LRMFA to create a grant-writing position that serves all of the member communities.

RECOMMENDATIONS

- 3.1 The Laconia Fire Department should continue to actively participate in the Lakes Region Mutual Fire Aid Association. The benefits that are received by the city far exceed any financial or resource commitments that are expended for membership.**
- 3.2 The Laconia Fire Department should expand the use of automatic aid to meet NFPA 1710 for more than a single room structure fire. As such, we recommend an additional one to two mutual aid companies be added to a confirmed structural response.**

- 3.3 The city and Lakes Region General Hospital should continue to collaborate on the funding that supports the ambulance transport services and advanced life support EMS delivery system.**
- 3.4 In order to ensure that there will be no reduction in the level of care that is provided to patients, the fire department should develop a plan for transitioning all EMT-Intermediates to the EMT-Advanced certification level.**
- 3.5 The city and the fire department should explore significant opportunities to harmonize fire and EMS operations and share services with neighboring communities. Such an effort will require extensive discussions and planning, but could have long-term financial and operational benefits. New England is one of the last bastions of localized public safety services, but there are numerous examples throughout the country that demonstrate the advantages of shared and regionalized fire and EMS capabilities. Shared resource initiatives could include unified standard operating procedures and guidelines, joint capital equipment planning, sharing of reserve apparatus, inspection and plans review services, shared administrative services, group purchasing, and joint recruitment and promotional processes.**
- 3.6 The Laconia Fire Department should establish a long-range plan that includes specific goals for meeting the criteria established in NFPA 1710 and NFPA 1500, Standard on Fire Department Occupational Safety and Health Program (National Fire Protection Association, Quincy MA, 2013).**
- 3.7 The Laconia Fire Department should re-focus on its core mission by performing a comprehensive, top-to-bottom analysis of its activities. Low priority functions should be eliminated or transitioned to other local, regional, or state agencies. As part of this effort, we recommend that the fire chief and the city manager convene two “peer review” groups; one could include area fire chiefs and the second could include city department heads. We believe that an outside perspective could be extremely valuable during this process, and that the end result will be a stronger, more vibrant fire department.**

CHAPTER 4

OVERTIME AND STAFFING

OVERVIEW

The primary impetus of this study was to obtain an outside perspective pertaining to the scheduling, staffing, deployment, and overtime requested by the fire department to determine if there is a more cost effective approach based on current staffing levels. This chapter will provide a series of recommendations, which if adopted, will aid the department in improving both effectiveness and efficiency.

Staffing and deployment serve as the foundation of the service level that the fire department provides to the City of Laconia. Ultimately the city manager and the city council determine the resource level that translates into the level of service provided to the community. Through this report, it is our aim to provide both an external perspective and a resource that will engender discussion, debate, and conscious decision-making pertaining to the level of service provided to the residents of the City of Laconia.

We have reviewed the data that Chief Erickson has provided to the city council and recognize that Chief Erickson is a passionate advocate for not only the services provided by the department, but for the health and safety of his staff. This extensive data package is attached to this report as Appendix B. A review of this information finds a compelling narrative outlining the needs of the department. Other than utilizing a wide spectrum of comparative communities, we find that Chief Erickson's data is accurate.

Let there be no doubt that Chief Erickson is one of the most competent fire chiefs that we have encountered during our many years of working with communities throughout New England. In addition, the chief has clearly indicated that he feels the present level of service provided to the City of Laconia is at best marginal. The data provided by Chief Erickson could be considered voluminous, and in his zeal to advocate for the department, we believe that the city council has been overwhelmed by the quantity and depth of data provided by the fire chief. Utilizing the lens of external practitioners, we have provided the city manager and the city council with a concise view that is backed-up by a more detailed analysis in the body of this chapter.

The level of service selected by the community reflects risk management decision-making in that the community must consciously determine what is expected of the Laconia Fire Department. Although it would be a great accomplishment to provide a level of fire services that produces a low risk for the community, the cost would be prohibitive and the community may become complacent and less than engaged in helping to reduce the risk of fire. Therefore, every community has to accept some level of risk.

It appears that over the years, Chief Erickson has been an advocate for a higher level of service than the community is willing to consider. Examples of the level of service include the following:

- The ability to respond to 90% of fire and EMS calls within a four (4) minute travel time³
- The ability to deploy two ambulances without calling for mutual aid
- The ability to contain a single-room residential structure fire with on-duty resources

Obviously the higher the expectation, the more it will cost to provide these protective services and as a result, the community will enjoy a lower risk profile. We believe that the level of service that the fire chief would like to provide differs from the level of risk that the community has been willing to pay for. It is our hope that this report becomes a catalyst for the community and the department to come together and through public discourse realign expectations to determine an appropriate level of services balanced against the amount of risk that the community can tolerate. All too often, these decisions are reactionary following a delayed response, fire death, or other tragedy. Moving forward, the community needs to make these difficult resource decisions.

OBSERVATIONS

- The City of Laconia has a disproportionately high fire experience; in fact, a review of data indicates that there are more fires in Laconia than in far larger communities such as Concord and Keene. The fire volume experienced in Laconia is consistent with the experience of communities three to four times the size of Laconia.
- The topography, proximity of structures, seasonal environment, and the high number of older multiple family structures are disproportionate and place both residents and firefighters in a high-risk profile. In short, the City of Laconia faces a greater risk from fire than several similar communities that we have evaluated.

³ This benchmark is consistent with the requirements of NFPA 1710, *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments* (National Fire Protection Association, Quincy MA, 2010).

- The City of Laconia is expected to experience moderate residential growth over the next five years. This growth will continue to increase the fire and emergency medical workload.
- Fire service overtime when combined with the LRGH contribution is higher than the average of other communities. We will present several options for reducing this cost, but recommend staffing above the minimum number of personnel required as a method to both enhance services to the community and absorb overtime.
- The partnership to provide emergency medical services through the Lakes Regional General Hospital (LRGH) is an exceptional example of innovation and improvisation that serves the community well, both the city and the hospital should be recognized for the success of this partnership.
- The Laconia Fire Department provides an exceptional value to the community and does a commendable job working within the constraints of limited resources. We feel that this often causes the department to overextend its limited resources and we recommend that efforts be focused on core services.
- Personnel “do what is necessary to get the job done”. This often places firefighters in tenuous positions and has resulted in a higher than average on the job injury rate. Representatives of Primex, the city’s insurer, have told the fire department that that Laconia has the highest firefighter injury rate of the communities they serve. This could be the result of a combination of factors, but we cannot rule out that at least some of the injuries are the result of fire ground and EMS incident activities that are being carried out with less than optimal crew sizes. We believe that both the fire department and the community must recognize the limitations inherent to fiscal reality and adjust operations to provide the level of service selected by the community. Wellness programs, safety practices, and operational procedures must be implemented and enforced that can reduce firefighter injury rates.
- The workload and call volume of the Laconia Fire Department is steadily increasing. The current workload suggests that the level of staffing is not adequate and in the absence of any shift flexibility, overtime is required whenever a person is absent from a shift position. As both call volume and the occurrence of job related injuries increases, overtime should be expected to rise.
- As is the case with most fire departments, emergency medical services (EMS) is the primary service demand. Although the number of fires has decreased across the nation, this is not the case in Laconia.

- Many of the shift vacancies, such as vacation time, sick leave, bereavement, personal days, and union business days, are the result of obligations that are mandated by the collective bargaining agreement. Discretionary time-off periods that can be controlled by the city include training time and special project assignments.

Current Scheduling and Deployment Pattern

Presently the department consists of 36 personnel including 6 command officers, 6 first line supervisors, and 24 firefighters. These personnel are organized into four shifts commonly known as battalions or platoons. Each platoon works 24-hour shifts and a 42-hour workweek averaged over an eight-week cycle. This equates to a staffing level of eight personnel per shift, including 2 officers. Each platoon staffs two stations including a headquarters facility located near the heart of the city and a substation at Weirs Beach. This results in the department operating two effective fire suppression companies and one ambulance. Although a single person may bring an additional piece of apparatus to an emergency scene, the entire crew is operating as a single fire suppression company.

A common fire service practice is to cross-staff apparatus. This means that personnel will shift from one piece of apparatus to another based on the needs of the community on a first come first serve basis. In Laconia, this often means that a second ambulance will be staffed, thus reducing the fire suppression capability of the department while that ambulance is assigned to a medical call. The fire department can currently staff the following resource sets:

Option One Eight Person Platoon	Option Two Eight Person Platoon
Downtown Fire Suppression Company (3 Personnel)	Downtown Fire Suppression Company (3 Personnel)
Ambulance – Downtown (2 Personnel)	Ambulance – Downtown (2 Personnel)
Weirs Beach Fire Suppression Company (3 personnel)	Ambulance - Weirs Beach (3 personnel)

Figure 1. Current Fire Department Staffing Patterns



This translates into the City of Laconia providing either two emergency medical units and one effective fire suppression company, or two effective fire suppression units and one ambulance. Neither equation is adequate to meet the needs of the city unless the city chooses to accept a risk profile that accepts response delays and increasing fire loss.

Alternative Shift Schedules

A wide variety of fire department shift schedules are in use throughout the United States. The two most common schedules are discussed below. Any change in the schedule that is in use in Laconia would require negotiation through the collective bargaining agreement.

42-Hour Work Week

The 42-hour (average) work week with 24-hour shifts (as worked in Laconia) is a work schedule that is common in career fire departments throughout the northeastern United States. This schedule requires four, equally sized platoons. Many fire chiefs find that the 24-hour shift with multiple, sequential days off makes it difficult for personnel to maintain skills, prolongs special projects that have been assigned to specific personnel, and that fire service employment can become a secondary interest. The 24-hour shift can result in greater fatigue, particularly for busy paramedic units.

A 42-hour work week can also be scheduled with split shifts, resulting in a 10 or 11 hour day shift or a 14 or 13 hour night shift. The split shift schedule is typically two days on, two nights on, followed by 4 days off. Anecdotally, we have been told by fire chiefs who have recently experienced the change from 10/14s to 24s that firefighters take less time off (especially sick leave) under the 24 hour system. We do not have firm numbers to support this.

48-hour Work Week

The 48-hour shift schedule requires only three (3) platoons. One pattern is to work 24-hours, followed by 48 hours off, with additional time-off (known as “Kelly days” that are built into the schedule to keep the number of regular hours worked below the limit established by the Fair Labor Standards Act (FLSA). Hours worked in excess of the FLSA threshold must be paid as overtime (such as working a three-platoon, 56 hour work week without Kelly days).

The obvious advantage of the 48-hour, three-platoon work week is the ability to increase the amount of on-duty manning without adding any full-time employees to the Laconia Fire Department. However, an increase in the numbers of hours worked could result in a significant increase in costs per employee based on the outcome of contract negotiations.

Most, if not all, career fire departments in New Hampshire are currently working the 42-hour work week, either on a 24-hour per shift basis, or the split shift model. Command staff, fire

prevention and administrative personnel are assigned to a 40-hour, Monday through Friday schedule, although some communities permit a ten (10) hour, four (4) days per week schedule for non-shift personnel. Schedules are usually rotated so that at least one command or administrative staff member is available Monday through Friday.

Overtime Reduction Analysis

This analysis considers the expected overtime reduction based on the introduction of four firefighters to be utilized as float positions. Float is the differential between the number of personnel assigned to a shift and the minimum staffing required for operations. Laconia presently operates with no float and as a result, anytime a person is absent another off-duty firefighter is hired on overtime. Through this report, we recommend that Laconia incrementally move toward increasing both fire department staffing and operational capability. We further recommend that the first step in a fiscally realistic process is to establish a float of one position per platoon. This would result in hiring four additional firefighters and leveraging these positions to reduce overtime expense and enhance the level of service to the community. It should be noted that of the peer communities surveyed, Laconia was the only agency with no shift float. The average float in peer communities ranges from one to two positions per shift.

Based on the schedule utilized within the Laconia Fire Department, each day consists of two twelve-hour shifts. Presently, the department staffs at a level of nine personnel, six days per week, and eight personnel at night and on Sundays. The additional position is staffed to cover the peak hour period of 9AM – 6PM. This position enables the department to operate a second ambulance or aerial ladder from headquarters. This peak hour position is filled using overtime paid for by the LRGH funding stream. This report recommends that four firefighters be hired, the LRGH overtime shift be discontinued, and funding previously applied to support this overtime position be reallocated to reduce the cost of hiring additional personnel. We will produce three equations that produce differing levels of both savings and service to the community.

In 2012, 561 shifts were filled through hiring personnel on overtime. As there are 730 shifts in a year, overtime was required to cover 77% of shifts (.7685). Based on the analysis of trends from previous year's data, 11% of these shifts required more than one overtime replacement. In Laconia, firefighters work 24-hour tours which are split into two shifts. Based on the four platoon, eight week cycle, firefighters work 91, 24-hour shifts per year or 182 shifts. As personnel are absent an average of 16.5 shifts, this equates to an absentee ratio of 9.62%. Multiple years of data indicates that 60% of overtime shift coverage occurs during the day and 40% occurs at night. Using the average overtime figure of \$32.81 and considering that 4,040 daytime hours and 2,692 night time hours were covered through the use of overtime, the cost of coverage in the absence of shift float is \$220,876.92 per year. Obviously each year is different in that the intensity of emergencies, number and severity of injuries, and other

absences shift. However, this calculation is designed to provide an example of the current costs facing the community.

In addition to the coverage requirement detailed above, a peak hour position that is scheduled from 9AM – 6PM is assigned six days per week. The use of peak hour shifts is a fire service best practice and should be encouraged as it provides operational capability when the highest call volume occurs. This position is not filled on some holidays or during Motorcycle Week. However, this position is filled through the use of overtime and does create approximately 2,674 overtime hours that are funded through the LRGH revenue stream. Through the hiring of four firefighters we recommend that this position be converted to a straight time position. Using the current overtime average, \$ 87,773.94 could be redirected to offset the cost of the four new firefighter positions.

Although the drivers that create overtime are variable and shift in intensity on a frequent basis, several factors combine to create the need to utilize overtime to retain minimum staffing levels. Retention of a minimum level of staffing ensures the department provides a consistent operational capability and the community receives an acceptable minimum level of service. As mentioned previously in this report, the city council and city manager will determine the resources that form the basis of the service level provided. The factors that create overtime demand are listed below:

- Recall of personnel for coverage and emergency response
- Response to significant incidents requiring more personnel than the shift has on duty
- Special operations such as the operational planning parameters established to provide public safety during bike week
- Personal sick time
- On the job injury leave
- Vacation time
- Training attendance
- Bereavement leave
- Union Business leave
- Other accrued time permitted through the collective bargaining agreement

The percentage of shifts that required overtime are presented below:

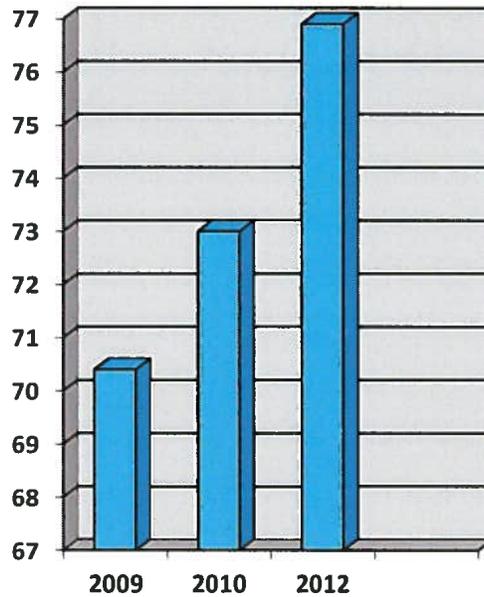


Figure 2. Percentage of Shifts Requiring Overtime

Year	Percentage of Shifts requiring Overtime
2009	70.4%
2010	73%
2011	Data not available
2012	76.9%

This data demonstrates an upward trend in the need for overtime and represents an increasing cost to the community. In addition, more than one person is absent during 11% of the shifts that are filled with overtime. This requires that two or more personnel be hired to maintain the minimum shift strength of eight personnel. Presently the average cost of overtime is \$32.81 per hour; this will be the basis for the calculations that follow.

The Cost of Hiring Four New Firefighters

The cost of hiring four new firefighters is based on a combination of compensation, benefits cost, and the cost of equipment. The cost to equip a firefighter is approximately \$3,000.00, which covers the turnout or protective gear and tools required to perform the essential job functions of the position. It should be recognized that this is a periodic cost and that this equipment should have a useful life of ten years. Averaged over a ten-year life cycle the annual cost of equipment averages \$300.00 per year per firefighter. Compensation for a firefighter-paramedic starts at \$37,608 per year; benefit costs (based on the most expensive family health care plan) are \$39,702 per year. Therefore the total cost per firefighter-paramedic is \$77,310. Based on this figure, the cost to add four firefighters to the Laconia Fire Department would produce an annual cost increase of \$310,440.

Three options to harness shift float to reduce overtime

These options have been detailed and explained on the following pages:

Option One: Hire four additional firefighters, assign nine personnel to each platoon, work to a minimum of eight personnel 24/7, and if an officer is absent have the second officer command the shift, and assign a firefighter to work out of grade as a Lieutenant.

Add Four Firefighters	Cost Impact	Expected Overtime Reduction working to 8 personnel
Compensation, benefit and equipment annual cost	\$310,440	
	(87,733.94)	LRGH overtime redistribution
	(196,564.71)	Covering the first vacancy on each shift through float. Total OT reduction \$284,298.65
Cost after Fund Redistribution	\$26,141.35	

Using this calculation, all but \$26,141.35 of the increased cost or 91.6% is covered through a reduction in both overtime and service level. These savings should be carefully considered, as the department will see a reduction in overall capability. Specifically, the service level would decrease as the daytime staffing level would frequently be reduced to eight personnel thus reducing staff available to staff a second ambulance and or an aerial ladder. In addition, should an officer be absent a firefighter would work out of grade to provide first line supervision. As this diminishes, the current capability of the department impact on service level should be considered.

Option Two: Hire four additional firefighters, assign nine personnel to each platoon, work to a minimum of nine personnel during the day and eight personnel at night, and if an officer is absent, have the second officer command the shift and assign a firefighter to work out of grade as a Lieutenant.

Add Four Firefighters	Cost Impact	Expected Overtime Reduction working to nine personnel days and eight personnel at night
Compensation, benefit and equipment annual cost	\$310,440	
	(87,733.94)	LRGH overtime redistribution
	(78,608.82)	Covering the first vacancy on each shift through float. Total OT reduction \$166,342.76
Cost after Fund Redistribution	\$144,097.24	

This option would preserve the current level of staffing and reduce overtime through float at night, as well as convert the LRGH overtime position into a straight time position. Officer for officer replacement would be diminished. In this scenario, the staffing level provided would preserve the current capability of the department, should an officer be absent, a firefighter would work out of grade to provide coverage. Utilizing this strategy, 53.6% of the total cost of adding four firefighters would be absorbed through the redistribution of overtime funds.

Option Three: Hire four additional firefighters, assign nine personnel to each platoon, work to a minimum of nine personnel during the day and eight personnel at night, and provide officer for officer replacement.

Add Four Firefighters	Cost Impact	Expected Overtime Reduction working to \nine personnel during the day, eight at night, and retaining officer for officer coverage.
Compensation, benefit and equipment annual cost	\$310,440	
	(87,733.94)	LRGH overtime redistribution
	(57,450.42)	Covering the first firefighter vacancy on each shift through float. Total OT reduction \$145,184.36
Cost after funds redistribution	\$165,255.64	



As the cost to provide officer for officer coverage is estimated to be \$21,158.40, the overtime reduction outlined in previous examples would be reduced. Utilizing this strategy, 46.8% of the total cost of adding four firefighters would be absorbed through the redistribution of overtime funds. Implementing this option would preserve the current capability of the department, decrease a significant amount of overtime, and enhance the service level to the community when all personnel were present.

Organizational Chart

Presently the organization is configured as outlined in the organizational chart below:

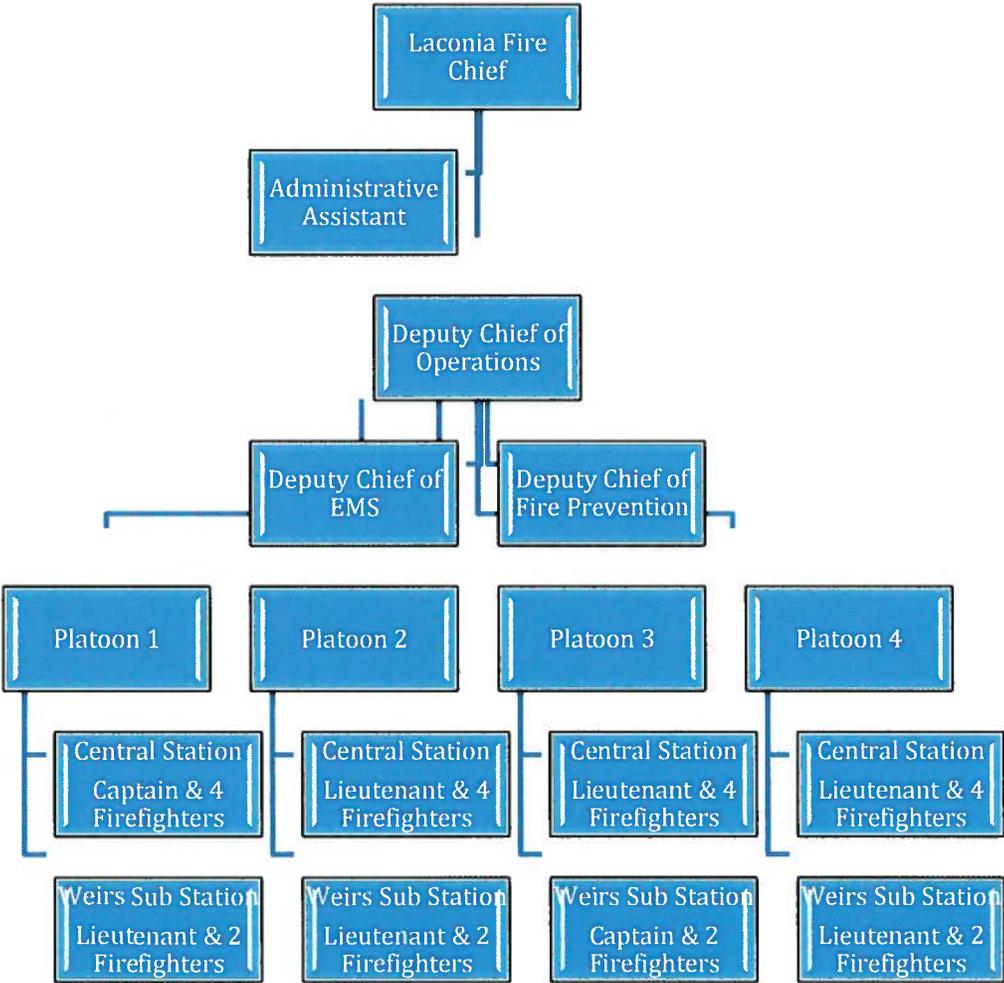


Figure 3. Current Fire Department Organizational Chart



Recommended Service Level

Considering the target hazards that exist within the City of Laconia, fire experience of the city, projected growth of the community, and future development, we believe that the fire department should be incrementally expanded to provide the city with a service level that provides the fire department with the ability to operate two fire suppression companies of three personnel (6 personnel) and two ambulances (4 personnel). Specifically, in Fiscal 2014 we recommend hiring four firefighters and utilizing these personnel to both bolster the service level and absorb overtime. We further recommend that two firefighters be hired in both Fiscal 2015 and Fiscal 2016 to produce an assigned shift of ten personnel and minimum shift strength of 9 personnel. This pattern of incremental resource increases should continue through the remainder of this decade to match the growth of the community. Once a ten-person shift minimum is attained, and eleven personnel are assigned to each shift, resources should be held constant.

Fiscal 2014 Organizational Chart

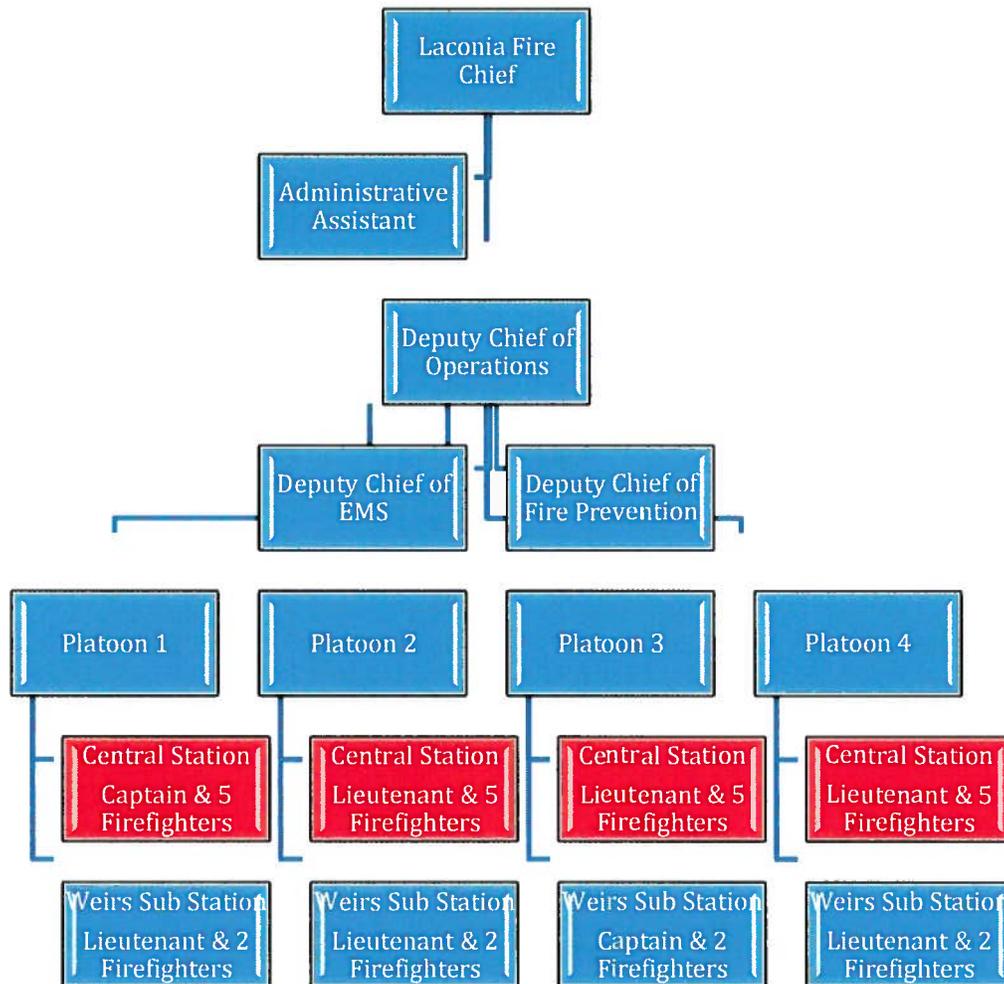


Figure 4. Four Firefighters Added in Fiscal 2014

We recommend adding four firefighters during Fiscal 2014. These personnel would be the first of three incremental increases aimed at both expanding the service level offered to the community and reducing overtime. We further recommend that the minimum shift strength of eight personnel should be maintained through the year.

This strategy will provide a consistent level of personnel assigned to each platoon and create shift float. Shift float is the difference between the number of personnel assigned to a platoon and the minimum shift strength. The addition of these four firefighters would serve two purposes. First, the service level to the community would be expanded to provide two fire suppression crews and two ambulances during each shift that all members report to work. Second, by creating shift float, these positions would absorb the need to pay overtime to cover

the first vacancy. One member of the platoon could be absent due to illness, injury, or other accrued leave, and the shift strength would simply drop to its current level. If multiple platoon members were absent, overtime would be incurred, but the current practice of hiring every time a vacancy exists would be eliminated. This would also eliminate the practice of paying overtime for the six day per week LRGH funded position.

RECOMMENDATIONS

- 4.1 Hire four firefighters in Fiscal 2014 to provide the community with a level of service that consists of two fire suppression crews and two ambulances. Minimum shift strength remains at eight personnel.**
- 4.2 Eliminate the LRGH funded six day per week overtime shift and work with LRGH to utilize these funds to support a portion of the cost of the four new hires.**
- 4.3 Hire two additional firefighters in Fiscal 2015, move the minimum shift strength to nine personnel.**

Fiscal 2015 Organizational Chart

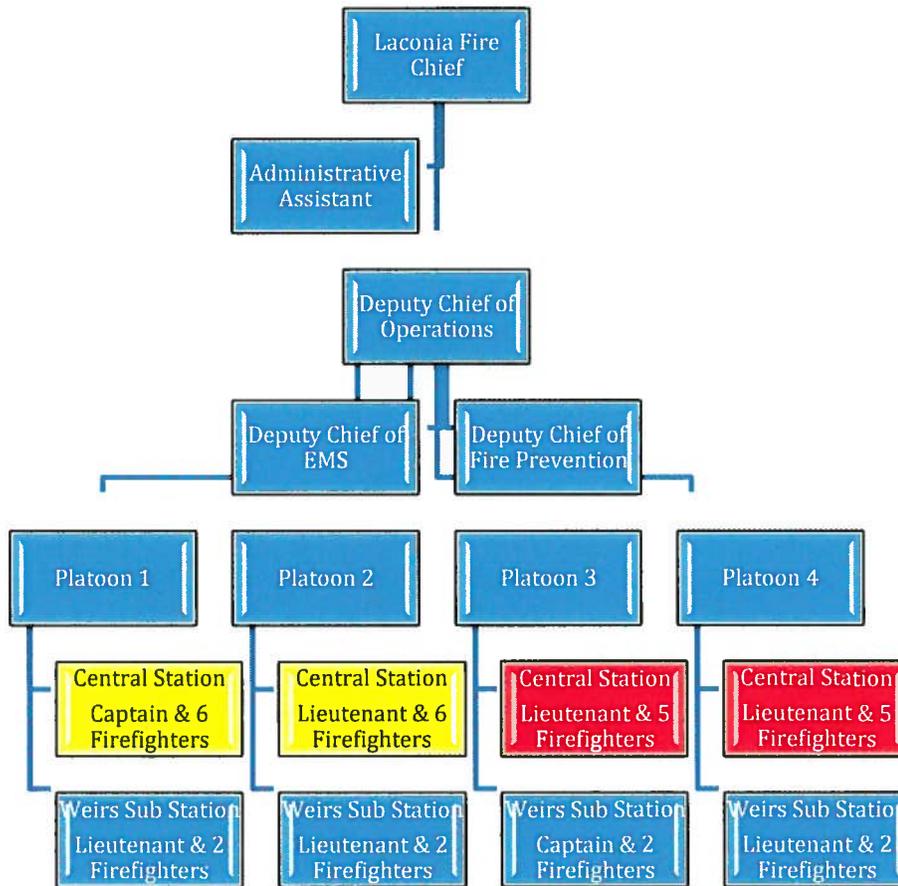


Figure 5. Two Firefighters Added in Fiscal 2015

Adding two additional firefighters in Fiscal 2015 would continue the practice of using shift float to absorb overtime and allow the minimum shift strength to be increased to nine personnel. This will enhance the level of service to the City of Laconia by providing two fire suppression crews and two ambulances on a 24/7 basis.

4.4 Hire two additional firefighters in Fiscal 2016; leave the minimum shift strength at nine personnel.

Fiscal 2016 Organizational Chart

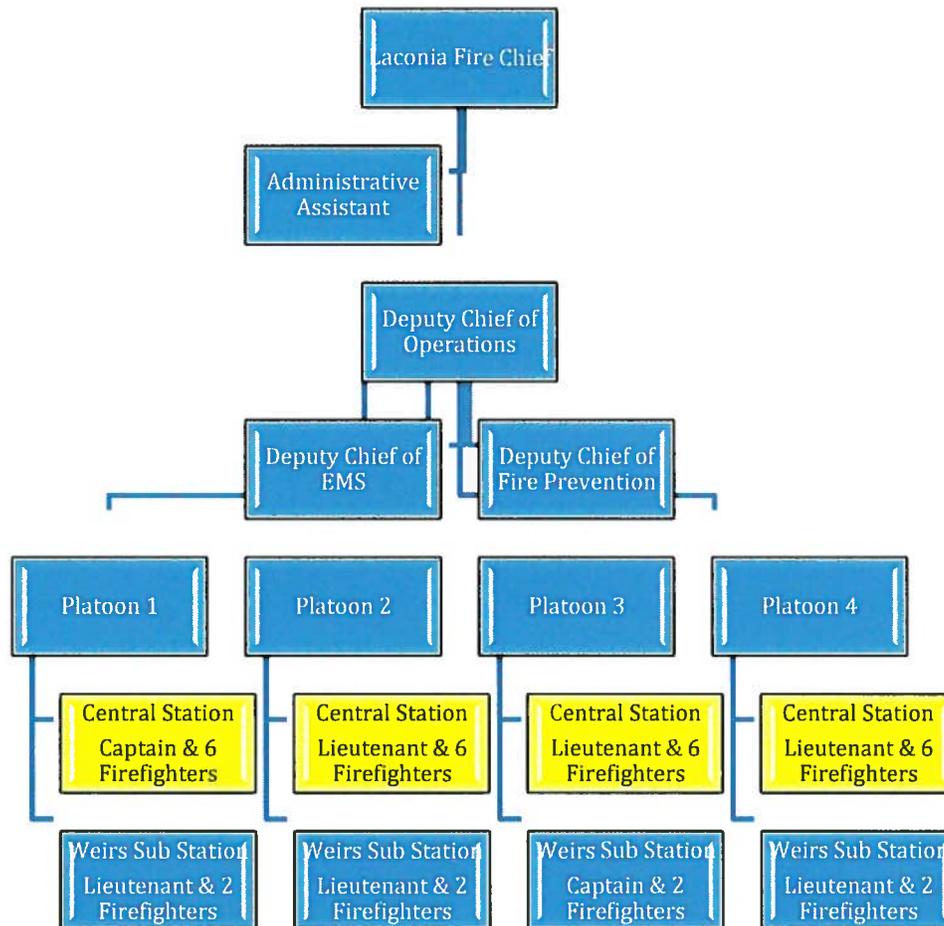


Figure 6. Two Firefighters Hired in Fiscal 2016

Adding two additional firefighters in Fiscal 2016 would complete the planned incremental increases in staffing and allow a balance of both overtime reduction and expanded emergency response capability. This increase would facilitate the practice of using shift float to absorb overtime and allow the minimum shift strength to be increased to nine personnel. This will enhance the level of service to the City of Laconia by providing two fire suppression crews and two ambulances on a 24/7 basis.

National Standards and Industry Best Practices

As outlined in our January 10, 2013, letter to the city manager (Appendix C), we strongly believe that the resources provided to the Laconia Fire Department need to be increased. Three national standards or industry best practices contribute to our recommendation as outlined below:

- The Occupational Safety and Health Administrations (OSHA) *Two-In/Two-Out* rule which requires four firefighters on the scene of an emergency prior to initiating operations within a structure that is on fire (except to perform an immediate rescue).

Presently Laconia complies with this standard during the vast majority of responses. An exception to this would be when multiple ambulances are engaged or when the Weirs suppression crew arrives first on the scene with a total of three personnel. Although it is difficult to tell firefighters not to place themselves in harm's way, the officer needs to ensure that their crew is operating in a safe manner or scale back operations until a fourth firefighter arrives on the incident scene.

- National Fire Protection Association (NFPA) Standard 1710 which establishes a first alarm response of 13 firefighters to provide basic fire attack and rescue operations within eight minutes, ninety percent of the time.

Laconia rarely meets this standard based on mutual aid response times. The incremental staffing increases recommended in this chapter would enhance operational safety and bring the city closer to meeting this standard.

- The emergency medical service standard of care for cardiac and stroke patients is to have a basic life support response on scene within six minutes.

During a serious medical emergency seconds count. This is where the ability to staff two ambulances and answer multiple medical calls truly makes a life or death difference.

4.5 The fire department should develop an operational plan relative to permissible actions on the fireground should the OSHA two-in two-out standard not be met. Personnel should not place themselves in peril and enter a structure except to perform an immediate rescue until four members are on the scene.

This means that the community needs to accept this level of service and the department has to recognize what is possible given the limited resources that exist. Undoubtedly

this will result in increased fire loss and place the operational focus on rescue and life safety.

- 4.6 Increase automatic aid⁴ to provide a minimum of 13 personnel on the fireground in an effort to meet the on-scene staffing goals of NFPA 1710.**
- 4.7 During a confirmed structural fire response, mutual aid should be contacted to provide emergency medical services to the city, thus allowing all on-duty resources to focus on fireground operations.**

Overtime Alternatives

Presently overtime in the Laconia Fire Department stands at a total of \$460,000; \$200,000 of this amount is paid through revenue provided by LRGH. Overtime is incurred anytime there is a shift absence, to provide protection at special events such as Motorcycle Week and as a means to muster sufficient personnel to respond to significant emergencies such as a structure fire. Drivers of overtime include the following:

- Number of significant incidents (emergency callback)
- Training
- Sick leave
- Injured on Duty leave
- Vacation/personal days
- Other accrued leave
- To provide one additional firefighter/EMT on shift during the day, six days per week (funded by LRGH)
- Special event duty

Laconia has a minimum staffing level of eight personnel. Overtime is incurred whenever a platoon member is absent for any reason. When compared to other communities, this is a relatively high overtime expenditure. We understand that a primary impetus of this study is to obtain a perspective on overtime and identify alternatives to reduce overtime within the department. Past history has allowed a perception to develop that firefighters manufacture their own overtime. Our observations indicate that there is no apparent abuse of accrued time. Average sick leave usage rates, which are usually the primary indicator of overtime abuse, are

⁴ "Automatic aid" is an agreement with one or more neighboring fire departments to dispatch mutual aid simultaneously upon receipt of a call for a reported fire. This eliminates the delay that is incurred while waiting for an assessment by the first arriving unit that mutual aid is indeed needed. If the first arriving unit determines that mutual aid is not needed, the units that are responding under the automatic aid agreement can be cancelled.



commendably low in the Laconia Fire Department. Although overtime usage is not being abused or artificially inflated, the city should take action to break the cycle of person-for-person replacement hiring. This can be accomplished through either creating shift float or further reducing what is already a marginal staffing level.

The fire department projects that it needs \$190,000 in city overtime funds to provide the current level of service and staffing based on existing staffing practices. The MRI study team has identified several options that could be considered to reduce overtime. Many of these alternatives, such as the introduction of per diem or on-call personnel, would require bargaining and negotiation with the Laconia firefighters union. These eight alternatives are listed below:

1. **Increase staffing only during the summer period using temporary personnel:** this alternative would require bargaining and although attractive on the surface, would require a significant investment in training, turnout gear, and an ongoing retention effort.
2. **Close the Weirs station during off the off season:** If this substation were closed from January through March each year, 100 calls in the response area of this station would receive a significantly delayed response. This option is driven by what is acceptable as a service level to the community. This could be a viable option if the community found the reduction in service an acceptable risk. This option could also increase the need to call mutual aid, but neighboring communities could refuse to provide service if they perceive that they are de facto subsidizing fire protection and EMS responses for the city.
3. **Reduce the minimum shift strength to seven personnel running with only two personnel as a fire suppression crew in a section of the City:** A further reduction of staffing places Laconia at an even greater risk.
4. **Run both stations as a two-piece company taking the ambulance assigned to that station out of service anytime there is a fire response:** Although this option would extend response time to some medical emergencies and may cause concern both within the community and within the partnership within LRGH, this would dedicate a three or four person crew to fire suppression when needed. It should be expected that this would place an increase load on mutual aid ambulance services and require the community to accept longer response times when the fire suppression forces within the city are engaged.
5. **Rehire on-call personnel:** The call department was abandoned a few years ago, and subject to bargaining, this force could be reactivated. A fire service rule of thumb is that five on-call personnel typically result in an increase of one

responder on the incident scene. Therefore, if the target were to increase the staffing level by four positions, twenty (20) on-call firefighters would be required. On-call personnel would need to be trained, certified, and equipped with properly fitting turnout gear. This expense is significant and would need to be coupled with an ongoing recruitment effort, as moderate turnover should be expected.

The lack of on-call personnel is an issue faced by communities across the country. This scarcity of on-call human resources is driven by the following factors:

- A reduction in leisure time
- The need to maintain multiple jobs
- Generational differences
- Increasing training requirements
- The reluctance of employers to release employees to respond to calls during work hours
- The cost of housing in many communities

We believe it would be difficult to find 20 individuals who wish to seek this type of part-time employment for a period of at least 24 months.

6. **Seek an increase in revenue from LRGH:** The partnership between the city and LRGH is an innovative best practice. The hospital offsets fiscal contributions through fees charged for the transport of patients by the Laconia Fire Department and contributes approximately \$200,000 above the revenue received from ambulance transport. Due to the demographics and “payer mix” in Laconia, the collection rate for ambulance transport is inherently low and it is anticipated that Medicare reimbursements will be further reduced in future years. It would be reasonable to have a discussion with LRGH to explore possible options for increasing revenues.
7. **Re-establish the student firefighter program with Lakes Region Community College:** The fire technology program at Lakes Region Community College places students in area fire departments. In exchange for the ability to live in the fire station during the school year, students respond to calls, participate in training activities, perform other duties, and are mentored by Laconia firefighters. Such programs have been highly successful in many college communities throughout the United States and can be a feeder system for new full-time firefighters in the Laconia Fire Department.

8. **Increase shift float thus reducing the need for overtime:** As outlined within this chapter, we feel that the best option to balance the risk faced by the community and reduce overtime is to add additional personnel while retaining the minimum shift strength at a level lower than the number of personnel assigned to a shift. Based on the size of the Laconia Fire Department, one float position per platoon would be fiscally prudent.

4.8 Create a float position to absorb overtime and enhance the level of service provided to the city. A float of one position per shift is reasonable and fiscally prudent for a department the size of the Laconia Fire Department.

4.9 Reconsider accepting a Staffing for Adequate Fire and Emergency Response (SAFER) grant to provide federal funding for four firefighters for a period of two years.

4.10 Reformulate department policy to reduce the number of times personnel are recalled when the department is operating at a staffing level of nine personnel.

As indicated above, Primex, the carrier that insures the City of Laconia, indicates that the Laconia Fire Department has one of the highest injury rates of organizations that they cover. This abnormally high injury experience should serve as a call to action. Injuries are costly both in terms of impact on the injured firefighter, cost of medical treatment, and lost time at work, which presently results in overtime for all lost hours. Although shift float can remedy a portion of this, several injury prevention strategies, including increasing shift staffing, thus creating a safer work environment, should be implemented.

Each injury should be reviewed through an after action report. This report should be developed through a fire department health and safety committee and reviewed by the city manager. The city's joint loss management committee should also play an active role in recommending corrective actions following a job related injury. Although increasing staffing over the next three years will produce a safer work environment, staffing is not the only solution.

4.11 Create a fire department health and safety committee. This committee should review every fire service injury.

4.12 LRGH should be asked to retrofit each ambulance with motorized stretchers and automatic stretcher retrieval systems to reduce injuries associated with lifting patients.

Firefighters are action-oriented people who want to help others. Despite this commendable quality, they will often overextend themselves to do what is necessary to save a life or protect property. These actions place firefighters at extreme risk and often result in on the job injuries. Although a difficult task, the department needs to refocus operational effort on rescue and firefighter safety.

- 4.13 The fire department health and safety committee should work with the fire chief to adjust policies and tactics to reflect the level of resources provided.**
- 4.14 After the shift float position has been established on each shift, reduce overtime by 25% less any negotiated step or cost of living increases.**
- 4.15 Consider the fire department’s overtime requirements as a constantly changing target, much like the public works snow removal account.** The account should be adjusted to meet the need over the next three years based on such variables as number of major incidents, injury rates, long-term disabilities, and position vacancies due to resignations or retirements.

CHAPTER 5

FACILITIES AND APPARATUS

OVERVIEW

Fire stations are a critical community asset and serve as deployment points that can optimize service to the community. The fire station facilities of a modern fire department are designed to do much more than simply provide a garage for apparatus and a place for firefighters to wait for a call. A fire station should, at a minimum, provide adequate, efficiently designed space for the following functions:

- Housing of fire apparatus, with adequate space for apparatus length and height (and the housing of all equipment, including staff, service, and support vehicles including trailers)
- Communications facilities
- On-duty crew quarters, with sufficient toilet/shower/locker room space for both men and women
- Physical fitness facilities
- A computer laboratory and organizational library
- Information technology facilities
- Kitchen area
- Training and meeting space
- Administrative/supervisor office(s)
- Conference rooms for meetings with the public and department personnel
- Vehicle maintenance (as necessary)
- Hose drying and storage (as necessary)
- Supply and equipment storage
- Public entrance/reception area

Many communities find that a fire station is an ideal place to locate the community's emergency operations center (a large room such as a training classroom can be designed to serve as the EOC when needed). Meeting rooms are even made available to community organizations.

National best practices, such as guidance provided by the National Fire Protection Association (NFPA) and the Federal Emergency Management Agency (FEMA), recommend that the following features be included in fire station capabilities:

- Seismic-resistant construction (based on local risk assessment)
- Flood hazard protection (based on local risk assessment)
- Automatic fire sprinkler system and smoke detection system
- Carbon monoxide detectors
- Vehicle exhaust extraction system
- Capability to decontaminate, launder, and dry personal protective equipment and station uniforms
- Facility security
- Emergency power supply
- Exercise and training area(s)
- Compliance with the Americans with Disabilities Act (ADA)
- Compliance with current fire and building codes
- Adequate storage for supplies and equipment, including emergency medical and disaster supplies
- Adequate parking for on-duty personnel, administrative staff, and visitors
- Capability for future expansion

The adequacy, quality, and appearance of fire station facilities have a significant impact on the performance of the department as a whole. Attractive, functional, clean, and well-designed quarters contribute substantially to the morale, productivity, and operational effectiveness of the agency, as well as to its public image, dignity, and prestige. Most citizens have little contact with the fire service and often make judgments that are, at least partially, based upon their impression of fire station facilities. It follows then, that a good image of the department must be maintained not only by proper deportment of the individual officers and firefighters, but also by the appearance of their physical surroundings.

Well-designed fire and EMS facilities enable staff to perform their duties effectively, efficiently, and safely. As a facility ages, it may no longer meet the needs of an evolving department and/or community, thus negatively affecting morale, efficiency, safety, security, technology, and overall efforts to provide quality fire, rescue, and emergency medical services. It may also hamper the ability of the department to keep pace with increasing and/or expanded requests for, and/or levels of, service. Older and/or obsolete facilities are also expensive to maintain due to inefficient energy systems. When these conditions occur, typical remedies include expanding, renovating, and/or replacing the existing facilities. In some communities, it also makes sense to consider a consolidation of several older and/or obsolete facilities into one or more new, green, operationally adequate stations that may be better located for the department to fulfill its current, and future, missions.

Fire station facilities should be an important component of a municipal capital improvement plan (CIP). A long-term plan should be in place that takes into consideration the expected life expectancy of a facility, space needs, technology needs, and location requirements based on response times, travel distance, changes in community development patterns, and regional fire protection capabilities. The construction or renovation of fire stations is a costly proposition that should be planned well in advance in order to balance other community needs for capital projects.

Fire apparatus is critical to the ability of the fire department to perform its core mission and to mitigate a wide range of emergency incidents. The apparatus fleet includes the major emergency response apparatus such as pumpers (engines), tankers (water supply vehicles), aerial apparatus/quints⁵, rescue vehicles, and ambulances. Specialized apparatus includes emergency units such as lighting plants, brush trucks, and other off road vehicles. Trailers are used for unique applications such as technical rescue, hazardous materials response/equipment, hazardous material decontamination, structural collapse rescue equipment, breathing air/light support units, foam units/supplies, and mass casualty incident supplies. Support vehicles that are critical to fire department operations, both routine and emergency, include command post and emergency communications units, command/staff vehicles, and maintenance trucks.

The tools and equipment that a fire department utilizes covers a wide assortment of resources necessary to effectively, efficiently, and safely, respond to, and mitigate, a wide range of emergency incidents. These resources include, but are certainly not limited to, the firefighters personal protective equipment (PPE), self-contained breathing apparatus (SCBA), hose, nozzles, adapters, master stream appliances⁶, ground ladders, radios, hydraulic rescue tools and equipment, and various hand and power tools. The technology and standards for fire department equipment are constantly evolving to improve the effectiveness, efficiency, and safety of firefighters. Today's fire departments are obligated to establish and document formal programs and procedures to ensure that equipment is replaced regularly, maintained properly, and deployed in accordance with accepted standards and department procedures. Proper training on the use and maintenance of equipment is essential to effective and safe firefighter performance and minimizes the city's risk exposure.

The geography, infrastructure, hazards, and construction features within the community all play a major role in determining the composition of each department's unique and individualized apparatus fleet and equipment inventory. Laconia's environment presents the fire department

⁵ A "quint" serves the dual purpose of an engine and a ladder truck. The name *quint* refers to the five functions that a quint provides: pump, water tank, fire hose, aerial device, and ground ladders.

⁶ "Master streams" are large capacity nozzles that can be placed on the ground or are affixed to aerial devices.

with a wide variety of strategic and tactical challenges related to emergency response preparedness and mitigation. This includes firefighting, emergency medical responses, and complex incidents requiring special operations capabilities such as technical rescue and hazardous materials emergencies. Large commercial buildings, multi-family apartment buildings and hotels, and target hazards present much different hazards and challenges than those required for operations in single-family dwellings. These factors, as well as projected future needs, must be taken into consideration when specifying and purchasing apparatus and equipment. Every effort should be made to make new apparatus as versatile and multi-functional as is possible and practical.

OBSERVATIONS

Facilities

The Laconia Fire Department operates from the central fire station on North Main Street and a sub-station in the Weirs that is connected to the Community Center. The Lakeport fire station is not operational and is only used for equipment storage.

The central fire station, constructed in 1974, includes a four-bay apparatus floor and a three-story administrative section. The administrative section includes an entry foyer, secretarial office space, administrative offices for the fire chief and deputy fire chiefs, and crew quarters that include kitchen, shower/bathroom facilities, conference room, and a multi-purpose “day room”. There is no designated area that is specifically designed for classroom training.

The offices of the fire chief and the deputy fire chiefs, including the fire prevention deputy, are located on the second floor and are not accessible to citizens with walking disabilities. If necessary, assistance can be provided to such individuals in the first floor administrative area. The administrative space is insufficient to meet the needs of a modern fire department.

An automatic fire sprinkler system was recently installed in the central fire station as the result of a grant from the FEMA Assistance to Firefighters Grant (AFG) program. A stand-by generator provides emergency power to the building.

Fire apparatus are connected to a vehicle exhaust extraction system that discharges vehicle exhaust to the outside of the building. The system is designed to release automatically as a vehicle drives out of the bay.

The central fire station appears to be well-maintained, but is definitely showing its age, particularly in the crew quarters area.

An addition to the central fire station is planned for the coming year. The addition will modernize the crew quarters and administrative space, and will include energy improvements.

We concur with the need for this renovation and feel that this is a critical project to provide the department with a functional platform from which it will base future operations.

The Weirs Beach station, constructed c. 1984, is a two-bay station that houses one engine (pumper), the quint, one ambulance, a forestry/utility vehicle, and a “Gator” all-terrain rescue unit. Crew quarters and a small administrative area are located on the second floor.

The building is equipped with an automatic fire detection system. Fire apparatus are connected to a vehicle exhaust extraction system, and a standby generator provides emergency power.

The Weirs Beach station is also well-maintained, but is also beginning to show its age. Consideration should be given to renovating and equipping this facility with an automatic sprinkler system, over the next five years.

A third facility located in Lakeport is used for equipment storage. As this building houses emergency equipment and is marked as a fire station, there is no doubt that the community perceives this facility as an active fire station. The signage should be immediately removed from the building and the facility should be surplus to the city.



Figure 7. Weirs Beach Fire Station



Figure 8. Interior of Weirs Beach station, showing vehicle exhaust extraction system.

Apparatus

The fire department fleet is well-suited to the needs of the city in terms of capabilities and the size of the fleet. The primary units include two (2) front-line engines, one (1) aerial tower, one (1) quint, and two (2) ambulances. Reserve equipment includes one (1) engine, one (1) ambulance, and one (1) hose wagon. The remainder of the fleet includes three (3) rescue boats, a forestry/utility unit, all-terrain rescue unit, dive unit service truck, and staff cars, including two (2) command units.

Unit	Year	Type	Capability
13E1	1998	Pumper (reserve)	1500 gpm pump, 1000 gal tank
13E2	1990	Pumper	1500 gpm pump, 1000 gal tank
13E3	1986	Hose wagon (spare)	2000 gpm pump, 300 gal tank
13E5	2004	Pumper	1500 gpm pump, 1000 gal tank
13L1	2010	Aerial tower	100 ft. aerial, no pump
13L2	1998	Quint	75 ft aerial, 2000 gpm pump, 375 gal tank
13A1	1997	Ambulance	Regional spare ambulance
13A2	2011	Ambulance	
13A3	1998	Ambulance	
13A4	2004	Ambulance	
13R1	1986	Service truck	Transports dive team equipment
13F1	2007	Forestry unit/utility	Pick-up truck with forestry skid unit

Figure 9. Major fire apparatus inventory

The fire department has established a capital improvement plan for the scheduled replacement of its apparatus (*note*: the replacement of ambulances is funded by LRGH). One (1) pumper and one (1) staff car are being replaced this year.

Apparatus appears to be clean and well-maintained. However, the spare hose wagon (13E3) is not fully equipped. If it is necessary to place this unit in service, equipment from the pumper that it is replacing must be transferred. In addition, this reserve pumper is not available for immediate response in the event of multiple calls or a major fire.



Figure 10. Laconia Engine 1.



Figure 11. Laconia Engine 2.



Figure 12. Laconia Engine 5.



Figure 13. Laconia Ladder 1 (tower-ladder).



Figure 14. Laconia Ladder 2 (quint).



Figure 15. Laconia Ambulance 4.



Figure 16. Laconia Dive Team Support Unit.

RECOMMENDATIONS

- 5.1 The MRI study team concurs with and supports the need for a renovation/addition of the central fire station. This renovation will improve the administrative and operational capabilities of the fire department.**
- 5.2 Consideration should be given to the future funding of an update to the Weirs Beach fire station that could include energy improvements and updates to the electrical and heating systems. A space needs study should be conducted to anticipate future growth in staffing or equipment at this facility.**
- 5.3 The replacement of fire apparatus and major equipment should continue on a regular basis in accordance with the fire department's capital improvement plan. A white paper developed by the Fire Apparatus Manufacturer's Association (FAMA) suggests that the front line life span of active duty fire apparatus in an urban setting ranges from 15 to 18 years, within the possibility of an additional 9 to 10 years in a reserve, or spare, status. The International City/County Management Association (ICMA) suggests that the life span of a fire pumper should be 20 years, and the life span of an aerial ladder should be 25 years.**

- 5.4** The city should consider purchasing its fire apparatus through the group purchasing system that has been established by the Fire Chiefs Association of Massachusetts (FCAM) and the Metropolitan Area Planning Council (see www.mapc.org). A choice of apparatus capabilities, specifications, and vendors is available through this program. It has been estimated that communities can save at least 5% or more of the purchase price of a fire pumper or aerial ladder.
- 5.5** The MRI study team recommends that the city carefully evaluate the actual cost of fire apparatus (with adequate buffer for annual cost increases that will occur between the initiation of planning and placing the order) when it is time to budget for the next pumper or aerial ladder. This will ensure that the city will be able to purchase a unit that is designed in accordance with the long-term fire protection needs of the city.
- 5.6** The spare hose wagon (13E3) should be fully equipped so that it can be maintained in a ready status for response to emergencies if needed.
- 5.7** As discussed in Chapter 3, the city and the fire department should explore the feasibility of sharing apparatus resources and capabilities with other communities in the mutual aid system. Options include the sharing of reserve apparatus, sharing of spare hose, standardized apparatus specifications, unified capital equipment planning to minimize the duplication of resources, and group purchasing opportunities.
- 5.8** The old station located in Lakeport should be surplus and the fire department signage removed from the side of this structure.

CHAPTER 6

POLICIES AND PROCEDURES; RULES AND REGULATIONS

OVERVIEW

The use of rules and regulations, operational procedures, and various other forms of written and electronic communication are vital aspects of a fire department's overall operations. In conjunction with the municipality's policy manual, rules and regulations establish expected levels of conduct and general obligations of department members, identify prohibited activities, and provide for the good order and discipline necessary for the credible operation of an emergency services organization. Operational procedures ensure the consistent, effective, and safe operation of various aspects of the department's operations, both emergency and routine. One of many common denominators among the best fire departments across the United States is that they have a comprehensive written communications system that includes an up-to-date operational procedures manual, and all personnel are well-versed and well-trained in those procedures. Enhancing the system even further through the inclusion of other documents such as training and safety bulletins serves to make the system more effective. These resources should be available within reference notebooks strategically located through both stations and in electronic form. In addition, given the rotating shift schedule, personnel should be provided with an e-mail account so that they can receive department communications both while on and off duty.

Statutes carry the full force of law and are enacted by legislation at either the federal and/or state level. All applicable parties within their scope are bound by their provisions and responsible for compliance and/or adherence. Regulations often carry nearly the same weight, the only exception being they are adopted through an administrative process rather than by legislation. Personnel policies comprise an important set of documents for employees that outline the expectations of the employer regarding employee conduct. They establish obligations of the employer and the employee. They also clearly establish the position of the employer regarding issues that could result in liability for the employer and they establish employer compliance with a wide range of federal and state statutes and regulations. When employees are properly trained and policies are properly enforced, the consistency of the employer's operation is significantly improved. Standard operating procedures (SOPs) and standard operating guidelines (SOGs) address a wide range of day-to-day operations, both administrative and emergency. They may also establish specific procedures on how the implementation of and/or compliance with specific statutes, regulations and policies are to be achieved within the fire department.

The MRI study team evaluated the Laconia Fire Department's current written policy and procedures system and found that, although it was fairly extensive, it was difficult to determine

which procedures had been revised and/or updated over the years, including the most recent update in February 2011. The team also believes that separating out rules and regulations and policies, and even state statutes that are included as SOPs, would better clarify the system, and should assist with emphasizing the relative importance of each type of document.

OBSERVATIONS

The study team was reviewed the Laconia Fire Department Standard Operating Procedures (SOP) manual. The manual was fairly extensive, consisting of 75 procedures classified into the following 10 sections/categories:

- 201 Command Procedures
- 202 (no title and no SOPs contained within)
- 203 Staging
- 204 Communications
- 205 Safety and General Safety Policy
- 206 Sectors
- 207 Emergency Operations
- 208 Routine Operations
- 209 Dive Team Operations
- 300 Administrative Policies

If personnel are expected to learn and adhere to the department's procedures, the format and organization of the manual must be user friendly; otherwise, SOPs will sit on a shelf unused. The general set up of the current SOP manual is good and it is easy to identify and cross reference each procedure. All of these documents should be created as PDFs files and placed on a fire department server. A link to this library should be placed on every computer. Every captain and lieutenant should be instructed to review one SOP and one policy with their personnel during each shift. This will ensure that members are familiar with these policies and procedures and instill an organizational culture that these document form the basis for operations.

Overall, the SOPs contained in the manual appear to be well written although the level of detail, or comprehensiveness, varied from document to document. This may be just a function of the era in which the document was originally developed and the style and/or preferences of the original author. The same holds true regarding the consistency of the layout of various documents in that some SOPs contain the recommended purpose and scope sections while others do not. However, from a content perspective, for the most part, the procedures appear to be consistent with currently accepted standards and best practices in the fire service. The Laconia Fire Department uses a standardized form for the preparation and distribution of their SOPs. Page 1 of the form contains a header that includes the document name, its number, the section classification, and its original issue date. There is no place for a revision

date and page numbers have not been identified (e.g., page 1 of 4, etc.) and although a few of the procedures were signed and dated at the end by the chief, this was definitely the exception rather than the rule. Pages beyond the first page of the procedure contain no header with any pertinent information. In Section 300 of the manual, Administrative Policies, it was noted that in several instances what appear to be city policies, such as the sexual harassment policy, drug free workplace policy, and disciplinary policy, were copied, inserted into the manual, and assigned a handwritten SOP number. Each policy and SOP should be dated and signed by the fire chief using the example format below:

Laconia Fire Department Standard Operating Guideline		
Effective Date: January 1, 2013	SOG Category & Identification Number: Command - 001	Revision: 4
SOG Title: Assumption Transfer, Designation and the Responsibilities of Command		
Approved by:	Re-evaluation Date: January 1, 2015	Number of Pages: 5

The manual's table of contents states that it was revised and updated in February 2011. However, with no revision dates on any individual SOPs, it was difficult for the MRI study team to ascertain to what extent the manual and specific procedures were revised. There is no operational procedure that mandates that a comprehensive review be done on a periodic basis. The study team noted that the original issue dates on SOPs in the manual range from 1989 (24 years old) to 2011. Only 12 of the 75 SOPs were originally issued within the past five years. SOPs should be reviewed once every three years.

The MRI study team found that a number of the SOPs are obsolete and should be revised or removed from the manual. For example, SOP 208.01, Ladder 1, was issued on March 20, 1990 and refers to a vehicle that is no longer in service with the department. SOP 205.04, Care and Maintenance of SCBA⁷, while admittedly generic in nature, was issued nearly 16 years ago on May 1, 1997. The department's SCBA has been replaced at least once since 1997 with more modern equipment, so the care and maintenance procedures in the SOP manual should be updated.

⁷ SCBA: Self-Contained Breathing Apparatus



A very significant operational procedure that may be outdated is 201.01, Fire Incident Command, which was issued in 1998, at least three years before changes to the National Incident Management System (NIMS) were implemented as a result of the terrorist attacks of September 11, 2001. While this procedure is fairly comprehensive, and appears to be relatively current, its issue date calls into question its accuracy.

It is the opinion of the MRI study team that certain sections of the SOP manual could be combined with others. For instance, sectors and other components of the Incident Management System which make up Section 206 of the manual, Sectors, could be combined into Section 201, Command Procedures. Section 203, Staging, could be incorporated into Section 207, Emergency Operations. Conversely, some existing sections of the manual could be expanded and possibly additional sections added.

We noted that while the department's procedures do address numerous operational considerations (and these topics may be addressed in certain other procedures), there are no specific operational procedures in place to deal with mission critical operations such as *Basic Engine Company and/or Truck Company Operations, Vehicle Fires, Vehicle Extrication Operations, or Thermal Imaging Camera and Automatic External Defibrillator Use*, just to name a few. Despite that fact that the majority of the department's responses and operations are related to emergency medical incidents, the manual contains no specific EMS procedures. Only one SOP is dedicated to training and that procedure deals with Basic Training Drills, a topic that may be better suited to a training bulletin. There are no procedures on fire prevention operations. All of these types of operational procedures are important and provide standardization and consistency of operations.

SOP 300.14, Code of Conduct, establishes the rules and regulations of the fire department. This procedure contains 41 articles that specifies the department's expected levels of conduct and prohibited actions. While this document is well written, we believe that it would be best if the rules and regulations were separated out into a stand-alone document. It could also be expanded to include some other important sections as identified in the recommendations section of this chapter.

The team also noted that two state statutes, Title XII Chapter 154:7, Authority of Fire Officers, and, Title XII Chapter 154:7-b, Expeditious Clearance of Roadways, were also included as SOPs with the same handwritten assignment of a number as was previously mentioned regarding policies. It is our belief that the department and its members would be better served by separating each of these types of documents out into their own complete manual (statutes and/or administrative regulations would only include those that are applicable to the fire department, its personnel or its operations). Not only would doing this allow there to be a clear distinction between the various types of documents, it would also serve to clarify the relative importance of each type of document.

Generally speaking, the order of these documents would be:

1. Statutes
2. Administrative Regulations
3. City Policies
4. Rules and Regulations/Code of Conduct
5. Standard Operating Procedures
6. Standard Operating Guidelines

Care should be taken that these documents do not conflict with one another or, to the extent possible, the collective bargaining agreement.

The MRI study team wishes to emphasize that the Laconia Fire Department's current SOP manual is certainly extensive, and it establishes a solid foundation for the recommendations that we make in the next section. Many fire departments that we have evaluated either have few, if any, SOPs, or the SOP system lacks purpose and direction. That does not appear to be the case here. With an appropriate commitment and support from both the fire department leadership and the rank and file members of the department, it should not be too difficult for the department's written communications system to improve from good to excellent.

RECOMMENDATIONS

- 6.1 The Laconia Fire Department should form a committee to perform a comprehensive update and revision of the department's Standard Operations Procedures Manual, including the addition of mission critical procedures such as, Basic Engine Company and Truck Company Operations, Vehicle Fires, Vehicle Extrication Operations, Thermal Imaging Camera Use, Automatic External Defibrillator Use, and EMS Operations. The addition of a number of other procedures covering routine administrative operations and training procedures; deletion of procedures that are no longer relevant; and possibly restructuring the manual will be necessary. The committee should include members of each rank and representation by a senior officer of the union. See Appendix D for a recommended template of SOP/SOG topics.**

- 6.2 The first operational procedure should identify and explain the components of the revised written communication system, including the use and organization of the Standard Operations Procedures Manual and other components of the system such as standardized forms. This procedure should also contain a provision that the entire Standard Operations Procedures Manual will be reviewed on a least an annual basis and that updates and revisions shall be made at any time, as necessary.**

6.3 The Laconia Fire Department’s standard operations procedure form should be revised to include a section for the inclusion of a revision date if a procedure is re-issued with only minor to moderate revisions. Full scale revisions to a procedure should result in it being reissued with a new issue date. The form should also include an area for the approval and signature of the fire chief. Finally, the pages in each procedure should be numbered. An example of the header has been included below:

Laconia Fire Department Standard Operating Guideline		
Effective Date: January 1, 2013	SOG Category & Identification Number: Command - 001	Revision: 4
SOG Title: Assumption Transfer, Designation and the Responsibilities of Command		
Approved by:	Re-evaluation Date: January 1, 2015	Number of Pages: 5

6.4 The Laconia Fire Department should expand its written communications system beyond just SOPs. This expansion could include general orders (orders, directives, and/or special instructions); training bulletins, that establish tested and approved methods of performing operational tasks; safety bulletins, that provide guidance concerning safety and health issues; and informational bulletins that are published for the general knowledge of recipients. A numbering system should also be implemented to keep track of these documents for indexing and future reference purposes.

6.5 The Laconia Fire Department should develop and implement a procedure that provides for the documented review of policies, procedures, general orders, etc., and includes a provision requiring each member of the department to verify in writing that they received the document, have read it, and understand it. This can be done electronically via the city e-mail system. However, a hard copy manual of each type of document should still be maintained in each station. All of these documents should be created as PDF files and placed on a fire department server. A link to this library should be placed on every computer.

6.6 The Laconia Fire Department should form a committee to perform a review and update of the department's Code of Conduct and revise it into a stand-alone, rules and regulations document. This document, which could be further enhanced as suggested below, should then be submitted for approval by the city manager and/or city council, and then be distributed to, and signed for, by each member of the department. It could then provide an orientation overview and indoctrination to the behavioral expectations for new personnel. A number of excellent rules and regulations documents exist, and can be used as the basis for the Laconia document. MRI can provide a sample that can be used as a guide/template, if so requested.

Some suggested sections for the rules and regulations could include, but are by no means limited to:

- **A preamble**
- **The department's mission statement**
- **Objectives of the department**
- **Purpose of the rules and regulations**
- **Organization**
- **Membership requirements**
- **General rules of conduct**
- **Officer qualifications and selection (May just reference current department procedure and/or position description)**
- **Officer duties and responsibilities (May just reference current department procedure)**
- **Training (May just reference current department procedure)**
- **Apparatus, equipment and protective clothing (May just reference current department procedure)**
- **Uniforms and grooming**
- **Discipline**
- **Conflicts between department documents (state statutes, city policy, rules and regulations, operational procedures, standing orders)**
- **Other areas that may be agreed upon for inclusion**

6.7 State statutes and/or regulations that are applicable to fire departments, and the city's personnel policies that are applicable to all city employees, which includes employees of the fire department, should be separated out of the existing SOPs and compiled into their own manuals and made available in each station (or on-line).

- 6.8 The City of Laconia and the Laconia Fire Department should conduct ongoing, periodic training on all applicable statutes/regulations, policies, and SOPs for all personnel. This should be accomplished by the shift officers reviewing one SOP and one policy with their personnel during each shift.**



CHAPTER 7

COMMUNICATIONS AND TECHNOLOGY

OVERVIEW

An efficient communications system is central to the full spectrum of services delivered by a fire department. Encompassed within the communication system are internal and external (inter-agency and public) elements. To be effective and reliable, all fire department communications must be operational 24 hours per day, seven days per week. Redundancy must be built into the system so that the failure of one or more components will not compromise emergency operations. There must be interoperability between systems to ensure that the fire department can communicate with federal, state, regional, mutual aid, and other local agencies during a major incident or a catastrophic event.

Fire departments are increasingly dependent upon modern technology for communications, information management, incident command, fire inspections, pre-fire planning, records management, and operational effectiveness. The fire department must constantly update its technology capabilities to take advantage of cloud computing, hardware and software that enable real-time situational awareness and retrieval of critical data during incidents, and e-government applications that deliver important services to the public.

The MRI study team evaluated the primary components of the communications system including radio, telephone, fire alarm, and data, together with their integrated support systems. Numerous national standards and agencies are available for referencing acceptable criteria for these critical components. In addition, the team evaluated the department's use of technology.

OBSERVATIONS

Fire and EMS dispatching services are provided to the City of Laconia by the Lakes Region Mutual Fire Aid Association Communications Center. The center serves 35 agencies throughout a 1,500 square mile region (1.5 times the area of Rhode Island) with two (2) communications specialists on-duty at all times. The center is equipped with state-of-the-art technology for two-way radio systems, computer assisted dispatch (CAD), pre-plan data, and can provide additional field communications capabilities during a major incident (see Chapter 3 for additional information concerning mutual aid and shared services). Lakes Region and the Capital Area Fire Mutual Aid Compact have recently developed an operations continuity plan that enables both regional dispatch centers to serve as the back-up for each other in the event of a catastrophic system failure. The systems are interoperable and dispatchers have been

cross-trained. In the opinion of the MRI study team, the Lakes Region Communications Center is a national model for regional fire and EMS dispatch operations.

Emergency 9-1-1 calls from the public are initially received by the New Hampshire Enhanced 9-1-1 (E-911) public safety answering point (PSAP). The 9-1-1 operator determines the nature of the emergency and routes the call to the appropriate local dispatch center. Digital data about the call, including the automatic number identifier (ANI) and the automatic location identifier (ALI), are transmitted to the local dispatch center at the same time. The location of mobile phone callers can be pinpointed by the GPS technology that is inherent in all modern cellular telephones. In the event of a medical emergency, the 9-1-1 operator stays on the line with the caller following the hand-off to the dispatch center to provide emergency medical guidance. The E-9-1-1 PSAP can also connect public safety agencies with immediate access to the AT&T language translation services, which provides translation for over 150 languages at no charge to the community.

The Lakes Region Communications Center has established procedures and capabilities for dispatching communities in accordance with pre-established automatic aid agreements, multiple alarm assignments, station coverage, mass-casualty events, wildland fires, and disasters, and for coordinating requests for specialized equipment and teams. A major advantage of a regional dispatch center is the ability to move resources quickly and to manage resource availability during multiple incidents.

Non-emergency telephone calls are received on the fire department business lines and are typically answered by the administrative secretaries (during weekday business hours) or by any member of the on-duty crew. If no one is available to answer the telephone, the call goes to voicemail. The voicemail message directs the caller to dial 9-1-1 for emergencies.

The Laconia Fire Department has acquired two-way mobile radios and two-way portable radios through the state's public safety radio communications interoperability project. Equipment was funded with federal homeland security funds, and the fire department received radios valued at \$134,000. The radios are multi-frequency narrow-band units that comply with the federally mandated APCO P-25 standard for interoperability. Laconia fire personnel can communicate directly with public safety agencies throughout the state in accordance with established procedures and protocols.

Many of the two-way mobile and portable radios that were acquired under the statewide interoperability project after 2002 will be reaching their operational life expectancy over the next three to five years. It is not expected that the federal government will provide major replacement funds, so it is incumbent on local communities to anticipate this need during the development of future capital equipment plans and budgets.

The fire department has done a good job of keeping up-to-date with computer technology within budgetary limitations. The fire department has acquired computers that use the Windows® operating system and associated Microsoft software (Word, Excel, PowerPoint, etc.). For specialized fire department management functions, the department uses the following web-based programs:

- *Firehouse*: a fire department management software package for fire incident reporting (NH Fire Incident Reporting System, also known as NHFIRS), managing training records, in-service inspections, and other activities.
- *CodePAL*: a building inspection software system that is used by the fire prevention deputy (see Chapter 9). This system also tracks mechanical permits.
- *NH TEMSIS*: the NH Trauma & EMS Information System.

Upon returning from a response, a captain or lieutenant is responsible for completing the NHFIRS report form on the Firehouse system. Following a quality assurance review, reports are transmitted on a regular basis to the state fire marshal's office. The state fire marshal's office contributes statistical data from the NHFIRS system to the National Fire Incident Reporting System (NFIRS) that is managed by the U.S. Fire Administration (USFA). The Firehouse system is a highly useful tool that enables the fire department to analyze the data from the reports when evaluating fire activity and trends in the city, response times, and staffing patterns.

EMS patient care reports (PCR) are prepared on ruggedized laptop computers in the ambulances; a copy is printed and left with the emergency department. Data is then verified during the continuous quality improvement (CQI) process and is forwarded to the LRGH billing department, which is responsible for billing patients and insurance companies for ambulance transport services (LRGH receives the revenue, which offsets its some of its contribution to the city for EMS services).

The department's administrative secretary performs typical office functions such as payroll, accounts payable and receivable, purchase orders, scheduling, billing for fire department details at special events, and other related tasks. Fire department payroll is completed in Excel format and forwarded to the city's finance department for entry into the MuniSmart financial management system.

Two of the fire department front-line engines are equipped with ruggedized mobile data terminals (MDTs). The fire officer on each unit can retrieve pre-plan data and other information that is critical during the response to an incident or while operating at a scene. The capability and number of MDTs should be expanded over the next five years so that all apparatus is equipped with this emerging technology. These units should become interconnected to the computer aided dispatch system and preplan data should be shared on a

regional level. This interconnection would provide the dispatch center with automatic vehicle location (AVL) and allow the crew to review, preplan data while responding to a call outside of their normal response district.

The fire department's data is backed up nightly to a server at the central fire station. There is no off-site back-up data storage or server redundancy.

RECOMMENDATIONS

- 7.1 The fire department, in collaboration with the city's information technology unit, should continue to explore computer technology and information system updates that take advantage of the latest trends in municipal government and public safety operations. A technology plan should be developed that takes into consideration the following objectives:**
- **Regular upgrades to hardware and software**
 - **Transition from laptops to tablet-type units for field use**
 - **Centralizing all GIS data and building data so that all city departments (fire, police, planning, community development, assessing, etc.) can access the most up-to-date information at any time**
 - **Developing e-government resources for use by the general public, such as on-line permitting and plan submittals**
 - **Continuity of operations planning to ensure that IT capabilities are maintained in the event of a catastrophic event (natural disasters, hacking, denial-of-service attacks, etc.)**
- 7.2 The city should consider streamlining the fire department's administrative functions, such as payroll, by permitting direct access to the MuniSmart financial management system.**
- 7.3 The fire department should begin planning for the eventual replacement of the existing mobile and portable radios as they begin to reach their operational life expectancy or become technologically obsolete.**
- 7.4 The number and capabilities of mobile data terminals should be expanded. Over the next five years all apparatus should be equipped with this technology.**
- 7.5 The fire department should take immediate steps to establish an off-site data back-up capability. There are a number of options available to accomplish this function, including back-up to a city-owned server or by automated cloud storage.**

CHAPTER 8

FIRE PREVENTION AND INSPECTIONS

OVERVIEW

Fire prevention is one of the most important missions of a modern-day fire department. A comprehensive municipal fire protection system should include, at a minimum, the key functions of fire prevention, code enforcement, inspections, preplanning, and public education. Preventing fires before they occur, and limiting the impact of those that do, should be priority objectives of every fire department. Educating the public about fire safety and teaching them appropriate behaviors on how to react should they be confronted with a fire is also an important life safety responsibility of the fire department.

Fire prevention is a key responsibility of every member of the fire department, and fire prevention activities should include all personnel. On-duty personnel can be assigned with the responsibility for “in-service” inspections to identify and mitigate fire hazards in buildings, to familiarize firefighters with the layout of buildings, identify risks that may be encountered during firefighting operations, and to develop pre-fire plans. On-duty personnel in many departments are also assigned responsibility for permit inspections and public fire safety education activities.

Since fire prevention should be approached in a systematic manner and because a number of community stakeholders have a vested interest and/or responsibility in this endeavor, various activities such as plan reviews, permits, and inspections should be coordinated with similar activities in the municipal building inspection department and the planning department. Inspection and code enforcement procedures and policies must conform to State of New Hampshire statutory requirements and the regulations and the policies of the NH Department of Safety, Division of Fire Safety (State Fire Marshal). The authority of local fire chiefs is delineated in NH RSA 153 and RSA 154. The local fire chief or designee is authorized to enforce the NH State Fire Code (NH Code of Administrative Rules, Saf-C 6000). Local fire safety ordinances and regulations cannot be less restrictive than the requirements of the State Fire Code. This provides an opportunity for a community to address specific fire safety issues by promulgating local ordinances that meet local needs.

OBSERVATIONS

The fire prevention and inspection activities of the Laconia Fire Department are managed by a deputy chief who serves as the fire prevention officer. He is responsible for numerous activities, including, but not limited to:

- Plans reviews of construction projects (in collaboration with the city code enforcement department) as well as plans reviews of fire protection systems (*e.g.*, fire suppression systems, fire alarm systems, smoke control systems, etc.)
- Place of assembly inspections; 152 places of assembly (auditoriums, restaurants, bars, nightclubs, etc.) are licensed annually by the fire department
- Progress inspections of construction projects (other than single- and two-family dwellings)
- Represents the fire department on the city technical review committee (major site plan reviews); the minor site plan committee; and the Motorcycle Week technical review committee
- Oversight of the permit process for combustible and flammable liquids storage tank installation and removal
- Oversight of permits that are issued for various installations and processes in the city
- Follow-up inspections for major fire safety issues that have been identified during in-service inspections by on-duty shift personnel
- Provides technical assistance on codes and fire safety requirements to property owners, contractors, installers and design professionals
- Inspections of temporary vendor sites during Motorcycle Week
- Develops incident action plans (IAPs) for special events

The following statistics reflect the fire prevention activities of the Laconia Fire Department during calendar years 2012 (excluding in-service inspections by on-duty shift personnel):

Inspections	605
Mechanical inspections (gas/oil appliances)	44
Fire alarm inspections/tests	74
Training	23
Plans reviews	236
Fire investigations	21
Responding to complaints	17
Pre Fire Plan Development	
Fire Prevention Related Meetings	191
Total Fire Prevention Activities	1,211

Figure 17. LFD Fire Prevention Statistics, 2012

On-duty personnel performed a total of 384 in-service inspections during 2012, an average of approximately one (1) per day.

The fire prevention deputy chief is also responsible for the planning of disaster drills and exercises. During fire incidents, he is assigned to perform support functions under the incident command system (ICS) such as incident safety officer or aide to the fire chief. He is also responsible for conducting basic origin and cause fire investigations. Major fire incidents, building collapses and all fatal fires are investigated by the NH State Fire Marshal's Office.

A part-time (8 hours per week) fire inspector has been funded in the fire department budget. This individual will be supervised by the fire prevention deputy chief.

The fire prevention deputy maintains a daily log of his activities and compiles a monthly statistical summary in Excel© format. CodePAL is the software program that the fire department uses for managing data and activities related to fire prevention. The program tracks property inspections, the scheduling of inspections, permits, fees, and plan review activities. The department has purchased ruggedized tablet computers and one (1) personal digital assistant (PDA) to enter data into the CodePAL system in the field (used by the fire prevention deputy and the fire inspector). The CodePAL system is not compatible with the Firehouse© software system that is used by shift personnel (see Chapter 7, Communications and Technology).

The fire department subscribes to the on-line fire code subscription service of the National Fire Protection Association and the on-line building code subscription service of the International Code Council. This enables the department to stay up-to-date with the latest fire and building codes and technical advisory services of the standards-making organizations. The department also maintains a library of various fire protection reference books.

In-service inspections and the development of pre-fire plans are performed by on-duty shift personnel under the supervision of a company officer (captain or lieutenant). The purpose of in-service inspections is to:

- Identify and mitigate fire hazards in buildings throughout the city with the goal of reducing the number of fire incidents and the amount of fire loss
- Educate property owners, managers, and occupants concerning good fire safety practices
- Familiarize firefighters with the layout and key features of buildings
- Pre-fire plan development

During an in-service inspection, an occupancy-specific checklist is completed and a list of fire hazards is provided to the property owner or manager. The owner/manager is expected to correct the violation and notify the fire department when the corrective action has been completed. A clearance letter is then sent to the property owner/manager.

Fire department company officers have the discretion on when to perform in-service inspections. The fire department has not established a regular schedule or quota of inspections that must be completed. Each on-duty platoon and station has been assigned a list of occupancies to be inspected, with emphasis placed on high-risk facilities.

The fire department website provides guidance on a variety of fire inspection and permit issues and includes links to a building permit handbook, a building renovation handbook, multi-family building inspection guidelines, and special events planning guidelines. An inspection checklist for commercial businesses can be downloaded. Permits can be downloaded in PDF format, but cannot be filled out or submitted on-line.

RECOMMENDATIONS

8.1 The fire department should establish a more robust system of in-service inspections to be conducted on a regular basis by on-duty shift personnel. Personnel should receive training on inspection procedures, and performance criteria should be established for the number of inspections to be completed each month, as well as follow-up inspections. Priority should continue to be placed on high-risk occupancies, including but not limited to multi-family dwellings, hotels and motels, industrial facilities, hazardous materials storage and use, and places of assembly. During in-service inspections, data can be collected for pre-fire plans.

- 8.2 In collaboration with the Laconia Code Enforcement Department, the fire department should consider establishing a web-based system for applying for permits and for submitting design plans for review. Several very effective software programs are available for this purpose.**
- 8.3 The fire department should consider redesigning its website so that all permits are available on the same web page. Links should be provided on both the code enforcement website and the fire department website to ensure that constituents are aware of the code and permit requirements of both agencies, particularly for complex projects that require the oversight of both the fire department and the code enforcement department.**
- 8.4 The fire department should explore ways to merge the building inspection and property data that reside on the CodePAL inspection system with the data that is available on the Firehouse software system. On-duty personnel should be able to access as much property data as possible for pre-fire planning and incident management.**
- 8.5 The fire department should consider adding a scheduling module to its website. This would allow the public to schedule inspections and other activities on-line.**

CHAPTER 9

TRAINING AND PROFESSIONAL DEVELOPMENT

OVERVIEW

Training is, without question, one of the three most important functions that a fire department should be performing on a regular basis; the others being fire prevention and response to emergency incidents. A department that is not well trained and operationally ready will be unable to effectively, efficiently, and safely fulfill its emergency response obligations and mission. A comprehensive, diverse, and on-going training program is absolutely critical to the fire department's level of success. Firefighting is a team-based activity and training provides the foundation to build a well-coordinated emergency response team. Firefighters have a thirst for knowledge and will be more confident and will perform in a safer manner if they are well trained. When training is increased, injuries decrease.

An effective fire department training program must include all of the essential elements of a fire department's specific core missions and responsibilities. The program must include an appropriate combination of technical classroom training and manipulative or hands-on/practical evolutions that meet the needs of the adult learner. Most of the training, including the hands-on training evolutions, should be developed based upon accepted best practices and standard operating procedures guidelines (SOGs), standard operating procedures (SOPs) that have been adapted to the operational environment in Laconia.

Training should be consistent with nationally recognized standards that could be used as a benchmark to evaluate the department's operations. The failure to implement currently accepted firefighting practices was a significant conclusion of the investigations that were conducted after the Charleston, South Carolina, Super Sofa Store fire in June 2007, that resulted in the deaths of nine firefighters (see *Fire Fighter Fatality Investigation Report F2007-18*, Centers for Disease Control/National Institute for Occupational Safety and Health, 2007). As with all other fire department operations, there must be consistency in how the training is being conducted.

The U.S. Occupational Safety and Health Administration (OSHA) has established requirements for minimum training must be completed on an annual basis, covering various topics including:

- A review of the respiratory protection standard, self-contained breathing apparatus (SCBA) refresher and user competency training, SCBA fit testing (29 CFR 1910.134)
- Blood borne Pathogens Training (29 CFR 1910.1030)

- Hazardous Materials Training (29 CFR 1910.120)
- Confined Space Training (29 CFR 1910.146)
- Structural Firefighting Training (29 CFR 1910.156)

Although local government employees in New Hampshire are exempt from compliance with US OSHA regulations, it is the policy of the New Hampshire Department of Labor that public-sector employees follow the OSHA standards as a minimum in the absence of specific standards.

National Fire Protection Association (NFPA) standards contain recommendations for training on various topics, such as a requirement for a minimum of 24 hours of structural firefighting training annually for each fire department member.

There are a number of ways to evaluate the effectiveness of the fire department's training program. One increasingly common way is through the use of annual skills proficiency evaluations where all members of the department are required to successfully perform certain skills and/or complete standardized evolutions, either individually, or as part of a team. Post course evaluations, post incident critiques, and evaluation of incident operations and statistics can also provide important feedback regarding the training program. It is important that all training, no matter how minor or inconsequential, be documented. Failure to do so may expose the department and city to significant risk and can jeopardize the city's ISO rating.

Professional development for fire department personnel, especially officers, is also an important part of overall training. There are numerous excellent opportunities for firefighters and officers to attend training and educational programs on a wide range of topics, including the National Fire Academy in Emmitsburg, Maryland, the Fire Department Instructors Conference (FDIC), the New Hampshire Fire Academy, and Lakes Region Community College. Professional development seminars are also offered on a regular basis by the Lakes Region Mutual Fire Aid Association, NH Association of Fire Chiefs, the NH Fire Prevention Society, the Fire Instructors and Officers Association of NH, and Primex, the city's insurance provider. The Lakes Region mutual aid system conducts multi-town drills and exercises from time to time, but the Laconia Fire Department does not typically participate in out-of-town drills because of the cost of providing overtime coverage. Numerous, free, on-line courses and training programs are also available. Encouraging or requirement personnel to earn and/or maintain specialized certifications such as fire instructor or fire officer increases the positive professional perception of the organization and can help to demonstrate a commitment to continued excellence.

OBSERVATIONS

Fire training in the Laconia Fire Department is managed by a deputy chief, who also serves as the operations officer, or second-in-command of the department (*note*: EMS training and certification is the responsibility of the EMS deputy chief). The training deputy performs the following specific tasks:

- Incident command at incidents that are equivalent to a first alarm or higher
- Serves as the incident safety officer when assigned
- Development and implementation of a quarterly training plan that is carried out by company officers
- Develops grant proposals and administers grants that have been received
- Oversees reports of training activities
- Oversees probationary firefighter training
- Manages the department's personnel evaluation process and is responsible for performing evaluations of the fire captains
- Assists the EMS deputy chief with city health officer duties as needed
- Represents the fire department on the city's Refugee Connection Team, providing outreach to the international community that is living in Laconia

The training deputy is on-call 24 hours/day, 7 days per week, and is authorized to take a fire department staff car home, which is a practice that is consistent with fire departments in comparable communities. She is able to respond directly to the scene of incident with the necessary personal protective equipment (PPE) and communications/incident command equipment. She estimates that she is called out an average of two to three times per month for major incidents.

Every time that a training activity is completed, the officer-in-charge or instructor is required to complete a written training report form, which is entered into the department's Firehouse management software.

Although a quarterly training plan is distributed to each on-duty platoon, it is not clear whether the training plan is always completed. Because the shift officers are responsible for completing the training, there is little consistency between shifts as to frequency, content, and quality of

training. The fire chief conducts training for each platoon some specialized topics at his discretion.

A detailed training plan has been established for probationary firefighters. The plan sets out specific performance benchmarks that must be completed during the one-year probationary period. The training is performed by shift officers, with assistance from senior firefighters. Because of the nature of the probationary training, all members of the shift are often involved. During our interviews with on-duty personnel, the MRI study team learned that the probationary training that involves the entire shift is perceived as being more comprehensive and more regular than the training that is outlined in the quarterly training plan.

The fire department maintains an annual budget line item of \$1,500 for professional development. This account is used to cover the costs associated with specialized outside training, seminars, and conferences. According to the training deputy, personnel are encouraged to apply for and attend programs at the National Fire Academy, the New Hampshire Fire Academy, FDIC, and Primex. The NH Fire Academy recently received a training grant that enabled fire departments to send on-duty and off-duty personnel without incurring any overtime costs. Members of the Laconia Fire Department attended numerous specialized courses under this grant program.

The Laconia Fire Department has established a formal, annual personnel evaluation process for all employees. Eleven factors are included in the evaluation, as described below:

- Firefighting procedures/technical skills
- Safety compliance
- Maintenance of station and apparatus and daily operations
- Cooperation and communication
- Personal work habits
- Participation in study and training programs
- Conformance in study and training programs
- Conformance to department policies, rules and regulations
- Performance of driver duties and responsibilities
- Quality of work

- Adaptability
- Attitude

A guidance document has been developed that describes how supervisors are to perform the evaluation.

The fire chief is responsible for evaluating the deputy fire chiefs; the training deputy chief evaluates the captains; the captains evaluate the lieutenants; and the lieutenants evaluate the firefighters under their command. The training deputy reviews and approves the evaluations that have been completed by the captains and lieutenants.

The Laconia Fire Department has been very aggressive in applying for grants equipment, training, and emergency planning. Between 2003 and 2011, the department received \$1,222,368 in grants. These grants ranged from a \$1,200 grant from Primex for exercise equipment to a \$225,000 grant from the FEMA Assistance to Firefighters grant program to update the department's self-contained breathing apparatus (SCBA). Most grants received by the department are funded by the U.S. Department of Homeland Security (DHS). DHS grants include grant programs that are administered by the Federal Emergency Management Agency (FEMA), the U.S. Fire Administration (USFA), and the NH Department of Safety. The department was successful in applying for a \$643,000 DHS grant to hire four additional firefighters for a two-year period under the Staffing for Adequate Fire and Emergency Response (SAFER) program. However, the city council decided that it was not in the best interest of the city to accept the grant.

The fire department also administers the Life Saving Fund and has received approximately \$250,000 in private donations that are dedicated to equipment and training for the department's swift water rescue team.

RECOMMENDATIONS

9.1 The Laconia Fire Department should develop more formal expectations and criteria for in-service training. At a minimum, the following components should be included in the training program:

- **Formal lesson plans**
- **Monthly requirements for a specific number of hours of training per shift; training can and should be conducted during evening and weekend hours**
- **Regular observation of training activities by the training deputy for quality assurance purposes**

- 9.2 Under the guidance of the training deputy, professional development goals should be established for each fire department member. This is particularly important for those individuals who aspire to advance through the ranks of the department.**
- 9.3 The fire department should consider designating one of the lieutenants on each platoon as the platoon training officer. The training deputy chief would continue to oversee the development of the training program and the training plan.**
- 9.4 To the extent possible, training should be delivered using formal, standardized lesson plans that include objectives and performance criteria. However, when this is not possible or practical, a detailed description of the training should be included in the narrative section of the training report.**
- 9.5 Additional, mandatory, high-intensity training on various subjects, including periodic live training should be conducted on a quarterly (preferred) or semi-annual (minimum) basis at a formal fire academy (such as the NH Fire Academy in Concord) where appropriate training facilities, structures, and props are available.**
- 9.6 The Laconia Fire Department, in cooperation with the mutual aid system, should sponsor and host regular multi-company drills and exercises. These drills and exercises could be scheduled during evening and weekend hours in order to facilitate the participation of volunteer and on-call members of neighboring departments.**
- 9.7 The guidance document for the personnel evaluation system should be formally codified as a standard operating procedure in accordance with the recommendations in Chapter 7 of this report.**
- 9.8 The Laconia Fire Department should continue to seek grants that will support the mission and core operations of the organization. However, as noted in Chapter 3, consideration should be given to re-assigning this function so that the deputy chief/training can focus on more high priority tasks.**

CHAPTER 10

EMPLOYEE ATTITUDES & PERSPECTIVES

OVERVIEW

A sense of common vision is important in any organization to ensure that the organization and its personnel are moving in unison toward a common goal(s). Having a common vision is not only about making sure that all parties are aware that they are in the same boat and rowing, but even more importantly, that they are rowing in the same direction. The impact of not sharing a common vision will be very noticeable in the quality and quantity of work performed, but also with the spirit and passion that the work of the organization is accomplished.

The perceptions shared by members of an organization can be extremely important in either establishing, or conversely, distorting that sense of a unified common vision. Whether accurate or not, and regardless of the myriad of factors that can influence them, the individual and/or shared perceptions of members of an organization can, and often do, become their reality. If there is a perception of distrust or lack of mutual respect between members of the organization, and/or between management and labor, the goal of successfully achieving that sense of common vision will be difficult, if not impossible.

Employee morale can also play a role in the overall performance of a fire department. Motivated employees are more likely to contribute to efforts to improve the organization, institute positive change, and create a healthy work environment.

As part of this organizational assessment process, the MRI study team assessed the attitudes of the members of the fire department and received considerable input on a variety of issues through interviews with the command staff, administrative staff, and group interviews with the on-duty shift personnel.

OBSERVATIONS

Generally speaking, the information and feedback that the MRI study team received from the on-duty shift personnel was consistent between the four groups. The fire chief and the command staff appear to have a good understanding of the concerns of the overall organization, and the members believe that the fire chief is a strong advocate for fire protection in the community. Across-the-board, there appears to be a sense of common vision that the Laconia Fire Department can and should be a progressive, modern fire and EMS agency that is dedicated to serving the citizens of the community.

Firefighters and fire officers are very proud of the services that they provide to the community and they believe that the citizens appreciate the work that they do, particularly with regard to the delivery of emergency medical services. Firefighters are proud of the excellent “save rate” for cardiac arrests. They are also proud of their aggressive interior firefighting skills. They stressed that they continuously strive to do “more with less” and have been able to provide high quality firefighting and emergency medical services to the city in spite of years of constrained budgets. They expressed great appreciation for the funding and support that has been provided by Lakes Region General Hospital for advanced life support (ALS) and ambulance services.

Members of the fire department almost universally feel that morale in the organization is low. They attribute this to a number of factors:

- Years of constrained budgets and limited resources that have been made available to the fire department
- A feeling that they are not “appreciated” or “respected” by some members of the city council and that today’s membership is still being “punished” for past conflicts between the fire union and the city
- The inability of the union and the city to agree to a new collective bargaining agreement (CBA)
- Lack of pay increases (step increases and cost-of-living increases) due to the lack of a current CBA. Some newer members have not moved beyond probationary employee pay levels

Members believe that their low morale has not affected their ability to provide high quality services to the public. They also believe that “when the bell rings”, all negative issues are put aside and that everyone performs as a cohesive team. They believe that they have been innovative in spite of budgetary limitations and have not been afraid to take on additional responsibilities.

The members of the fire department expressed numerous concerns about the quality and condition of the fire apparatus. The two newest fire pumpers were acquired second-hand, and the staff cars are “hand-me-downs” from other city agencies. There is also concern that the \$385,000 (approximate) that has been appropriated for a new pumper may not be enough to acquire a unit that is suitable for the city’s fire protection challenges. Firefighters had a great deal of praise for the design and capabilities of the aerial ladder truck and for the ambulances (*note: the ambulances are funded by Lakes Region General Hospital*).

Fire department personnel praised the quality and condition of the personal protective equipment (PPE) that has been purchased by the city in recent years. Self-contained breathing apparatus (SCBA) have been upgraded, and turnout gear (helmet, turnout coat and pants, boots, gloves, etc.) is in good condition and is included in a regular replacement program. Portable two-way radios and mobile two-way radios were upgraded through the state's communications interoperability program that was funded by the U.S. Department of Homeland Security (DHS). Members feel that critical equipment needs are nearly always met.

Members of the fire department believe that they have excellent working relationships with other city agencies, including the police department and the public works department.

During the interviews, the MRI study team learned that only a handful of applications were received for the most recent firefighter-paramedic vacancy. We find this to be troubling because it limits the ability of the city to choose the most qualified individual from the broad range of experience, education, and skill sets that can be found in a large pool of applicants. In today's job market, we would normally expect to see anywhere from 40 to 75 applicants for career firefighter positions in a New Hampshire fire department. We would also expect that the city would be able to attract candidates who have completed their education in the fire technology program at Lakes Region Community College.

Firefighters acknowledge that they are the only collective bargaining unit that has not settled its contract. From the perspective of the fire union, they believe that they are serving their membership best by holding fast on some essential employee benefits and contract language. However, from the city's perspective, the fire union is simply perpetuating their past reputation as a radical group that is not willing to recognize that taxpayers no longer accept the *status quo* with regard to pay raises and benefits.

Members of the fire department also shared a number of concerns with the MRI study team that are of a confidential nature and are not appropriate for inclusion in this public report. The MRI study team will discuss those issues with the city manager and the fire chief and will identify some specific recommendations for addressing those concerns.

RECOMMENDATIONS

10.1 The city and the fire union should redouble their efforts to find mutual and common ground on negotiating a new collective bargaining agreement. A new agreement should allow all fire department stakeholders to move forward in a collaborative manner to address the many issues that are facing the fire department and the city. Having a labor agreement in place will provide an important catalyst to improving morale and attitudes within the department.

- 10.2 The MRI study team recommends that the city and the fire union should participate in the Labor-Management Initiative (LMI) that is co-sponsored by the International Association of Fire Chiefs (IAFC) and the International Association of Fire Fighters (IAFF). The LMI program is designed to help develop and improve cooperation and collaborative relationships, thereby avoiding critical labor-management issues, disputes, and costly arbitrations.**
- 10.3 Morale within the Laconia Fire Department must be improved, but morale is not totally dependent upon the actions of the city or the fire chief.** Fire department command staff, line supervisors, union leadership and individual employees all have a responsibility to motivate themselves to avoid being pulled further into a perpetual “woe is us” status. Increased training, team-building activities, aggressive community outreach, collaborative goal-setting, and public recognition of excellent performance are just a few of the strategies that can improve morale and performance.
- 10.4 The MRI study team recommends that the city evaluate its recruitment program for firefighters and paramedics to ensure that a larger pool of candidates can be established for future vacancies.** It is in the best interest of the city and the members of the fire department to promote a positive image and to attract the best possible candidates through aggressive marketing, casting a wide net via on-line advertising and communications, and outreach to the Lakes Region Community College fire technology program and the paramedic emergency medicine programs at the NH Technical Institute (Concord) and Elliot Hospital (Manchester).

CHAPTER 11

BENCHMARKING & COMPARATIVE ANALYSIS

OVERVIEW

As the study progressed, we asked that several benchmark communities be selected by the city manager. This is done purposefully to avoid any contention that members of the fire department selected communities that would produce a beneficial result. The communities of Bedford, Claremont, Durham, Goffstown, Hampton, Hooksett, Lebanon, and Milford were selected. The communities of Hooksett and Milford did not respond to our requests for data. The data provided by these communities indicates that Laconia faces a dramatically different and more severe fire and EMS experience. Given the unique fire risk faced by the City of Laconia the study team believes that the city gets great value from its fire department.

OBSERVATIONS

- The peer communities are well aligned in terms of population, area, valuation, and community budget.
- The fire and EMS budget and fire service overtime are above average in Laconia.
- Response times are consistent with the service level offered by peer communities.
- A variety of workload indicators demonstrate that Laconia faces a far different fire experience than peer communities. Specifically there are 39% more fire calls in Laconia than average. There are 59% more emergency medical calls in Laconia and overall total call volume is 51% above the average of peer communities.
- One notable statistic is that Laconia experiences 54% more fires than the average fire volume of peer community data.
- Remarkably, fire dollar loss is only 12% above the average indicating that the Laconia Fire Department does a commendable job preventing fire spread. There could be further study to determine if the high number of injuries experienced in Laconia are related to the aggressive tactics demonstrated through fire loss data which is far lower than expected. Although this data is subjective it provides a perspective on the capabilities of the department.

- The Insurance Service Office Rating (ISO) positions Laconia better than all other communities surveyed, indicating that the metrics of the ISO rating schedule have established that Laconia is better prepared to mitigate fires.
- Laconia's civilian injury experience is seven times the average.
- Laconia's firefighter injury rate is four times the average and by far the highest of peer communities
- Laconia lost 867 duty hours to job related injuries. This is far above any other community and the highest level that Primex has seen. Given the absence of shift float each hour lost to injury is replaced with overtime.
- Laconia has 35% above the average in terms of the total number of career firefighters and is above average in terms of minimum shift strength and number of personnel assigned to each shift. Obviously the workload and fire experience of Laconia has influenced the staffing level.
- Laconia has no shift float while other communities average more than one float position per shift.
- The engine company crew size is above the number of personnel Laconia typically assigns to an engine company. Fewer personnel reduce the capacity of what can be accomplished safely increases the workload of the smaller crew.
- Laconia has fewer than the average in terms of the number of personnel assigned to fire prevention functions.
- Laconia has a lower than average cost per call and a higher than average cost per capita. This is a reflection of the workload and higher than average fire risk inherent to Laconia.
- Laconia leads the peer communities with 47% more than the average number of residences. Also there are 88% more multiple family dwellings in Laconia than the average found in the peer communities.

Community	Community Population 2010	
	Census	Square Miles
Bedford	21,203	33.1
Claremont	13,555	44.1
Durham	14,638	24.8
Goffstown	17,651	37.5
Hampton	14,976	14.7
Lebanon	13,151	41.4
Average	15,862	32.60
Laconia	15,951	26.6
Deviation	1.01	0.82

Community	Community Budget for Fiscal Year 2013	
	Equalized Valuation 2010	
Bedford	\$3,371,416,269	\$21,906,014
Claremont	\$829,832,945	\$15,033,119
Durham	\$898,068,758	\$12,707,557
Goffstown	\$1,319,159,382	\$20,855,586
Hampton	\$2,813,332,466	\$24,599,427
Lebanon	\$1,865,898,381	\$46,600,000
Average	1,849,618,034	23,616,951
Laconia	1,962,136,357	21,074,033
Deviation	1.06	0.89



Community	Fire / EMS Budget for Fiscal Year 2013 ⁸	Fire/EMS Overtime Budget Fiscal 2013
Bedford	\$3,061,738	\$125,000
Claremont	\$2,188,518	\$93,000
Durham	\$3,527,799	\$266,461
Goffstown	\$2,494,494	\$120,378
Hampton	\$3,703,078	\$365,043
Lebanon	\$3,707,000	\$300,000
Average	3,113,771	211,647
Laconia	3,424,375	240,000
Deviation	1.10	1.13

Community	Average NFIRS Response Time 2011 (E.G. 5 = 5 Minutes)	NFIRS Building Fires in 2011
Bedford	6.00	28
Claremont		44
Durham		20
Goffstown	6.00	15
Hampton	3.00	37
Lebanon	5.00	47
Average	5	32
Laconia	5	49
Deviation	1.00	1.54

⁸ Claremont Fire Department and Durham Fire Department do not provide ambulance transport services; therefore, their budgets do not reflect the cost of operating that service. The Durham budget includes a \$23,213 annual payment by the town to McGregor Memorial EMS, the regional non-profit ambulance provider.



Community	Fire Calls 2011	EMS Calls in 2011
Bedford	762	1,528
Claremont	631	298
Durham	975	1,202
Goffstown	944	1,353
Hampton	1896	2,035
Lebanon	947	1,959
Average	1,026	1,396
Laconia	1,428	2,220
Deviation	1.39	1.59

Community	Percent of EMS Calls that are Non-Transport	Total Emergency Incident Volume in 2011
Bedford	17	2,290
Claremont		929
Durham	27	2,177
Goffstown	32	2,297
Hampton	35	3,931
Lebanon	23	2,906
Average	27	2,422
Laconia	24	3,648
Deviation	0.90	1.51

Community	NFIRS Fire Dollar Loss in 2011	ISO Rating
Bedford	\$1,305,653	4
Claremont	\$1,100,000	4
Durham		4
Goffstown	\$543,500	4
Hampton	\$176,150	3
Lebanon	\$434,593	
Average	711,979	4
Laconia	\$794,000	3
Deviation	1.12	0.75

Community	Number of NFIRS Civilian Death 2011	Number of NFIRS Civilian Injury in 2011
Bedford	0	0
Claremont	0	3
Durham	0	0
Goffstown	1	0
Hampton	0	0
Lebanon	0	0
Average	0	1
Laconia	0	7
Deviation	0	7.00



Community	Fire Department EMS Level ⁹	If Fire Department is not ALS, is contract ALS Available? If yes, transport or intercept.
Bedford	ALS	
Claremont	ALS/BLS	yes - transport
Durham	ALS	
Goffstown	ALS	trans & inter
Hampton	ALS	
Lebanon	ALS	
Average	ALS	
Laconia	ALS	
Deviation		

Community	Number of Shift Hours Lost to Duty Related Injuries in Fiscal 2012	EMS Revenue Fiscal 2012
Bedford		620,242
Claremont	42	
Durham		
Goffstown		438,131
Hampton		583,685
Lebanon		686,030
Average	42	582,022
Laconia	867	Unknown
Deviation	20.64	

⁹ BLS=basic life support; ALS=advanced life support, also known as paramedic level.



Community	EMS Transports in 2011 ¹⁰	EMS Revenue per Transport
Bedford	1,528	405
Claremont		
Durham		
Goffstown	1,033	414
Hampton	1,360	429
Lebanon	1,509	307
Average	1,358	389
Laconia	1,745	Unknown
Deviation	1.29	

Community	Number of Stations	Number of Officers assigned to each shift?
Bedford	1	1
Claremont	1	2
Durham	1	1
Goffstown	3	1
Hampton	2	2
Lebanon	3	2
Average	2	1.50
Laconia	2	2
Deviation	1.00	1.33

¹⁰ Claremont Fire Department and Durham Fire Department do not provide ambulance transport services. Claremont is serviced by a commercial ambulance service and Durham is serviced by a regional, non-profit service.



Community	Total Number of Career Personnel	Minimum Shift Strength
Bedford	29	4
Claremont	19	4
Durham	24	5
Goffstown	16	5
Hampton	44	8
Lebanon	28	5
Average	27	5
Laconia	36	8
Deviation	1.35	1.55

Community	Total Number of Career Personnel Assigned to Each Shift.	Shift Float = Number Assigned - Minimum Shift Strength
Bedford	6	2
Claremont	5	0
Durham	5	1
Goffstown	6	1
Hampton	10	2
Lebanon	6	1
Average	6	1.17
Laconia	8	0
Deviation	1.26	0.00

Community	Number of Staffed Engine Companies	Number of Staffed Ladder Companies
Bedford	1	
Claremont	2	0
Durham	1	0
Goffstown	3	1
Hampton	2	1
Lebanon	2	0
Average	2	0.40
Laconia	2	1
Deviation	1.09	2.50

Community	Number of Staffed Quints	Number of Staffed Ambulances
Bedford	1	2
Claremont	1	
Durham	0	
Goffstown	0	2
Hampton	0	1
Lebanon	0	2
Average	0.3	1.75
Laconia	1	1
Deviation	3.00	0.57



Community	Number of Staffed Heavy Rescues	Is a Command Vehicle Staffed by the On-duty Shift Commander? Yes or No
Bedford	1	No
Claremont	1	No
Durham	0	No
Goffstown	1	Yes
Hampton	0	No
Lebanon	0	No
Average	0.50	No
Laconia	0	No
Deviation	0.00	

Community	Minimum Engine Company Crew Size (Includes officer)	Minimum Ladder Company Crew Size (includes officer)
Bedford	3	2
Claremont	2	2
Durham	3	1
Goffstown	3	3
Hampton	2	2
Lebanon	3	2
Average	2.67	2.00
Laconia	2	1
Deviation	.75	0.5



Community	Dispatch Methodology - Local, Regional, Combined with PD	If Fire Based Dispatch, are Dispatchers Firefighters or Civilians?
Bedford	Combined	
Claremont	Local	
Durham	Regional	
Goffstown	Combined	Civilian
Hampton	Local	Civilian
Lebanon	Public Safety	Civilian
Average	Varies	Civilian
Laconia	Regional	Civilian
Deviation		

Community	Are Mobile Data Terminals Utilized in Ambulances? Yes or No	Number of personnel dedicated to Fire Prevention?
Bedford	Yes	2
Claremont		1.5
Durham		3
Goffstown	Yes	1
Hampton	No	2
Lebanon	No	2
Average	No	1.92
Laconia	Yes	1.2
Deviation		0.63



Community	Total Number of Chief Officers Not Assigned to a Suppression Shift	Number of Injuries to Department Personnel in Fiscal 2012
Bedford	2	
Claremont	1	4
Durham	3	1
Goffstown	2	0
Hampton	2	13
Lebanon	2	
Average	2.00	4.50
Laconia	3.5¹¹	18
Deviation	1.75	4.00

Community	Cost Per Call	Cost Per Capita
Bedford	\$2,647	\$144
Claremont	\$2,188	\$162
Durham		
Goffstown	\$1,086	\$141
Hampton	\$942	\$247
Lebanon	\$1,039	\$224
Average	\$1,580	\$184
Laconia	\$938	\$214
Deviation	0.59	1.17

¹¹ MRI estimates that the deputy fire chief for EMS is assigned to Laconia duties 50% of the time and handles regional EMS administrative and training duties 50% of the time. This position is funded by LRGH.



Community	Number of homes	Number of Multifamily Homes
Bedford	7,477	730
Claremont	6,541	2,746
Durham	3,836	1,521
Goffstown	6,319	1,460
Hampton	9,708	3,530
Lebanon	6,060	2,924
Average	6,657	2,152
Laconia	9,796	4046
Deviation	1.47	1.88



RECOMMENDATIONS

Based upon the information contained in the tables above, we have developed the following observations and recommendations:

- 11.1 The Laconia Fire Department should re-evaluate its operational tactics to reduce injuries and prevent overextending personnel. Efforts should be focused on rescue of trapped building occupants and operations that prevent fire from extending to exposures. The city should recognize that this shift in tactics might increase fire dollar loss.**
- 11.2 The Laconia Fire Department should expand public fire education for at-risk populations. New efforts should be aimed at using multiple languages to reach residents. Fire safety materials in foreign languages are available at no charge from the National Fire Protection Association at www.nfpa.org.**
- 11.3 The Laconia Fire Department should increase fire prevention staff by assigning two of the four new firefighters (recommended in this report) to assist in this function while on duty.**
- 11.4 The city should recognize that although the Laconia Fire Department is above average in cost per capita, the workload indicators demonstrate they are well below average in terms of cost per call. This data reinforces our observation that the fire risks and fire experience in Laconia are higher than fire risks and experience in comparable communities.**
- 11.5 The city should increase staffing to allow for a shift float of at least one firefighter per shift. This action will have a direct impact on the reduction of overtime.**
- 11.6 The Laconia Fire Department should develop an ongoing injury prevention and firefighter wellness program that is consistent with NFPA 1500, Standard on Occupational Safety and Health Program (National Fire Protection Association, Quincy MA, 2013). When an injury occurs it should be evaluated to determine causal factors and action should be taken to reduce future risk. The city's joint loss management committee (JLMC) should also provide input.**
- 11.7 The Laconia City Council should recognize that the residents of Laconia face a far higher risk from fire than residents in comparable communities and should adjust their community goals accordingly.**

CHAPTER 12

COMPILATION OF RECOMMENDATIONS

CHAPTER 3 - FIRE & EMS OPERATIONS

- 3.1 The Laconia Fire Department should continue to actively participate in the Lakes Region Mutual Fire Aid Association. The benefits that are received by the city far exceed any financial or resource commitments that are expended for membership.
- 3.2 The Laconia Fire Department should expand the use of automatic aid to meet NFPA 1710 for more than a single room structure fire. As such, we recommend an additional one to two mutual aid companies be added to a confirmed structural response.
- 3.3 The city and Lakes Region General Hospital should continue to collaborate on the funding that supports the ambulance transport services and advanced life support EMS delivery system.
- 3.4 In order to ensure that there will be no reduction in the level of care that is provided to patients, the fire department should develop a plan for transitioning all EMT-Intermediates to the EMT-Advanced certification level.
- 3.5 The city and the fire department should explore significant opportunities to harmonize fire and EMS operations and share services with neighboring communities. Such an effort will require extensive discussions and planning, but could have long-term financial and operational benefits. New England is one of the last bastions of localized public safety services, but there are numerous examples throughout the country that demonstrate the advantages of shared and regionalized fire and EMS capabilities. Shared resource initiatives could include unified standard operating procedures and guidelines, joint capital equipment planning, sharing of reserve apparatus, inspection and plans review services, shared administrative services, group purchasing, and joint recruitment and promotional processes.
- 3.6 The Laconia Fire Department should establish a long-range plan that includes specific goals for meeting the criteria established in NFPA 1710 and NFPA 1500, Standard on Fire Department Occupational Safety and Health Program (National Fire Protection Association, Quincy MA, 2013).
- 3.7 The Laconia Fire Department should re-focus on its core mission by performing a comprehensive, top-to-bottom analysis of its activities. Low priority functions should be eliminated or transitioned to other local, regional, or state agencies. As part of this

effort, we recommend that the fire chief and the city manager convene two “peer review” groups; one could include area fire chiefs and the second could include city department heads. We believe that an outside perspective could be extremely valuable during this process, and that the end result will be a stronger, more vibrant fire department.

CHAPTER 4 - OVERTIME AND STAFFING

- 4.1 Hire four firefighters in Fiscal 2014 to provide the community with a level of service that consists of two fire suppression crews and two ambulances. Minimum shift strength remains at eight personnel.
- 4.2 Eliminate the LRGH funded six day per week overtime shift and work with LRGH to utilize these funds to support a portion of the cost of the four new hires.
- 4.3 Hire two additional firefighters in Fiscal 2015, move the minimum shift strength to nine personnel.
- 4.4 Hire two additional firefighters in Fiscal 2016; leave the minimum shift strength at nine personnel.
- 4.5 The fire department should develop an operational plan relative to permissible actions on the fireground should the OSHA two-in two-out standard not be met. Personnel should not place themselves in peril and enter a structure except to perform an immediate rescue until four members are on the scene.

This means that the community needs to accept this level of service and the department has to recognize what is possible given the limited resources that exist. Undoubtedly this will result in increased fire loss and place the operational focus on rescue and life safety.

- 4.6 Increase automatic aid¹² to provide a minimum of 13 personnel on the fireground in an effort to meet the on-scene staffing goals of NFPA 1710.

¹² “Automatic aid” is an agreement with one or more neighboring fire departments to dispatch mutual aid simultaneously upon receipt of a call for a reported fire. This eliminates the delay that is incurred while waiting for an assessment by the first arriving unit that mutual aid is indeed needed. If the first arriving unit determines that mutual aid is not needed, the units that are responding under the automatic aid agreement can be cancelled.

- 4.7 During a confirmed structural fire response, mutual aid should be contacted to provide emergency medical services to the city, thus allowing all on-duty resources to focus on fireground operations.
- 4.8 Create a float position to absorb overtime and enhance the level of service provided to the city. A float of one position per shift is reasonable and fiscally prudent for a department the size of the Laconia Fire Department.
- 4.9 Reconsider accepting a Staffing for Adequate Fire and Emergency Response (SAFER) grant to provide federal funding for four firefighters for a period of two years.
- 4.10 Reformulate department policy to reduce the number of times personnel are recalled when the department is operating at a staffing level of nine personnel.
- 4.11 Create a fire department health and safety committee. This committee should review every fire service injury.
- 4.12 LRGH should be asked to retrofit each ambulance with motorized stretchers and automatic stretcher retrieval systems to reduce injuries associated with lifting patients.

Firefighters are action-oriented people who want to help others. Despite this commendable quality, they will often overextend themselves to do what is necessary to save a life or protect property. These actions place firefighters at extreme risk and often result in on the job injuries. Although a difficult task, the department needs to refocus operational effort on rescue and firefighter safety.

- 4.13 The fire department health and safety committee should work with the fire chief to adjust policies and tactics to reflect the level of resources provided.
- 4.14 After the shift float position has been established on each shift, reduce overtime by 25% less any negotiated step or cost of living increases.
- 4.15 Consider the fire department's overtime requirements as a constantly changing target, much like the public works snow removal account. The account should be adjusted to meet the need over the next three years based on such variables as number of major incidents, injury rates, long-term disabilities, and position vacancies due to resignations or retirements.

CHAPTER 5 - FACILITIES AND APPARATUS

- 5.1 The MRI study team concurs with and supports the need for a renovation/addition of the central fire station. This renovation will improve the administrative and operational capabilities of the fire department.
- 5.2 Consideration should be given to the future funding of an update to the Weirs Beach fire station that could include energy improvements and updates to the electrical and heating systems. A space needs study should be conducted to anticipate future growth in staffing or equipment at this facility.
- 5.3 The replacement of fire apparatus and major equipment should continue on a regular basis in accordance with the fire department's capital improvement plan. A white paper developed by the Fire Apparatus Manufacturer's Association (FAMA) suggests that the front line life span of active duty fire apparatus in an urban setting ranges from 15 to 18 years, within the possibility of an additional 9 to 10 years in a reserve, or spare, status. The International City/County Management Association (ICMA) suggests that the life span of a fire pumper should be 20 years, and the life span of an aerial ladder should be 25 years.
- 5.4 The city should consider purchasing its fire apparatus through the group purchasing system that has been established by the Fire Chiefs Association of Massachusetts (FCAM) and the Metropolitan Area Planning Council (see www.mapc.org). A choice of apparatus capabilities, specifications, and vendors is available through this program. It has been estimated that communities can save at least 5% or more of the purchase price of a fire pumper or aerial ladder.
- 5.5 The MRI study team recommends that the city carefully evaluate the actual cost of fire apparatus (with adequate buffer for annual cost increases that will occur between the initiation of planning and placing the order) when it is time to budget for the next pumper or aerial ladder. This will ensure that the city will be able to purchase a unit that is designed in accordance with the long-term fire protection needs of the city.
- 5.6 The spare hose wagon (13E3) should be fully equipped so that it can be maintained in a ready status for response to emergencies if needed.
- 5.7 As discussed in Chapter 3, the city and the fire department should explore the feasibility of sharing apparatus resources and capabilities with other communities in the mutual aid system. Options include the sharing of reserve apparatus, sharing of spare hose, standardized apparatus specifications, unified capital equipment planning to minimize the duplication of resources, and group purchasing opportunities.

- 5.8 The old station located in Lakeport should be surplus and the fire department signage removed from the side of this structure.

CHAPTER 6 - POLICIES AND PROCEDURES; RULES AND REGULATIONS

- 6.1 The Laconia Fire Department should form a committee to perform a comprehensive update and revision of the department's Standard Operations Procedures Manual, including the addition of mission critical procedures such as, Basic Engine Company and Truck Company Operations, Vehicle Fires, Vehicle Extrication Operations, Thermal Imaging Camera Use, Automatic External Defibrillator Use, and EMS Operations. The addition of a number of other procedures covering routine administrative operations and training procedures; deletion of procedures that are no longer relevant; and possibly restructuring the manual will be necessary. The committee should include members of each rank and representation by a senior officer of the union. See Appendix D for a recommended template of SOP/SOG topics.
- 6.2 The first operational procedure should identify and explain the components of the revised written communication system, including the use and organization of the Standard Operations Procedures Manual and other components of the system such as standardized forms. This procedure should also contain a provision that the entire Standard Operations Procedures Manual will be reviewed on a least an annual basis and that updates and revisions shall be made at any time, as necessary.
- 6.3 The Laconia Fire Department's standard operations procedure form should be revised to include a section for the inclusion of a revision date if a procedure is re-issued with only minor to moderate revisions. Full scale revisions to a procedure should result in it being reissued with a new issue date. The form should also include an area for the approval and signature of the fire chief. Finally, the pages in each procedure should be numbered. An example of the header has been included below:

Laconia Fire Department Standard Operating Guideline		
Effective Date: January 1, 2013	SOG Category & Identification Number: Command - 001	Revision: 4
SOG Title: Assumption Transfer, Designation and the Responsibilities of Command		
Approved by:	Re-evaluation Date: January 1, 2015	Number of Pages: 5

- 6.4 The Laconia Fire Department should expand its written communications system beyond just SOPs. This expansion could include general orders (orders, directives, and/or special instructions); training bulletins, that establish tested and approved methods of performing operational tasks; safety bulletins, that provide guidance concerning safety and health issues; and informational bulletins that are published for the general knowledge of recipients. A numbering system should also be implemented to keep track of these documents for indexing and future reference purposes.
- 6.5 The Laconia Fire Department should develop and implement a procedure that provides for the documented review of policies, procedures, general orders, etc., and includes a provision requiring each member of the department to verify in writing that they received the document, have read it, and understand it. This can be done electronically via the city e-mail system. However, a hard copy manual of each type of document should still be maintained in each station. All of these documents should be created as PDF files and placed on a fire department server. A link to this library should be placed on every computer.
- 6.6 The Laconia Fire Department should form a committee to perform a review and update of the department's Code of Conduct and revise it into a stand-alone, rules and regulations document. This document, which could be further enhanced as suggested below, should then be submitted for approval by the city manager and/or city council, and then be distributed to, and signed for, by each member of the department. It could then provide an orientation overview and indoctrination to the behavioral expectations for new personnel. A number of excellent rules and regulations documents exist, and can be used as the basis for the Laconia document. MRI can provide a sample that can be used as a guide/template, if so requested.

Some suggested sections for the rules and regulations could include, but are by no means limited to:

- A preamble
- The department's mission statement
- Objectives of the department
- Purpose of the rules and regulations
- Organization
- Membership requirements
- General rules of conduct
- Officer qualifications and selection (May just reference current department procedure and/or position description)
- Officer duties and responsibilities (May just reference current department procedure)
- Training (May just reference current department procedure)
- Apparatus, equipment and protective clothing (May just reference current department procedure)
- Uniforms and grooming
- Discipline
- Conflicts between department documents (state statutes, city policy, rules and regulations, operational procedures, standing orders)
- Other areas that may be agreed upon for inclusion

- 6.7 State statutes and/or regulations that are applicable to fire departments, and the city's personnel policies that are applicable to all city employees, which includes employees of the fire department, should be separated out of the existing SOPs and compiled into their own manuals and made available in each station (or on-line).
- 6.8 The City of Laconia and the Laconia Fire Department should conduct ongoing, periodic training on all applicable statutes/regulations, policies, and SOPs for all personnel. This should be accomplished by the shift officers reviewing one SOP and one policy with their personnel during each shift.

CHAPTER 7 - COMMUNICATIONS AND TECHNOLOGY

- 7.1 The fire department, in collaboration with the city's information technology unit, should continue to explore computer technology and information system updates that take advantage of the latest trends in municipal government and public safety operations. A technology plan should be developed that takes into consideration the following objectives:

- Regular upgrades to hardware and software
 - Transition from laptops to tablet-type units for field use
 - Centralizing all GIS data and building data so that all city departments (fire, police, planning, community development, assessing, etc.) can access the most up-to-date information at any time
 - Developing e-government resources for use by the general public, such as on-line permitting and plan submittals
 - Continuity of operations planning to ensure that IT capabilities are maintained in the event of a catastrophic event (natural disasters, hacking, denial-of-service attacks, etc.)
- 7.2 The city should consider streamlining the fire department’s administrative functions, such as payroll, by permitting direct access to the MuniSmart financial management system.
- 7.3 The fire department should begin planning for the eventual replacement of the existing mobile and portable radios as they begin to reach their operational life expectancy or become technologically obsolete.
- 7.4 The number and capabilities of mobile data terminals should be expanded. Over the next five years all apparatus should be equipped with this technology.
- 7.5 The fire department should take immediate steps to establish an off-site data back-up capability. There are a number of options available to accomplish this function, including back-up to a city-owned server or by automated cloud storage.

CHAPTER 8 - FIRE PREVENTION AND INSPECTIONS

- 8.1 The fire department should establish a more robust system of in-service inspections to be conducted on a regular basis by on-duty shift personnel. Personnel should receive training on inspection procedures, and performance criteria should be established for the number of inspections to be completed each month, as well as follow-up inspections. Priority should continue to be placed on high-risk occupancies, including but not limited to multi-family dwellings, hotels and motels, industrial facilities, hazardous materials storage and use, and places of assembly. During in-service inspections, data can be collected for pre-fire plans.
- 8.2 In collaboration with the Laconia Code Enforcement Department, the fire department should consider establishing a web-based system for applying for permits and for

submitting design plans for review. Several very effective software programs are available for this purpose.

- 8.3 The fire department should consider redesigning its website so that all permits are available on the same web page. Links should be provided on both the code enforcement website and the fire department website to ensure that constituents are aware of the code and permit requirements of both agencies, particularly for complex projects that require the oversight of both the fire department and the code enforcement department.
- 8.4 The fire department should explore ways to merge the building inspection and property data that reside on the CodePAL inspection system with the data that is available on the Firehouse software system. On-duty personnel should be able to access as much property data as possible for pre-fire planning and incident management.
- 8.5 The fire department should consider adding a scheduling module to its website. This would allow the public to schedule inspections and other activities on-line.

CHAPTER 9 - TRAINING AND PROFESSIONAL DEVELOPMENT

- 9.1 The Laconia Fire Department should develop more formal expectations and criteria for in-service training. At a minimum, the following components should be included in the training program:
 - Formal lesson plans
 - Monthly requirements for a specific number of hours of training per shift; training can and should be conducted during evening and weekend hours
 - Regular observation of training activities by the training deputy for quality assurance purposes
- 9.2 Under the guidance of the training deputy, professional development goals should be established for each fire department member. This is particularly important for those individuals who aspire to advance through the ranks of the department.
- 9.3 The fire department should consider designating one of the lieutenants on each platoon as the platoon training officer. The training deputy chief would continue to oversee the development of the training program and the training plan.
- 9.4 To the extent possible, training should be delivered using formal, standardized lesson plans that include objectives and performance criteria. However, when this is not

possible or practical, a detailed description of the training should be included in the narrative section of the training report.

- 9.5 Additional, mandatory, high-intensity training on various subjects, including periodic live training should be conducted on a quarterly (preferred) or semi-annual (minimum) basis at a formal fire academy (such as the NH Fire Academy in Concord) where appropriate training facilities, structures, and props are available.
- 9.6 The Laconia Fire Department, in cooperation with the mutual aid system, should sponsor and host regular multi-company drills and exercises. These drills and exercises could be scheduled during evening and weekend hours in order to facilitate the participation of volunteer and on-call members of neighboring departments.
- 9.7 The guidance document for the personnel evaluation system should be formally codified as a standard operating procedure in accordance with the recommendations in Chapter 7 of this report.
- 9.8 The Laconia Fire Department should continue to seek grants that will support the mission and core operations of the organization. However, as noted in Chapter 3, consideration should be given to re-assigning this function so that the deputy chief/training can focus on more high priority tasks.

CHAPTER 10 - EMPLOYEE ATTITUDES & PERSPECTIVES

- 10.1 The city and the fire union should redouble their efforts to find mutual and common ground on negotiating a new collective bargaining agreement. A new agreement should allow all fire department stakeholders to move forward in a collaborative manner to address the many issues that are facing the fire department and the city. Having a labor agreement in place will provide an important catalyst to improving morale and attitudes within the department.
- 10.2 The MRI study team recommends that the city and the fire union should participate in the Labor-Management Initiative (LMI) that is co-sponsored by the International Association of Fire Chiefs (IAFC) and the International Association of Fire Fighters (IAFF). The LMI program is designed to help develop and improve cooperation and collaborative relationships, thereby avoiding critical labor-management issues, disputes, and costly arbitrations.
- 10.3 Morale within the Laconia Fire Department must be improved, but morale is not totally dependent upon the actions of the city or the fire chief. Fire department command staff, line supervisors, union leadership and individual employees all have a



responsibility to motivate themselves to avoid being pulled further into a perpetual “woe is us” status. Increased training, team-building activities, aggressive community outreach, collaborative goal-setting, and public recognition of excellent performance are just a few of the strategies that can improve morale and performance.

- 10.4 The MRI study team recommends that the city evaluate its recruitment program for firefighters and paramedics to ensure that a larger pool of candidates can be established for future vacancies. It is in the best interest of the city and the members of the fire department to promote a positive image and to attract the best possible candidates through aggressive marketing, casting a wide net via on-line advertising and communications, and outreach to the Lakes Region Community College fire technology program and the paramedic emergency medicine programs at the NH Technical Institute (Concord) and Elliot Hospital (Manchester).

CHAPTER 11 - BENCHMARKING & COMPARATIVE ANALYSIS

- 11.1 The Laconia Fire Department should re-evaluate its operational tactics to reduce injuries and prevent overextending personnel. Efforts should be focused on rescue of trapped building occupants and operations that prevent fire from extending to exposures. The city should recognize that this shift in tactics might increase fire dollar loss.
- 11.2 The Laconia Fire Department should expand public fire education for at-risk populations. New efforts should be aimed at using multiple languages to reach residents. Fire safety materials in foreign languages are available at no charge from the National Fire Protection Association at www.nfpa.org.
- 11.3 The Laconia Fire Department should increase fire prevention staff by assigning two of the four new firefighters (recommended in this report) to assist in this function while on duty.
- 11.4 The city should recognize that although the Laconia Fire Department is above average in cost per capita, the workload indicators demonstrate they are well below average in terms of cost per call. This data reinforces our observation that the fire risks and fire experience in Laconia are higher than fire risks and experience in comparable communities.
- 11.5 The city should increase staffing to allow for a shift float of at least one firefighter per shift. This action will have a direct impact on the reduction of overtime.
- 11.6 The Laconia Fire Department should develop an ongoing injury prevention and firefighter wellness program that is consistent with NFPA 1500, Standard on

Occupational Safety and Health Program (National Fire Protection Association, Quincy MA, 2013). When an injury occurs it should be evaluated to determine causal factors and action should be taken to reduce future risk. The city's joint loss management committee (JLMC) should also provide input.

- 11.7 The Laconia City Council should recognize that the residents of Laconia face a far higher risk from fire than residents in comparable communities and should adjust their community goals accordingly.

CHAPTER 13

ABOUT MRI

Municipal Resources, Inc. (MRI) provides quality service at an affordable price. We have the technical knowledge and practical experience that others cannot offer because we hire the best in the municipal consulting industry. This is evidenced by a high level of implementation of MRI's recommendations by its clients. Municipal Resources is capable of performing multiple projects at the same time because of the depth that we have acquired through the number of employees and affiliates we maintain. We also have the ability to draw upon a wide array of talent because of our unique business approach. Our clients have come to expect Municipal Resources to provide for whatever they need and we fulfill their expectations.

Municipal Resources, Inc. was founded in 1989 by six former municipal and state government managers, with both public and private professional experience. Municipal Resources is dedicated to providing professional, technical, and management support services to municipalities and schools throughout New England. Municipal Resources operates offices in two locations in New Hampshire, one in Maine, one in Massachusetts, and one in Pennsylvania. We are registered to do business in Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New Jersey, New York, and Pennsylvania.

Among the areas of expertise available are department assessments, organizational studies, personnel recruitment, personnel administration, collective bargaining, community and economic development, budget/finance, and general management. MRI has a particularly strong public safety group with nationally recognized expertise in police, fire, and emergency services.

We want to help solve problems and provide solutions for future success. We do not assess blame; rather, we simply work to gain an understanding of past events in order to build a framework for future success. We do not put forth idealistic, unachievable, or narrowly focused solutions.

Our objectives are:

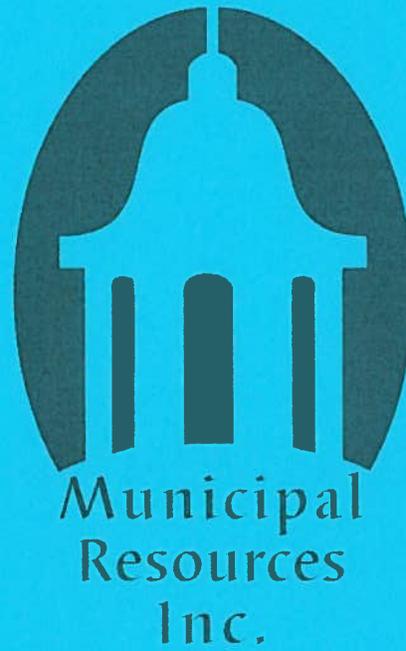
- To help agencies obtain maximum value for limited tax dollars.
- To identify and help communities manage the risks associated with public safety functions.
- To raise public awareness of the value and professionalism of their public resources.
- To help local leaders develop and execute plans that best meet their community's needs, given the resources available.

Finally, our market, focus and expertise, is New England based. We are intimately familiar with New England local government forms, culture, and issues, and pride ourselves on our ability to place our recommendations for change in a context appropriate to New England local government.

THE PROJECT TEAM

Donald P. Bliss is a senior public safety consultant and project manager with MRI. He is the past President and Chief Operating Officer of the National Infrastructure Institute Foundation (NI2) where he directed the activities of the NI2 Center for Infrastructure Expertise, a not-for-profit applied research group dedicated to strengthening the security and resiliency of the nation's built critical infrastructure and key resources. Bliss also served as the New Hampshire State Fire Marshal from August 1992 until November 2003. In the wake of the tragic events of September 11, 2001, Bliss took over responsibility for New Hampshire's emergency management and homeland security efforts. From 1983 to 1992, Bliss served as the fire chief in Salem, New Hampshire and from 1980 to 1983, he served as the director of the University of Connecticut Fire Department and as fire marshal for the University of Connecticut system. He began his career with the Durham-UNH Fire Department in 1970, rising from call firefighter to fire marshal/deputy chief. Bliss has served in leadership roles in numerous professional organizations, including National Association of State Fire Marshals, the National Fire Protection Association, and the New Hampshire Association of Fire Chiefs. He is a past president of the New Hampshire Association of Fire Chiefs and a former chair of the New Hampshire Emergency Medical Services Coordinating Board. He served as President of the National Association of State Fire Marshals and chair of the association's Consumer Product Safety Task Force. Bliss chaired the National Fire Protection Association's (NFPA) Uniform Fire Prevention Code Technical Committee and served two terms on the NFPA board of directors. He chaired the National Electrical Code (NEC) panel on homeland security and mission critical facilities and currently chairs NEC Code Making Panel 13 (emergency power systems). He also serves on the NFPA Standards Council, the Technical Committee on Emergency Management and Business Continuity and the board of trustees of the Fire Protection Research Foundation. Bliss has served as a subject matter expert on critical infrastructure protection with the Mobile Education Team of the U.S. Naval Postgraduate School. He is an adjunct professor in the Master of Public Administration program at the University of New Hampshire and currently serves as the chair of the New Hampshire Building Code Review Board and as a governor's appointee to the New Hampshire School Building Authority. Bliss received a Bachelor of Arts in political science and a Master of Public Administration degree from the University of New Hampshire and he has completed numerous courses at the National Fire Academy in Emmitsburg, Maryland.

APPENDIX A





The Federation of Fire Mutual Aid Associations of New Hampshire

20 February 2007



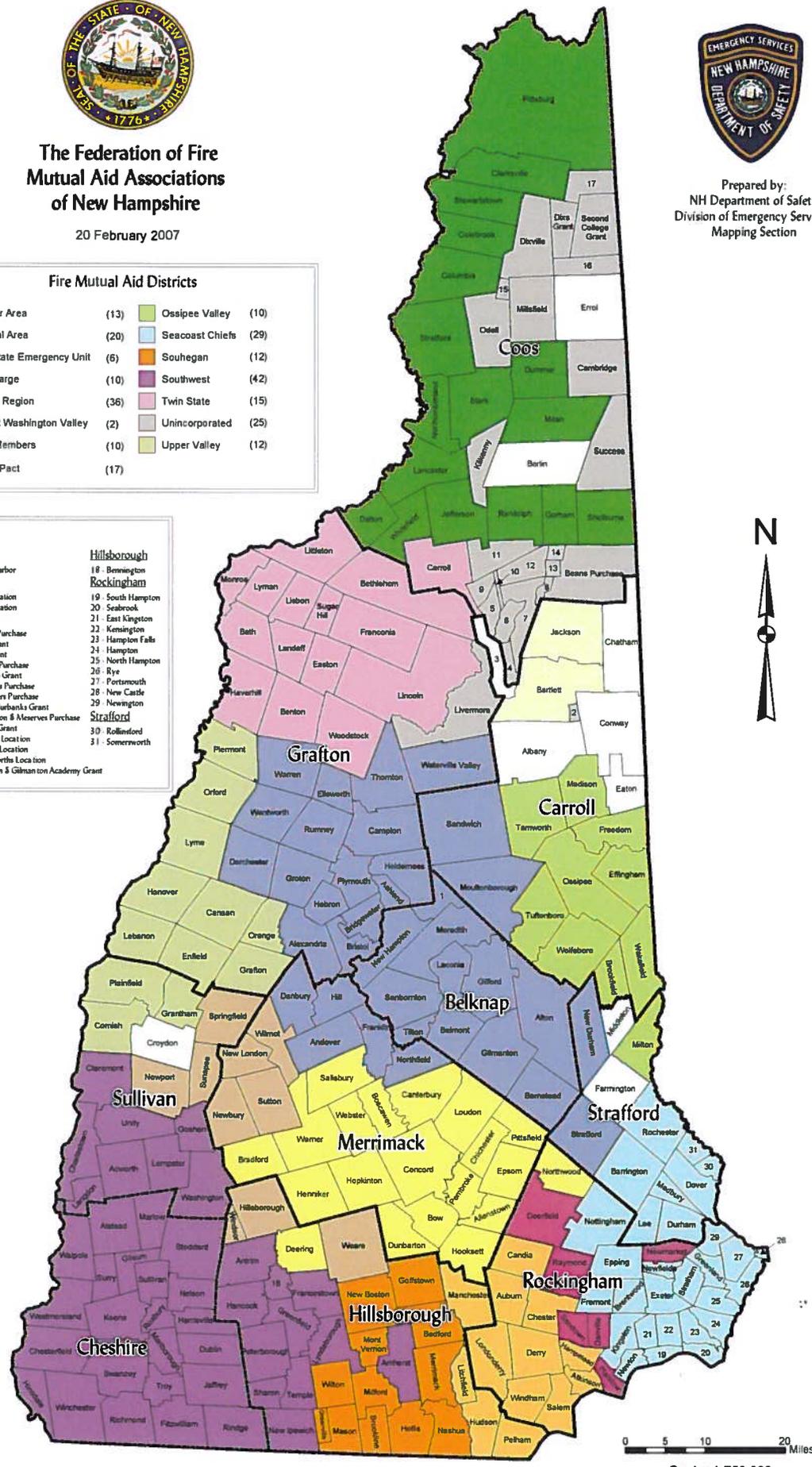
Prepared by:
NH Department of Safety
Division of Emergency Services
Mapping Section

Fire Mutual Aid Districts

Border Area	(13)	Ossipee Valley	(10)
Capital Area	(20)	Seacoast Chiefs	(29)
Interstate Emergency Unit	(6)	Souhegan	(12)
Kearsarge	(10)	Southwest	(42)
Lakes Region	(36)	Twin State	(15)
Mount Washington Valley	(2)	Unincorporated	(25)
Non Members	(10)	Upper Valley	(12)
North Pact	(17)		

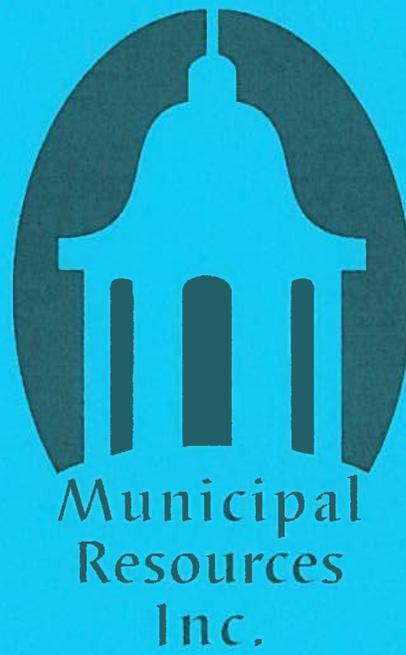
INDEX

Belknap	Hillsborough
1 Center Harbor	18 Bennington
Carroll	Rockingham
2 Hales Location	19 South Hampton
3 Harts Location	20 Seabrook
Coos	21 East Kingston
4 Hadleys Purchase	22 Kensington
5 Beane Grant	23 Hampton Falls
6 Cutts Grant	24 Hampton
7 Sargents Purchase	25 North Hampton
8 Fishams Grant	26 Rye
9 Crawfords Purchase	27 Portsmouth
10 Chandlers Purchase	28 New Castle
11 Low & Barbanks Grant	29 Newington
12 Thompson & Meserves Purchase	Strafford
13 Greens Grant	30 Rollisford
14 Marini's Location	31 Somersworth
15 Erving's Location	
16 Wentworths Location	
17 Atkinson & Gilman ton Academy Grant	



Scale: 1:750,000

APPENDIX B



LACONIA FIRE DEPARTMENT

OFFICE OF THE FIRE CHIEF

MEMORANDUM

DATE: January 23, 2012
TO: Scott Myers, City Manger
FROM: Kenneth L. Erickson, Fire Chief
RE: year end analysis of response time

Analysis of Response Time to High Risk Emergencies –this includes any reported fire in a building, high risk medical emergencies, motor vehicle accidents involving injury, pedestrians struck by autos, inside gas leaks, water rescues, and extrications. This equates to roughly 9% of our annual emergency calls; however these are the types of calls where rapid response and adequate resources can have the greatest impact on saving life and property.

Our travel response time primary goal is to arrive at a high risk emergency within 4 minutes (240 seconds). We establish an objective of achieving this goal 9 of 10 times (90th percentile). We have a secondary objective of reaching these high risk emergencies in no more than 6 minutes 95 percent of the time. The 2011 year end summary indicates we are performing poorly in this category.

2011

Travel time less than 4 minutes was 47 percent.

Travel time of no more than 6 minutes is 79%.

The longest response time to a high risk emergency is 18 minutes.

We actually reached the 90th percentile at 8 minutes and the 95th percentile at 9 minutes.

I did an analysis of hundreds of emergency calls in the above criteria from 2007 up to 2010.

2007

Travel time less than 4 minutes was 57%.

Travel time of no more than 6 minutes was 87%. The longest response time to a high risk emergency was 12 minutes.

2008

Travel time less than 4 minutes was 58%.

Travel time of no more than 6 minutes was 84%. The longest response time to a high risk emergency was 16 minutes.

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2009

Travel time less than 4 minutes was 51%.

Travel time of no more than 6 minutes was 84%. The longest response time to a high risk emergency was 13 minutes.

2010

Travel time less than 4 minutes was 53%.

Travel time of no more than 6 minutes was 84%. The longest response time to a high risk emergency was 15 minutes.

A four-year collective analysis (2007 to 2010) for four minute travel response time is 55%. Travel time of no more than six minutes was 85%. The longest response time to a high risk emergency is 16 minutes.

The 90th percentile to high risk emergencies has gone from a high of 58% to the current low of 47%.

What is causing/contributing to this increase?

Primarily three issues: reduction in daily staffing, a decrease in emergency recalls, and an increase in multiple calls.

Last fiscal year, to cover overtime shortages we ran short staffed for three months (March to June). We also discontinued the practice of hiring an extra day firefighter, which LRGH funded. This resulted in two less people on-duty during the weekdays and one less on-duty at night. We went back to full staffing in June and maintained this policy until October of this year.

When we drop down one person we put the Weirs ambulance and ladder truck out of service for the shift. This results in the Central units responding to calls in the Weirs area more often. This in turn takes the units away from the Central area.

Operating with less people has a significant impact on our ability to handle multiple calls. When the Weirs are at full staff they handle a majority of their calls without assistance from Central. Drop down one person and we end up sending the ambulance to every EMS call in the Weirs and the ladder truck to alarm activations. This in turn compromises the capability in the downtown area. I

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thought it would be best to run with less staff on-duty from October through December as this is our least busy time period. Unfortunately, emergency calls for this period in 2011 were up 21 percent. Multiple calls increased as well. My plan was to return to full staffing in January, running with less on-duty in the cold winter months is counter productive and very unsafe. As of this date we are still operating at 7 minimum.

We started emergency recalls in 2004. This policy called back off-duty people during times of peak service and for high risk emergencies – structure fires and water rescues. Recalls cost approximately \$40,000 per year. The cost was split between the City and LRGH. Since 2007 we were averaging 18 emergency recalls per month. In March of 2011 these practices were stopped because of reductions in overtime. We are now averaging 2 recalls per month. Recalls are now activated after the fact, not preemptively.

Multiple calls have increased by fifty-six percent since the start of the new millennium, from 800 to 1,308 this year. The majority of the multiple calls happen between the hours of 9 AM to 7 PM. It is not uncommon to handle 3 or more calls within a short period of time. Whether we can handle this situation is dependent on the type and severity of the call.

The decrease in recalls and the decrease in shift strength resulted in a policy where by we now stack calls. We have established a list of calls that we will delay response if necessary over higher risk calls. Another problem related to staffing is that we are responding from incident to incident instead of station to incident. The two stations are ideally located to reach most of our calls within four minutes; if we are in the station. A quick response travel time with the proper resources gives us the best chance to minimize damage, whether by fire, trauma, illness, or other acute emergency. Travel time is critical; however, arriving with skilled, well-trained people is even more important. Teamwork and continuity of operations is paramount to success. We strive to maintain optimal level of productivity and safety for our firefighters while working to contain costs; at the same time though, we must not jeopardize the level of protection to the City.

Two particular calls that highlight the problem were a B-B-Q grille fire in the Weirs district, and a high priority medical emergency on Blueberry Lane. In both circumstances all crews were busy with multiple calls. The first unit to the fire in the Weirs had a 13 minute response time. This should have been a four minute response and the fire would have been quickly extinguished. Because of the

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delay the fire extended from the grill to the outside wall and resulted in much more damage. If this fire had been inside the building the damage would have been major. The call to Blueberry Lane resulted in an out-of-town ambulance responding and there was a 16 minute delay. This was a high risk patient who needed to be transported to Concord Hospital.

It is paramount to remember that travel time is an important component in the overall response. Components outside of our control are the time to acknowledge and process the emergency and call for help. We pride ourselves in having a rapid turn-out time. Turn out time is the amount of time it takes us to process a call and get to the apparatus and out of the station. We get out in less than 60 seconds 90% of the time. Travel time is the time from turn out to arrival on-scene. After arrival there is set-up time, time needed to reach the patient or fire, (is it on the first floor or 5th floor), then there is actual delivery of service. One can see that the four minute travel time is a large component however, the time to delivery of service can easily exceed 8 minutes. For every minute that travel time is extended, the time to delivery of service is extended.

We are trying to do more with less. We have been operating in this mode for years. Unfortunately as the calls for service increase, the likelihood of having no one to respond increases. This year we handled 3,562 emergency calls and 1,308 simultaneous or back-to-back calls. We are a very busy fire department. As stated earlier, we are managing the reductions in overtime by reducing on-duty staff and the increase emergency work by stacking calls based on priority. We have also cut back on providing mutual aid and there is almost no off-duty training. Our ratio of mutual aid is usually 1.2 to 1. In 2011 it is 2.3 to 1. However, when we do respond out of town we are not backfilling the empty station. During times of peak demand we relocate the Weirs to Central in lieu of a recall. Again this saves money but has a big impact on delivery of service.

The drop in recalls is also very noticeable at our structure fires. We were averaging 16 firefighters to a structure fire within the first 15 minutes. This allowed us to do some very aggressive fire attack. In 2011 we have dropped to 11 firefighters. This is because we no longer activate a recall until after we arrive on-scene. Then we call for off-duty help.

I realize there is very little that can be done. I just ask that you consider these issues while you are developing next years budget. I will present you with more information justifying our operating budget as we move forward in the budget approval process.

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City of Laconia 2000 to 2011

	<u>2000</u>	<u>2011</u>	
▪ Population	15,411	15,591	-2.8%
▪ Homes	8,554	9,879	+15%
▪ Vacant homes	1,830	3,041	+66%
▪ Seasonal homes	1,477	2,293	+55%
▪ Over 65 years age	2,200 (12%)	2,881 (18%)	+31%
▪ All Emergencies	2,461	3,562	+45%
▪ EMS calls	1,483	2,349	+58%
▪ MVA	181 (highest 351-05)	144	-20%
▪ Fire calls	659	1,213	+84%
▪ Multiple/back-to-back	807	1,308	+56%
▪ On-duty Staff	7	8*	+14%
▪ Administration	4	5	+20%
▪ Revenue	\$6,000 (hi \$33,700 – 08)	\$18,372	+206%
▪ Inspections	1,000 (hi 3,869 – 09)	2,375	+137%
▪ Training hours	2,400 (hi 5,693-10)	4,091	+70%

* Operate many days back to 2001 staffing levels.

Laconia Fire Department

Response Capability

In 2011, the Fire Department was operating at below normal capacity 41% of the time. We were at ambulance calls 27% of the time and fire calls 14% of the time.

This chart indicates the response capability of the Laconia Fire Department. One hundred percent capability is assumed with both stations staffed and eight firefighters working. The column on the left identifies the type of response or call and the column on the right indicates what percent of resource capability remains available for another emergency. When responding to a building fire, we need 100% of our duty crew, an off-duty response, and automatic aid. Our operational plans and strategies are based on this concept.

Type of response	Remaining capability
• One unit response	75%
• Two unit response	50%
• Three unit response	25%
• Full response – both stations	0%
• Two multiple calls; 1 unit each	50%
• Three multiple calls; 1 unit each	0-25%
• Two multiple calls: mod. risk	0%
• Structure fire	0%
• Cardiac arrest	38%
• Motor vehicle accident (MVA)	38%
• MVA w/extrication	0%
• MVA serious injuries	0%
• Three medical calls	25%
• One medical call	75%
• One high risk medical call	50%
• Gas leak inside	0%
• Gas leak outside	38%
• Hazardous condition	50%
• Car fire	50%
• Truck fire, large	25%
• Brush fire, small	50%
• Dumpster fire	50%
• Alarm activation	38%
• High risk alarm activation	0%
• Water rescue	0%

Laconia Fire Department

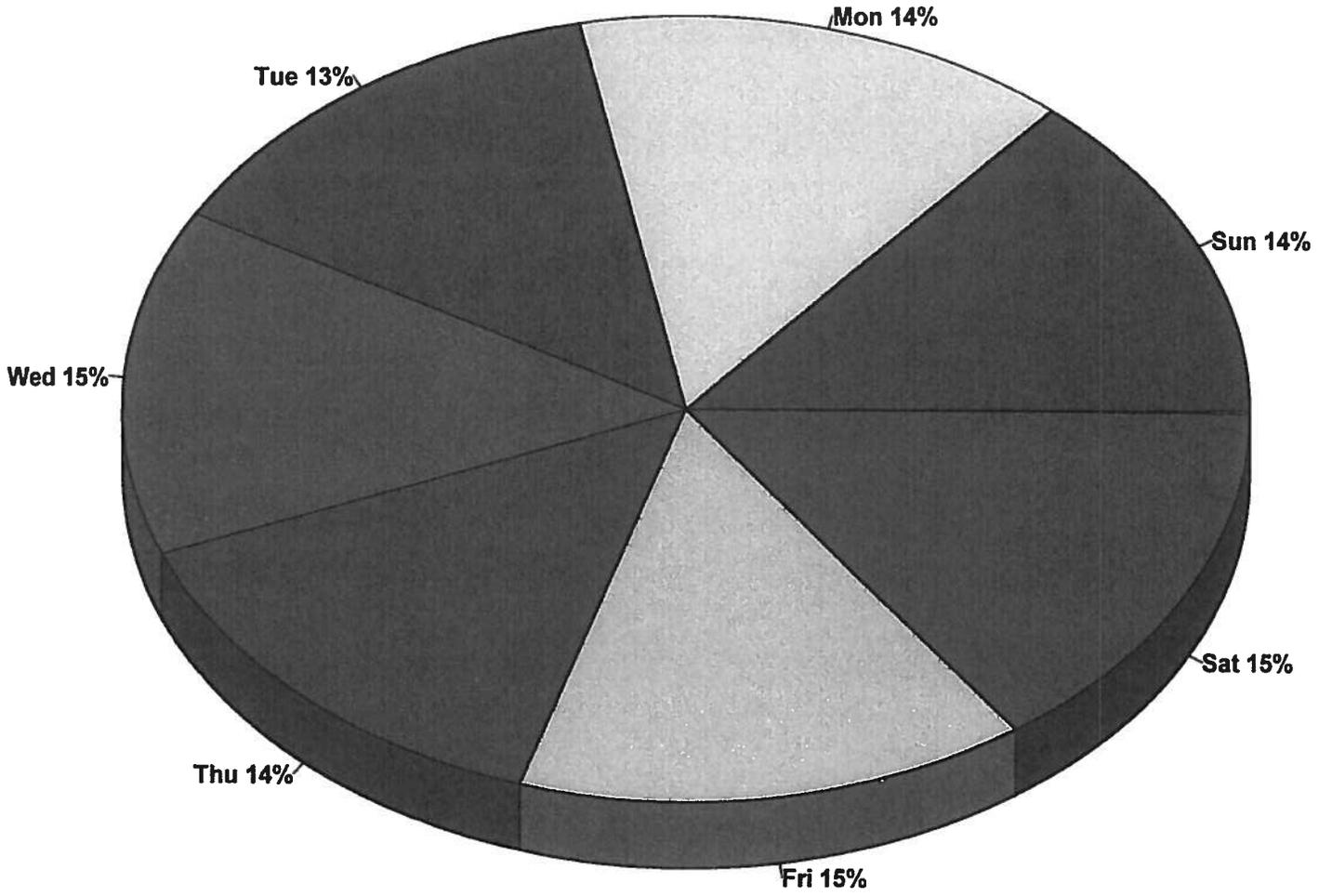
More often than not, the remaining capability is in the Weirs Station, as 86% of our calls are outside of the Weirs area. Therefore, if the next call is downtown there will be a significant delay in responding; it is 7 miles from the Weirs Station to downtown Laconia. Even in an emergency response this is a 10-minute trip. The further away from downtown, obviously the longer the response. Bad weather or heavy traffic will also slow down this response.

We average sixteen calls for service each day; ten of these calls are emergencies. Thirty-eight percent of the time, we will get a second and often times a third emergency call. It is not uncommon to respond to 18 to 20 emergency calls on any given day.

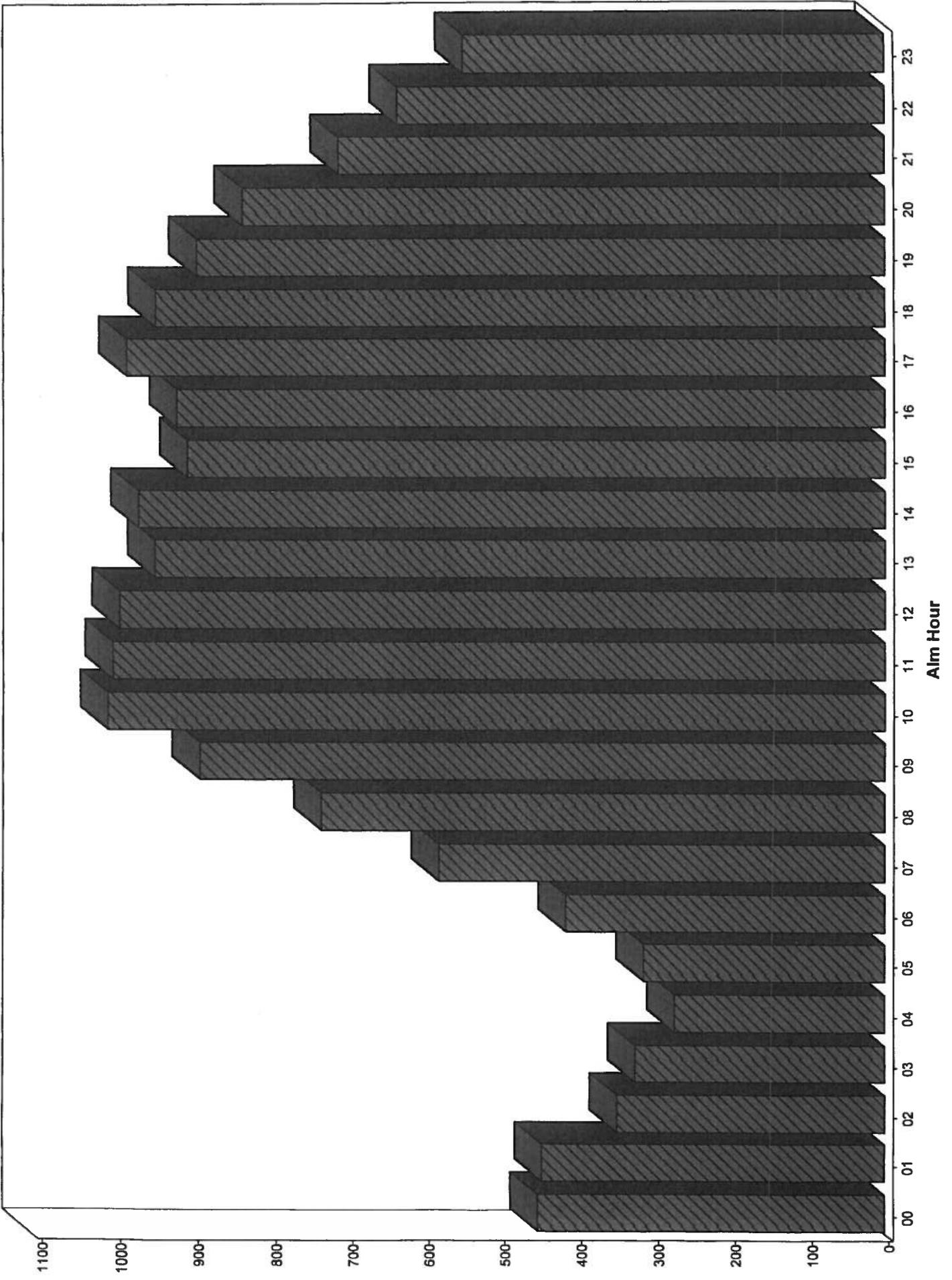
The low response capability can vary from 20 minutes to several hours, depending on the types of calls. This is where recalls come into the equation. We were averaging three off-duty firefighters per recall at a total cost of \$210. These firefighters generally arrive at the station within 10 minutes (If they are more than 20 minutes away they are not allowed to respond). This recall response brings our response capability back to 40% in most cases. We can at least get one more truck and crew to the next call. Up until this year we were averaging 16 recalls per month; we are now at 2 per month,

We have changed our staffing policy and now drop below eight firefighters on-duty. Our effectiveness diminishes significantly and our response times have gotten worse. Our 90th percentile to high risk calls has gone from an average of 56% to 47% in one year. We are no longer using recalls; therefore the stations are remaining empty for prolonged periods. This results in zero response capability.

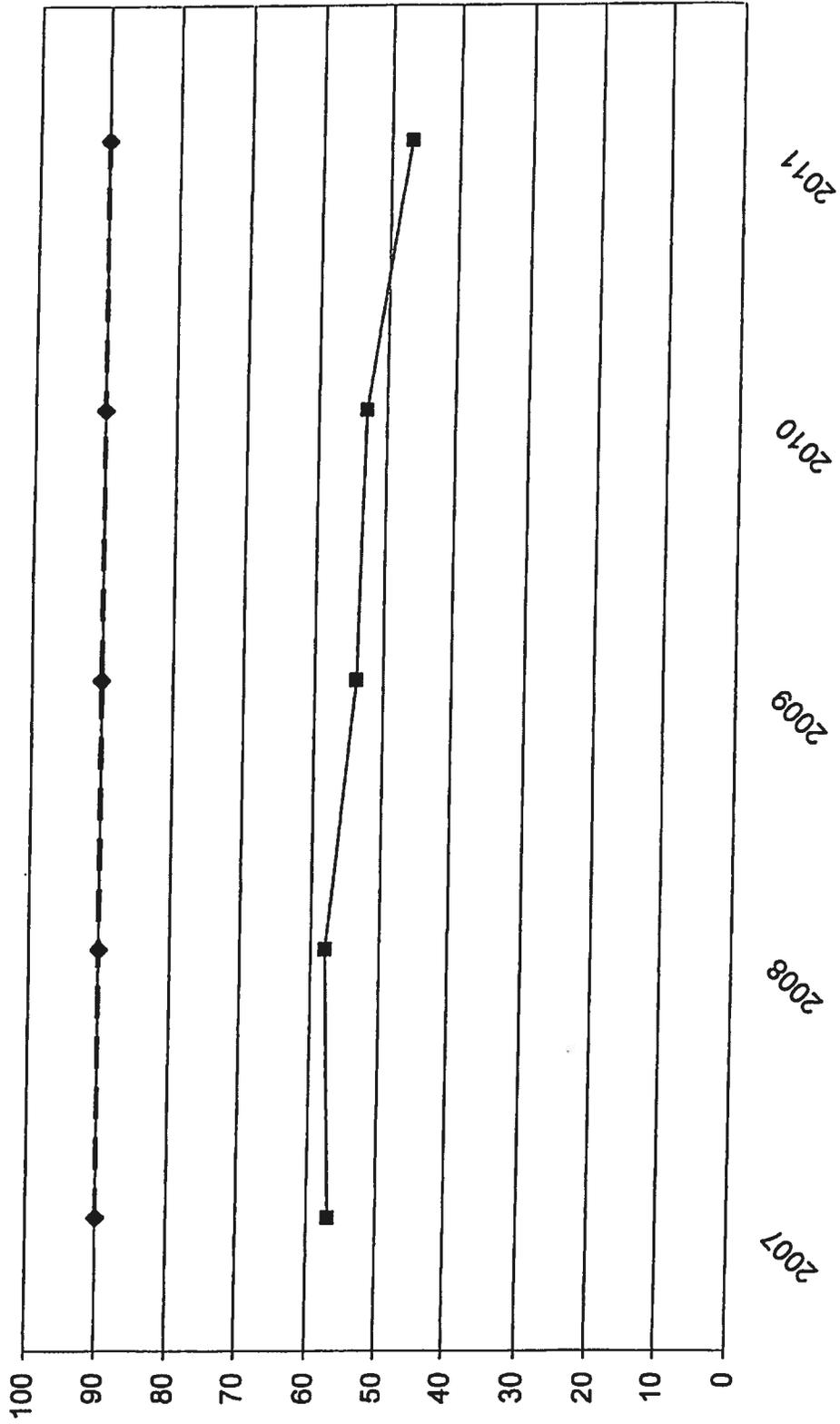
Incident Responses by Day of Week



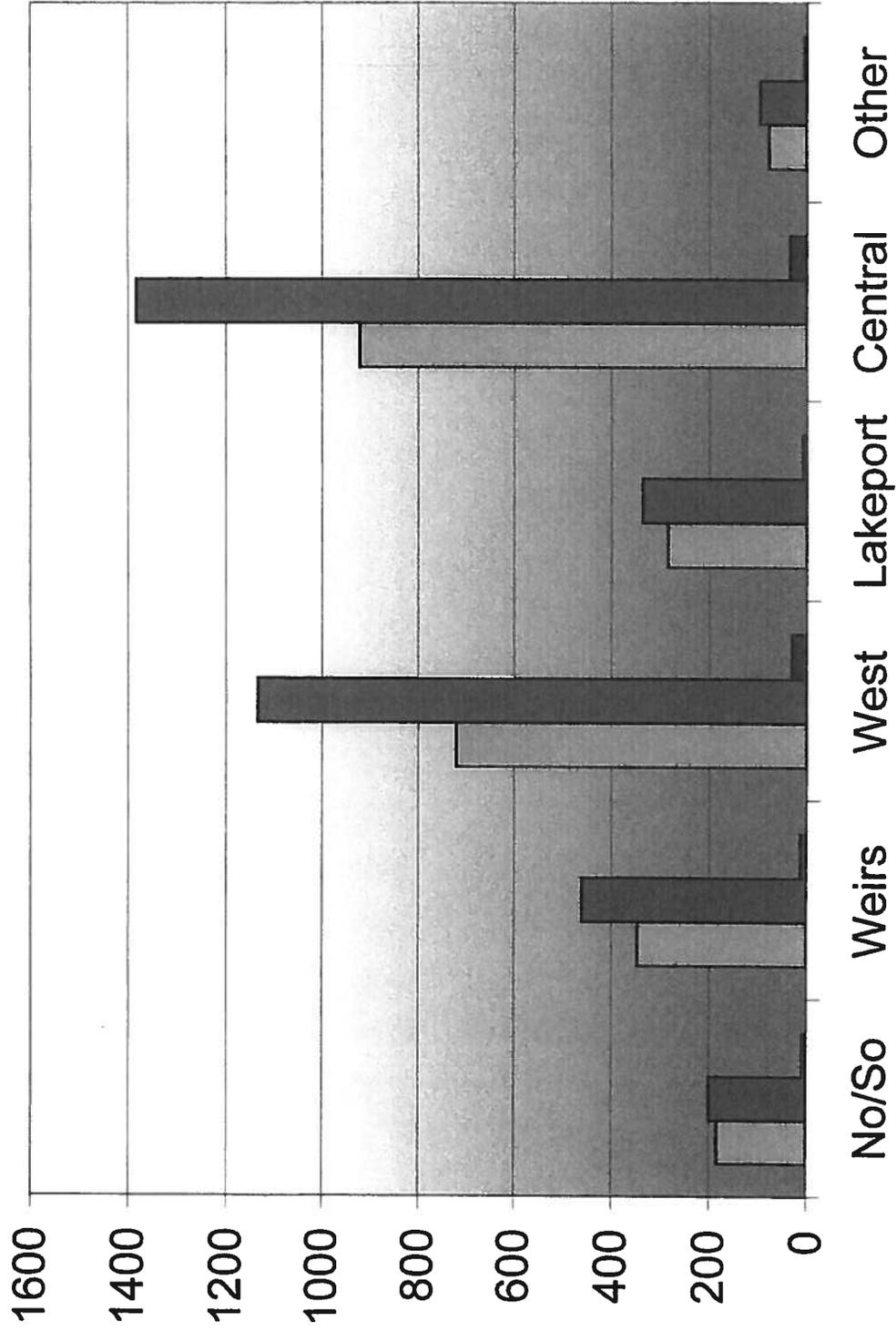
Count of Incidents by Alarm Hour



**90th percentile to High-risk Emergencies
No more than 4 minute response**

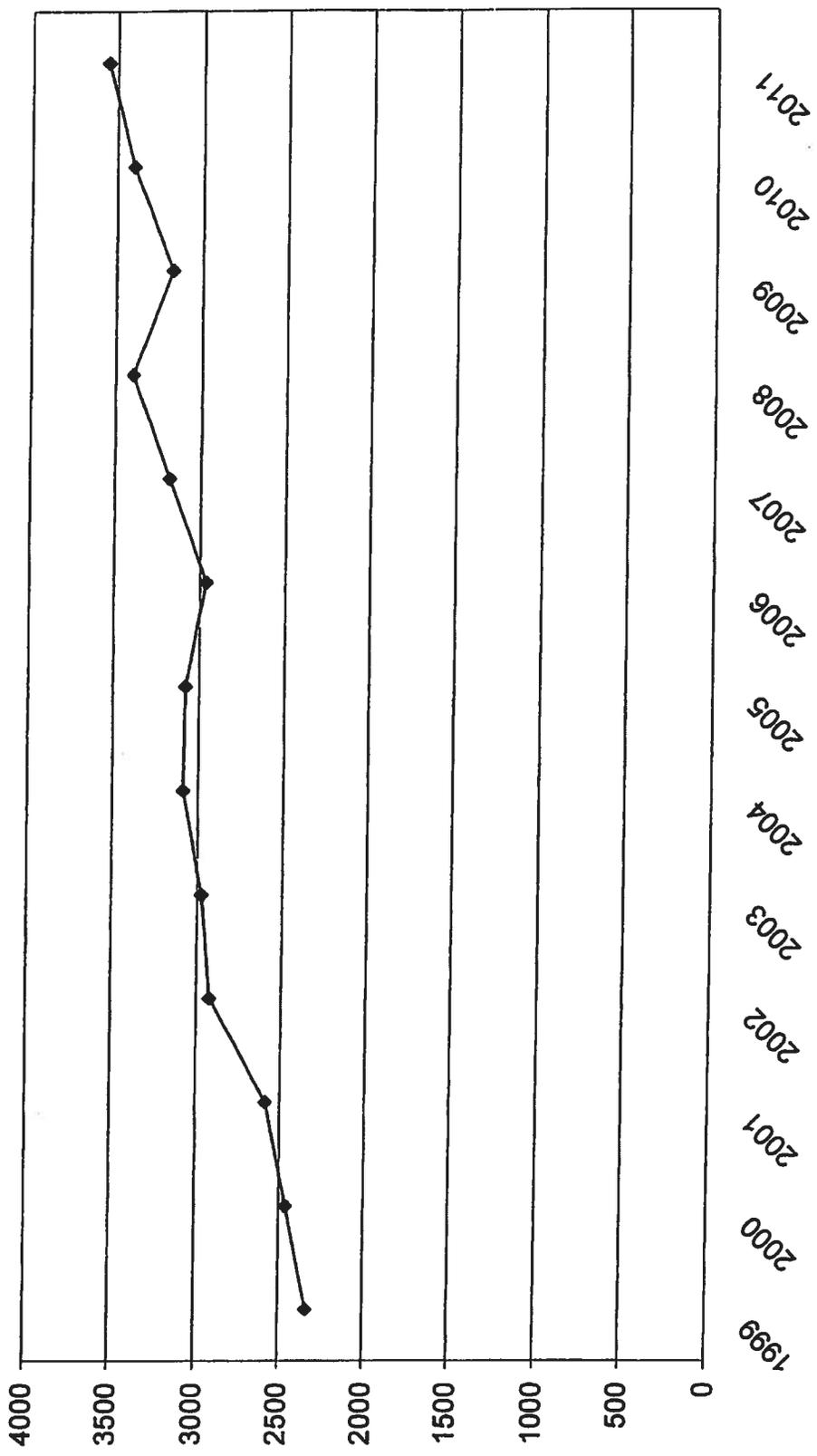


Calls by District - 2001 - 2011

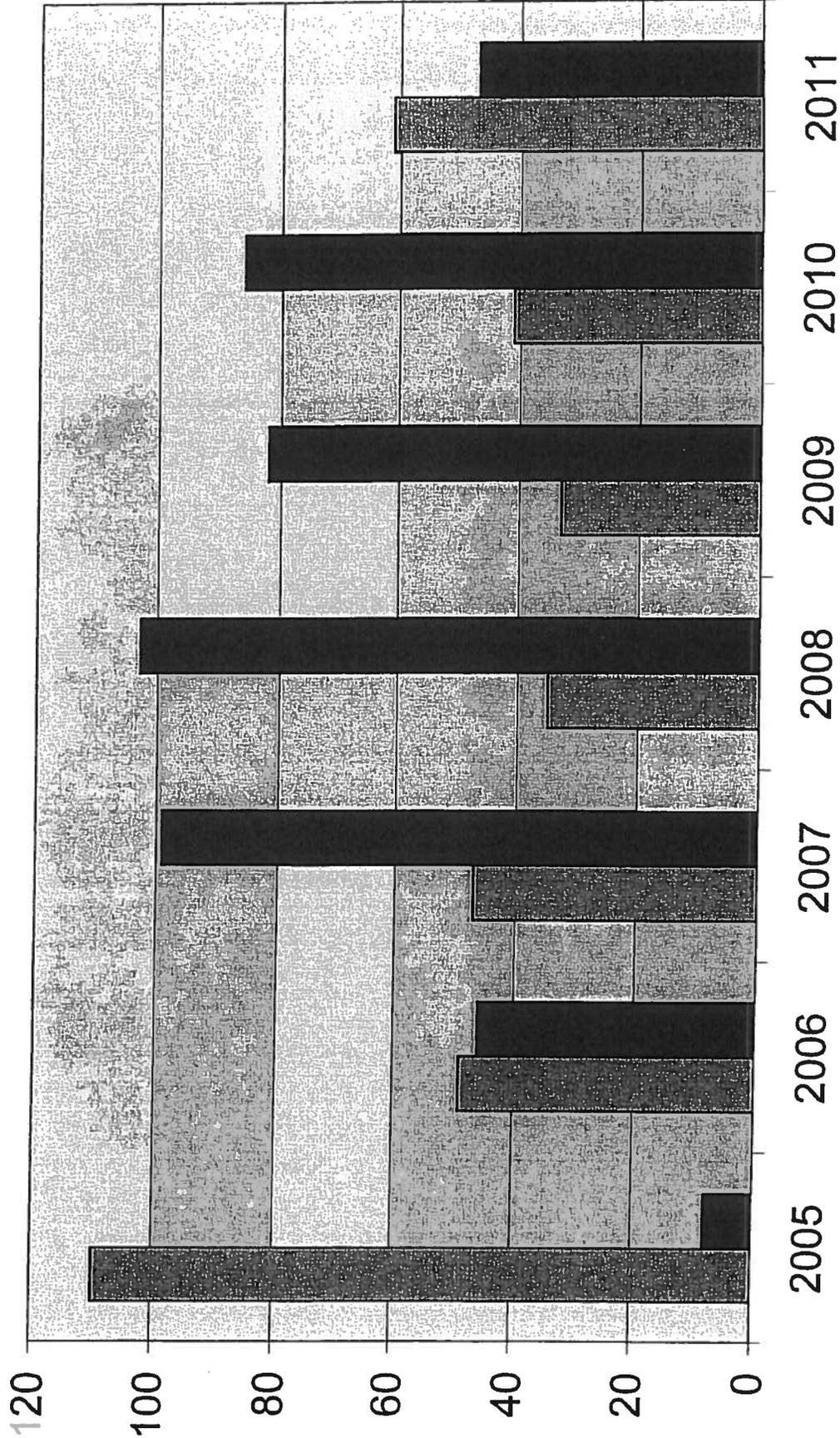


Emergency Calls 1999-2011

52% increase



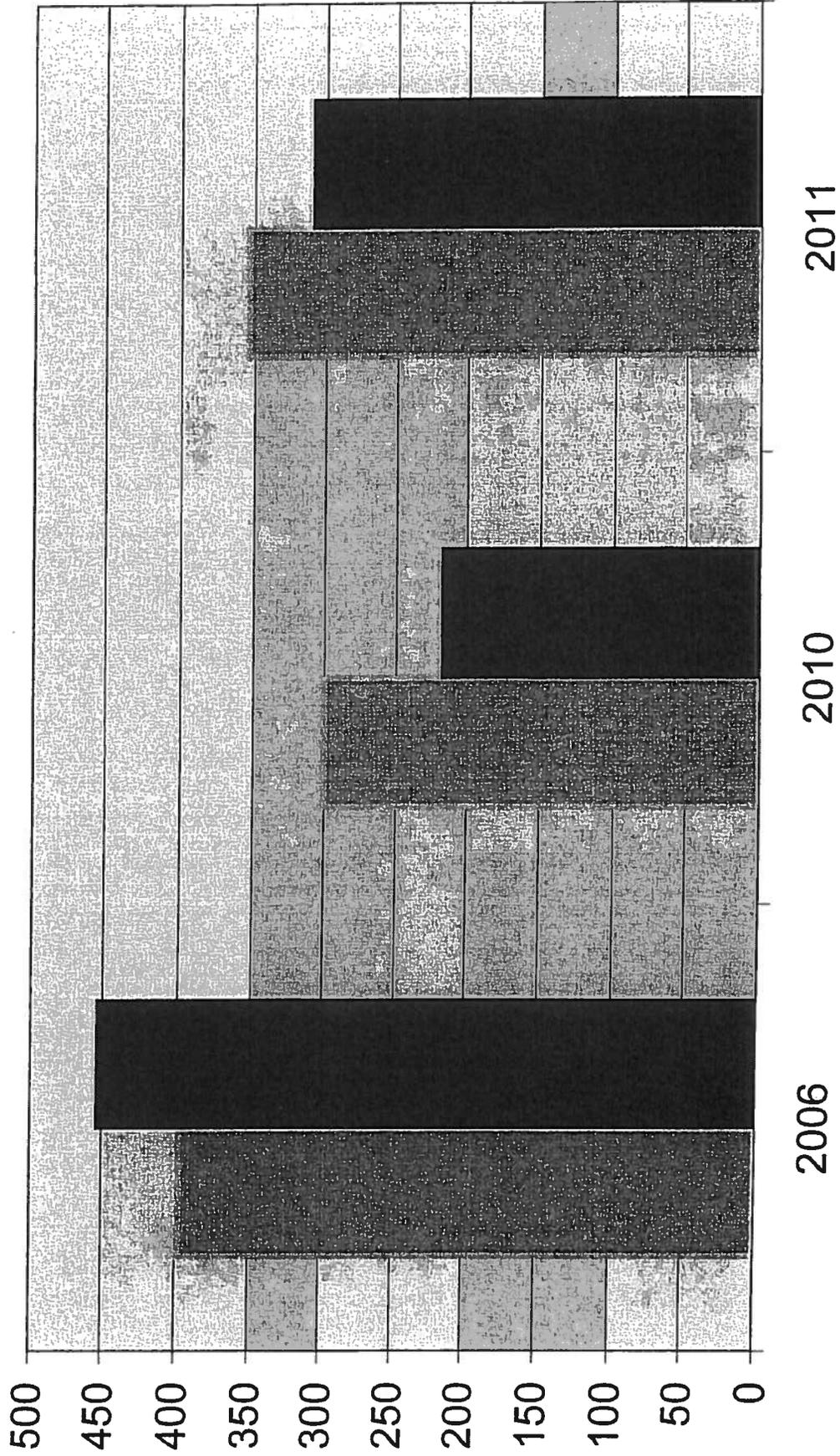
Ladder Responses to Weirs



Blue line is Central ladder going to the Weirs

Red line is Weirs ladder going to calls in the Weirs

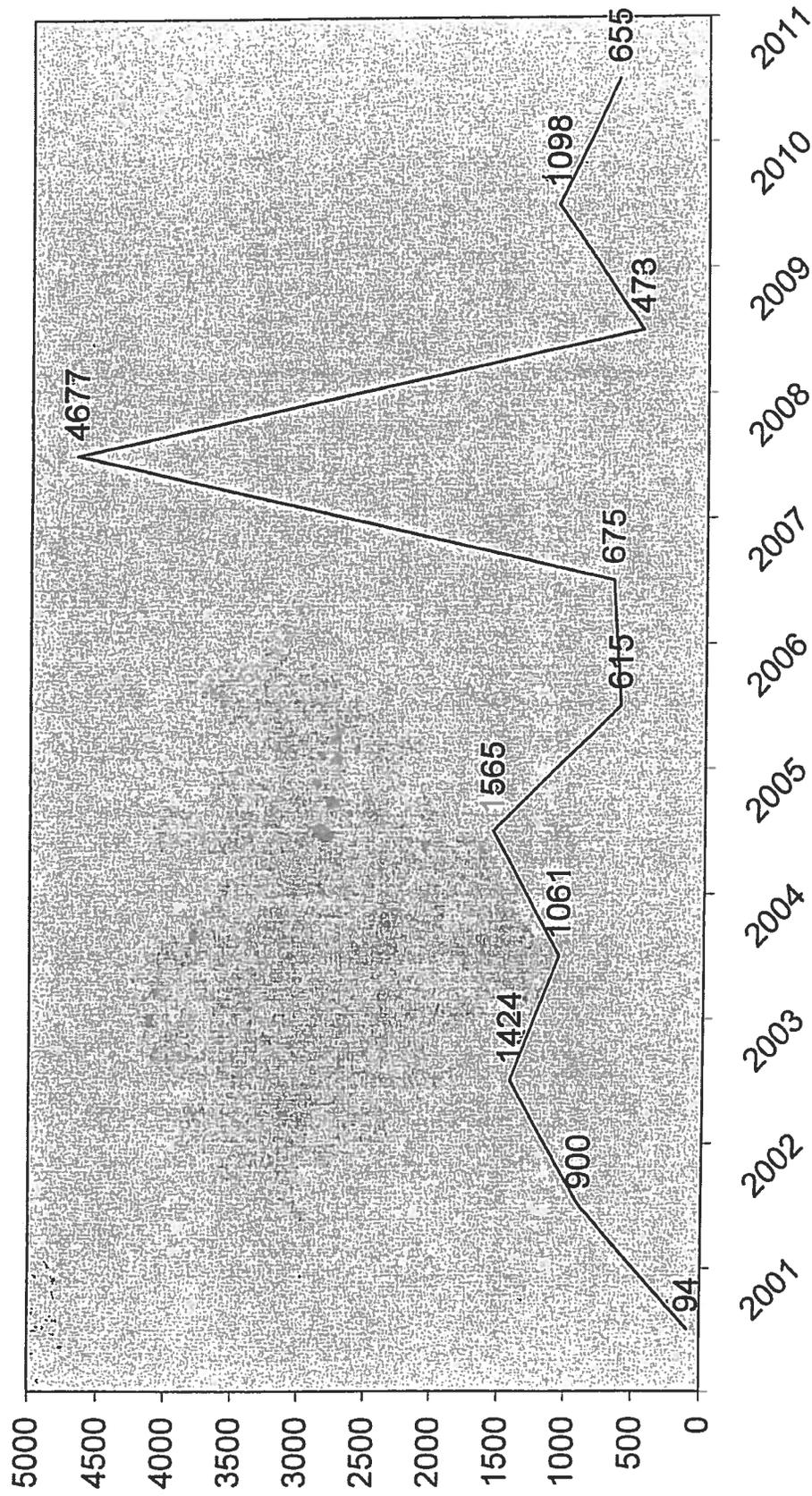
Apparatus To Weirs and Central



Blue line is Weirs units responding to Central

Red line is Central units responding to Weirs

Property Loss to Fire 2001 thru 2011



Loss in thousands

Five-year analysis of Emergency responses

A five-year analysis of our emergency work indicates that the calls by day of week are consistently equal.

- Friday, Saturday, are the busiest days at 15%.
- The remaining days are tied at 14%.
- There is no significant change in emergency calls per day.

Looking strictly at fires in buildings, Wednesday is the busiest day at 18%. Saturday is second at 17%; Sunday is 15%; Tuesday and Friday are 14%; Monday and Thursday are 11%.

The busiest time period is from 9AM to 8 PM. However, 22% of all emergency responses are between the hours 11PM and 7 AM, which in 2012 will equate to 800 emergency calls in this period.

By month, the work is divided accordingly:

- June and July at 10%;
- August and May at 9%;
- January, February, March, April, September, October, and November at 8%;
- December at 7%.

July 2010 was the busiest month on record at 384 emergency calls.

Calls by District

Downtown	38% of all calls	33% of all fires	16% of all fire loss
West side	30% of all calls	23% of all fires	49% of all fire loss
Weirs	12% of all calls	18% of all fires	24% of all fire loss
Lakeport	9% of all calls	11% of all fires	11% of all fire loss
Northwest	3% of all calls	5% of all fires	3% of all fire loss
Southend	3% of all calls	3% of all fires	1% of all fire loss
Lakes and rivers	.5% of all calls		
Mutual aid	4.5% of all calls		

Five year fire loss is \$8,109,700 in 383 fires; 76 fires per year.

Fires by Occupancy Type

One and two family homes 33% of all fires and 21% of all fire loss;
Multi-family dwellings 33% of all fires and 12% of all fire loss;
Health Care facilities 7% of all fires and less than 1% of the fire loss;
Mercantile/stores, and office occupancy is 5% of all fires and 47% of all fire loss;
Storage buildings 2 % of all fires and 3% of all fire loss;
Assemblies 3% of the fires and 15% of the fire loss;
Educational facilities 1% of the fires with minimal fire loss;

Fires by Type	516 fires
Kitchen fires	40%
Building fires	35%
Chimney fires	12%
Furnace fires account for	9%
Trash/rubbish inside a building	4%

Area of fire Origin by Function

Walls, ceilings, attics substructure	37%
Kitchens	12%
Storage areas, basements, garages	7%
Hallways, entrance ways	6%
Bedrooms	6%
Bathrooms	3%
Laundry areas	4%
Outside of building	5%
Undetermined	5%
Living rooms	2%
Industrial areas	3%
Air handling equipment	3%
Other areas	7%

18 residents have been injured in fires in this period. There were no fatalities directly attributed to fires. There were 16 firefighter injuries in this period.

Dollar Saved & Dollar Loss Analysis

Property Value	Fire loss	Property saved	
\$24,058,999	\$8,190,700	\$15,868,299	66% saved rate

There is no day of the week that is any less busy. The consistency in calls per day is amazing. The calls per month are just as consistent. No month is significantly quieter. In addition, when you factor in the weather changes the winter months actually present more problems. The quietest time is from midnight to 6 AM yet it is the most dangerous time for residents, and interestingly the time when we receive most of our injuries.

The daytime hours are also when we conduct most of our training, fire inspections, and public education. It is interesting to note that we are busier at 9:00, 10:00, and 11:00 PM than we are at 8:00 AM.

We received mutual aid 771 times and gave mutual aid 630 times; a ratio of 1.2 to 1.

Multiple / Back-to-back			
Currently	1,300	38%	41% FIRE
Project	1,400		59% EMS
2011			62% DAY
			25% EVENING
			14% early AM

203 - 810 27%

Risk Indicators and Predictors of Emergency Calls and Fire Severity

Although it is often assumed that a direct relationship exists between population and necessary resources, this is usually anecdotal and therefore limited as a competent tool for prediction. Further, the use of population data does not accurately reflect the impact of transient and seasonal populations. Emergency responses rates are increasing in Laconia as the population decreases.

The changes in Laconia since 2000 are:

- 15% increase in living units (9,789),
- 3% decrease in population (15,951),
- 66% increase in vacant homes (3,041),
- 55% increase in seasonal homes (2,293),
- 31% increase in residents over 65 (2,881)
- 45% increase in emergency calls.
- 58% increase in EMS calls
- 20% decrease in motor vehicle rashes
- 84% increase in fire calls
- 56% increase in simultaneous/back-to-back calls
- 14% increase in on-duty staff
- At times we drop back to the staffing levels of 2000.

Shift staffing, based on a risk assessment of the City, should be at 11 firefighters per day. Two Engine Companies each with an officer and two firefighters, a Ladder truck with an Officer and two firefighters, and an Ambulance with two firefighters.

An 8-year study of fire incidence and loss of life and property conducted in New York City reinforces our opinion of what drives fire department responses. The areas that suffer higher than average fires and loss of property and lives have lower incomes, usually one parent families, more children per family, a higher ratio of poverty, a higher number of renters, absentee landlords, and an increase in density of people and buildings. In addition a disproportionate number of fires and subsequent loss is in buildings constructed of wood, or are non-protected. This loss is further compounded by the fact that most renters have no property/contents insurance and therefore seek assistance from government agencies. It is imperative in these areas to maintain a fast and adequate response, and to increase the frequency of life safety inspections.

Socio-economic risk

- High unemployment
- Homelessness
- Drug and alcohol abuse
- Multi-cultural
- Under educated
- Illegal renters
- High Poverty/low income
- Illegal heating systems
- Renters vs. Owners
- Transient
- Unattended children/teenagers

Risk assessment

- 16 buildings more than 4 stories high
- 26 buildings over 3 stories
- 100 high risk/target hazard properties
- Nursing homes, schools, churches, marinas, business district, health care
- Fuel storage, lumber yard, industry, government, multiple family dwellings

Built environment

- Older homes
- Older electric and furnaces
- Homes converted to apartments
- Fire alarm systems required
- Homes converted to businesses
- Narrow roads and streets
- Lack of off street parking
- Overhead wires and trees
- Offsets to buildings
- Steep grades/poor access
- Wood frame construction
- Multiple family homes
- Lack of built-in protection
- Closely spaced buildings

Community profile

- Tourist community
- High percentage over 65 – 18%
- Absentee landlords
- High density
- Seasonal homes
- County seat
- Regional business center

Response reliability is defined as the percentage of time that all response resources within our system are available for an emergency response.

Response Effectiveness is defined as the ability of the department to amass sufficient apparatus and personnel, in a timely fashion, to manage a given emergency incident. Effective response for a medical emergency is based on a cardiac arrest, which is our most life threatening condition. Studies confirm that if we can arrive on-scene within 4 minutes the

chances of survival are very good. Our current survival rate is 24%, four times the national average.

Effective response to fire emergencies is compared to risks associated with the type of occupancy and a measure against a condition known as flashover. Flashover is the state where all combustibles within the room of origin reach its ignition temperature simultaneously. Once flashover is reached the chances for survival in the room of origin are zero. Chances of surviving in the structure after flashover are based on distance from the room of origin, and condition of interior door. After flashover, the fire temperatures increase rapidly to well-over 1,000 degrees, smoke becomes more toxic, super heated, and dense. Fire spreads very rapidly. The resources needed for fire control increase exponentially. A one room fire in a single family home can be controlled by 8 to 10 firefighters. After flashover, more than two dozen firefighters will be needed. Property damage will increase rapidly as well.

Staffing Needed for Critical Tasks

At each emergency, there are certain critical tasks that must be completed quickly, and very often simultaneously, in order to be successful or effective.

Critical tasks are incident specific but include such functions as stretching the attack hose, searching for fire and victims, opening up a building (venting), establishing a water supply, raising ladders, cutting open the roof, locating the fire, establishing command, starting CPR compressions, opening an airway, administering medications, entering the water, treating patients, operating critical tools, etc.

Cardiac Arrest

4 firefighters

1 FF for compression, 1 FF for airway control, 1 FF for drug administration, 1 FF for medical control and to drive unit

Water rescue

7 firefighters

1 FF for entry, 1 FF for back-up, 2 FF for rope tenders, 1 FF for Command and Safety, 2 FF for EMS treatment and transport

Vehicle extrication

9 firefighters

4 FFs for patient care, 2 FF for extrication, 1 FF for hazard control, 1 FF equipment operator, 1 for Command and Safety

Fire in a 1 family home**12 firefighters**

2 FF for primary attack hose, 2 FF for back-up hose, 2 FF for vent and search, 1 pump operator, 1 Commander, 1 FF for water supply, 2 FF for stand-by safety team, 1 Officer for interior supervisor

Fire in a duplex/townhouse**18 firefighters**

Add 2 FF for each adjacent unit, 2 FF for floor above hose

Fire in a garden style apartment or tenement**22 firefighters**

Add 1 FF to attack hose and back-up hose per floor above 2nd floor. 2 FF to go to roof. 1 FF to operate aerial, 1 interior supervisor, 2 FF to go to each adjacent unit with hose.

Fire in a mid-rise apartment building**30 firefighters**

5 FF to get the first hose to the fire floor, 4 FF for the second hose, 4 FF to search the fire floor, 3 FF for outside venting, 1 pump operator, 1 Commander, 2 interior supervisors, 3 FF for stand-by safety team, 3 FF for moving equipment in stairwells, 4 FF to go to floor above with hose and search.

These firefighters need to be on-scene within the first 10 to 12 minutes. They need to be well-trained and equipped. They need to be familiar with each other and have a thorough understanding of procedures. If these numbers are not met then in all likelihood the outcome will not be good. In the case of the fire many more firefighters will be needed, depending on the size of the building and how close neighboring homes are located. In the case of a medical emergency the patient outcome will be poor.

With our system of automatic aid and emergency recalls for reported building fires we have been able to control most of our residential fires with one hose. Our "confine the fire to room or area of origin" for residential fires is 80%. Since 2006 we have averaged 16 firefighters within the first 12 minutes of alarm.

We no longer activate emergency recalls for structure fires until after we arrive. Our first response has dropped to 11 firefighters. This will have an impact on our ability to control fires and will likely increase our injury rates.

Buildings more than 3 stories or High Hazard/High Risk Occupancies

	Floors	
1. Sunrise Towers	7	
2. Lakes Region General Hospital	7	
3. Rist Frost Building – Water Street	4	
4. Lake Village - 765 Union Ave.	6	
5. Landmark Inn	7	
6. Pier III – Weirs Blvd.	6	Weirs
7. Winni Marketplace – Centenary Ave.	4	Weirs
8. Apartment house - 16 Winter St.	4	
9. Medical Building - 85 Spring	5	
10. Tavern - 7 Church	5	
11. Scott Williams - 22 Strafford St	4	
12. Belknap Mill	3.5	
13. Busiel Mill	4.5	
14. Main Street business 676	3.5	
15. Sheridan Street 150	3.5	
16. Union Avenue 380	3.5	
17. Elm Street 81	3.5	
18. Union Avenue 787	5 equivalent	
19. Dixon Court	3.5	
20. Union Avenue 89	3.5	
21. Union Avenue 123	3.5	
22. Union Avenue 180	4	
23. Colonial Theater	5 equivalent	
24. Masonic Temple 653 main St.	4	
25. Arch Street 7	3.5	
26. Colonial Theater apartments		43. Union Avenue 390
27. Borria Gorrell Lumber		44. Pleasant Street 12
28. Fuller Oil and Propane		45. Laconia High School
29. Stafford Oil		46. Laconia Community Center
30. Dutile Oil		47. Taylor Home
31. Amerigas		48. Taylor Congregate Care Center
32. Irwin Marine		49. Woodside Complex
33. Lakeport Landing		50. Genesis Rehabilitation Center
34. Paugus Bay Marine		51. Belknap County Nursing home
35. Pemi Block – 630 Main Street		52. St. Francis Home
36. Cook Block 614 Main Street		53. Bishop Bradley apartments
37. Pemaco Block 634 Main Street		54. Winnepesaukee Expo Center
38. Greenlaw’s Block 635 Main St.		55. Bodycote Water Street
39. Baldi Block 664 Main Street		56. Estates Circle 4 buildings
40. Health Link 585 Main St		57. Blueberry lane 150/153
41. Union Avenue 148		58. Blueberry lane Timber Lake
42. Union Avenue 379		2 buildings

- 59. Keewaydin Place 180/182
2 buildings
- 60. McGrath Street 14 group home
- 61. Summer Street 14 group home
- 62. Union Avenue 322 group home
- 63. Salvation Army group home
- 64. Winnepesaukee Pier and marina
- 65. Centenary Ave./Methodist Circle
- 66. Cedar Lodge
- 67. Meredith Bridge 5 buildings
- 68. Village At Winnepesaukee
10 buildings
- 69. The Havens Summit 3 buildings
- 70. Lakeview Lodge Tower Street
- 71. The Arcades – Lakeside Ave.
- 72. Baker Street motel
- 73. Alpine Rose complex
- 74. Channel Marina
- 75. Thurston Marina
- 76. Anchor Marine
- 77. River St 96
- 78. Winter St 12, 15
- 79. Margate
- 80. Lakes Region Community
College
- 81. State 911 Center
- 82. Lakes Region Mutual Aid Center
- 83. City hall
- 84. Police headquarters
- 85. Fire Headquarters
- 86. Weirs Fire Station
- 87. Verizon building
- 88. Library
- 89. The Mount Washington Cruise
Ship
- 90. PSNH facilities
- 91. Water Works
- 92. Middle School
- 93. Elm Street School
- 94. Woodland heights
- 95. Pleasant Street
- 96. Holy Trinity

Laconia Fire Department

Fire Service Benchmarks

In a 2010 survey of seven cities and towns similar to Laconia the results show:

- Our operating budget is 30% below average and is the lowest.
- Our overtime budget is the lowest and is 48% below average.
- Overtime budgets average 8 % of the operating budget; Laconia's is 5%
- We had the second highest number of emergency calls per firefighter on-duty – 445 (average is 364)
- We had the second highest number of emergency calls per 1,000 residents – 223 (average is 171)
- We ranked 6th in population – average 22,380
- We have the least number of firefighter's on-duty
- 4th in total number of homes – 9,879 (average 9,673)
- 2^{cd} for number of multi-family units
- 2^{cd} lowest cost per call
- 2^{cd} lowest cost per capita
- 2^{cd} lowest cost per capita property value
- 2^{cd} lowest per call
- Cost per home is the lowest at \$344.
- 6th for population

A second survey of twelve cities and towns ranging in population from 13,500 to 42,000 supports the above comparison. We ranked second for number of firefighters on-duty. We ranked second for calls per firefighter on-duty.

A survey of reported fires, as reported by the State Fire Marshal indicates our structure fire per 1,000 residents is three times higher than the State average.

Laconia continues to rank in the top of the State for the percentage of residents living in multiple family homes and the actual number of multi-family homes is well above average. This number is increasing as the new growth in the City is focused on townhouses and multi-unit buildings. There are just over 100 new multi-family units being built in the Weirs - three buildings will be five-stories high.

Our fires reflect the high number of multi-family homes. We average 36% of all our fires in multi-family homes, which is twice the national average. This is one reason why we need to maintain consistent staffing. Fires in multi-family homes simply require more firefighters to effectively control the situation.

Laconia Fire Department

These surveys reinforce what I have been stating since I came to Laconia – we are a very efficient low-cost fire department. Our staffing levels must be based on a fire in a multi-family dwelling, not a single-family home. We are probably the most efficient fire department in the state for a city of our size (something we are very proud of). However, this does not always result in effectiveness. It results in reduced levels of productivity and increases the risk of harm to our firefighters and residents.

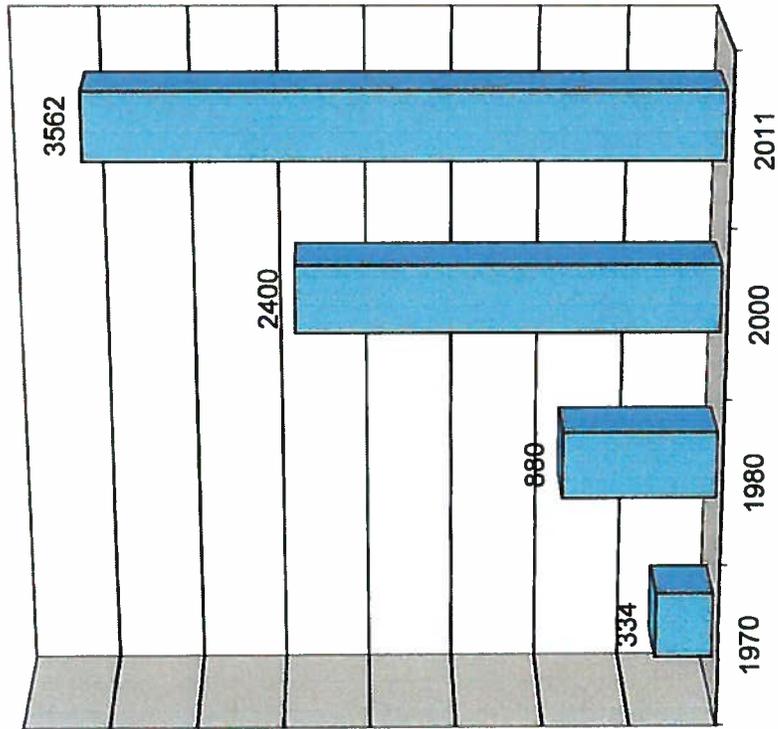
In my opinion, we cannot run short staffed. Eight firefighters on-duty is the minimum that we need. In reality, we should be staffed with 12 firefighter's on-duty. Overtime is essential to allow us to continue to deliver the level of service that we are providing and to maintain a reasonable degree of safety for our firefighters and residents.

It must be remembered that we never close. We operate 365 days per year 24 hours per day. We staff 730 work shifts each year. Most government operations operate 5 days a week.

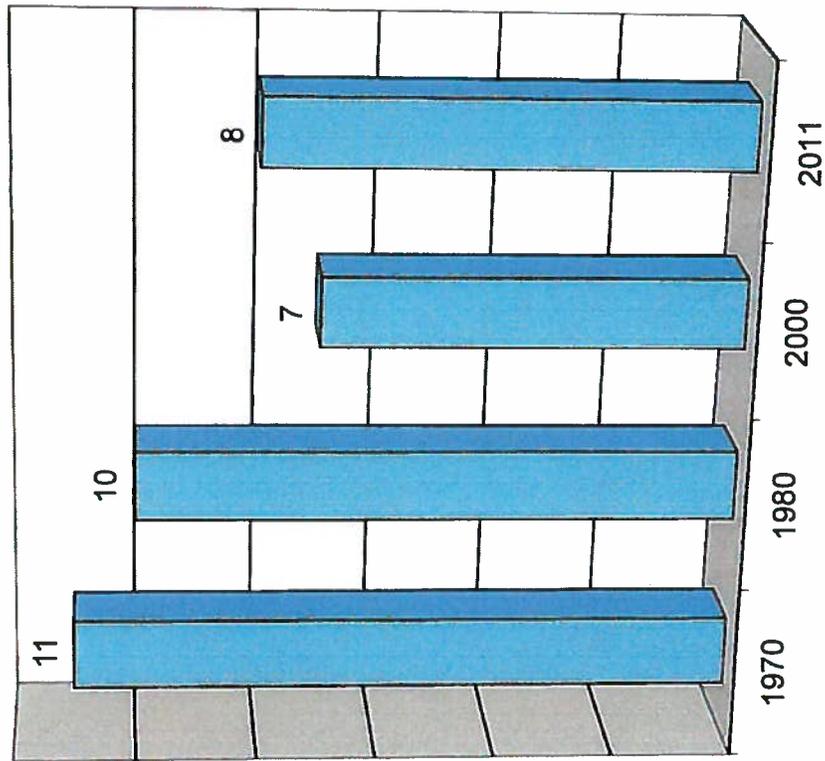
In 2008 when the Insurance Service Office conducted their review of our fire protection capabilities three items that resulted in a favorable grade was our constant staffing policy, our recall policy, and our automatic aid policy.

Compound all of the above items by the fact that we have a very high crime rate, poverty rate, unemployment rate, absentee landlords, homelessness, drug and alcohol abuse, high number of elderly and a very diverse social demographic, which all leads to a greater need and demand for emergency services.

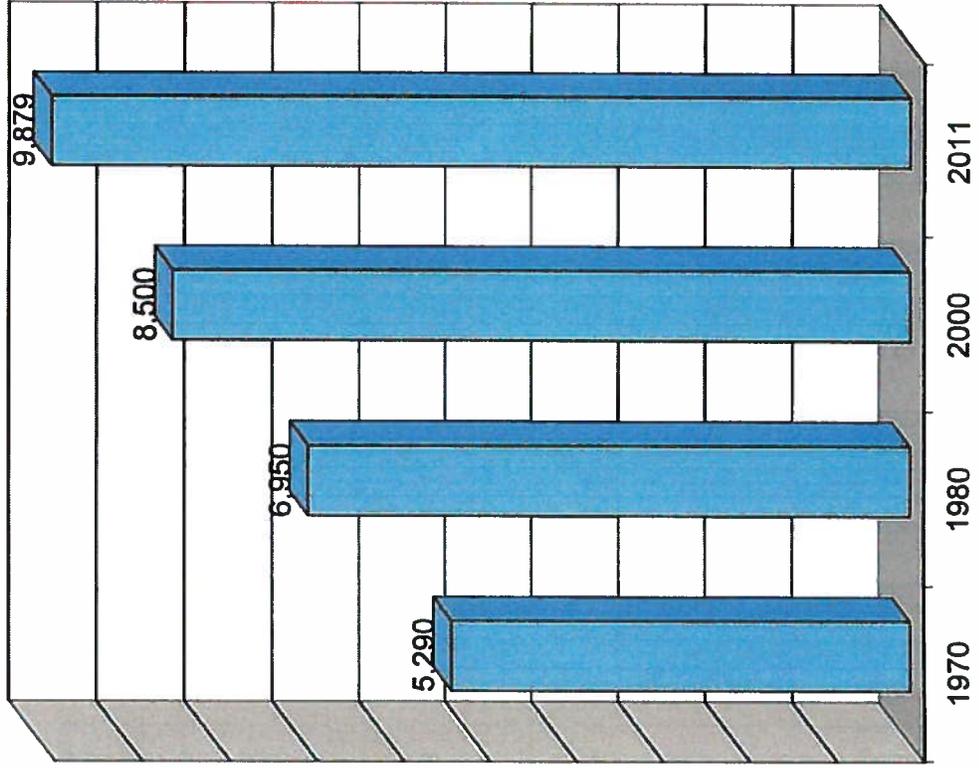
1970 - 2010
Emergency calls - 918 % increase



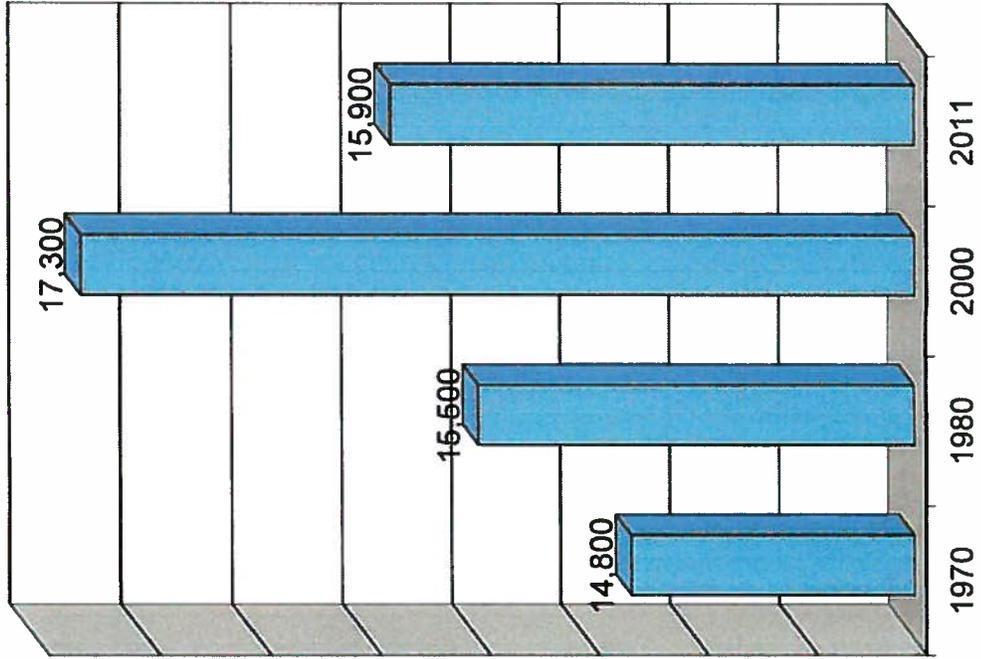
1970 - 2010
Firefighters on-duty -28%
Engines in service -33%
Stations in service -33%



**Growth in Dwelling Units
87 percent increase**



Laconia Census 1970- 2010



Comparison to other Cities and Towns

population range - 13,500 to 42,000

City/Town	Population	Calls per 1,000		Firefighters on-duty	Calls per Firefighter on-duty	All calls
		Population				
Hampton	15,434	313		9	537	4,833
Laconia	15,951	223		8	445	3,562
Hudson	24,991	109		9	303	2,727
Keene	23,409	158		10	371	3,708
Dover	28,880	144		11	379	4,166
Concord	42,360	181		23	333	7,665
Londonderry	25,104	124		11	283	3,109
Portsmouth	25,200	188		14	338	4,734
Derry	34,318	172		17	346	5,890
Merrimack	26,572	98		9	291	2,616
Hooksett	13,554	144		7	279	1,953
Rochester	31,072	69		8	269	2,150
Average	25,570	160		11	348	3,926

Rochester does not provide fire-based EMS

Laconia ranks third busiest for calls per 1,000 residents

laconia ranks second busiest for calls per firefighter on-duty

Laconia ranks eleventh in population

Laconia ranks sixth for total emergency calls.

গণপ্রজাতন্ত্রী বাংলাদেশ
City of Economic Development

24 hour service
Fire and EMS
Number of living units
Number of emergency calls

	1998	Sq. MI.	2,005	1	Multifamily	MH	Homes	MFH	1,000	1,000	2.1/	Perct.	No.	FS	Open	Sq. mi	Sta. Per	No.	No.	Pop./
TOWN	POP.	MI.	Budget	family	family	Total	% of	Total	1,000	1,000	1,000	avg.	No.	FS	Open	Sq. mi	Sta. Per	No.	No.	Pop./
1 Bedford	15,910	33	1,800,000	4,969	880	5,881	14.96%	25	33	48%	1	1	1	33.00	16	20	994			
2 Claremont	13,850	42	1,529,793	2,868	2,739	6,184	44.29%	22	29	76%	1	1	42.00	22	20	630				
3 Dover	26,650	26	5,031,687	5,132	6,384	12,011	53.15%	43	56	79%	2	2	13.00	44	5	606				
4 Exeter	13,400	21	1,903,000	2,503	2,176	5,804	37.49%	21	28	89%	1	1	21.00	25	22	536				
5 Hampton	13,340	15	4,269,000	5,087	3,741	9,258	40.41%	21	28	150%	2	2	7.50	42	8	318				
6 Hudson	21,700	29	4,622,000	5,167	2,510	7,917	31.70%	35	46	90%	3	2	14.50	41	26	529				
7 Keene	23,000	32	4,265,000	4,443	4,203	9,162	45.87%	37	48	87%	2	1	32.00	42	50	548				
8 Laconia	17,500	27	2,728,000	4,400	4,200	8,879	47.30%	28	37	76%	3	2	13.50	28	8	625				
9 Lebanon	12,700	35	2,462,000	2,626	3,018	5,949	50.73%	20	27	75%	3	2	17.50	20	24	635				
10 Londonderry	21,850	42	4,809,000	5,293	1,873	7,759	24.14%	35	46	76%	3	3	14.00	35	26	624				
11 Merrimack	23,900	33	4,600,000	6,315	2,321	8,846	26.24%	38	50	84%	4	2	16.50	42	20	569				
12 Portsmouth	23,100	16	5,758,000	3,916	5,875	10,312	56.97%	37	49	115%	3	3	5.33	56	0	413				
13 Rochester	27,800	45	3,255,000	5,457	3,886	11,967	32.56%	44	58	65%	2	2	22.50	38	40	732				
14 Salem	27,500	28	6,668,000	7,501	2,523	10,907	23.13%	44	58	99%	3	3	9.33	57	0	482				
Average	20,157	30	3,835,749	4,691	3,310	8,631	38.35%	32	42	86%	2	2	19	36	19	589				
Perc. Of Avg.	87%	89%	71%	94%	127%	103%		87%	87%	89%	127%	104%	72%	77%	42%	106%				

Information form New Hampshire Community Profiles 2000 edition
and Fire department budget reports

Fire and EMS
 City of Laconia

24 hour service
 Fire and EMS
 Number of living units
 Number of emergency calls

Cost per Capita	ISO	OT budget	OT per FF	Calls per Calls		FT	FT p day	People		
				FF	FF			Home	Home	
113.14	5 9	99,350	6,209	325	1,300	16	4.00	325	2.71	Bedford
110.45	4 9	16,000	727	175	961	22	5.50	175	2.24	Glaremont
188.81	3 9	224,091	5,093	261	2,875	44	11.00	261	2.22	Dover
142.01	4	160,000	6,400	307	1,918	25	6.25	307	2.31	Exeter
320.01	3	432,000	10,286	275	2,890	42	10.50	275	1.44	Hampton
213.00	4 9	328,800	8,020	281	2,881	41	10.25	281	2.74	Hudson
185.43	4 9	274,620	6,539	295	3,096	42	10.50	295	2.51	Keene
155.89	3 9	141,785	5,064	362	2,537	28	7.00	362	1.97	Laconia
193.86	4 9	247,000	12,350	433	2,167	20	5.00	433	2.13	Lebanon
220.09	5 9	273,000	7,800	279	2,443	35	8.75	279	2.82	Londonderry
192.47	5 9	391,700	9,326	216	2,268	42	10.50	216	2.70	Merrimack
249.26	4	500,000	8,929	320	4,484	56	14.00	320	2.24	Portsmouth
117.09	4 9	185,000	4,868	174	1,652	38	9.50	174	2.32	Rochester
242.47	3 9	784,000	13,754	283	4,033	57	14.25	283	2.52	Salem
189	1	289,810	7,987	263	2,390	36	9.07	263	2.35	
83%		49%	63%							

Comparative Analysis of
 Cities and towns Similar to Laconia

24 hour service
 Fire and EMS
 Number of living units
 Number of emergency calls

City	Pop.	Sq. Mi.	Den	Total living units	Multi family	Perc. MF	1-family	Budget 2011	OT	OT % Budget	Prop in Billions	Cost per cap prop.	Cost cap. pop.
Hampton	15,434	14.0	1,102	9,911	4,217	43%	5,694	\$3,700,121	\$397,407	10.7%	3,055	825	\$240
Laconia	15,951	20.0	850	9,879	4,701	48%	5,178	\$3,401,798	\$183,000	5.4%	1,919	560	\$213
Keene	23,409	37.1	631	9,628	4,406	46%	5,222	\$5,215,876	\$485,700	9.3%	1,860	364	\$223
Londonderry	25,104	42.0	598	8,599	2,270	26%	6,329	\$5,409,129	\$530,213	9.8%	3,317	612	\$215
Hudson	24,991	28.5	877	9,200	2,817	31%	6,383	\$5,010,274	\$358,000	7.1%	2,909	581	\$200
Portsmouth	25,200	15.7	1,605	10,625	5,206	49%	5,419	\$6,775,060	\$378,000	5.6%	3,903	579	\$269
Merrimack	26,572	32.6	815	9,866	2,656	27%	7,210	\$4,534,717	\$356,000	7.9%	2,792	711	\$171
AVERAGE	22,380	27	925	9,673	3,753	38%	5,919	4,863,854	384,046	8%	2,822	605	219
Ranking	6	5	4	3	2	2	7	7	7	7	6	6	6
Deviation	0.71	0.74	0.92	1.02	1.25	1.24	0.87	0.70	0.48	0.67	0.68	0.93	0.97

Comparative Analysis of
 Cities and towns Similar to Laconia

24 hour service
 Fire and EMS
 Number of living units
 Number of emergency calls

City	Cost per call	Cost per unit	All calls	FTE all	FF per shift	Calls OD FF	Calls p/1000 pop.	Cost p/station	Cost per FF	Pop. p/stat	Stat Sq.mi.	Stas
Hampton	\$ 766	373	4,833	40	9	537	313	\$ 1,850,061	\$ 92,503	7,717	7	2
Laconia	\$ 955	344	3,562	36	8	445	223	\$ 1,700,899	\$ 94,494	7,976	13	2
Keene	\$ 1,432	542	3,643	46	9	405	156	\$ 2,607,938	\$113,389	11,705	19	2
Londonderry	\$ 1,740	629	3,109	51	11	283	124	\$ 1,803,043	\$106,061	8,368	14	3
Hudson	\$ 1,837	545	2,727	46	9	303	109	\$ 1,670,091	\$108,919	8,330	10	3
Portsmouth	\$ 1,431	638	4,734	62	14	338	188	\$ 2,258,353	\$109,275	8,400	5	3
Merimack	\$ 2,113	460	2,146	42	9	238	81	\$ 1,511,572	\$107,969	8,857	11	3
	1,468	504	3,536	46	10	364	171	1,914,565	104,659	8,765	11	3
	6	7	4	7	7	2	2	6	6	2	3	5
	0.65	0.68	1.01	0.78	0.81	1.22	1.31	0.89	0.90	0.91	1.16	0.78

Laconia Fire Department

Fire Department Overtime

Adequate staffing of fire apparatus and fire stations is directly related to maintaining good response times to emergencies, firefighter safety and victim survivability, firefighter capability, productivity and effectiveness. Staffing directly affects our capability to provide life saving services to our residents. Our ability to rescue a person trapped in a fire, or trapped in a car wreck, rescue a drowning victim, a person choking, provide effective CPR, and transport a STEMI patient to a cardiac hospital is directly related to staffing and response time. We provide critical life saving services. We no longer handle just fires. We are an all-hazards emergency response team.

Our overtime budget may seem high; however our overall cost to provide emergency service and protection is very low, especially when compared to similar cities and towns:

- Our cost per thousand of property protected is \$1.32
- Our cost for service per resident remains low at \$193.
- Generally, overtime accounts for 10-20 percent of a department's total operating budget. Our overtime budget is 7% of the total budget.
- Our cost per emergency incident is \$982. The average is \$1,431.

These comparisons are based on cities and towns in NH of similar size and characteristics to Laconia and are based on FY 2009-10.

We are a low-cost and very efficient fire department.

Constant Staffing vs. Overstaffing

Overstaffing model

Municipalities and fire departments utilize two models for staffing. Overstaffing is based on a formula whereby you determine how many firefighters you want on-duty or per truck and then overstaff those positions. The overstaffed person then fills in for vacancies. This system dates back to the mid-20th century. Many larger cities still follow this model. In my opinion it is a very expensive way to operate a fire department. If you want eight firefighters on-duty each shift then you need to assign at least nine to each shift. This equates to four extra firefighters who then cover the first vacancy. This system works as long as there is only one person out per shift. If more than one person is out you either spend overtime to keep staffing at eight or you put trucks out of service operate with 7 or less on-duty.

Laconia Fire Department

We keep one Officer and one Firefighter on each pumper (one in the Weirs and one in Central), and one firefighter on each ladder truck (one in Weirs and one in Central) and two firefighters assigned to the ambulance. According to national best practices, we should have eighteen fire officers and firefighters working each day to staff these trucks.

In the case of overstaffing, we would need at least nine firefighters per shift to keep eight on-duty at all times. This equals four additional full-time firefighters at approximately \$285,000. This does not include uniforms or protective clothing, but does include benefits. Even with nine per shift, there will be times when overtime is needed. Two people schedule vacation and then one person calls in sick and one person takes a personnel day then two positions would need to be filled using overtime, or you close a station for the day. Overtime would still be needed for major fires and multiple calls.

Constant staffing model

I use the constant staffing model. In my opinion, it is the least expensive and most efficient method to maintain staffing. We staff four shifts of eight firefighters. In my opinion, that is the minimum needed 24 hours a day. In order to cover every vacancy – sick, personnel, vacation, etc., and cover recalls we would need \$230,000 in overtime. The constant staffing model results in a savings of \$54,000 per year.

Keep in mind that if you use the overstaffing model you increase time-off per month. With nine firefighters per shift, there will be 576 vacancies per year compared to current rate of 504.

The constant staffing model allows a fire department to develop strategy and tactics that are based on defined number of people on-duty. With overstaffing, some days there may be nine on-duty but in reality everyday will be different. We plan our high risk operations with eight firefighter's on-duty and an automatic response from Gilford. This provides three work crews of 3 firefighters each to perform various tasks at a fire. One crew will stretch the first hose, attack the fire, and search the immediate area for victims; one crew will get a water supply from the closest hydrant, and then stretch a second hose to back-up the first attack crew. This crew will start to search for victims and fire extension further away from the fire area. The third crew is assigned based on priority of needs: Assist with a rescue, go to the floor above and stop the spread of fire, ventilate the building by opening the roof and upper floor windows, or protect the

Laconia Fire Department

exposures. Our training and standard operating procedures are based on these general guidelines. Our success rate is very good with these tactics.

Constant staffing utilizes the same employees so we do not pay more in benefits and we do not need more protective equipment. The firefighters gain more experience, which is critical in this business. The firefighters are acclimated to working together with all shifts. The firefighters do earn a good salary with the overtime; however, they are working at least eight extra hours each week for an average of 50 hours per week.

Look at our recent fire history. We are able to do our job better because of constant staffing, automatic aid, and automatic recall of off-duty help. We can make an aggressive fire attack and do some remarkable work. This is also because of the firefighters training and their commitment to doing great firefighting that makes them so successful. Constant staffing though makes a huge difference; it gives them a higher level of confidence knowing the game plan will work.

Analogy

Imagine a professional football team going on to the field. Each time they go on the field there should be 11 players on offense and 11 players on defense. However, instead of 11 on offense every play the coach decides that they will go out with just seven players or maybe eight the next time. The defense always shows up with 11 players (in some fires the defense shows up with dozens of players such as the Lakes Region Linen fire, or an occupied apartment house). The defense will annihilate the offense. In our business, we don't get tackled or fumble the ball, or lose the game. We may not be able to make a rescue; we may not be able to get a hose line to the third floor. We may not have someone to raise an aerial ladder to a victim, or vent the smoke and heat. We lose. People lose. We lose property, someone's home; we lose personal belongings and family memories; we may lose lives; we may be injured; we may be killed. Having a standard game plan is critical to our success and to the safety of our residents.

We appropriate \$50,000 per week in salaries and benefits to ensure a rapid response with a trained contingent of firefighters. An additional \$4,400 in overtime is needed each week to ensure consistency in staffing, operations, and equality in response. Overtime is a small price to pay to allow a fire department to function at a reasonable level of efficiency and at a higher level of effectiveness.

includes 08,09,10 only

	FY09	FY10	FY11	FY12	4 yr avg	Average 12 hr	12 hr. shifts p/FTE	Per Month
Holiday on	61971	59600	54661	62626	\$59,715			
Holiday off	34933	34139	34784	29814	\$33,418			
Vacancy	1263	624	348	730	741	62	2	5.1
Cost	39831	19592	10758	22673	\$23,214			
Extra duty	736	501	384	583	551	46	2	3.8
Cost	23963	17009	12529	20333	\$18,459			
Vacation	3195	2652	2748	2520	2779	232	8	19.3
Cost	101877	89891	91215	83049	\$91,508			
Sick time	1223	1007	1533	1032	1199	100	4	8.3
Cost	39430	33834	50151	32450	\$38,966			
LOD	736	407	776	473	598	50	2	4.2
Cost	27440	12824	28205	16234	\$21,176			
P-days	1032	1188	1296	878	1099	92	3	7.6
Cost	33880	40285	43325	30246	\$36,934			
recalls	115	86	71	23	74	581	21	48.4
hours	831	663	603	244	585			
Cost	26807	21618	19698	8230	\$19,088			
Training	760	584	164	492	500			
Cost	24132	18958	5305	16351	\$16,187			
Union	48	69	76	70	66			
Cost	1484	2361	2648	2027	\$2,130			
Misc.	317	298	281	342	310			
Cost	12469	14881	7200	11247	\$11,449			
Negotiations					0			
Cost					0			
Physicals	63	37	43	25	42			
Cost	2009	1331	1418	758	\$1,379			
LSF	572	648	168	168	347			
	17615	21233		5382	\$11,058			
					8469	\$279,469		

Misc. includes details and other reimbursements

	FY11-12	FY 10-11	FY 09-10	FY 08-09	FY 07-08
holiday	15794	16800	17600	14200	16000
<i>MW hrs.</i>	777	658	691	572	620
MW \$	23575	21278	22288	17687	19248
Vacancy	350	48	0	0	96
V \$	12073	1559	0	0	2920
<i>Extra duty</i>	115	314	421	546	434
ED \$	3878	9728	13086	16800	13720
Vacation	504	372	360	384	457
V \$	14757	11350	11351	11379	13219
Sick	438	117	132	360	319
S \$	14368	3820	4093	11042	9837
Injury	840	1692	60	266	829
I \$	33103	63759	1853	8513	25127
P-day	204	372	96	132	180
P \$	6331	12133	2815	4114	5381
<i>Recalls</i>	15	109	125	77	73
<i>R hours</i>	59	508	621	369	257
R \$	1899	17137	20915	11818	8679
Phs	6	9	3	7	10
\$	202	319	101	260	346
Training	724	694	660	1136	429
\$	24000	27321	20727	35874	12878
<i>2cd amb</i>	2393	1437	2828	2206	2111
\$	71488	44132	88064	66551	62335
Misc.	72	0	0	120	168
S	2460	3483	0	3564	3969
total hours		6221	5872	6098	5910
total cost	\$223,928.00	\$232,819.00	\$202,893.00	\$201,802.00	\$193,659.00

Total extra staff 3344 2917 4561 3693 3422
italicized hours are part of the 4,900 extra staffing hours.

Laconia Fire Department

MAY 2012 Firefighter/EMT Injury Report

The Laconia Fire Department, being a municipal agency, is funded predominantly through funds from collected tax revenues. We realize the expenditures of the department are under the scrutiny of the local government as well as the taxpayers. We have a responsibility in managing costs associated with personnel injuries and injury prevention strategies.

Over the last several years, we have devoted time, effort and grant resources to help reduce the incidence and severity of fire and emergency medical services work-related injuries. At this point, we have not seen any reduction in injuries, in fact 2011 was our highest year to date. Nationally, the trend over the last 10 years has been a 20% decrease in work-related fire service injuries.

- Average number of injuries 2001-2005 13
- Average number of injuries 2006-2011 14.5
- Average number of injuries 2010-2011 17
- Number of injuries 2011 18

The majority of our injuries are happening during fire and EMS incidents. We have compared our injury rates both locally, in New Hampshire and Nationally.

Locally- according to Primex, from December 2005 –December 2010, Laconia ranked number one for number and costs of injuries, of all other fire departments in the risk pool with a total incurred cost of \$611, 400.

Nationally- (same size community)

20.5% of injuries result in lost time
Number of injuries per 100 fires = 1.6
Number of injuries per 100 firefighters =2.4

Laconia-

29% result in lost time
per 100 fires = 2.8
per 100 firefighters = 4.8

In 2011, we incurred ,on average, 2.1 injuries for every 1000 hours worked. Our total number of hours lost due to LOD injuries was 2328 at a cost of nearly \$82,000. The average for the last few years was 1048 hours at a cost of \$37,000. In 2011, the cost to cover all LOD injury shifts would have been one quarter of our entire overtime budget, as well as a portion from the LRGH budget. Clearly, we have more work to do so that the current and next fiscal year can begin to turn around.

Overtime Average FY 9 thru FY11

	City		LRGH	
Shift Work				
Vacant shifts	\$24,809	(60)	\$1,559	(4)
Extra duty	\$20,003	(49)	\$79,453	(195)
Vacation/P-days	\$134,232	(319)	\$17,714	(43)
Sick time	\$45,972	(109)	\$6,318	(15)
Injury	\$29,857	(71)	\$24,708	(60)
Non-shift work				
Emergencies	\$20,727		\$16,623	
Training	\$14,504		\$26,774	
Contractual	\$3,945		\$0	
Miscellaneous	\$8,901		\$2,375	
Total	\$302,950	(608)	\$175,524	(317)
Life Saving Fund	\$12,520		\$0	

LRGH includes extra ambulances during Bike Week and summer events.

Overtime spent includes salaries from vacant positions and reimbursement from workers comp.

CITY OF LACONIA-EXPENDITURE PLAN							
FISCAL YEAR 2012-2013							
DEPARTMENTS	2011-12 COUNCIL	2012-13 DEPT REQ	%DEPT 12-13	2012-13 MANAGER	% MANGR 12-13	2012-13 COUNCIL	%COUNCIL 12-13
1. ADMINISTRATION	\$204,394	\$175,710	-14.0%	\$184,011	-10.0%	\$189,011	-7.5%
a. CAPITAL OUTLAY	\$1,190,000	\$2,326,000	95.5%	\$1,725,000	45.0%	\$1,665,000	39.9%
b. NON DEPARTMENTAL	\$1,258,862	\$237,065	-81.2%	\$237,065	-81.2%	\$237,064	-81.2%
c. SPECIAL ITEMS	\$184,573	\$241,825	31.0%	\$204,829	11.0%	\$204,829	11.0%
d. LICENSING BOARD	\$10,162	\$11,661	14.8%	\$11,977	17.9%	\$11,977	17.9%
2. ASSESSING	\$224,853	\$233,383	3.8%	\$243,142	8.1%	\$242,142	7.7%
3. CODE ENFORCEMENT	\$147,222	\$145,222	-1.4%	\$171,942	16.8%	\$169,942	15.4%
4. CONSERVATION COM	\$3,970	\$4,170	5.0%	\$4,170	5.0%	\$4,170	5.0%
5. FINANCE							
a. EMPLOYEE BENEFITS	\$1,377,272	\$1,363,752	-1.0%	\$1,199,665	-12.9%	\$1,194,665	-13.3%
b. FISCAL	\$606,787	\$535,164	5.6%	\$536,625	5.9%	\$536,625	5.9%
c. INSURANCE	\$463,044	\$486,615	5.1%	\$486,615	5.1%	\$476,615	2.9%
d. PRINCIPAL & INTEREST	\$1,241,288	\$1,235,549	-0.5%	\$1,235,549	-0.5%	\$1,235,549	-0.5%
e. REIMBURSABLES	\$180,000	\$150,000	-16.7%	\$150,000	-16.7%	\$150,000	-16.7%
6. FIRE	\$3,401,798	\$3,598,501	5.8%	\$3,424,475	0.7%	\$3,424,475	0.7%
7. LEGAL	\$117,900	\$128,900	9.3%	\$146,900	24.6%	\$142,900	21.2%
8. LIBRARY	\$743,689	\$781,427	5.1%	\$799,337	7.5%	\$793,304	6.7%
9. PLANNING	\$296,985	\$334,121	12.5%	\$321,044	8.1%	\$320,544	7.9%
10. POLICE	\$4,675,938	\$4,775,847	2.1%	\$4,634,641	-0.9%	\$4,694,641	0.4%
11. PUBLIC WORKS	\$2,315,882	\$2,293,849	-1.0%	\$2,278,223	-1.6%	\$2,253,223	-2.7%
a. SOLID WASTE	\$1,911,618	\$1,902,385	-0.5%	\$1,853,531	-3.0%	\$1,898,531	-0.7%
12. RECORDS							
a. CITY CLERK	\$134,091	\$131,491	-1.9%	\$136,321	1.7%	\$136,321	1.7%
b. ELECTIONS	\$33,320	\$34,800	4.4%	\$34,800	4.4%	\$34,800	4.4%
13. RECREATION & FACILITIES	\$586,387	\$644,498	9.9%	\$632,200	7.8%	\$632,200	7.8%
a. CITY HALL MAINT	\$78,291	\$84,268	7.6%	\$81,708	4.4%	\$81,708	4.4%
b. COMMUNITY CENTER	\$45,838	\$45,616	-0.5%	\$45,006	-1.8%	\$45,006	-1.8%
c. POLICE STATION	\$110,731	\$121,574	9.8%	\$114,105	3.0%	\$114,105	3.0%
14. WELFARE	\$184,877	\$184,877	0.0%	\$186,686	1.0%	\$184,686	-0.1%
TOTAL CITY APPROPRIATION	\$21,629,772	\$22,208,270	2.7%	\$21,079,567	-2.5%	\$21,074,033	-2.6%

	<u>2011-2012</u>	<u>2012-2013</u>	<u>%DEPT</u>	<u>2012-2013</u>	<u>% MNGR</u>	<u>2012-2013</u>	<u>% COUNCIL</u>
	<u>COUNCIL</u>	<u>DEPT REQ</u>	<u>REQ</u>	<u>MANAGER</u>	<u>12-13</u>	<u>COUNCIL</u>	<u>12-13</u>
TOTAL CITY APPROPRIATION	\$21,629,772	\$22,208,270	2.7%	\$21,079,567	-2.5%	\$21,074,033	-2.6%
LESS CITY EST REVENUES	\$7,026,384	\$6,331,997	-9.9%	\$6,401,997	-8.9%	\$6,556,997	-6.7%
NET CITY	\$14,603,388	\$15,876,273	8.7%	\$14,677,570	0.5%	\$14,517,036	-0.6%
SCHOOL APPROPRIATION	\$29,492,512	\$30,203,196	2.4%	\$30,203,196	2.4%	\$30,203,196	2.4%
FED & SCH LUNCH FUNDS	\$4,853,882	\$4,611,882	-5.0%	\$4,611,882	-5.0%	\$4,611,882	-5.0%
TOTAL SCHOOL APPROP	\$34,346,394	\$34,815,078	1.4%	\$34,815,078	1.4%	\$34,815,078	1.4%
SCHOOL EST REVENUES****	\$13,771,212	\$13,839,936	0.5%	\$13,839,936	0.5%	\$13,839,936	0.5%
FED & SCH LUNCH REV****	\$4,853,882	\$4,611,882	-5.0%	\$4,611,882	-5.0%	\$4,611,882	-5.0%
TOTAL SCHOOL EST REV	\$18,625,094	\$18,451,818	-0.9%	\$18,451,818	-0.9%	\$18,451,818	-0.9%
NET SCHOOL	\$15,721,300	\$16,363,260	4.1%	\$16,363,260	4.1%	\$16,363,260	4.1%
OVERLAY FOR ABATEMENTS	\$135,100	\$135,100	0.0%	\$175,000	29.5%	\$175,000	29.5%
WAR SERVICE CREDITS	\$476,760	\$476,750	0.0%	\$476,750	0.0%	\$476,750	0.0%
COUNTY TAX ASSESSMENT*	\$2,737,029	\$2,775,035	1.4%	\$2,775,035	1.4%	\$2,775,035	1.4%
GRAND TOTAL APPROP	\$59,325,045	\$60,410,233	1.8%	\$59,321,430	0.0%	\$59,315,896	0.0%
ESTIMATED REVENUES-CITY							
16. NON PROPERTY TAXES	\$236,000	\$215,000	-8.5%	\$215,000	-8.5%	215,000	-8.5%
17. INTERGOVENMENTAL	\$1,071,265	\$1,002,537	-6.4%	\$1,002,537	-6.4%	1,002,537	-6.4%
18. LICENSES & PERMITS	\$2,556,637	\$2,568,317	0.4%	\$2,598,317	1.6%	2,598,317	1.6%
19. CHARGES FOR SERVICES	\$988,656	\$958,656	-3.0%	\$998,656	1.0%	1,093,656	10.6%
20. MISC REVENUES	\$804,826	\$712,487	-21.3%	\$712,487	-21.3%	712,487	-21.3%
21. SURPLUS	\$1,268,000	\$875,000	-31.0%	\$875,000	-31.0%	\$935,000	-26.3%
TOTAL CITY EST REVENUES	\$7,026,384	\$6,331,997	-9.9%	\$6,401,997	-8.9%	\$6,556,997	-6.7%
SCHOOL EST REVENUES	\$13,771,212	\$13,839,936	0.5%	\$13,839,936	0.5%	\$13,839,936	0.5%
FF & SCH LUNCH REV	\$4,853,882	\$4,611,882	-5.0%	\$4,611,882	-5.0%	\$4,611,882	-5.0%
TOTAL REVENUES	\$25,651,478	\$24,783,815	-3.4%	\$24,853,815	-3.1%	\$25,008,815	-2.5%
BALANCE TO BE RAISED-LOCAL	\$33,673,567	\$35,626,418	5.8%	\$34,467,615	2.4%	\$34,307,081	1.9%
BALANCE TO BE RAISED-STATE*	\$4,722,011	\$4,746,462	0.5%	\$4,746,462	0.5%	\$4,746,462	0.5%
ASSESSED VALUATION	\$1,870,057,201	\$1,870,057,201	0.0%	\$1,888,057,201	1.0%	\$1,888,057,201	1.0%
LOCAL TAX RATE PER \$1,000	\$18.01	\$19.05	5.8%	\$18.26	1.4%	\$18.17	0.9%
STATE TAX RATE PER \$1,000*	\$2.55	\$2.57	0.0%	\$2.54	0.0%	\$2.54	-0.5%
TOTAL TAX RATE PER \$1,000	\$20.56	\$21.62	5.1%	\$20.80	1.2%	\$20.71	0.7%
Tax Rate Increase		\$1.06		\$0.24		\$0.15	
*adjusted, no utilities							
Notes: Surplus							
\$875,000 usual - increased to \$935,000 FY13							
Assessed Valuation - Prior Year All Other Tax from DRA Tax Rate Sheet - \$1,870,057,201 + \$18,000,000 = \$1,888,057,201							
Manager State Tax Rate - Prior Year \$1,849,351,901 + \$18,000,000 = \$1,867,351,901							
Dept Req State Tax Rate - Prior Year \$1,849,351,901 (From DRA Tax Rate Sheet)							

	<u>2011-2012</u>	<u>2012-2013</u>	<u>% DEPT</u>	<u>2012-2013</u>	<u>%MGR</u>	<u>2012-2013</u>	<u>%COUNCIL</u>
	<u>BUDGET</u>	<u>DEPT REQ</u>	<u>12-13</u>	<u>MANAGER</u>	<u>12-13</u>	<u>COUNCIL</u>	<u>12-13</u>
NON PROPERTY TAXES							
23. INTEREST ON TAXES	\$60,000	\$60,000	0.0%	\$60,000	0.0%	\$60,000	0.0%
24. REDEMPTION INTEREST	\$105,000	\$90,000	-14.3%	\$90,000	-14.3%	\$90,000	-14.3%
25. BOAT TAXES	\$70,000	\$85,000	-7.1%	\$85,000	-7.1%	\$85,000	-7.1%
TOTAL NON PROPERTY TO 16	\$235,000	\$215,000	-8.5%	\$215,000	-8.5%	\$215,000	-8.5%
INTERGOVERNMENTAL							
26. SHARED REVENUES	\$ -	\$ -		\$ -		\$ -	
27. ROOMS & MEALS TAX	\$712,514	\$712,514	0.0%	\$712,514	0.0%	\$712,514	0.0%
29. HIGHWAY BLOCK GRANT	\$358,140	\$289,412	-19.2%	\$289,412	-19.2%	\$289,412	-19.2%
30. NH FOREST LAND	\$611	\$611	0.0%	\$611	0.0%	\$611	0.0%
TOTAL INTERGOV TO 17	\$1,071,265	\$1,002,537	-6.4%	\$1,002,537	-6.4%	\$1,002,537	-6.4%
LICENSES & PERMITS							
31. MOTOR VEHICLE REG	\$1,970,000	\$1,970,000	0.0%	\$2,000,000	1.5%	\$2,000,000	1.5%
32. DOG LICENSES & FINES	\$10,000	\$10,000	0.0%	\$10,000	0.0%	\$10,000	0.0%
33. BUILDING & ZONING FEES	\$125,000	\$125,000	0.0%	\$125,000	0.0%	\$125,000	0.0%
34. FEES, TAX COLLECTION	\$16,173	\$13,000	-19.6%	\$13,000	-19.6%	\$13,000	-19.6%
35. FEES, CITY CLERK	\$115,000	\$115,000	0.0%	\$115,000	0.0%	\$115,000	0.0%
37. FRANCHISE FEES	\$262,464	\$275,317	4.9%	\$275,317	4.9%	\$275,317	4.9%
38. ALARM BOX FEES	\$60,000	\$60,000	0.0%	\$60,000	0.0%	\$60,000	0.0%
TOTAL LIC & PERMITS TO 18	\$2,558,637	\$2,568,317	0.4%	\$2,598,317	1.6%	\$2,598,317	1.6%
CHARGES FOR SERVICES							
39. MISC REMIBURSABLES	\$180,000	\$150,000	-16.7%	\$150,000	-16.7%	\$150,000	-16.7%
40. AMBULANCE LRGH	\$7,656	\$7,656	0.0%	\$7,656	0.0%	\$7,656	0.0%
41. FIRE DEPT	\$35,000	\$35,000	0.0%	\$35,000	0.0%	\$35,000	0.0%
42. PLANNING DEPT	\$25,000	\$25,000	0.0%	\$25,000	0.0%	\$25,000	0.0%
43. POLICE DEPT	\$6,000	\$6,000	0.0%	\$6,000	0.0%	\$6,000	0.0%
44. PUBLIC WORKS & S.W.	\$735,000	\$735,000	0.0%	\$775,000	5.4%	\$870,000	18.4%
TOTAL CHARGES TO 19	\$988,656	\$958,656	-3.0%	\$998,656	1.0%	\$1,093,656	10.6%
MISCELLANEOUS REVENUES							
45. INTEREST ON INVESTMENTS	\$300,000	\$150,000	-50.0%	\$150,000	-50.0%	\$150,000	-50.0%
46. WEIRS BEACH PARKING	\$25,000	\$25,000	0.0%	\$25,000	0.0%	\$25,000	0.0%
47. PARKING METERS	\$65,000	\$65,000	0.0%	\$65,000	0.0%	\$65,000	0.0%
48. PARKING VIOLATIONS	\$40,000	\$40,000	0.0%	\$40,000	0.0%	\$40,000	0.0%
49. PILOT-ELDERLY HOUSING	\$93,873	\$79,079	-15.8%	\$79,079	-15.8%	\$79,079	-15.8%
50. PILOT-CAP	\$19,012	\$20,012	5.3%	\$20,012	5.3%	\$20,012	5.3%
51. PILOT-SKATING CLUB	\$14,096	\$14,921	5.9%	\$14,921	5.9%	\$14,921	5.9%
52. PILOT-TAYLOR HOME	\$296,551	\$266,905	-10.0%	\$266,905	-10.0%	\$266,905	-10.0%
53. PILOT-STATE	\$7,294	\$7,570	3.8%	\$7,570	3.8%	\$7,570	3.8%
54. P&R LEASES	\$15,000	\$15,000	0.0%	\$15,000	0.0%	\$15,000	0.0%
55. FINES	\$15,000	\$15,000	0.0%	\$15,000	0.0%	\$15,000	0.0%
56. SSF REMIB TO GF	\$14,000	\$14,000	0.0%	\$14,000	0.0%	\$14,000	0.0%
TOTAL MISC TO 20	\$904,826	\$712,487	-21.3%	\$712,487	-21.3%	\$712,487	-21.3%
TOTAL CITY NON-TAX REVENUE	\$5,758,384	\$5,456,997	-5.2%	\$5,526,997	-4.0%	\$5,621,997	-2.4%

CITY OF LACONIA-EXPENDITURE PLAN							
FISCAL YEAR 2011-2012							
DEPARTMENTS	2010-11* COUNCIL	2011-12 DEPT REQ	%DEPT 11-12	2011-12 MANAGER	% MANGR 11-12	2011-12 COUNCIL	%COUNCIL 11-12
1. ADMINISTRATION	\$204,394	\$204,394	0.0%	\$204,394	0.0%	\$204,394	0.0%
a.CAPITAL OUTLAY	\$1,280,512	\$2,212,000	75.5%	\$1,040,000	-17.5%	\$1,190,000	-5.8%
b.NON DEPARTMENTAL	\$361,872	\$229,057	-36.7%	\$654,301	80.8%	\$1,258,862	247.9%
c.SPECIAL ITEMS	\$194,948	\$257,892	32.3%	\$194,573	-0.2%	\$184,573	-5.3%
d.LICENSING BOARD	\$10,037	\$10,162	1.2%	\$10,162	1.2%	\$10,162	1.2%
2. ASSESSING	\$226,606	\$234,229	3.4%	\$230,548	1.7%	\$224,853	-0.8%
3. CODE ENFORCEMENT	\$153,117	\$154,099	0.6%	\$147,222	-3.8%	\$147,222	-3.8%
4. CONSERVATION COM	\$3,970	\$3,970	0.0%	\$3,970	0.0%	\$3,970	0.0%
5. FINANCE							
a.EMPLOYEE BENEFITS	\$1,204,712	\$1,436,262	19.2%	\$1,373,826	14.0%	\$1,377,272	14.3%
b.FISCAL	\$515,193	\$552,919	7.3%	\$508,787	-1.6%	\$508,787	-1.6%
c.INSURANCE	\$423,500	\$478,544	13.0%	\$463,044	9.3%	\$463,044	9.3%
d.PRINCIPAL & INTEREST	\$1,416,005	\$1,427,530	0.8%	\$1,267,530	-10.5%	\$1,241,288	-12.3%
e.REIMBURSABLES	\$151,000	\$151,000	0.0%	\$180,000	19.2%	\$180,000	19.2%
6. FIRE	\$3,412,976	\$3,659,888	7.2%	\$3,440,088	0.8%	\$3,401,798	-0.3%
7. LEGAL	\$90,900	\$120,900	33.0%	\$117,900	29.7%	\$117,900	29.7%
8. LIBRARY	\$763,301	\$800,457	4.9%	\$756,391	-0.9%	\$743,689	-2.6%
9. PLANNING	\$297,852	\$314,430	5.6%	\$296,985	-0.3%	\$296,985	-0.3%
10. POLICE	\$4,479,769	\$4,790,334	6.9%	\$4,649,998	3.8%	\$4,675,938	4.4%
11. PUBLIC WORKS	\$2,381,345	\$2,409,683	1.2%	\$2,315,882	-2.7%	\$2,315,882	-2.7%
a.SOLID WASTE	\$1,890,372	\$1,965,000	3.9%	\$1,931,618	2.2%	\$1,911,618	1.1%
12. RECORDS							
a.CITY CLERK	\$135,863	\$142,454	4.9%	\$134,091	-1.3%	\$134,091	-1.3%
b.ELECTIONS	\$32,500	\$33,320	2.5%	\$33,320	2.5%	\$33,320	2.5%
13. RECREATION & FACILITIES	\$614,740	\$671,950	9.3%	\$586,387	-4.6%	\$586,387	-4.6%
a.CITY HALL MAINT	\$78,950	\$78,291	3.1%	\$78,291	3.1%	\$78,291	3.1%
b.COMMUNITY CENTER	\$46,992	\$45,838	-2.5%	\$45,838	-2.5%	\$45,838	-2.5%
c.POLICE STATION	\$112,717	\$110,731	-1.8%	\$110,731	-1.8%	\$110,731	-1.8%
14. WELFARE	\$201,860	\$200,465	-0.7%	\$184,877	-8.4%	\$184,877	-8.4%
TOTAL CITY APPROPRIATION	\$20,663,003	\$22,695,799	9.8%	\$20,958,554	1.4%	\$21,629,772	4.7%

*This column revised to reflect transfer in the salary and benefits line to contingency soon after the budget was passed.

	2010-11 COUNCIL	2011-2012 DEPT REQ	%DEPT REQ	2011-2012 MANAGER	% MNGR 11-12	2011-2012 COUNCIL	%COUNCIL 11-12
TOTAL CITY APPROPRIATION	\$20,863,003	\$22,695,799	9.8%	\$20,958,554	1.4%	\$21,629,772	4.7%
LESS CITY EST REVENUES	\$6,530,147	\$6,523,384	-0.1%	\$6,673,384	2.2%	\$7,026,384	7.6%
NET CITY	\$14,132,856	\$16,172,415	14.4%	\$14,285,170	1.1%	\$14,603,388	3.3%
SCHOOL APPROPRIATION***	\$29,205,200	\$29,512,601	1.1%	\$29,366,126	0.6%	\$29,492,512	1.0%
FED & SCH LUNCH FUNDS****	\$5,361,249	\$4,853,882	-9.5%	\$4,853,882	-9.5%	\$4,853,882	-9.5%
TOTAL SCHOOL APPROP	\$34,566,449	\$34,366,483	-0.6%	\$34,220,008	-1.0%	\$34,346,394	-0.6%
SCHOOL EST REVENUES***	\$13,473,002	\$13,780,403	2.3%	\$13,780,403	2.3%	\$13,780,403	2.3%
FED & SCH LUNCH REV****	\$5,361,249	\$4,853,882	-9.5%	\$4,853,882	-9.5%	\$4,853,882	-9.5%
TOTAL SCHOOL EST REV	\$18,834,251	\$18,634,285	-1.1%	\$18,634,285	-1.1%	\$18,634,285	-1.1%
NET SCHOOL	\$15,732,198	\$15,732,198	0.0%	\$15,585,723	-0.9%	\$15,712,109	-0.1%
OVERLAY FOR ABATEMENTS	\$147,302	\$150,000	1.8%	\$150,000	1.8%	\$150,000	1.8%
WAR SERVICE CREDITS	\$479,500	\$479,500	0.0%	\$479,500	0.0%	\$479,500	0.0%
COUNTY TAX ASSESSMENT*	\$2,742,594	\$2,742,594	0.0%	\$2,742,594	0.0%	\$2,742,594	0.0%
GRAND TOTAL APPROP	\$58,698,848	\$60,434,376	3.1%	\$58,550,656	-0.1%	\$59,348,260	1.3%
ESTIMATED REVENUES-CITY							
16. NON PROPERTY TAXES	\$190,000	\$220,000	15.8%	\$220,000	15.8%	\$220,000	15.8%
17. INTERGOVERNMENTAL	\$1,119,380	\$1,128,191	0.8%	\$1,128,191	0.8%	\$1,128,191	0.8%
18. LICENSES & PERMITS	\$2,476,000	\$2,535,464	2.4%	\$2,535,464	2.4%	\$2,535,464	2.4%
19. CHARGES FOR SERVICES	\$885,656	\$878,656	-1.9%	\$878,656	-1.9%	\$888,656	10.4%
20. MISC REVENUES	\$824,111	\$886,073	7.5%	\$886,073	7.5%	\$886,073	7.5%
21. SURPLUS	\$1,025,000	\$875,000	-14.6%	\$1,025,000	0.0%	\$1,288,000	23.7%
TOTAL CITY EST REVENUES	\$6,530,147	\$6,523,384	-0.1%	\$6,673,384	2.2%	\$7,026,384	7.6%
SCHOOL EST REVENUES	\$13,473,002	\$13,780,403	2.3%	\$13,780,403	2.3%	\$13,780,403	2.3%
FF & SCH LUNCH REV	\$5,361,249	\$4,853,882	-9.5%	\$4,853,882	-9.5%	\$4,853,882	-9.5%
TOTAL REVENUES	\$25,364,398	\$25,157,669	-0.8%	\$25,307,669	-0.2%	\$26,680,669	1.2%
BALANCE TO BE RAISED-LOCAL	\$33,234,450	\$35,276,707	6.1%	\$33,242,987	0.0%	\$33,687,591	1.4%
BALANCE TO BE RAISED-STATE*	\$4,731,202	\$4,722,011	-0.2%	\$4,722,011	-0.2%	\$4,722,011	-0.2%
ASSESSED VALUATION	\$1,919,274,832	\$1,919,274,832	0.0%	\$1,919,274,832	0.0%	\$1,919,274,832	0.0%
LOCAL TAX RATE PER \$1,000	\$17.32	\$18.38	6.1%	\$17.32	0.0%	\$17.55	1.4%
STATE TAX RATE PER \$1,000*	\$2.49	\$2.49	0.0%	\$2.49	0.0%	\$2.49	-0.2%
TOTAL TAX RATE PER \$1,000	\$19.81	\$20.87	5.3%	\$19.81	0.0%	\$20.04	1.2%
Tax Rate Increase		\$1.06		\$0.00		\$0.23	
*adjusted, no utilities							
Notes: Surplus							
875,000 usual							
150,000 additional by manager							
100,000 use of other revenues from Davis Place for Main St bridge							
58,000 use unexpended (499)							
85,000 anticipated unexpended school funds fy11							
\$1,288,000 surplus fy12							

	2010-11 BUDGET	2011-2012 DEPT REQ	% DEPT 11-12	2011-2012 MANAGER	%MGR 11-12	2011-2012 COUNCIL	%COUNCIL 11-12
NON PROPERTY TAXES							
23. INTEREST ON TAXES	\$55,000	\$60,000	9.1%	\$80,000	9.1%	\$80,000	9.1%
24. REDEMPTION INTEREST	\$75,000	\$90,000	20.0%	\$90,000	20.0%	\$90,000	20.0%
25. BOAT TAXES	\$60,000	\$70,000	16.7%	\$70,000	16.7%	\$70,000	16.7%
TOTAL NON PROPERTY TO 16	\$190,000	\$220,000	15.8%	\$220,000	15.8%	\$220,000	15.8%
INTERGOVERNMENTAL							
26. SHARED REVENUES	\$ -	\$ -		\$ -		\$ -	
27. ROOMS & MEALS TAX	\$769,378	\$769,378	0.0%	\$769,378	0.0%	\$769,378	0.0%
29. HIGHWAY BLOCK GRANT	\$349,328	\$358,139	2.5%	\$358,139	2.5%	\$358,139	2.5%
30. NH FOREST LAND	\$674	\$674	0.0%	\$674	0.0%	\$674	0.0%
TOTAL INTERGOV TO 17	\$1,119,380	\$1,128,191	0.8%	\$1,128,191	0.8%	\$1,128,191	0.8%
LICENSES & PERMITS							
31. MOTOR VEHICLE REG	\$1,900,000	\$1,950,000	2.6%	\$1,950,000	2.6%	\$1,950,000	2.6%
32. DOG LICENSES & FINES	\$7,000	\$10,000	42.9%	\$10,000	42.9%	\$10,000	42.9%
33. BUILDING & ZONING FEES	\$135,000	\$125,000	-7.4%	\$125,000	-7.4%	\$125,000	-7.4%
34. FEES, TAX COLLECTION	\$9,000	\$13,000	44.4%	\$13,000	44.4%	\$13,000	44.4%
35. FEES, CITY CLERK	\$115,000	\$115,000	0.0%	\$115,000	0.0%	\$115,000	0.0%
37. FRANCHISE FEES	\$250,000	\$262,464	5.0%	\$262,464	5.0%	\$262,464	5.0%
38. ALARM BOX FEES	\$60,000	\$60,000	0.0%	\$60,000	0.0%	\$60,000	0.0%
TOTAL LIC & PERMITS TO 18	\$2,476,000	\$2,535,464	2.4%	\$2,535,464	2.4%	\$2,535,464	2.4%
CHARGES FOR SERVICES							
39. MISC REMBURSABLES	\$151,000	\$180,000	19.2%	\$180,000	19.2%	\$180,000	19.2%
40. AMBULANCE LRGH	\$7,656	\$7,656	0.0%	\$7,656	0.0%	\$7,656	0.0%
41. FIRE DEPT	\$30,000	\$35,000	16.7%	\$35,000	16.7%	\$35,000	16.7%
42. PLANNING DEPT	\$20,000	\$25,000	25.0%	\$25,000	25.0%	\$25,000	25.0%
43. POLICE DEPT	\$12,000	\$6,000	-50.0%	\$6,000	-50.0%	\$6,000	-50.0%
44. PUBLIC WORKS & S.W.	\$675,000	\$625,000	-7.4%	\$625,000	-7.4%	\$735,000	8.9%
TOTAL CHARGES TO 19	\$895,656	\$878,656	-1.9%	\$878,656	-1.9%	\$988,656	10.4%
MISCELLANEOUS REVENUES							
45. INTEREST ON INVESTMENTS	\$300,000	\$300,000	0.0%	\$300,000	0.0%	\$300,000	0.0%
46. WEIRS BEACH PARKING	\$25,000	\$25,000	0.0%	\$25,000	0.0%	\$25,000	0.0%
47. PARKING METERS	\$65,000	\$65,000	0.0%	\$65,000	0.0%	\$65,000	0.0%
48. PARKING VIOLATIONS	\$40,000	\$40,000	0.0%	\$40,000	0.0%	\$40,000	0.0%
49. PILOT-ELDERLY HOUSING	\$81,201	\$75,120	-7.5%	\$75,120	-7.5%	\$75,120	-7.5%
50. PILOT-CAP	\$17,857	\$19,012	7.7%	\$19,012	7.7%	\$19,012	7.7%
51. PILOT-SKATING CLUB	\$11,448	\$14,098	23.1%	\$14,098	23.1%	\$14,098	23.1%
52. PILOT-TAYLOR HOME	\$228,765	\$296,551	29.6%	\$296,551	29.6%	\$296,551	29.6%
53. PILOT-STATE	\$6,040	\$7,294	20.8%	\$7,294	20.8%	\$7,294	20.8%
54. P&R LEASES	\$15,000	\$15,000	0.0%	\$15,000	0.0%	\$15,000	0.0%
55. FINES	\$20,000	\$15,000	-25.0%	\$15,000	-25.0%	\$15,000	-25.0%
56. SSF REMIB TO GF	\$14,000	\$14,000	0.0%	\$14,000	0.0%	\$14,000	0.0%
TOTAL MISC TO 20	\$824,111	\$886,073	7.5%	\$886,073	7.5%	\$886,073	7.5%
TOTAL CITY NON-TAX REVENUE	\$5,505,147	\$5,648,384	2.6%	\$5,648,384	2.6%	\$5,758,384	4.6%

CITY OF LACONIA-EXPENDITURE PLAN							
FISCAL YEAR 2010-2011							
DEPARTMENTS	2009-10 COUNCIL	2010-11 DEPT REQ	%DEPT 09-10	2010-11 MANAGER	% MANGR 09-10	2010-11 COUNCIL	%COUNCIL 09-10
1. ADMINISTRATION	\$210,648	\$208,598	-1.0%	\$204,394	-3.0%	\$204,394	-3.0%
a. CAPITAL OUTLAY	\$1,282,000	\$2,175,000	69.7%	\$1,050,000	-18.1%	\$1,260,512	-1.7%
b. NON DEPARTMENTAL	\$330,069	\$289,257	-12.4%	\$264,257	-19.9%	\$208,880	-36.7%
c. SPECIAL ITEMS	\$189,773	\$271,256	42.9%	\$178,948	-5.7%	\$194,948	2.7%
d. LICENSING BOARD	\$12,308	\$10,037	-18.5%	\$10,037	-18.5%	\$10,037	-18.5%
2. ASSESSING	\$230,133	\$239,230	4.0%	\$239,230	4.0%	\$234,230	1.8%
3. CODE ENFORCEMENT	\$162,420	\$164,129	1.1%	\$164,129	1.1%	\$166,129	-3.9%
4. CONSERVATION COM	\$3,970	\$3,970	0.0%	\$3,970	0.0%	\$3,970	0.0%
5. FINANCE							
a. EMPLOYEE BENEFITS	\$1,148,046	\$1,218,648	6.1%	\$1,209,538	5.4%	\$1,209,538	5.4%
b. FISCAL	\$547,732	\$546,076	-0.3%	\$527,876	-3.6%	\$521,876	-4.7%
c. INSURANCE	\$446,000	\$447,500	0.3%	\$436,500	-2.1%	\$423,500	-5.0%
d. PRINCIPAL & INTEREST	\$1,527,299	\$1,651,593	8.1%	\$1,416,005	-7.3%	\$1,416,005	-7.3%
e. REIMBURSABLES	\$211,573	\$151,000	-28.6%	\$151,000	-28.6%	\$151,000	-28.6%
6. FIRE	\$3,395,360	\$3,469,159	2.2%	\$3,458,233	1.9%	\$3,423,233	0.8%
7. LEGAL	\$116,500	\$96,900	-16.8%	\$90,900	-22.0%	\$90,900	-22.0%
8. LIBRARY	\$779,767	\$796,388	2.1%	\$781,388	0.2%	\$771,388	-1.1%
9. PLANNING	\$319,047	\$309,829	-2.9%	\$309,829	-2.9%	\$304,829	-4.5%
10. POLICE	\$4,405,355	\$4,564,593	3.6%	\$4,556,716	3.4%	\$4,488,093	1.9%
11. PUBLIC WORKS	\$2,384,169	\$2,433,238	2.1%	\$2,423,405	1.6%	\$2,388,405	0.2%
a. SOLID WASTE	\$2,047,373	\$1,952,520	-4.6%	\$1,902,520	-7.1%	\$1,890,520	-7.7%
12. RECORDS							
a. CITY CLERK	\$157,611	\$146,281	-7.2%	\$146,281	-7.2%	\$140,281	-11.0%
b. ELECTIONS	\$33,900	\$32,500	-4.1%	\$32,500	-4.1%	\$32,500	-4.1%
13. RECREATION & FACILITIES	\$610,230	\$651,188	6.7%	\$620,818	1.7%	\$619,818	1.6%
a. CITY HALL MAINT	\$74,978	\$75,950	1.3%	\$75,950	1.3%	\$75,950	1.3%
b. COMMUNITY CENTER	\$48,812	\$46,992	-3.7%	\$46,992	-3.7%	\$46,992	-3.7%
c. POLICE STATION	\$117,707	\$117,717	0.0%	\$117,717	0.0%	\$112,717	-4.2%
14. WELFARE	\$206,035	\$211,067	2.4%	\$211,067	2.4%	\$204,067	-1.0%
15. YOUTH SERVICES	\$48,600	-	-100.0%	-	-100.0%	-	-100.0%
TOTAL CITY APPROPRIATION	\$21,047,415	\$22,280,616	5.9%	\$20,830,200	-2.0%	\$20,584,712	-2.2%

	2009-10 COUNCIL	2010-2011 DEPT REQ	%DEPT REQ	2010-2011 MANAGER	% MNGR 09-10	2010-2011 COUNCIL	%COUNCIL 09-10
TOTAL CITY APPROPRIATION	\$21,047,415	\$22,280,616	5.9%	\$20,630,200	-2.0%	\$20,584,712	-2.2%
LESS CITY EST REVENUES	\$7,004,782	\$8,363,921	-9.1%	\$6,531,259	-6.8%	\$6,531,259	-6.8%
NET CITY	\$14,042,633	\$15,916,695	13.3%	\$14,098,941	0.4%	\$14,053,453	0.1%
SCHOOL APPROPRIATION***	\$29,355,712	\$29,355,712	0.0%	\$29,355,712	0.0%	\$29,205,200	-0.5%
FED & SCH LUNCH FUNDS****	\$4,152,043	\$5,361,249	29.1%	\$5,361,249	29.1%	\$5,361,249	29.1%
TOTAL SCHOOL APPROP	\$33,507,755	\$34,716,961	3.6%	\$34,716,961	3.6%	\$34,566,449	3.2%
SCHOOL EST REVENUES***	\$13,598,148	\$13,473,002	-0.9%	\$13,473,002	-0.9%	\$13,473,002	-0.9%
FED & SCH LUNCH REV****	\$4,152,043	\$5,361,249	29.1%	\$5,361,249	29.1%	\$5,361,249	29.1%
TOTAL SCHOOL EST REV	\$17,750,191	\$18,834,251	6.1%	\$18,834,251	6.1%	\$18,834,251	6.1%
NET SCHOOL	\$15,757,584	\$15,882,710	0.8%	\$15,882,710	0.8%	\$15,732,198	-0.2%
OVERLAY FOR ABATEMENTS	\$130,714	\$150,000	14.8%	\$150,000	14.8%	\$150,000	14.8%
WAR SERVICE CREDITS	\$498,575	\$498,575	0.0%	\$498,575	0.0%	\$498,575	0.0%
COUNTY TAX ASSESSMENT*	\$2,801,085	\$2,820,885	0.7%	\$2,820,885	0.7%	\$2,820,885	0.7%
GRAND TOTAL APPROP	\$57,985,544	\$60,467,037	4.3%	\$58,816,621	1.4%	\$58,620,621	1.1%
ESTIMATED REVENUES-CITY							
16. NON PROPERTY TAXES	\$190,000	\$190,000	0.0%	\$190,000	0.0%	\$190,000	0.0%
17. INTERGOVERNMENTAL	\$1,077,322	\$1,120,512	4.0%	\$1,120,512	4.0%	\$1,120,512	4.0%
18. LICENSES & PERMITS	\$2,690,000	\$2,471,000	-8.1%	\$2,476,000	-8.0%	\$2,476,000	-8.0%
19. CHARGES FOR SERVICES	\$986,229	\$895,656	-10.1%	\$895,656	-10.1%	\$895,656	-10.1%
20. MISC REVENUES	\$1,076,231	\$811,753	-24.6%	\$824,091	-23.4%	\$824,091	-23.4%
21. SURPLUS**	\$975,000	\$875,000	-10.3%	\$1,025,000	5.1%	\$1,025,000	5.1%
TOTAL CITY EST REVENUES	\$7,004,782	\$8,363,921	-9.1%	\$6,531,259	-6.8%	\$6,531,259	-6.8%
SCHOOL EST REVENUES	\$13,598,148	\$13,473,002	-0.9%	\$13,473,002	-0.9%	\$13,473,002	-0.9%
FF & SCH LUNCH REV	\$4,152,043	\$5,361,249	29.1%	\$5,361,249	29.1%	\$5,361,249	29.1%
TOTAL REVENUES	\$24,754,973	\$25,198,172	1.8%	\$25,365,510	2.5%	\$25,365,510	2.5%
BALANCE TO BE RAISED-LOCAL	\$33,230,571	\$35,268,865	6.1%	\$33,451,111	0.7%	\$33,255,111	0.1%
BALANCE TO BE RAISED-STATE	\$4,856,348	\$4,731,202	-2.6%	\$4,731,202	-2.6%	\$4,731,202	-2.6%
ASSESSED VALUATION	\$2,114,274,299	\$2,114,274,299	0.0%	\$2,114,274,299	0.0%	\$2,114,274,299	0.0%
LOCAL TAX RATE PER \$1,000	\$15.72	\$16.68	6.1%	\$15.82	0.7%	\$15.73	0.1%
STATE TAX RATE PER \$1,000*	\$2.32	\$2.26	-2.6%	\$2.26	-2.6%	\$2.26	-2.6%
TOTAL TAX RATE PER \$1,000	\$18.04	\$18.94	5.0%	\$18.08	0.2%	\$17.99	-0.3%
Tax Rate Increase		\$0.90		\$0.04		-\$0.05	

*adjusted, no utilities

	2009-10 BUDGET	2010-2011 DEPT REQ	% DEPT 09-10	2010-2011 MANAGER	%MGR 09-10	2010-2011 COUNCIL	%COUNCIL 09-10
NON PROPERTY TAXES							
23. INTEREST ON TAXES	\$50,000	\$55,000	10.0%	\$55,000	10.0%	\$55,000	10.0%
24. REDEMPTION INTEREST	\$60,000	\$75,000	50.0%	\$75,000	50.0%	\$75,000	50.0%
25. BOAT TAXES	\$90,000	\$60,000	-33.3%	\$60,000	-33.3%	\$60,000	-33.3%
TOTAL NON PROPERTY TO 16	\$190,000	\$190,000	0.0%	\$190,000	0.0%	\$190,000	0.0%
INTERGOVERNMENTAL							
26. SHARED REVENUES	\$ -	\$ -				\$ -	
27. ROOMS & MEALS TAX	\$770,511	\$770,511	0.0%	\$770,511	0.0%	\$770,511	0.0%
29. HIGHWAY BLOCK GRANT	\$306,137	\$349,327	14.1%	\$349,327	14.1%	\$349,327	14.1%
30. NH FOREST LAND	\$674	\$674	0.0%	\$674	0.0%	\$674	0.0%
TOTAL INTERGOV TO 17	\$1,077,322	\$1,120,512	4.0%	\$1,120,512	4.0%	\$1,120,512	4.0%
LICENSES & PERMITS							
31. MOTOR VEHICLE REG	\$2,100,000	\$1,900,000	-9.5%	\$1,900,000	-9.5%	\$1,900,000	-9.5%
32. DOG LICENSES & FINES	\$6,000	\$7,000	16.7%	\$7,000	16.7%	\$7,000	16.7%
33. BUILDING & ZONING FEES	\$150,000	\$130,000	-13.3%	\$135,000	-10.0%	\$135,000	-10.0%
34. FEES, TAX COLLECTION	\$9,000	\$9,000	0.0%	\$9,000	0.0%	\$9,000	0.0%
35. FEES, CITY CLERK	\$115,000	\$115,000	0.0%	\$115,000	0.0%	\$115,000	0.0%
37. FRANCHISE FEES	\$250,000	\$250,000	0.0%	\$250,000	0.0%	\$250,000	0.0%
38. ALARM BOX FEES	\$60,000	\$60,000	0.0%	\$60,000	0.0%	\$60,000	0.0%
TOTAL LIC & PERMITS TO 18	\$2,690,000	\$2,471,000	-8.1%	\$2,476,000	-8.0%	\$2,476,000	-8.0%
CHARGES FOR SERVICES							
39. MISC REMIBURSABLES	\$211,573	\$151,000	-28.6%	\$151,000	-28.6%	\$151,000	-28.6%
40. AMBULANCE LRGH	\$7,656	\$7,656	0.0%	\$7,656	0.0%	\$7,656	0.0%
41. FIRE DEPT	\$25,000	\$30,000	20.0%	\$30,000	20.0%	\$30,000	20.0%
42. PLANNING DEPT	\$20,000	\$20,000	0.0%	\$20,000	0.0%	\$20,000	0.0%
43. POLICE DEPT	\$12,000	\$12,000	0.0%	\$12,000	0.0%	\$12,000	0.0%
44. PUBLIC WORKS & S.W.	\$720,000	\$675,000	-6.3%	\$675,000	-6.3%	\$675,000	-6.3%
TOTAL CHARGES TO 19	\$996,229	\$895,656	-10.1%	\$895,656	-10.1%	\$895,656	-10.1%
MISCELLANEOUS REVENUES							
45. INTEREST ON INVESTMENTS	\$659,663	\$300,000	-46.4%	\$300,000	-46.4%	\$300,000	-46.4%
46. WEIRS BEACH PARKING	\$25,000	\$25,000	0.0%	\$25,000	0.0%	\$25,000	0.0%
47. PARKING METERS	\$65,000	\$65,000	0.0%	\$65,000	0.0%	\$65,000	0.0%
48. PARKING VIOLATIONS	\$40,000	\$40,000	0.0%	\$40,000	0.0%	\$40,000	0.0%
49. PILOT-ELDERLY HOUSING	\$77,825	\$77,825	0.0%	\$81,181	4.3%	\$81,181	4.3%
50. PILOT-CAP	\$16,347	\$16,347	0.0%	\$17,657	8.0%	\$17,657	8.0%
51. PILOT-SKATING CLUB	\$10,465	\$10,650	1.8%	\$11,448	9.4%	\$11,448	9.4%
52. PILOT-TAYLOR HOME	\$222,250	\$222,250	0.0%	\$228,765	2.9%	\$228,765	2.9%
53. PILOT-STATE	\$5,681	\$5,681	0.0%	\$6,040	6.3%	\$6,040	6.3%
54. P&R LEASES	\$15,000	\$15,000	0.0%	\$15,000	0.0%	\$15,000	0.0%
55. FINES	\$25,000	\$20,000	-20.0%	\$20,000	-20.0%	\$20,000	-20.0%
56. SSF REMIB TO GF	\$14,000	\$14,000	0.0%	\$14,000	0.0%	\$14,000	0.0%
TOTAL MISC TO 20	\$1,076,231	\$811,753	-24.6%	\$824,091	-23.4%	\$824,091	-23.4%
TOTAL CITY NON-TAX REVENUE	\$6,029,782	\$5,488,921	-9.0%	\$5,506,258	-8.7%	\$5,506,258	-8.7%

Fiscal 2014 Organizational Chart

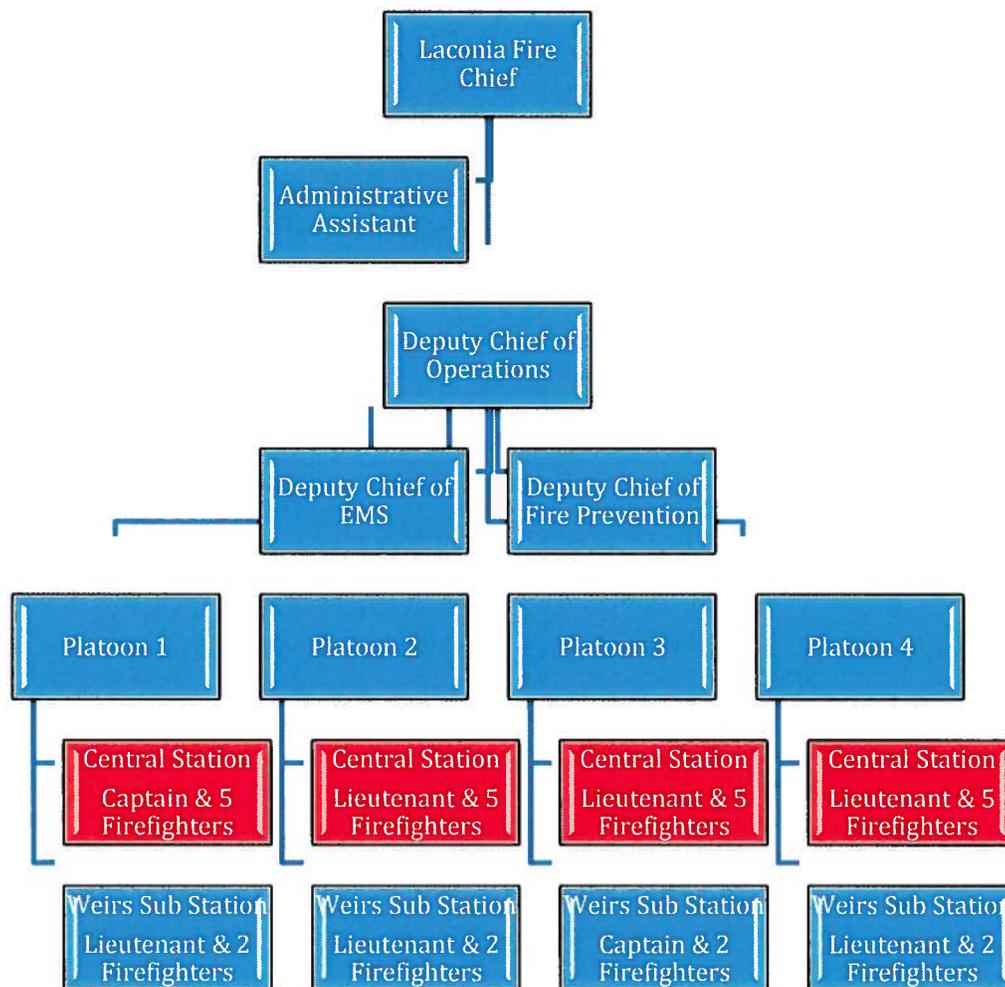
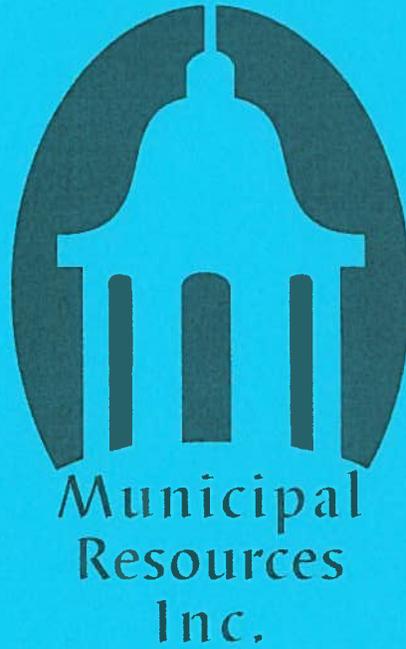


Figure 4. Four Firefighters Added in Fiscal 2014

We recommend adding four firefighters during Fiscal 2014. These personnel would be the first of three incremental increases aimed at both expanding the service level offered to the community and reducing overtime. We further recommend that the minimum shift strength of eight personnel should be maintained through the year.

This strategy will provide a consistent level of personnel assigned to each platoon and create shift float. Shift float is the difference between the number of personnel assigned to a platoon and the minimum shift strength. The addition of these four firefighters would serve two purposes. First, the service level to the community would be expanded to provide two fire suppression crews and two ambulances during each shift that all members report to work. Second, by creating shift float these positions would absorb the need to pay overtime to cover

APPENDIX C





January 10, 2013

Mr. Scott Myers, City Manager
City of Laconia
45 Beacon St. East
Laconia NH 03246

Re: Fire Department SAFER Grant

Dear Mr. Myers,

On behalf of the MRI fire study team, I am pleased to provide you with our analysis of the long-term staffing needs of the Laconia Fire Department. It is our understanding that the city has been approved for a grant under the Federal Emergency Management Agency (FEMA) Staffing for Adequate Fire and Emergency Response (SAFER) program. This grant will permit the city to hire four (4) new firefighters for a period of up to 24 months.

MRI has been engaged by the City of Laconia to complete a comprehensive review of the fire department's scheduling practices, overtime staffing and shift coverage. Our report will provide a more detailed analysis of the operations of the fire department, but the purpose of this memorandum is to provide you with a recommendation that will assist in the city council's pending decision to accept the SAFER grant.

The goal of the SAFER grant program is to improve or restore local fire departments' staffing and deployment capabilities so that they may more effectively respond to emergencies. With enhanced or restored staffing levels, grantees could see a reduction in their response times and an increase in the number of trained personnel assembled at the incident scene. While there is no requirement that a municipality must continue to fund the new firefighter positions after the end of the grant performance period, the city has an opportunity during the twenty-four months to measure the extent to which fire department performance has been enhanced and evaluate the impact of the "value-added" effect of reducing risk in the community.



To date, the MRI study team has reviewed the operational procedures, staffing levels, administrative functions, and response patterns of the fire department. We have performed a community risk analysis and have evaluated the vulnerabilities and challenges for fire protection and emergency medical services (EMS). In addition, we have reviewed the statistics for fire and EMS responses and are in the process of collecting data from comparable communities in order to identify potential alternative service models.

Based on our analysis as described below, the MRI study team recommends that:

- (1) The city should accept the FEMA SAFER grant to increase staffing; and
- (2) The city should maintain the new fire department staffing level after the completion of the grant performance period

Community Risk

Many of the fire protection challenges in Laconia are consistent with what is found in small- to medium-sized cities throughout New England. Older housing stock, large numbers of multi-family residential occupancies, a congested downtown business district, and former mill buildings all contribute to a high-risk environment that has the potential for fires that can quickly overwhelm the initial capabilities of the fire department if adequate personnel and equipment does not arrive in a timely fashion.

New buildings are built to modern building and fire codes, and most larger structures (new) are designed with automatic fire detection systems and/or automatic fire sprinkler systems. As older buildings are rehabilitated, they are brought into compliance with current codes and are equipped with enhanced fire protection features. Generally speaking, buildings that are provided with active and passive fire protection features do indeed reduce community risk and require fewer fire department resources.

Laconia has fire protection issues and conditions that pose significant challenges for the fire department, including, but not limited to:

- At least twenty-seven (27) buildings that exceed three (3) stories in height, including three (3) seven-story buildings
- Regional hospital and trauma center (137 bed facility)
- Marinas
- Significant fluctuations in seasonal population
- Large population special event (Motorcycle Week)
- Lakefront commercial and residential properties with limited access



- Nursing homes, assisted living, residential care facilities and group homes
- Maritime risks, including water rescue, ice rescue, boat fires, island incidents, and the M/S Mount Washington
- Hotels and motels
- Places of assembly, including restaurants, bars, high school auditorium, etc.
- Fuel oil and propane gas bulk storage
- Vacant buildings, including seasonal homes and facilities
- “At-risk” population that includes elderly and physically and mentally handicapped individuals

Economic factors are a double-edged sword for the Laconia Fire Department. Improved economic conditions can result in renovations and building/fire code updates to older, high-risk buildings, but also can result in increased permanent and transient populations and increased building construction and density. Poor economic conditions can result in the deterioration of buildings and more calls for service from at-risk residents (low-income, elderly and physically/mentally disabled) as well as the potential for increased arson crimes.

Based on our analysis, the MRI study team does not expect that there will be a significant, overall reduction in fire safety risks in Laconia for the foreseeable future. The availability of a well-trained, properly staffed and equipped fire and EMS agency will continue to be the primary means of mitigating the impact of fires and other catastrophic events in the city.

Staffing Levels

The issue of fire department staffing has, over the past three decades, become one of the most widely and frequently debated topics in fire service history. This debate has intensified over the past several years as tax collection revenues have declined precipitously in many communities and governmental entities seek to reduce expenses. As with most communities in New Hampshire, the City of Laconia is extremely sensitive to identifying cost savings where possible.

The fire service has experienced tremendous technological advances in equipment, procedures, and training during the past fifty years. Improved personal protective equipment (PPE), the mandatory use of self-contained breathing apparatus (SCBA), large diameter hose, better and lighter hose lines and nozzles, and thermal imaging cameras are just a few of the numerous advances in equipment that have enabled firefighters to perform their duties more effectively, efficiently, and safely. However, the fact still remains that emergency scenes present a dangerous, frequently unpredictable, and rapidly changing environment where conditions can deteriorate very quickly and place firefighters in extreme personal danger.

The operations necessary to efficiently and safely extinguish a structure fire require a carefully coordinated and controlled plan of action. Simultaneous operations that



must be carried out with a high degree of precision and timing include forcible entry, initial fire attack, search and rescue, ventilation, and the establishment of incident command. If there are not enough personnel on the incident initially to perform all of the critical tasks, some of these tasks will be delayed. This can result in an increased risk of serious injury, or death, to building occupants and firefighters, as well as increased property damage.

The National Fire Protection Association (NFPA) Standard 1710 – *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments* (2010 Edition) is the nationally recognized consensus standard on staffing and deployment for career fire departments.¹

Some of the key provisions of NFPA 1710 are as follows:

- Paragraphs 5.2.3.1.1 and 5.2.3.2.1 state that engine companies and truck companies respectively shall be staffed with a minimum of four on-duty personnel.
- Paragraph 4.1.2.1 states that the first arriving engine company shall arrive at the scene of a fire suppression incident within four minutes or less and/or the entire full first alarm response should arrive on scene within eight minutes. For EMS incidents, a unit with first responder or higher level (EMT-Basic, Intermediate, or Paramedic) trained personnel should arrive within four minutes, and an Advanced Life Support (ALS) unit should arrive on scene within eight minutes. Paragraph 4.1.2.2 requires the establishment of a 90% performance objective for these response times.
- Paragraph 5.2.4.2.2 establishes the following minimum personnel requirements on the full first alarm assignment which should arrive on scene within an eight minute *travel time* (the time interval that begins when a unit is en route to the emergency scene and ends when the unit arrives at the scene [NFPA 1710, §3.3.53.7, 2010 edition]):

¹ It is important to note that compliance with NFPA 1710 has not been mandated by the State of New Hampshire or by the federal government. It is considered to be a “best practice” that fire departments strive to achieve.



Table 1. NFPA 1710 Staffing Objectives

TASK	# Personnel
Incident Commander	1
Attack engine driver/operator	1
Water supply engine driver/operator	1
Two hand lines with two personnel each	4
Support/back-up firefighter for each hand line	2
Search & rescue team	2
Ventilation team	2
Ladder company driver/operator	1
Rapid intervention team (RIT)	2
TOTAL MINIMUM NUMBER OF PERSONNEL	16

These numbers reflect the personnel needs for a fire involving several rooms in a 2,000 square foot, one-family residential occupancy, which is the most common type of structure fire. Personnel requirements for fires involving large, more complex structures, such as commercial storage facilities or multi-family residential occupancies, will require a significantly greater commitment of personnel.

MRI is *not* suggesting that Laconia should increase its on duty staffing from eight (8) firefighters to sixteen (16). NFPA 1710 does permit fire departments to use established automatic aid and mutual aid agreements to comply with the staffing and response requirements. These types of agreements are mission critical to the Laconia Fire Department being able to handle even basic single-family dwelling fires and attempt to gain compliance with the objectives of NFPA 1710. Through the Lakes Region Mutual Fire Aid system, automatic aid and mutual aid assistance is mobilized when necessary. However, due to travel distance, it may not be possible for mutual aid companies to arrive within the eight-minute goal that is established in NFPA 1710.

Fire departments should seek to comply with a key provision of NFPA 1500, *Standard on Firefighter Occupational Health and Safety Program* (National Fire Protection Association, Quincy MA, 2013) that is known as the “Two-In/Two-Out” rule. In brief, this requirement specifies that “in the initial stages of an incident where only one crew is operating in the hazardous area at a working structural fire, a minimum of four individuals shall be required, consisting of two members working as a crew in the hazardous area and two standby members present outside this hazardous area available for assistance or rescue at emergency operations where entry into the danger area is required” (NFPA 1500, §8.8.2). The rule does not apply in emergency rescue situations where a person is visible and in need of immediate rescue, or where there is credible and reasonable information that



potentially viable victims are still in need of rescue. Within certain limitations that are defined in NFPA 1500, one standby member may perform other duties outside the hazardous area, such as apparatus operator, incident commander, or technician or aide, provided constant communication is maintained between the standby member and the members of the crew (NFPA 1500, §8.8.2.4).

The National Institute for Occupational Safety and Health (NIOSH) report on the death of a Kansas firefighter nearly twenty years ago cited a number of “preventable events” that contributed to the firefighter’s death, not the least of which was an inadequate number of personnel on the initial response and the lack of additional adequate safety procedures. Among other things the report stated, “A two firefighter engine is, at minimum, 50% under-staffed and increases the work effort of the two firefighters by a factor of 3”. Almost every NIOSH line-of-duty death report recommends that fire departments “provide adequate firefighter staffing to ensure safe operating conditions”.

Research on the effects of various staffing levels consistently confirms that company efficiency and effectiveness decrease substantially and injuries increase when company staffing falls below four personnel. The *Multi-phase Study on Firefighter Safety and the Deployment of Resources*, completed by the National Institute of Standards and Technology (NIST) and Worcester Polytechnic Institute (WPI), evaluated the performance of fire department crews at residential fires, which is where the majority of fire injuries and fatalities occur. The study concluded that the size of firefighter crews has a substantial effect on a fire department’s ability to protect lives and property in residential fires and occupancies. Several key findings of the study include:

- Four-person firefighting crews were able to complete twenty-two essential firefighting and rescue tasks in a typical residential structure thirty percent (30%) faster than two-person crews and twenty-five percent (25%) faster than three-person crews.
- The four-person crews were able to deliver water to a similar sized fire fifteen percent (15%) faster than the two-person crews and six percent (6%) faster than three-person crews, steps that help to reduce property damage and reduce danger/risks to firefighters.
- Four-person crews were able to complete critical search and rescue operations thirty percent (30%) faster than two-person crews and five percent (5%) faster than three-person crews.

All of these factors must be taken into consideration as Laconia reaches consensus on the acceptable community fire safety risk level, affordable levels of expenditure for fire protection, and appropriate levels of staffing. While four-person firefighting crews have been shown to be highly effective, the MRI study team recognizes that



fiscal constraints in most municipalities necessitate creative staffing patterns that include cross-manning of apparatus and effective use of automatic aid and mutual aid to reach the objectives established in NFPA 1710 and NFPA 1500, as is currently done by the Laconia Fire Department.

As you know, the Laconia Fire Department currently operates two fire stations. On a typical shift, a fire officer (captain or lieutenant) and four (4) firefighter-EMTs are on duty at the central station, and one fire officer and two firefighter-EMTs are on duty at the Weirs station. From 9am to 6pm, Monday through Saturday, an additional firefighter-EMT (funded by LRGH) is on-duty at the central station.

Personnel are deployed on the equipment as follows:

Central

Engine (pumper): Officer and one (1) firefighter-EMT

Aerial ladder: One (1) firefighter-EMT (plus LRGH-funded "floater" when on duty; this crew cross-staffs the second ambulance)

Ambulance: Two (2) firefighter-EMTs

Weirs

Engine: Officer and two (2) firefighter-EMTs. This crew cross-staffs an ambulance.

Under the SAFER grant, Chief Erickson has proposed to add the new firefighter-EMT position to the crew at the central station and assign him/her to the aerial ladder, thus creating a two-person crew. The two firefighter-EMTs who respond on the ambulance can be reassigned to engine and ladder company duties upon arrival at a fire incident, thus establishing a more effective three-person crew.

Recommendations

We believe that the addition of one additional firefighter to the on-duty fire department staffing will have a measurable, positive impact on the performance of the fire department. The increase in the number of personnel who arrive at an emergency scene will improve the overall performance and productivity of the response team and will improve incident scene safety. Ultimately, the citizens of Laconia will benefit from the increase in fire department staffing.

By accepting the FEMA SAFER grant, the city and the fire department will have the opportunity to evaluate the impact of adding one firefighter-EMT per shift before any final decision is made concerning the continued funding of the positions in two years. The MRI study team recommends that such an evaluation should include the following components:



- Is there a reduction in the average fire loss per fire incident?
- Is there a reduction in firefighter injuries and loss-time due to firefighter injuries?
- Is there an increase in the availability of fire apparatus to respond to incidents when multiple EMS calls are in progress?
- Is there an improvement in average response times to incidents throughout the city?

While statistical analysis is an important aspect of the evaluation, the city should not ignore the operational evaluations and critiques that are performed by the fire department to measure the effectiveness of the additional personnel. The statistical samples may be too small to be completely reliable and should not be the only methodology that is employed in determining the feasibility of continuing the increased staffing levels. For example, the number of times that firefighters can quickly enter a dangerous atmosphere because they are in compliance with the "two-in/two-out" rule may not be captured statistically, but a post-event critique would identify those events.

In summary, the MRI study team strongly supports the city's application to hire four (4) firefighter-EMTs through the FEMA SAFER grant program. Based on our evaluation of community risk and the current operational capabilities of the Laconia Fire Department, we recommend that the city should maintain an on-duty staffing level of nine (9) fire and EMS personnel after the grant performance period has ended.

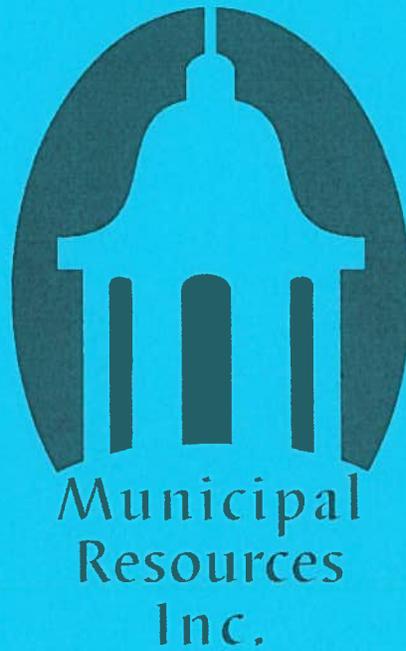
Please let me know if you or the members of the city council have any additional questions or concerns. We look forward to working with you as we bring the fire department operational study to a successful conclusion.

Sincerely,


Donald P. Bliss
Senior Public Safety Consultant/Fire & EMS



APPENDIX D



**LACONIA FIRE DEPARTMENT
RECOMMENDED SOP/SOG TOPIC AREAS**

1. Management and Administration

1.1. GENERAL ADMINISTRATION

- 1.1.1. Organization
- 1.1.2. Facilities
- 1.1.3. Emergency Vehicles and Special Apparatus
- 1.1.4. Equipment and Supplies
- 1.1.5. Finance
- 1.1.6. Fundraising
- 1.1.7. Training, Education, and Exercises
- 1.1.8. Information Management

1.2. MEMBER HEALTH AND ASSISTANCE PROGRAMS

- 1.2.1. Medical Screening/Health Assessment
- 1.2.2. Health and Wellness Promotion
- 1.2.3. Performance Evaluation Process
- 1.2.4. Post-Injury Rehabilitation
- 1.2.5. Employee/Member Assistance
- 1.2.6. Facility Safety
- 1.2.7. Hazard Communication

1.3. ORGANIZATIONAL PLANNING AND PREPAREDNESS

- 1.3.1. Strategic/Master Planning
- 1.3.2. SOP Development



- 1.3.3. Risk Management
- 1.3.4. Emergency Operations Planning
- 1.3.5. Mutual/Automatic Aid

2. Prevention and Special Programs

2.1. PUBLIC INFORMATION AND EDUCATION

- 2.1.1. Working with the Public
- 2.1.2. Working with the Media
- 2.1.3. Emergency Public Information
- 2.1.4. Public Education
- 2.1.5. Public Relations

2.2. BUILDING INSPECTIONS AND CODE ENFORCEMENT

- 2.2.1. Authorities and Codes
- 2.2.2. Design and Plans Review
- 2.2.3. Residential Inspections
- 2.2.4. Commercial Inspections
- 2.2.5. Industrial Inspections
- 2.2.6. Code Enforcement
- 2.2.7. Record Keeping

2.3. SPECIAL PROGRAMS

- 2.3.1. Fire Cause and Arson Investigation
- 2.3.2. Hydrant Maintenance
- 2.3.3. Other Special Programs

3. Emergency Operations – General Emergency Operations



3.1. OPERATING EMERGENCY VEHICLES

- 3.1.1. Driving Emergency Vehicles
- 3.1.2. Riding Emergency Vehicles
- 3.1.3. Operating Special Apparatus
- 3.1.4. Vehicle Accident Reporting and Investigation
- 3.1.5. Use of Personal Vehicles

3.2. SAFETY AT EMERGENCY INCIDENTS

- 3.2.1. Applicable Standards
- 3.2.2. Risk Management Guidelines
- 3.2.3. Safety Officer
- 3.2.4. Protective Clothing and Equipment
- 3.2.5. Personnel Accountability System
- 3.2.6. Responder Exposure Control
- 3.2.7. Hearing Conservation
- 3.2.8. Operating in a Hostile Environment
- 3.2.9. Operating on Roadways
- 3.2.10. Incident Scene Rehabilitation
- 3.2.11. Medical Support
- 3.2.12. Incident Termination

3.3. COMMUNICATIONS

- 3.3.1. System Access
- 3.3.2. Definition of Alarms/Dispatch Protocols
- 3.3.3. General Procedures



- 3.3.4. Emergency Signals
- 3.3.5. Alternate Radio Frequencies
- 3.3.6. Mobile Data Terminals (MDTs)
- 3.3.7. Mutual Aid Communications
- 3.3.8. Situation/Status Reports

3.4. COMMAND AND CONTROL

- 3.4.1. Incident Command/Incident Management System
- 3.4.2. Mutual/Automatic Aid
- 3.4.3. Incident Scene Management
- 3.4.4. Staging
- 3.4.5. Transferring Command
- 3.4.6. Public Information
- 3.4.7. Record Keeping

3.5. SPECIAL OPERATIONS

- 3.5.1. Aircraft Operations
- 3.5.2. Boat and Watercraft Operations
- 3.5.3. Special Unit Operations
- 3.5.4. Bomb/Hazardous Device Threats or Confirmed Incidents
- 3.5.5. Terrorism Incidents
- 3.5.6. Civil Disturbances

3.6. POST-INCIDENT OPERATIONS

- 3.6.1. Post-Incident Analysis
- 3.6.2. Post-Incident Recovery



- 3.6.3. Incident Record Keeping and Reporting
- 3.6.4. Injury/Exposure Reporting and Investigation
- 3.6.5. Critical Incident Stress Debriefing/Defusing

4. Emergency Operations – Fire Suppression

4.1. FIRE SUPPRESSION RISK MANAGEMENT

- 4.1.1. Required Use of Personal Protective Equipment (PPE)
- 4.1.2. Rapid Intervention Teams
- 4.1.3. Evacuation (Firefighters)
- 4.1.4. Air Monitoring

4.2. COMPANY OPERATIONS

- 4.2.1. Incident Staffing
- 4.2.2. Water Supply
- 4.2.3. Tanker/Tender Operations
- 4.2.4. First-In Engine Operations
- 4.2.5. Second-In Engine Operations
- 4.2.6. Truck Company Operations
- 4.2.7. Special Units

4.3. TACTICAL/STRATEGIC GUIDELINES

- 4.3.1. Incident Size-Up
- 4.3.2. Automatic Alarms
- 4.3.3. Offensive and Defensive Operations
- 4.3.4. Apparatus Placement
- 4.3.5. Forcible Entry/Gaining Access



- 4.3.6. Foam Operations
- 4.3.7. Ventilation
- 4.3.8. Hot/Cold Weather Operations
- 4.3.9. Sprinkler/Standpipe Operations
- 4.3.10. Apartment/Condominium Operations
- 4.3.11. Commercial Building Operations
- 4.3.12. Salvage
- 4.3.13. Overhaul
- 4.3.14. Exposures

4.4. SPECIAL FACILITIES/TARGET HAZARDS

- 4.4.1. High-Rise Operations
- 4.4.2. Clandestine Drug Labs
- 4.4.3. Correction Facility Operations
- 4.4.4. Industrial Facilities
- 4.4.5. Other Special Structures

4.5. SPECIAL FIRE SUPPRESSION OPERATIONS

- 4.5.1. Aircraft Firefighting Operations
- 4.5.2. Special Unit Operations
- 4.5.3. Wildfire Operations

5. Emergency Operations – Emergency Medical Response

5.1. EMERGENCY MEDICAL RESPONSE RISK MANAGEMENT

- 5.1.1. Incident Infection Control
- 5.1.2. Protective Clothing and Equipment



5.1.3. Lifting/Moving Patients

5.1.4. Hostile Situations

5.2. PRE-HOSPITAL EMS FIRST RESPONSE

5.2.1. Delivery Model

5.2.2. Patient Care

5.2.3. Treatment Protocols

5.2.4. Medical Devices and Equipment

5.2.5. Biohazard and General Waste Disposal

5.2.6. Clothing/Equipment Decontamination

5.3. PATIENT DISPOSITION AND TRANSPORTATION

5.3.1. Destination Guidelines

5.3.2. Method/Mode of Transportation

5.3.3. Ambulance Operations

5.3.4. Helicopter Operations

5.4. MANAGEMENT OF EMS OPERATIONS

5.4.1. Re-supply/Procurement of Supplies

5.4.2. System Inventory

5.4.3. Designation of Treatment Facilities

5.4.4. Data Collecting and Reporting

5.4.5. Performance Improvement System

5.4.6. Research and Reporting

5.4.7. Standard of Care

5.4.8. Patient Care Reporting



5.4.9. Patient Documentation and Billing

5.5. SPECIAL EMS OPERATIONS

5.5.1. Mass Gatherings

5.5.2. Hazardous Materials Team Medical Monitoring

5.5.3. EMS Operations at Hazmat Incidents

5.5.4. EMS Operations at Technical Rescue Incidents

5.5.5. EMS Operations During Disasters

5.5.6. EMS Operations in the Rehabilitation Area/Sector

6. Emergency Operations – Hazardous Materials Response

6.1. HAZARDOUS MATERIALS RESPONSE RISK MANAGEMENT

6.1.1. Personal Protective Equipment

6.1.2. Hazardous Materials Personal Safety

6.1.3. Air Monitoring

6.2. FIRST RESPONDER OPERATIONS

6.2.1. Roles and Actions

6.2.2. General Response Procedures/Emergency Response Plan

6.2.3. Recognition and Identification

6.2.4. Notification

6.2.5. Site Management and Scene Setup

6.2.6. Emergency Decontamination

6.2.7. Defensive Actions

6.3. SPECIAL HAZMAT OPERATIONS

6.3.1. Operating with Hazmat Teams



6.3.2. Public Protection Options

6.3.3. Environmental Restoration

7. Emergency Operations – Technical Rescue

7.1. TECHNICAL RESCUE RISK MANAGEMENT

7.1.1. Personal Protective Equipment

7.1.2. Lock Out/Tag Out

7.1.3. Air Monitoring

7.2. RESCUE OPERATIONS

7.2.1. Scene Stabilization

7.2.2. Rescue Equipment

7.2.3. General Rescue Operations

7.2.4. Rescue Teams

7.3. SPECIAL RESCUE OPERATIONS

7.3.1. Ice Rescue

7.3.2. Water Rescue

7.3.3. Confined Space Rescue

7.3.4. Structural Collapse Rescue

7.3.5. Rope Rescue

7.3.6. Trench and Excavation Collapse

7.3.7. Aircraft Extrication

8. Emergency Operations – Disaster Operations

8.1. ORGANIZING FOR DISASTER SITUATIONS

8.1.1. Disaster Management



- 8.1.2. EOC Organization
- 8.1.3. ICS/EOC Interface
- 8.1.4. Activation Levels
- 8.1.5. Personnel Assignments and Responsibilities
- 8.1.6. Personnel Notification Procedures
- 8.1.7. Disaster Training
- 8.1.8. Disaster Preparation

8.2. DISASTER OPERATIONS RISK MANAGEMENT

- 8.2.1. Personal Protective Equipment
- 8.2.2. Disaster Operations Personal Safety
- 8.2.3. Protection of Facilities and Equipment
- 8.2.4. Accountability of Personnel
- 8.2.5. Suspending Operations
- 8.2.6. Member Injuries and Fatalities

8.3. DISASTER OPERATIONS

- 8.3.1. Disaster Operations Center
- 8.3.2. Adjusted Levels of Response
- 8.3.3. Disaster Communications
- 8.3.4. Response Unit Routing and Placement
- 8.3.5. Damage Assessment
- 8.3.6. Specialized Equipment
- 8.3.7. Building Safety Evaluations
- 8.3.8. Community Emergency Response Teams



8.3.9. Mitigation Activities

8.3.10. Curtailing Disaster Operations

8.4. DISASTER SPECIFIC GUIDELINES

- Flood/dam break
- Hurricane
- Tornado
- Earthquake/tsunami
- Snow/ice storm
- Drought
- Civil disturbance
- Mass casualty
- Aircraft crash
- Train accident
- Terrorism incident
- Explosion
- Gas pipeline incident
- Severe storm
- Building collapse
- Cave-in
- Radioactive material emergency
- Special events
- Disease epidemic

