Operational Findings	Recommendations	Priority
Apparatus No adverse finding. The number and mix of the apparatus currently in service was found to be effective.	It is recommended that the Department incorporate as part of the 5 year Capital Program a replacement schedule for apparatus. In addition, the Department should establish an apparatus maintenance program	2
Tools and Gear No adverse finding. The current mix of tools and gear was found to be effective.	The formation of a single operating entity will enable the provision of tools and gear to be standardized and a replacement program established.	3
Water Supply and Infrastructure The Town is currently relies on neighboring communities for water supply.	The Town should explore the feasibility of establishing additional sources of water within the community.	2
The water infrastructure is aging and there are significant gaps in the system regarding availability of water and hydrant locations.	The Town should establish a capital plan to expand water supply and location of hydrants consistent with the growth of the community.	2
Financial Management There is no consistent operating and capital budgeting process between Districts.	The formation of a single operating entity will enable the Department to establish a comprehensive operating and capital budget process.	2
None of the Districts conduct an annual financial management audit.	An annual financial audit should be required.	1

Personnel Administrative Findings	Recommendations	Priority
Recruitment and Retention There is a lack of a consistent policy regarding the recruitment of personnel including the call force.	The department should establish a recruitment and retention program for both career and call force personnel through FEMA Assistance to Firefighters Grant.	3
Career Advancement There is a lack of consistency regarding career advancement and promotion policies that would include skill based testing (assessment centers).	Skill based testing (assessment centers) should be incorporated in to the promotional process.	3
Training There is a lack of consistent training throughout the Districts and no Training Management Plan.	An Employee Training Committee should be established under the direction of the new Training Coordinator position. The Training Committee should be charged with the responsibility of developing and maintaining a department-wide skill and career training program. The make-up of the Committee should be representative of the work force structure and station locations.	2
Labor Relations No adverse findings.	The formation of a single department should address inconsistencies and improve labor relations.	3
Compensation There is a lack of consistency regarding the management of compensation between the Districts.	A Classification and Compensation Plan should be developed to establish both internal and external equity. The department should establish a performance management system based on goals and objectives linked directly to the budget.	2

January 2012

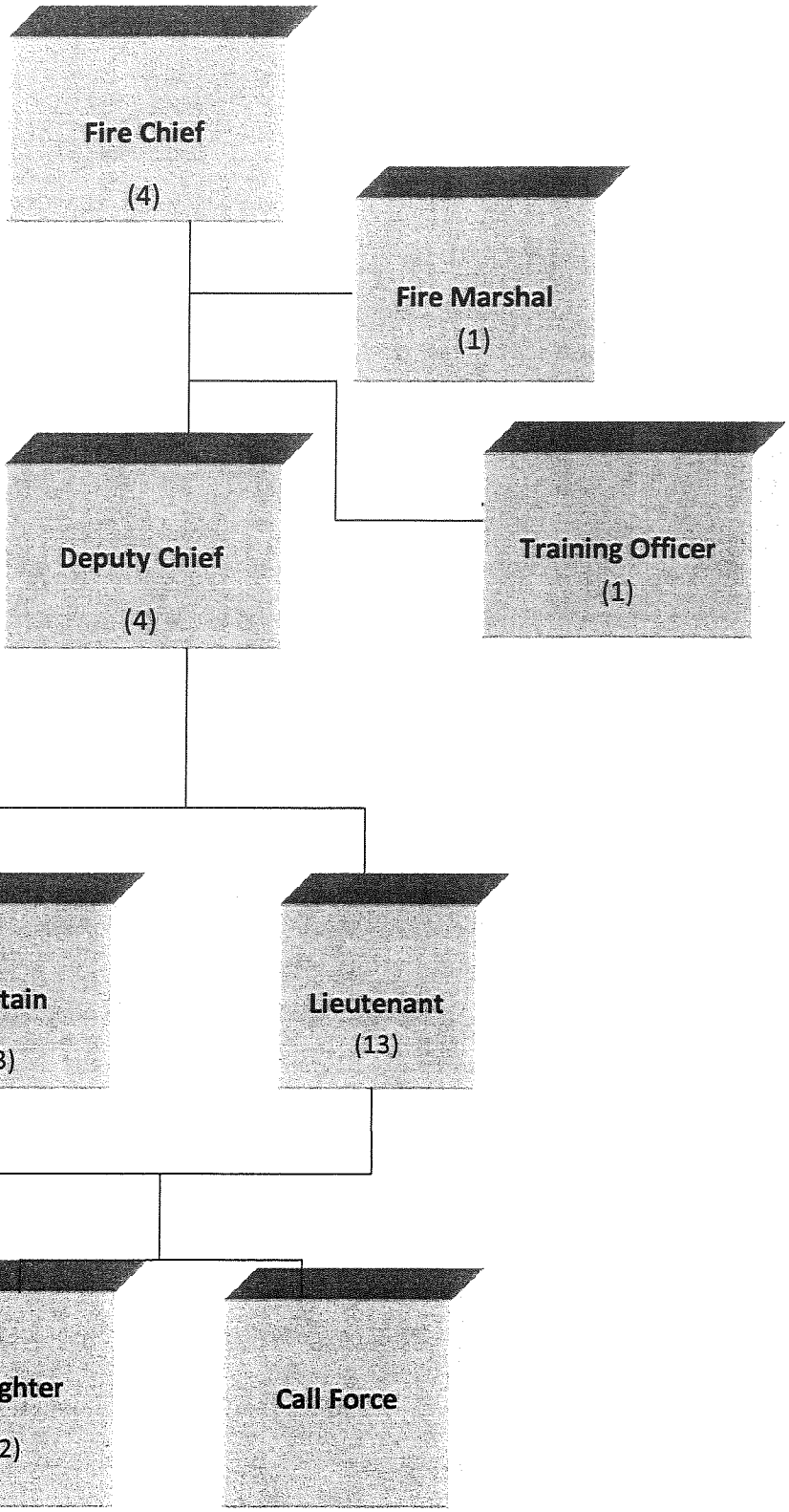
Town of Cumberland, Rhode Island

Current Combined Fire District Organization Chart

And Staffing Levels

Total manpower at report time:

56

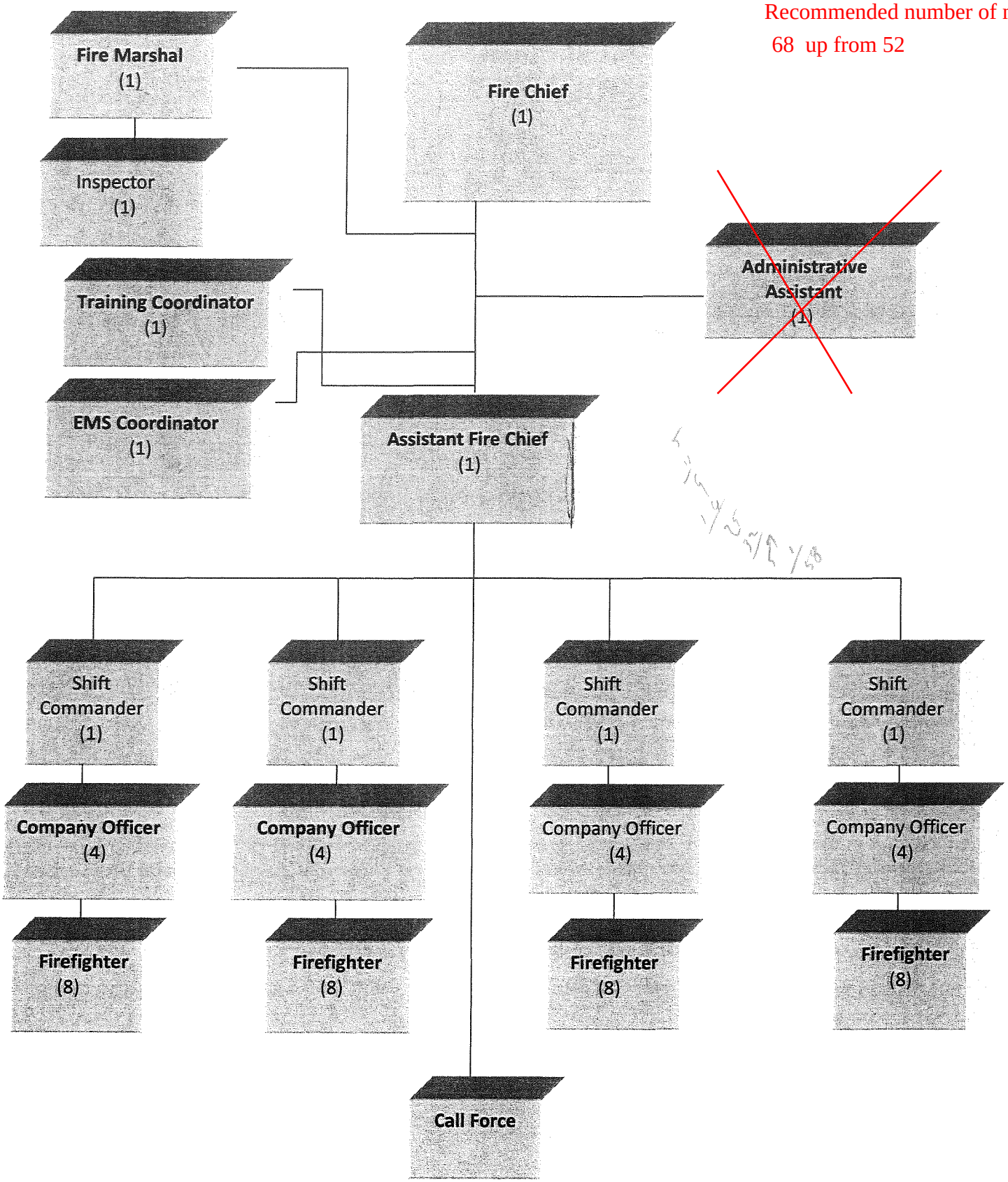


Town of Cumberland, Rhode island

January 2012

Proposed Fire Department Organization Chart

Recommended number of men
68 up from 52



Town of Cumberland, Rhode Island

Proposed Fire Department Position Profiles

1. Fire Chief

Statement of Duties: The Fire Chief is responsible for the overall operations and administration of the Town of Cumberland Fire Department. These management functions encompass fire suppression, prevention, investigations, rescue operations, emergency management, hazardous material, spill mitigation, and emergency medical responses. Additionally, fire alarm and traffic signaling are also overseen by the Fire Chief.

Minimum Qualifications: Master's degree in Public Administration, Fire Science or a related field with more than (10) years related work experience with a minimum of five (5) years in a supervisory or command level or any equivalent combination of education, training and experience which provides the required knowledge, skills and abilities to perform the essential functions of the job.

Special Requirements: Class D Motor Vehicle Driver's License; EMT and CPR, Chief Fire Officer, Hazardous Materials Technician; State Certification as a Fire Service Instructor .

2. Assistant Fire Chief

Statement of Duties: The Assistant Fire Chief is responsible for assisting the Fire Chief with the overall operations and administration of the Town of Cumberland Fire Department. These management functions encompass fire suppression, prevention, investigations, rescue operations, emergency management, hazardous material, spill mitigation, emergency medical responses, fire alarm and traffic signaling.

Minimum Qualifications: Bachelor's degree in Public Administration, Fire Science or a related field with more than (3-5) years related work experience with a minimum of three (3) years in a supervisory or command level or any equivalent combination of education, training and experience which provides the required knowledge, skills and abilities to perform the essential functions of the job.

Special Requirements: Certification as Fire Officer I & II NFPA 1021 and NFPA 1521Class D Motor Vehicle Driver's License; EMT and CPR, , Hazardous Materials Technician; State Certification as a Fire Service Instructor.

3. Fire Marshal

Statement of Duties: This position is responsible for the provision of fire prevention/inspection services including the issuance of permits in accordance with the State Fire Code and NFPA regulations.

Minimum Qualifications: Associate's Degree in Public Administration, Fire Science or a related field; one to three (3-5) years experience as a firefighter.

Special Requirements: Class D Motor vehicle License, Certification as Fire Inspector 3 and NFPA 1031

4. EMS Coordinator

Statement of Duties: This position is responsible for the provision of emergency medical services in accordance with State regulations.

Minimum Qualifications: Associate's Degree in Public Administration, Fire Science or a related field; one to three (3-5) years experience as a firefighter.

Special Requirements: Class D Motor Vehicle License; Certification as EMT/Cardiac and Knowledge of NFPA 1500

5. Training Coordinator

Statement of Duties: Responsible for the development and implementation of department career and skill training services.

Minimum Qualifications: Associate's Degree in Public Administration, Fire Science or a related field; one to three (3-5) years experience as a firefighter.

Special Requirements: Class D Motor Vehicle License; Certification NFPA 1021, 1521 and 1041.

6. Fire Inspector

Statement of Duties: This position is responsible for conducting inspections and the issuance of permits in accordance with the State Fire Code and NFPA regulations.

Minimum Qualifications: High School diploma or equivalent and one to three years experience as a firefighter.

Special Requirements: Class D Motor Vehicle License; Certification as Fire Inspector 1 and NFPA 1031

7. Shift Commander (Captain) ?

Statement of Duties: This position serves as the senior ranking on-duty officer responsible for managing and directing the operation of all Cumberland Fire and Rescue Stations providing Town-wide fire suppression, emergency medical services and public safety.

Minimum Qualifications: Associate's Degree in public administration, fire science or a related field

Special Requirements: Class D Motor Vehicle License; Certification as Field Officer 3 and NFPA 1021 and 1521

8. Company Officer (Lieutenant)

Statement of Duties: This position is responsible for the effective utilization of station resources in the provision of fire suppression, emergency medical services and public safety.

Minimum Qualifications: High School diploma or equivalent and one to three (1-3) years as a firefighter.

Special Requirements: Valid Class D Motor Vehicle License; Certification as Field Officer 2 and NFPA 1021; Required to maintain physical condition in order to perform job duties.

9. Firefighter

Statement of Duties: This position performs routine and specialized duties associated with fire suppression, emergency medical calls, hazardous material incidents, auto extrication, and public relations/education events to protect lives, property and the environment in the Town of Cumberland.

Minimum Qualifications: High School diploma or equivalent and one (1) year prior work experience.

Special Requirements: Valid Class D Driver's License; Firefighter I and II Certification; State of Rhode Island EMT Certification; required to maintain physical condition in order to perform job duties.

Town of Cumberland, Rhode Island
Draft Job Description

Position Title:	Fire Chief	**Grade Level:**	
Department	Fire Department	**Date:**	
Reports to:		**FLSA Status**	Exempt

Statement of Duties: The Fire Chief is responsible for the overall operations and administration of the Town of Cumberland Fire Department. These management functions encompass fire suppression, prevention, investigations, rescue operations, emergency management, hazardous material, spill mitigation, and emergency medical responses. Additionally, fire alarm and traffic signaling are also overseen by the Fire Chief. Employee is required to perform all similar or related duties.

Supervision Required: Under administrative direction, the employee carries out job duties in accordance with department Standard Operating Guidelines (SOGs), as well as applicable State and federal laws and regulations; employee establishes short and long-range plans department and personal objectives and department performance standards; employee assumes direct accountability for department results. Consults with District and Town officials, when clarification, interpretation, or exception to municipal policies may be required. The employee exercises responsibility and control over the development and implementation of standard operating department policies, goals, objectives, and administration of the department's operating and capital budget. The employee is expected to attempt to resolve all conflicts, which arise within the department and coordinate with others as necessary.

Supervisory Responsibility: The employee is accountable for the direction and success of a major department of the Town; responsible for analyzing department and employee objectives, determining the various work operations needed to achieve them, estimating the financial and staff resources required, allocating the available funds and staff, reporting periodically on the achievement and status of the program objective; and recommending new goals. The Fire Chief formulates or recommends program goals and develops plans for achieving short and long-range objectives; determines organizational structure operating guidelines and work operations; formulates, prepares and defends budget and manpower requests and accounts for effective use of funds and staff provided; coordinates program efforts within the unit and with other departments; delegates authority to subordinate supervisors and holds them responsible for the performance of their unit's work; reviews work in terms of accomplishment of program objectives and progress reports, approves standards establishing quality and quantity of work; and assists or oversees the personnel function, including or effectively recommending hiring, training, and disciplining of employees.

There are currently one hundred and fifty-eight (58) full-time authorized employees and members of a volunteer call force that are assigned to four (4) stations. Work operations are subject to frequent, abrupt, and unexpected changes in deadlines, volume of work, sudden emergencies, and goals due to uncontrollable or unpredictable circumstances or emergencies. Large numbers of employees supervised are physically separated for a substantial portion of time due to multiple stations/work shifts or concurrent work assignments.

Confidentiality: Employee has regular access at the departmental level to a wide variety of

confidential information, including personnel records, department records, criminal records, criminal investigations, court records, emergency medical reports, and collective bargaining negotiations in accordance with the State Public Records Law.

Accountability: Duties include department level and Town-wide responsibility for technical processes, emergency fire and rescue service delivery, and contribution to municipal wide plans and objectives and fiscal responsibility for the department including buildings, equipment and staffing utilization. Consequences of errors, missed deadlines or poor judgment could severely jeopardize department programs, cause adverse public relations or have extensive financial and legal repercussions, personal injury and/or loss of life.

Judgment: Work is performed based on administrative or municipal policies, general principles, standard operating guidelines, state or federal statutory legislation, or directives that pertain to the fire department. Extensive judgment and ingenuity are required to develop new or adapt existing methods and approaches to accomplish objectives and/or to deal with new or unusual requirements within the limits of established guidelines, practices, or policies. The employee is recognized as the department or functional area's authority in interpreting the guidelines, in determining how they should be applied, and in developing operating policies.

Complexity: The work consists of employing many different concepts, theories, principles, techniques and practices relating to an administrative field. Assignments typically concern such matters as studying trends in the field for application to the work; assessing services and recommending improvements; planning long range projects; devising new techniques for application to the work, recommending policies, standards or criteria.

Work Environment: Work requires a high degree of individual tolerance to combinations of extremely unpleasant elements, or mental stress from constant conflicting urgent time and attention demands of the utmost priority. The nature of the physical environment may be such that the employee's personal well being and/or safety are constantly compromised. Employee may be required to work beyond normal business hours on a 24/7 basis in response to emergencies or to attend evening meetings.

Nature and Purpose of Public Contact: Relationships are with co-workers, the public, State or Federal officials and representatives of other municipal fire departments on a constant basis and with groups and/or individuals who have conflicting opinions or objectives, diverse points of view or differences where skillful negotiating and achieving compromise is required to secure support, concurrence and acceptance or compliance; or one-on-one relationships with a person who may be under severe stress, where gaining a high degree of persuasion may be required to obtain the desired effect. The employee represents the fire department to the public on matters of procedures or policy where perceptiveness is required to analyze circumstances in order to act appropriately.

Occupational Risk: Duties regularly present potential risk of injuries from improper exposure to occupational risks that could result in loss of time from work including loss of life. Examples of injury include burns from chemicals, steam or fire, severe muscular strains from working with extremely heavy material, falls from heights in excess of three feet and illness from exposure to

communicable diseases. Special safety precautions, training, or protective clothing such as gowns, coats, gloves, glasses, hard hats, or safety boots is required.

Essential Functions:

The essential functions or duties listed below are intended only as illustrations of the various type of work that may be performed. The omission of specific statements of duties does not exclude them from the position if the work is similar, related, or a logical assignment to the position.

1. Oversees and administers the daily operation of the Fire Department including the development and implementation of department Standard Operating Guidelines (SOGs), administrative and operational practices and department policies.
2. Prepares and administers an operating and capital budget for the department; responsible for all department expenditures as well as receipts, property and ensuring that all equipment including fire engines, apparatus and alarm systems are functioning properly.
3. Responsible for planning, organizing, directing, staffing, and coordinating fire prevention, firefighting, emergency rescue and management operations at all major incidents.
4. Responsible for the enforcement of fire codes as well as conducting reviews of building plans in accordance with local and State regulations
5. Responsible for mitigation preparedness response and recovery from natural and manmade disasters as well as coordinating with fire departments from other communities when necessary.
6. Responsible for communication with the public, media, local, state and federal officials relating to all activities of the department; coordinate activities with town departments and nearby fire districts, cities and towns to ensure proper response to fire or other civil emergencies.
7. Oversees the development and implementation of employee training programs and ensures professional ratings of the department and employees including emergency medical services.
8. Develops specifications for department apparatus and equipment. Oversees the use and maintenance of all department equipment and supplies to ensure the safety and well-being of employees and the public served.
9. Oversees the maintenance of the fire department buildings, grounds, equipment and fleet; maintains and controls access to fire department records, statistical data, evidence and property control.
10. In conjunction with the Fire Marshal, reviews and comments on proposed building plans and other issues that may have an impact on the provision of department services.

Recommended Minimum Qualifications:

Education and Experience: Master's degree in Public Administration, Fire Science or a related field with more than (10) years related work experience with a minimum of five (5) years in a supervisory or command level or any equivalent combination of education, training and experience which provides the required knowledge, skills and abilities to perform the essential functions of the job.

Special Requirements: Class D Motor Vehicle Driver's License; Chief Fire Officer, Hazardous Materials Technician, EMT/CPR Certification and State Certification as a Fire Service Instructor.

Knowledge, Abilities and Skill

Knowledge: Thorough knowledge of the principles and practices of fire administration and personnel management in a union environment; and emergency operations; thorough knowledge of the approved methods and procedures of modern medical and rescue techniques, firefighting principles, equipment and related techniques; thorough knowledge of applicable federal, state and local laws relating to the fire service and fire prevention codes and ordinances; knowledge of building construction; knowledge of fire and emergency service equipment, fire behavior, structural integrity of buildings, hazardous by-products of combustion, hazardous chemicals and training for natural disasters. Working knowledge of municipal budgets and procurement regulations. Thorough knowledge of department standard operating guidelines and procedures as well as the geography of the Town including structural features as related to fire fighting and emergency rescue operations.

Abilities: Ability to supervise subordinates in a positive and effective manner and to delegate authority efficiently; ability to establish and maintain harmonious and productive working relationships with Town, state, or federal officials, fire service officials, and the general public; ability to plan, assign, direct, and review the work of subordinates and to direct large scale emergency response operations of personnel and equipment making rapid, operationally sound judgments under stressful, difficult environmental conditions; ability to deal with disgruntled members of the public in a diplomatic and effective manner. Ability to read and interpret labor contracts, rules and regulations when determining work standards for employees of the department in a sound, intelligent manner. Ability to read and interpret building plans and blueprints as well as technical procedures, and government regulations.

Skill: Proficient oral and written communication skills; common sense operational and employee management skills to determine the most appropriate response to emergency situations; good computer skills. Proficient personnel management skills in a union environment.

Physical and Mental Requirements

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the position's essential functions.

Physical Demands: Work requires moderate intermittent physical strength and effort daily, such as, lifting or carrying heavy objects. Travel, particularly during adverse weather and troublesome road conditions and at times during the evening is required in response to emergencies on a 24/7 basis.

Motor Skills: Duties may involve a high degree of intense mental concentration together with hand and eye coordination and visual attention for long periods of time in performing activities such as having to operate an emergency vehicle at high rates of speed often during adverse weather and troublesome road conditions in response to emergencies.

Visual Demands: Visual demands require the employee to constantly read documents for general understanding and for analytical purposes, to routinely review non-written materials such as blue prints for analytical purposes and with a need to determine colors.

Town of Cumberland, Rhoide Island
Fire District
Per Capita Cost Profile
FY 2012

This is actually fiscal year 2011

Fire District	Population	Budget	Per Capita Cost	Tax Rate
Valley Falls	11,500	$1,638,430	$142.47	$2.09
Cumberland	9,000	$1,650,768	$183.42	$2.72
Cumberland Hill	8,000	$2,044,885	$255.61	$1.67
North Cumberland	6,000	$1,847,599	$307.93	$1.68
Town of Cumberland	34,500	7,181,682	$208.16	$2.00

2015 $7,363,011 $213.42 $2.10

+2.5%
+5.2% BY INFLATION

The Inflation Calculator

What cost **$7181682** in 2011 would cost **$7561564.54** in 2014.

Also, if you were to buy exactly the same products in 2014 and 2011,
they would cost you **$7181682** and **$6734711.74** respectively.

2011	1.6	2.1	2.7	3.2	3.6	3.6	3.6	3.8	3.9	3.5	3.4	3.0	3.2
2012	2.9	2.9	2.7	2.3	1.7	1.7	1.4	1.7	2.0	2.2	1.8	1.7	2.1
2013	1.6	2.0	1.5	1.1	1.4	1.8	2.0	1.5	1.2	1.0	1.2	1.5	1.5
2014	1.6	1.1	1.5	2.0	2.1	2.1	2.0	1.7	1.7	1.7	1.3	0.8	1.6

CUMBERLAND FIRE CONSOLIDATION

EXPERT REPORT DATED: OCTOBER 1, 2012

DRAFT

Ron,
Can you please make copies of this for ~~DEFT~~ the members of your committee in anticipation of our meeting on 2/4 please.

Thanks

Scott's copy

DRAFT

DRAFT

D I Jacobs Consulting Company

90 Twinbrooke Drive, Holden, MA 01520 (508) 829.-2254 FAX (508) 267-8500
E-mail dijacobs@aol.com

October 1, 2012

DRAFT

Mayor Daniel McKee
Town Hall, 45 Broad Street
Cumberland, Rhode Island 02864

RE: Fire Services Consolidation Study Final Report

Dear Mayor McKee:

I am pleased to submit for your review and comment the enclosed Final Report recommending the consolidation of fire services in to a single operating entity and the deployment of fire stations in the Town of Cumberland.

On behalf of the consulting team consisting of myself, Chief Michael Mansfield and Mr. Travis Miller of Criterion Associates, we hope that the recommendations contained in this report will provide a road map and template to improve the level of emergency fire, medical, rescue and dispatch services to the citizens of Cumberland. As with any public safety organization, there is always room for improvement. While studies of this nature tend to be viewed in a critical manner, no criticism of any individuals is intended, nor should any be implied by the findings and recommendations that are contained in this report.

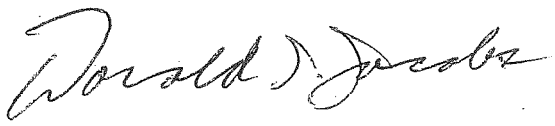
The formation of a single fire department should be viewed as one step in the development of a Town-wide, integrated public safety services master plan that will enable the Town to provide these vital services in a cost effective, safe, and efficient manner consistent with the mission and vision of public safety services and the fiscal constraints of the Town of Cumberland.

It is recommended as a next step that the Town establish a governance model pertaining to the establishment of a single fire agency that would address policy and administrative issues such as the formation of a governance board, the implementing of a tax cap, the method to appropriate and raise revenues to fund operating and capital budgets and the possible centralizing of financial controls. In addition, it is recommended that the Town continue planning for a police/fire/rescue and dispatch complex and also analyze the feasibility of regionalizing the provision of fire, rescue and/or emergency dispatch services with neighboring communities.

DIJ
Management Consultant Services

We would welcome the opportunity to meet with you and members of the Town Council to discuss the findings and recommendations in the enclosed report in more detail.

Sincerely,
D I Jacobs Consulting Company



Donald I. Jacobs, Principal

PROJECT INTRODUCTION

This study was commissioned by the Town at a unique time following a Town referendum where a clear statement was made to change how fire services are provided in the Town of Cumberland. The Town has taken the proactive step of having a study conducted to help the Town Council understand their choices and policy options regarding the consolidation of fire services. The report, which follows, summarizes the results of three (3) months of data collection and analysis of the Cumberland Fire Districts—current operations, staffing levels, management, station location and services. The project team which conducted this study reviewed all of the functions of the Fire Districts as well as the Emergency Medical and Dispatch services as they relate to the provision of fire suppression and emergency rescue services to develop this final report.

Since the beginning of the study, the study team has utilized the following approaches:

- Maximizing the input of the Fire District staff. During this study members of the project team interviewed current staff including Fire Chiefs, Deputy Chiefs, fire marshal, firefighters and union leadership in all of the Districts. In addition, employee opinions, perspectives and ideas were collected via a confidential operational and administrative resource survey.

- Throughout the project, the study team has met with the Mayor, Fire Chiefs and staff to review progress and key issues which arose during the course of the study. There were two "internal" groups compromised of Fire Chiefs and the union leadership representing all of the Fire Districts. The project team met with the Mayor and his staff as well as members of each internal group on a regular basis during the course of this study in order to gain key historical insight and operational issues pertaining to the provision of fire services in Cumberland. These meetings were oriented so that actual issues were reviewed and discussed as they arose during the course of the study.

- Thorough analysis of existing resources. A key objective of this study was to assess the efficiency and effectiveness of the current organization structure, staffing, operations, facilities and related services in Cumberland today. This objective was designed to address the question of whether the formation of a single fire protection entity would improve the quality, effectiveness and cost of providing fire department services and how it would be implemented.

- Provide the tools to assess current and future needs. Because this study was more than a staffing and operations study, the project team utilized a number of methodologies and approaches to evaluate feasibility of consolidating fire services including GIS software to analyze several different operational and station location options.

The recommendations that have been identified in this report pertaining to the consolidation of the fire districts in to a single fire protection agency and the location of the fire stations (either 3 or 4 stations) are based on nationally recognized standards and are consistent with national and regional best practices for fire and EMS agencies. However, because every community has unique characteristics, challenges and resource limitations, our recommendations are specifically designed to address the immediate and long-term fire service including station location needs of the Town of Cumberland.

With regard to the issue of station location, the project team analyzed the current station deployment and three (3) alternatives:

- Optimal 3-station configuration
- Optimal 4-station configuration; and
- Optimal 4-stationm configuration with a targeted central location

The project team examined the response time performance of each of the station location alternatives utilizing an approach that included the application of a GIS system, concurrent call activity for the past three (3) years and the identifications of locations in the community that are responded to frequently are weighted within the formula for the number of times that fire/rescue responses have been required at the address.

The report which follows summarizes the results of these analytical efforts and provides recommendations for the Town to consider in order to implement the consolidation of fire services in the Town of Cumberland.

FIRE SERVICES CONSOLIDATION

Project Background

The Town of Cumberland requested D.I. Jacobs Consulting Company to conduct a comprehensive review and assessment of the strengths and weaknesses of current fire suppression, fire prevention and emergency rescue services including staffing in each the four (4) Fire Districts in order to determine the feasibility of consolidating fire services in to a single fire agency and to identify what if any enhancements or modifications should be made in order to ensure that fire services are provided in an efficient, cost effective manner. The consulting team has also completed a review and analysis of the provision of both Emergency Medical and Emergency Dispatch services as well as fire station locations in Cumberland as they relate to the provision of fire services.

Fire services in each of the four (4) Fire Districts has been reviewed and evaluated based on the following components:

Adequacy of Resources

1. Staffing
2. Facilities
3. Apparatus
4. Tools
5. Gear
6. Office Equipment
7. Technology
8. Materials

Administration

1. Recruitment
2. Career Advancement
3. Training
4. Grievances
5. Discipline
6. Performance Evaluation
7. Compensation (Salary and Benefits)
8. Labor Relations

The nature of the work performed during the course of this phase of the study has included the following tasks:

1. Comprehensive review of all current standard operating guidelines (SOGs), collective bargaining agreements, personnel and financial policies, and administrative practices.
2. Review each of the District's fire apparatus, facility, organizational structure, staffing, activity levels, operating and capital budgets, and tax levy/valuation profile.
3. Conduct a series of individual and group meetings with each of the District's Fire Chiefs and staff to discuss fire services.
4. Conduct a confidential department head and employee survey regarding the provision of fire services.

Executive Summary

The Town of Cumberland should consolidate its four (4) fire districts in to one (1) unified Fire and Emergency Rescue Department. The current decentralized structure does not allow for coherent, integrated administration, planning and resource allocation. The new department should serve the entire Town of Cumberland. The formation of a unified department will result in lower costs to the taxpayer, improved operational efficiencies, improved staff accountability and performance and improved quality of service.

The need to consolidate the provision of fire service results from the need to better manage and plan on both a short and long-term basis for the provision of this vital public safety service and to ensure that resources (staffing, facilities, apparatus and equipment) are effectively used and redundancies avoided to better protect the lives and property of the citizens of Cumberland.

Operational Implications for the Consolidation of Fire Services

The consolidation of fire services in to a single operating entity will result in the following enhancements:

1. All budget formats will be combined into one (1) standard operating and capital budget.

2. One collective bargaining agreement will enable the Town to establish a uniform approach to managing labor relations.

3. A unified organization structure in accordance with the functional lines of service (Fire Suppression, Fire Prevention, Emergency Rescue and Training) will result in:

    - an effective chain of command
    - improved staff accountability
    - standardized operating procedures
    - standardized training
    - improved operational/capital budgeting and revenue enhancement
    - effective incident command and safer operations for personnel
    - coordinated fleet management
    - improved grant funding opportunities
    - uniform Classification and Compensation System including benefits
    - development of an effective Call Force in support of career force

4. A comprehensive set of standard operating procedures (SOPs) will enable the Fire Department to keep pace with fire service best practices, technology changes, or the strategic and tactical needs of the department. This will prevent any variations in the delivery of services and establish a commitment to firefighter safety.

OPERATIONAL FINDINGS AND RECOMMENDATIONS

The findings and recommendations listed below are organized by functional area of personnel services and a priority has been assigned for the implementation of each recommendation.

1 = **Essential Recommendation**: Recommendations requiring immediate action or an essential activity and therefore should be implemented within one- (1) year.
2 = **Important Recommendation**: These recommendations should be implemented within a 12 to 15 month period;
3 = **Useful recommendation**: Implementation of these recommendations would result in more efficient, effective personnel services and therefore should be implemented as time and/or funding allows.

Operational Findings	Recommendations	Priority
Management/Organization Structure The command staffing structure is not organized effectively to manage the provision of services in an efficient, cost effective, accountable and safe manner. The call force is not operationally effective. The Fire Districts do not have available/applicable a comprehensive set of standard operating procedures (SOPs) resulting in variations between Districts and shifts regarding the provision of fire and emergency rescue services resulting in safety and liability concerns.	It is recommended that the four (4) fire districts be consolidated in to one (1) fire operating entity in accordance with the following functions of the department: - Administration - Operations - Prevention/Inspection - Training - Emergency Rescue Please see the enclosed current and alternative Organizational Structures along with a profile of position job descriptions. Department SOPs and a Call Force Management Plan should be developed	1 1
Facilities All facilities have been converted from volunteer to career buildings and have significant deficiencies including location and environmental conditions.	It is recommended that a 5 Year Capital Management Program be established to identify and plan for the capital improvements. See the Fire Station Location Analysis details regarding station location	2

Operational Findings	Recommendations	Priority
Apparatus No adverse finding. The number and mix of the apparatus currently in service was found to be effective.	Develop a 5 year Capital Program a replacement and maintenance schedule for apparatus. When scheduled, the 75' Tower should be replaced with a 105' Quint to improve operational effectiveness.	2
Tools and Gear No adverse finding. The current mix of tools and gear was found to be effective.	The formation of a single operating entity will enable the provision of tools and gear to be standardized and a replacement program established.	3
Water Supply and Infrastructure The Town is currently relies on neighboring communities for water supply.	The Town should explore the feasibility of establishing additional sources of water within the community.	2
The Town's water infrastructure system is aging; there are significant gaps in the system regarding availability of water and hydrant locations.	The Town should establish a capital plan to expand water supply and location of hydrants consistent with the growth of the community.	2
Financial Management There is no consistent operating and capital budgeting process between the Districts.	A single budget process should be established including a 5 year capital plan.	2
None of the Districts currently conduct an annual financial management audit.	An annual financial audit should be required.	1
Technology The IMC software system is not configured to monitor fire and EMS operational activity.	The IMC software system should be revised to provide an accurate recording of fire and EMS activity.	1

Personnel/ Administrative Findings	Recommendations	Priority
Recruitment and Retention There is a lack of a consistent policy regarding the recruitment of personnel including the call force.	The department should establish a recruitment and retention program for both career and call force personnel through FEMA Assistance to Firefighters Grant.	3
Career Advancement There is a lack of consistency regarding career advancement and promotion policies that would include skill based testing (assessment centers).	Skill based testing (assessment centers) should be incorporated in to the promotional process.	3
Training There is a lack of consistent training throughout the Districts and no Training Management Plan.	An Employee Training Committee should be established under the direction of the new Training Coordinator position. The Training Committee should be charged with the responsibility of developing and maintaining a department-wide skill and career training program. The make-up of the Committee should be representative of the work force structure and station locations.	2
Labor Relations No adverse findings.	The formation of a single department should address inconsistencies and improve labor relations.	3
Compensation There is a lack of consistency regarding the management of compensation between the Districts.	A Classification and Compensation Plan should be developed to establish both internal and external equity. The department should establish a performance management system based on goals and objectives linked directly to the budget.	2

FIRE DISTRICT RESOURCE MANAGEMENT EMPLOYEE SURVEY

The project team conducted a confidential employee survey of employees who work in each of the four (4) fire districts in the Town of Cumberland. The purpose of the survey was to provide employees with an opportunity to express their opinions and concerns regarding the adequacy of fire resources and personnel administration. Confidential surveys were tallied and separate group meetings were held with employees in each of the Fire Districts to discuss the survey results and solicit further comments. The survey questions were grouped in to two (2) categories: Resources and Personnel Administration. Employees were asked to respond to each question with a rating of Poor, Fair, Average, Good or Excellent. A copy of the survey questionnaire is attached.

The following report reflects the consensus of comments received from employees in all of the Fire Districts.

Resources:

1. Staffing (Number of career, call; skill and experience, #of supervisors and support staff)
Employees expressed concern regarding the level of career staffing as it applied to the manning of apparatus and the lack of a viable, well trained call force. The number of supervisors was felt to be excessive during daytime hours of operation. The current table of organization has established the administration level to function independently of each other. The general consensus was that this issue was a weakness that needs to be improved.

2. Facility (Location, size, layout, traffic flow, environmental conditions, parking)
The employees expressed significant concerns regarding the condition, location and in some Districts lack of parking. The condition of all facilities was rated as inadequate in terms of structure, layout and environmental conditions. The facilities are all converted from volunteer buildings to career buildings. In the volunteer system seldom did firefighters spend overnight shifts, whereas with career personnel members are assigned on a 24/7 basis with buildings retrofitted to accommodate the residency requirements. This issue was rated overall fair to poor and in need of improvement.

3. Apparatus (Number and mix, features/specifications, availability, maintenance)
Employees stated that the number, condition, age and maintenance of firefighting apparatus was good; concern was expressed regarding the number command staff vehicles and the two aerial ladders that are available for response within the four Districts. The aerials are both 75' in height and make for limited operations on high rise responses; not able to reach higher

than the roof of a 5 story building. If buildings higher than 50-60' are involved reliance on mutual aid would be necessary to reach floors above that height. The general consensus was that the apparatus that is available in each of the four (4) Districts was rated as "good" but that there is a lack of coordination between Districts regarding the regular replacement of apparatus along in addition to the lack of a formal capital budget process in the Districts. This issue was rated overall as good but in need of improvement.

4. Tools (Number and mix of tools, features/specifications, availability, maintenance)
Employees stated that there is a good mix of tools and that they are well maintained; there is a lack of a formal tool replacement program for all districts. Employees felt that this is a deficiency with only 3 of the 4 Districts having hydraulic rescue tools available. The general consensus was that this issue was rated as good to excellent and is a strength of the organization.

5. Gear (Number/mix of protective clothing, features/specifications, availability, maintenance)
Employees stated that gear is generally updated and maintained on a regular basis; there is a lack of an established gear replacement program for all Districts. This is an issue that was rated as good to excellent as a strength of the organization.

6. Office Equipment ((Number and mix, features/specifications, availability, maintenance)
Employees expressed concern that the telephone/voice mail system in most of the Districts is inadequate. There is a lack of consistency in the provision of office equipment between Districts. This is an issue that employees rated overall as good to average and in need of improvement.

7. Technology (Number and mix, features/specifications, hardware, software, training)
Employees expressed concern that the current IMC software system is not set up to monitor fire and EMS activity effectively. Concern was expressed regarding the dispatching of apparatus and the lack of an effective radio communication system including portable radios for all Districts. This is an area that employees rated as good to fair and in need of improvement.

8. Materials (Office, maintenance, training)
Employees stated that materials needed are provided to get the job done; there is a lack of consistency between Districts in the type and condition of office equipment. This is an area that employees felt was good to average and in need of improvement.

9. Other Resources (Contracts/leases, technical support, capital/operating budgets, fees)
Employees expressed a concern that there is a lack of input into the development of each District's operating and/or capital budgets. None of the Districts have a formal capital budget planning process. Capital needs are decided by Districts independent of one another. This is an area that employees felt was rated overall as average to poor and in need of improvement.

Personnel Administration

1. Recruitment (Advertising, tests, interviews, hiring decisions, notifications)
Concern was expressed regarding the lack of consistency between Districts regarding how new employees are recruited. Employees felt that the call force recruitment and retention program is ineffective. This is an issue that was rated overall as good to average and in need of improvement.

2. Career Advancement (Promotional opportunities across and/or within Districts)
Employees stated that there is a lack of consistency and uniform career advancement policies between Districts; due to the limited number of position vacancies in each District there is a lack of career advancement opportunity. This issue was rated overall as average to fair and in need of improvement.

3. Training (Career and skill development, consistency, quality, quantity)
Employees expressed concern regarding the lack of a consistent training program with designated training officers and poorly funded between Districts. Standard Operating Guidelines (SOGS) exist in some but not all of the Districts and should be developed on a District-wide basis in order to ensure that there are no contradictions with respect to incident operations between personnel. The Districts respond with one another almost seamlessly and standardized operating guidelines would greatly decrease the potential for communications and procedural breakdowns. Employees rated this issue overall as fair to poor in need of improvement.

4. Grievances (Process, Collective Bargaining Agreement, communications, notifications)
Grievance process is administered effectively in accordance with the CBA. Concerns were expressed regarding inconsistency between Districts, This issue was rated overall as average to good and in need of improvement.

5. Discipline (Process, Collective Bargaining Agreement, administration, timeliness, fairness)
Employee expressed concern regarding the lack of consistency and subjectivity in the enforcement of discipline and lack of established personnel policies as reflected in the various collective bargaining agreements in the Districts. This is an issue that needs to be improved.

6. Performance Evaluation (Process, criteria and standards, forms, frequency, fairness)
None of the Districts have a formal personnel evaluation program. Maybe evaluated only during probationary period. This is an issue that was does not currently exist in any of the Districts beyond the probationary period of employment. Employees felt that this issue should be viewed as an opportunity since it does not exist at the current time.

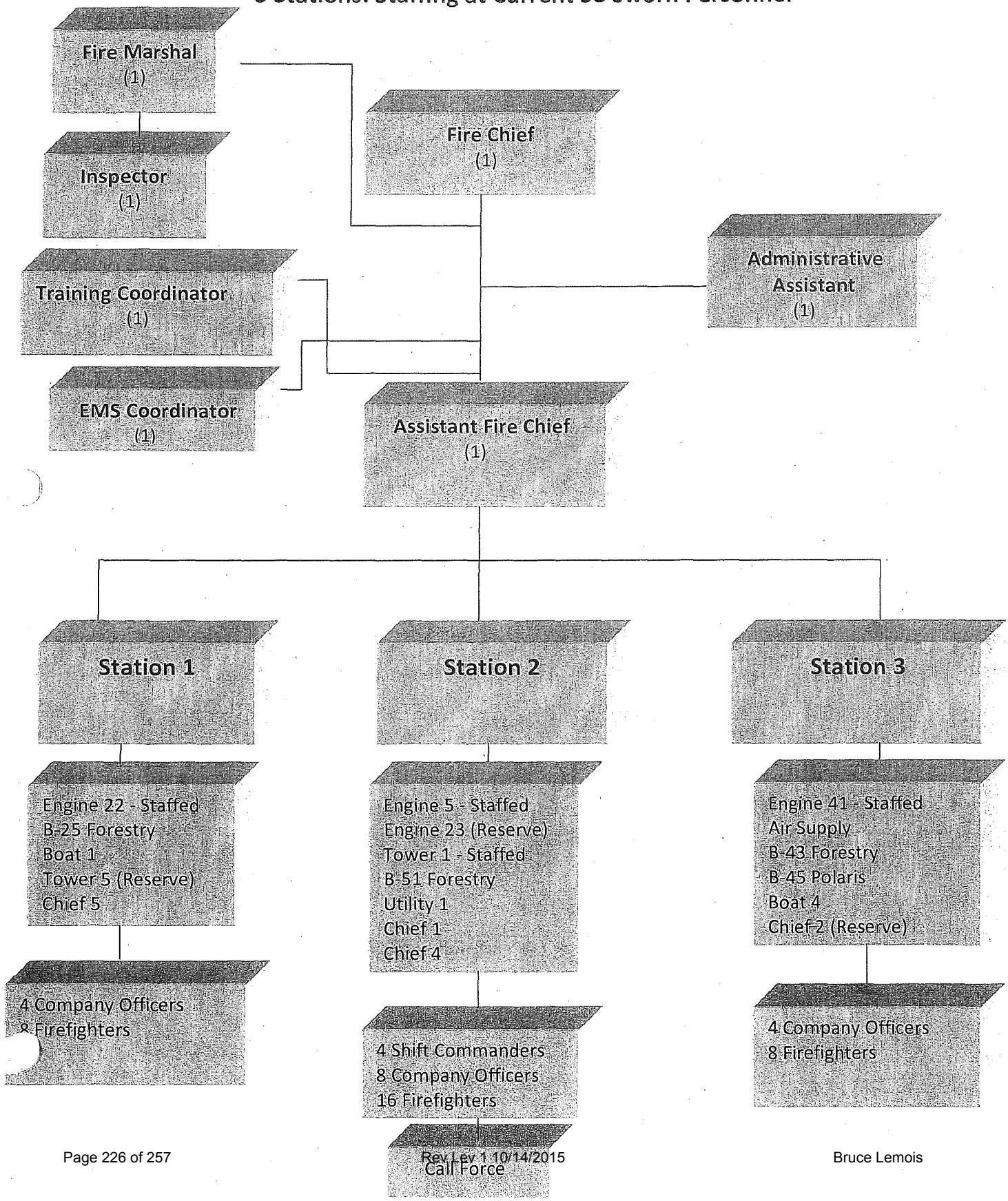
7. Compensation (Salary) (Internal, external, linked to performance, skills, certification)
The level of employee compensation, compensation structure and compensation process was felt to be inconsistent between Districts and concern was expressed regarding both internal equity (between Districts) and external equity (market place). In addition, employees stated that there is no consistent performance evaluation system in place beyond the probationary period. This is an issue that needs to be improved.

8. Compensation (Benefits) (Internal, external, flexibility, administration)
Concern was expressed regarding the inconsistency between Districts regarding the level and type of benefit programs with health insurance and retirement being of particular concern. This issue was rated by employees overall as average to fair and in need of improvement.

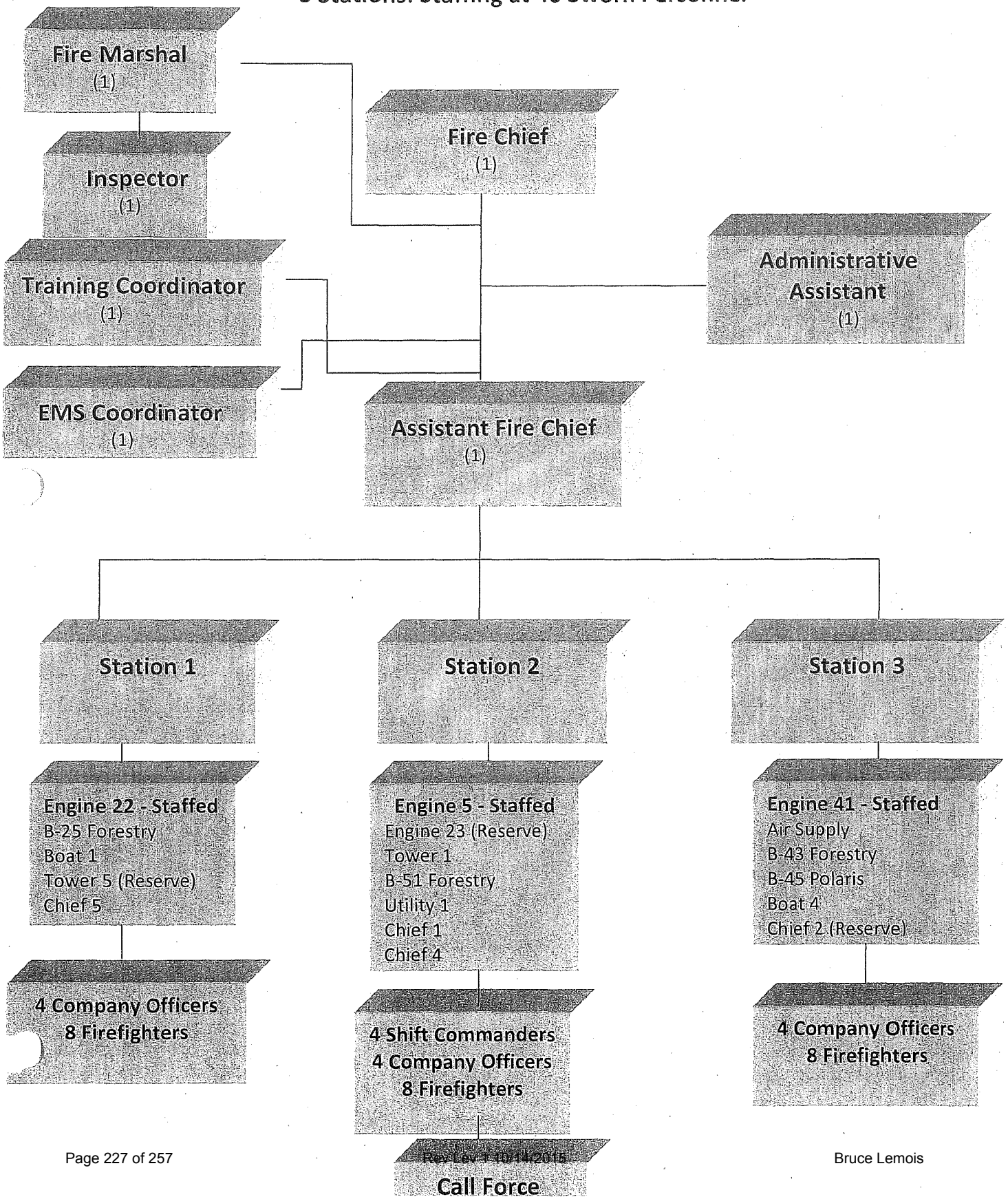
9. Labor Relations (Current relationship with management/employees and the CBA)
Employees stated that overall the Union and Districts work well together although here again there is inconsistency between Districts regarding the provisions of the various CBAs and how they are enforced. It was felt that this issue is affected by the current fiscal climate and the uncertainty to consider the formation of a single municipal or Fire District department. This issue was rated overall as average to fair.

10. Morale
Employees expressed significant concern regarding the poor level of morale in all of the Districts. It was felt that this issue has been exacerbated by the uncertainty of a proposed single operating entity, the fact that one CBA is outstanding and inconsistencies in how the Fire Chiefs manage their respective Districts with one of the Chief's currently splitting time between two Fire Districts (Valley Falls and North Cumberland). This issue was rated overall as fair to poor and in need of improvement.

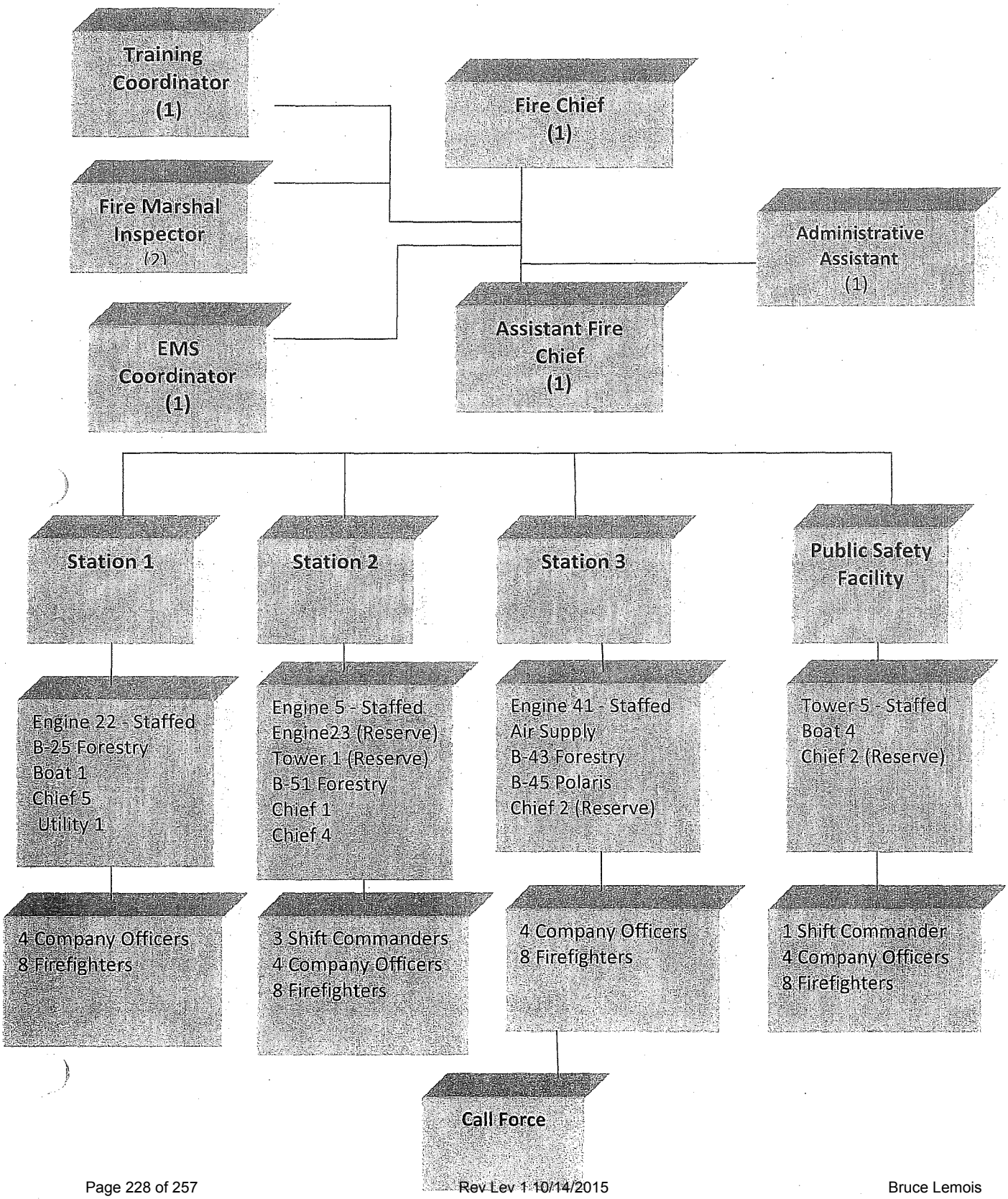
Town of Cumberland Proposed
Fire Department Staffing and Apparatus Location Configuration
3 Stations: Staffing at Current 58 Sworn Personnel



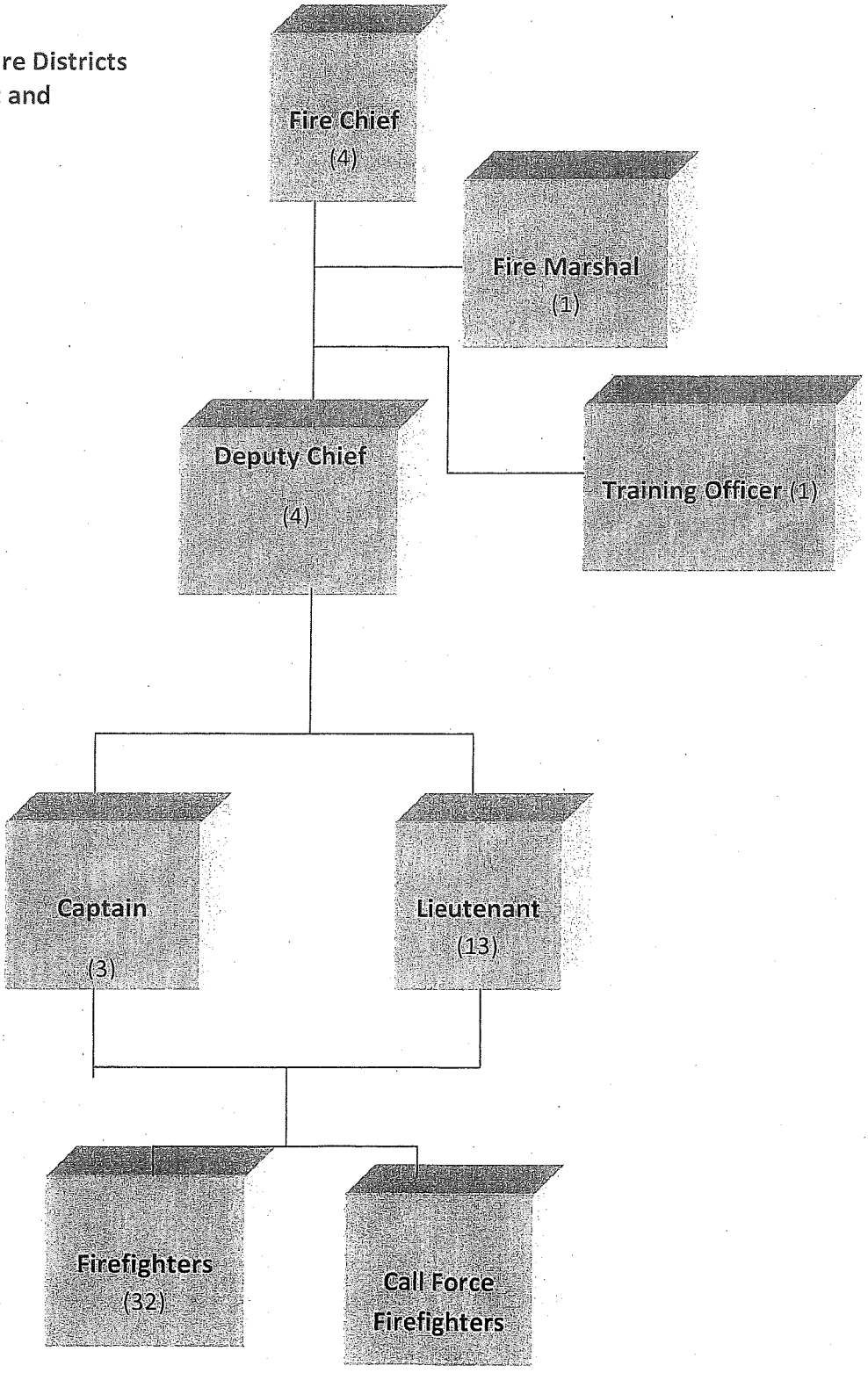
Town of Cumberland Proposed
Fire Department Staffing and Apparatus Location Configuration
3 Stations: Staffing at 46 Sworn Personnel



Town of Cumberland Proposed
Fire Department Staffing and Apparatus Location Configuration
4 Stations: Staffing at 58 Sworn Personnel



Current Combined Fire Districts Organizational Chart and Staffing Levels



Town Of Cumberland, Rhode Island
Personnel Count for Proposed Station Configurations

Configuration	Total Personnel	Personnel Reduction
Four (4) Fire Stations	59	N/A
Three (3) Fire Stations	46	13 positions
Two (2) Fire Stations	32	27 positions

Configuration	Total Personnel	Personnel Reductions	Est. Savings
Four (4) Fire Stations	59	N/A	N/A
Three (3) Fire Stations	46	12 positions 4 Company Officers/8 FF's	$561,324
Two (2) Fire Stations	32	26 positions 10 Company Officers/16 FF's	$1,267,985

Town Of Cumberland, Rhode Island
Personnel and Apparatus Locations for Proposed Station Configurations

Three Station	Apparatus	Personnel (58 Sworn)
I	Engine 22	3 (1 Officer and 2 Firefighters)
	B-25 Forestry	None assigned
	Tower 5 (Reserve)	None assigned
	Boat 1	None assigned
	Chief 5	Fire Marshal
II	Engine 5	3 (1 Officer and 2 Firefighters)
	Engine 23 (Reserve)	None Assigned
	Tower 1	3 (1Officer and 2 Firefighters)
	B-51 Forestry	None Assigned
	Utility 1	None Assigned
	Chief 1	Chief Officer
	Chief 4	Chief Officer
III	Engine 41	3 (1 Officer and 2 Firefighters)
	Air Supply	None assigned
	B-43 Forestry	None assigned
	B-45 Polaris Ranger	None assigned
	Boat 4	None assigned
	Chief 2 (reserve)	

Three Station	Apparatus	Personnel (46 Sworn)
I	Engine 22	3 (1 Officer and 2 Firefighters)
	B-25 Forestry	None assigned
	Tower 5 (Reserve)	None assigned
	Boat 1	None assigned
	Chief 5	Fire Marshal
II	Engine 5	3 (1 Officer and 2 Firefighters)
	Engine 23 (Reserve)	None Assigned
	Tower 1	None Assigned
	B-51 Forestry	None Assigned
	Utility 1	None Assigned
	Chief 1	Chief Officer
	Chief 4	Chief Officer
III	Engine 41	3 (1 Officer and 2 Firefighters)
	Air Supply	None assigned
	B-43 Forestry	None assigned
	B-45 Polaris Ranger	None assigned
	Boat 4	None assigned
	Chief 2 (reserve)	

Four Station	Apparatus	Personnel
I	Engine 22	3 (1 Officer and 2 Firefighters)
	B-25 Forestry	None assigned
	Tower 5 (Reserve)	None assigned
	Boat 1	None assigned
	Chief 5	Fire Marshal
II	Engine 41	3 (1 Officer and 2 Firefighters)
	Air Supply	None assigned
	B-43 Forestry	None assigned
	B-45 Polaris Ranger	None assigned
	Boat 4	None assigned
	Chief 2 (reserve)	
III	Engine 5	3 (1 Officer and 2 Firefighters)
	Engine 23 (Reserve)	None Assigned
	B-51 Forestry	None Assigned
	Utility 1	None Assigned
	Chief 1	Chief Officer
	Chief 4	Chief Officer
IV	Tower 1	3 (1Officer and 2 Firefighters)

It is recommended that the following fire apparatus be liquidated:

1. Engine 42 1997 Luverne currently located at Cumberland Hills
2. Engine 1 1992 Emergency One currently located at Valley Falls
3. C-20 2001 Ford Expedition currently located at Cumberland
4. Car-44 2001 Ford Expedition currently located at Cumberland Hills

In addition, it is recommended that the department establish an apparatus replacement program. When scheduled, the 75 foot Tower Ladder should be replaced with a 105 foot Quint. This apparatus should be located at the proposed Public Safety Station and staffed on a full-time basis. This will allow for this apparatus to be deployed to all portions of the Town minimizing response times and increasing the effectiveness of the fire rescue crew.

STATION LOCATION ANALYSIS

The project team analyzed the current station deployment and three (3) alternatives:

- Optimal 3-station configuration
- Optimal 4-station configuration
- 4-station configuration with a targeted central location

Each of these alternatives is described in the section that follows. The first sections provide a discussion of services levels and of the methodologies utilized by the project team in conducting our analyses.

A. THE FIRE DISTRICTS HAVE NOT ADOPTED SERVICE LEVEL STANDARDS FOR FIRE OR EMS SERVICE DELIVERY. THE PROJECT TEAM WILL USE A NATIONAL STANDARD AS A GUIDE TO MEASUURE SERVICE LEVELS.

In order to evaluate station locations, the project team needed a standard against which to evaluate them. Since the Town's Fire Districts do not have formally adopted service level standards, the project team referred to national consensus service level objectives and provided a range of analyses as bench marks to evaluate service levels for different station locations.

One of the most important decisions that can be made by the Town's policymakers relating to the delivery of fire and EMS services is to determine what the appropriate service level standards are for the community. This has been a topic of intense national debate in recent years, with efforts focused on providing a consensus standard and developed methodology for setting appropriate response time targets locally. This discussion is complicated in the Town of Cumberland by the fact that the Town only controls the Emergency Medical Service directly, and that Fire and first response services are provided by four (4) independent districts, over which the Town currently has no direct control.

The project team recognizes that each community differs from others. A combination of standards to ensure the highest degree of emergency services is provided for the residents while being budget conscious to the taxpayer. This approach allows a custom fit for the Town of Cumberland. Local demographics additionally guide what level of service a community should choose as their standard. Unique features of the Town of Cumberland to be considered:

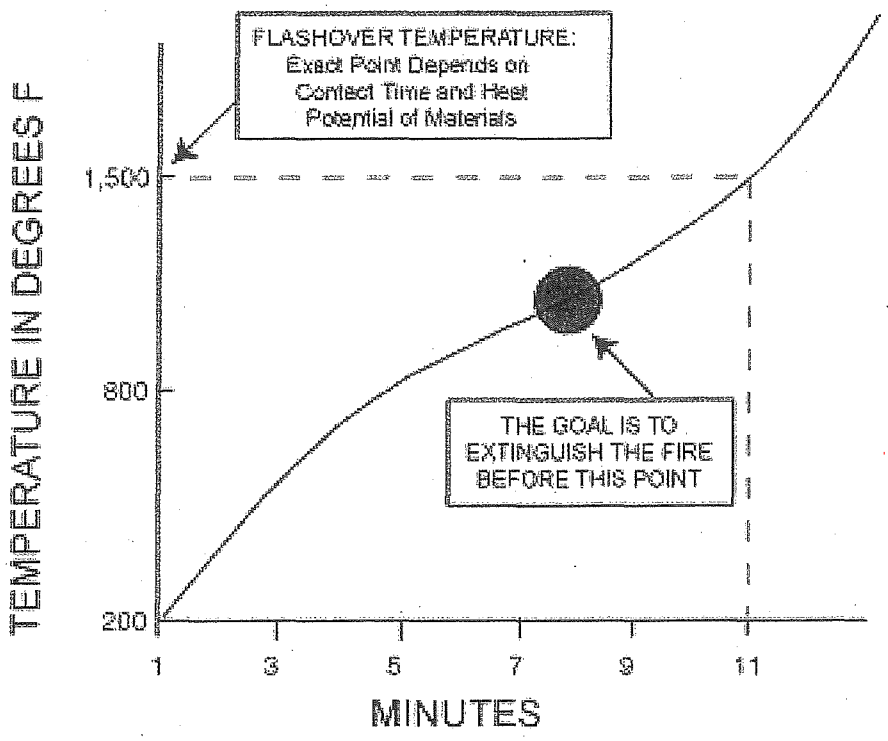
- The Town is geographically large, with more than 28 square miles within its borders.
- The Town has a population, according to the 2010 Census, of 34,489 resulting in a population density of just less than 1,300 persons per square mile.
- The Fire Districts provide services from four stations staffing four engine companies, and currently do not staff a ladder company on a regular basis depending on call personnel.

Nationwide, a great deal a great deal of effort and research has been put into developing performance objectives for the delivery of fire and EMS services. This effort, as stated previously, is critical for agencies making decisions about deployment and location of emergency resources. The objectives promoted for fire/rescue and EMS have their basis in research that has been conducted based on two (2) critical issues:

- What is the critical point in a fire's "life" for gaining control of the blaze while minimizing the impact on the structure of origin and on those structures around it?
- What is the impact of the passage of time on survivability for a cardiac arrest?

The chart that follows shows a typical "flashover" curve for interior structure fires. The point in time represented by the occurrence of "flashover" is critical because it defines when all of the contents of a room become involved in the fire. This is also the point at which a fire typically shifts from "room and contents" to a "structure" fire – involving a wider area of the building and posing a potential risk to the structures surrounding the original location of the fire.

Generalized Flashover Curve



Note that this exhibit depicts a fire from the moment of inception – not from the moment that a fire is detected or reported. This demonstrates the criticality of early detection and fast reporting as well as rapid dispatch of responding units. This also shows the critical need for a rapid (and sufficiently staffed) initial response – by quickly initiating the attack on a fire, "flashover" can be averted. The points below describe the major changes at a fire when "flashover" occurs:

- It is the end of time for effective search and rescue in a room involved in the fire. It means that likely death of any person trapped in the room – either civilian or firefighter.
- After this point in the fire is reached; potable extinguishers can no longer have a successful impact on controlling the blaze. Only larger hand-lines will have enough water supply to affect a fire after his point.
- The fire has reached the end of the "growth" phase and has entered the fully developed phase. During this phase, every combustible object is subject to the full impact of the fire.
- This also signals the change over from "contents" to "structure" fire. This is also the

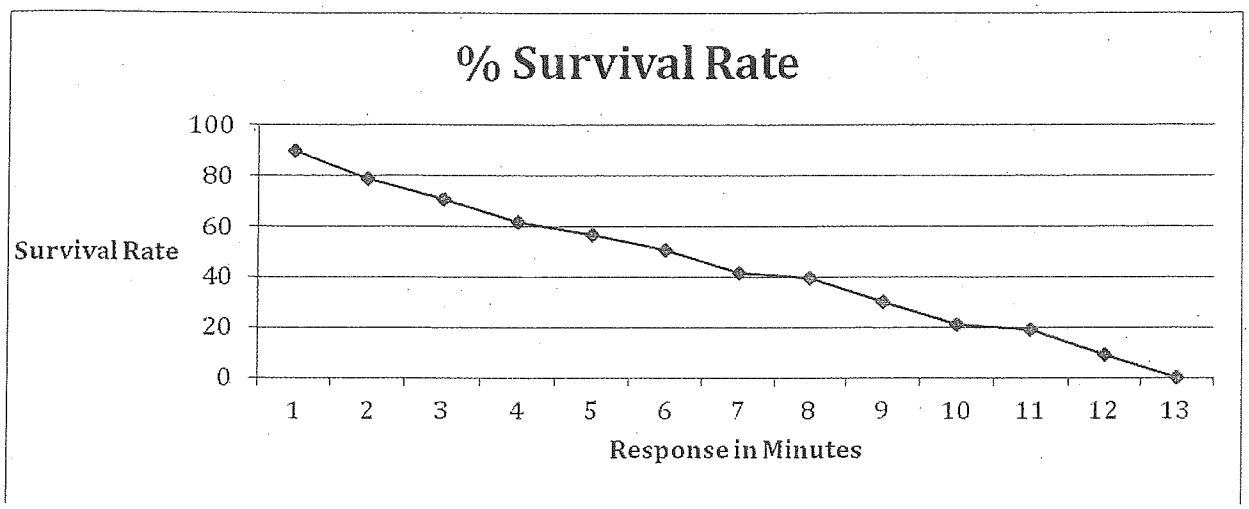
beginning of collapse danger for the structure. Structural collapse begins to become a major risk at this point and reaches the highest point during the decay stage of the fire (after the fire has been extinguished).

It should be noted that not every fire will reach flashover – and that not every fire will "wait" for the 8-minute mark to reach flashover. A quickly responding fire crew can do things to prevent or delay the occurrence of flashover. These options include:

- Application of portable extinguisher or other "fast attack" methodology.
- Venting the room to allow hot gases to escape before they can cause ignition of other material in the room.
- Not venting a room – under some circumstances this will actually stifle a fire and prevent flashover from occurring.

Each of these techniques requires the rapid response of appropriately trained fire suppression resources that can safely initiate these actions. In the absence of automatic fire suppression systems, access to interior fires can be limited by a safety requirement related to staffing levels. OSHA and related industry standards require the presence of at least 2-firefighters on the exterior of a building before entry can be made to a structure in which the environment has been contaminated by a fire. In the absence of a threat to life demanding immediate rescue, interior fire suppression operations are limited to the extent a fire service delivery system can staff to assure a minimum of 4-firefighters actively involved in firefighting operations.

The second issue to consider is the delivery of emergency medical services. One of the primary factors in the design of emergency medical systems is the ability to deliver basic CPR and defibrillation to the victims of cardiac arrest. The exhibit below demonstrates the survivability of cardiac patients as related to time from onset:



This graph illustrates that the chances of survival of cardiac arrest diminish approximately 10% for each minute that passes before the initiation of CPR and/or defibrillation. These dynamics are the result of extensive studies of the survivability of patients suffering from cardiac arrest. While the demand for services in EMS is wide ranging, the survival rates for cardiac arrests are often utilized as benchmarks for response time standards as they are more readily evaluated because of the ease in defining patient outcomes (a patient either survives or does not). This research results in the recommended objective of provision of basic life support within 4-minutes of notification and the provision of advanced life support within 8 minutes of notification. The goal is to provide BLS within 6 minutes of the onset of the incident (including detection, dispatch and travel time) and ALS within 10 minutes. This is often used as the foundation for a two-tier system where fire resources function as first responders with additional (ALS) assistance provided by responding ambulance units and personnel.

Additional recent research is beginning to show the impact and efficacy of rapid deployment of automatic defibrillators to cardiac arrests. This research – conducted in King County (WA), Houston (TX) and as part of the OPALS study in Ontario, Canada – shows that the AED can be

the largest single contributor to the successful outcome of a cardiac arrest – particularly when accompanied by early delivery of CPR. It is also important to note that these medical research efforts have been focused on a small fraction of the emergency responses handled by typical EMS systems – non-cardiac events make up the large majority of EMS and total system responses and this research does not attempt to address the need for such rapid (and expensive) intervention on these events.

Communities and first responders, often on their own with no single reference, develop local response time and other performance objectives, and have utilized the results of these research efforts. However, there are now three major sources of information to which responders and local policy makers can refer when determining the most appropriate response objectives for their community:

- The Insurance Services Office (ISO) provides basic information regarding distances between fire stations. However, this "objective" does little to recognize the unique nature of every community's road network, population, calls for service, call density, etc.

- The National Fire Protection Association (NFPA) promulgated a documented entitled: "NFPA 1710: Objective for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments." This document was published in 2001 and generated a great deal of dialogue and debate – which is still on-going.

- The Center for Public Safety Excellence (CPSE) in its "Objectives of Coverage" manual places the responsibility for identifying "appropriate" response objectives on the locality. These objectives should be developed following a comprehensive exercise in which the risks and hazards in the community are compared to the likelihood of their occurrence.

Utilizing the above standards in the protection of life and property plus addressing the uniqueness of the Town of Cumberland, the following Level of Service Standard is recommended:

- One minute (60 seconds) or less for dispatch processing time – from call answer to dispatch of initial units. This is evaluated at a 90% fractile.

- Two (2) minutes or less for reflex time – from dispatch notification to the units going en-route. This is also evaluated at a 90% fractile. This is likely not going to be achievable during paid-on-call coverage periods.

- Eight minutes (480 seconds) or less for drive time – from en-route time to arrival of the first unit on scene. This is also evaluated at an 80% fractile. The project team's maps show four (4), six (6) and eight (8)-minute coverage areas for each station location analyzed.

In the evaluation of the various locations, the project team reports on the drive-time performance from each location, using a default level of service of eight (8) minutes of drive time. These analyses are shown in a later section of our report, along with maps that graphically depict the results.

B. SEVERAL ANALYTICAL MODELS AND TOOLS FOR ANALYZING STATION LOCATIONS WERE USED IN THIS STUDY.

The project team makes use of a number of analytical tools and methods for assessing fire / rescue station locations. These are described below:

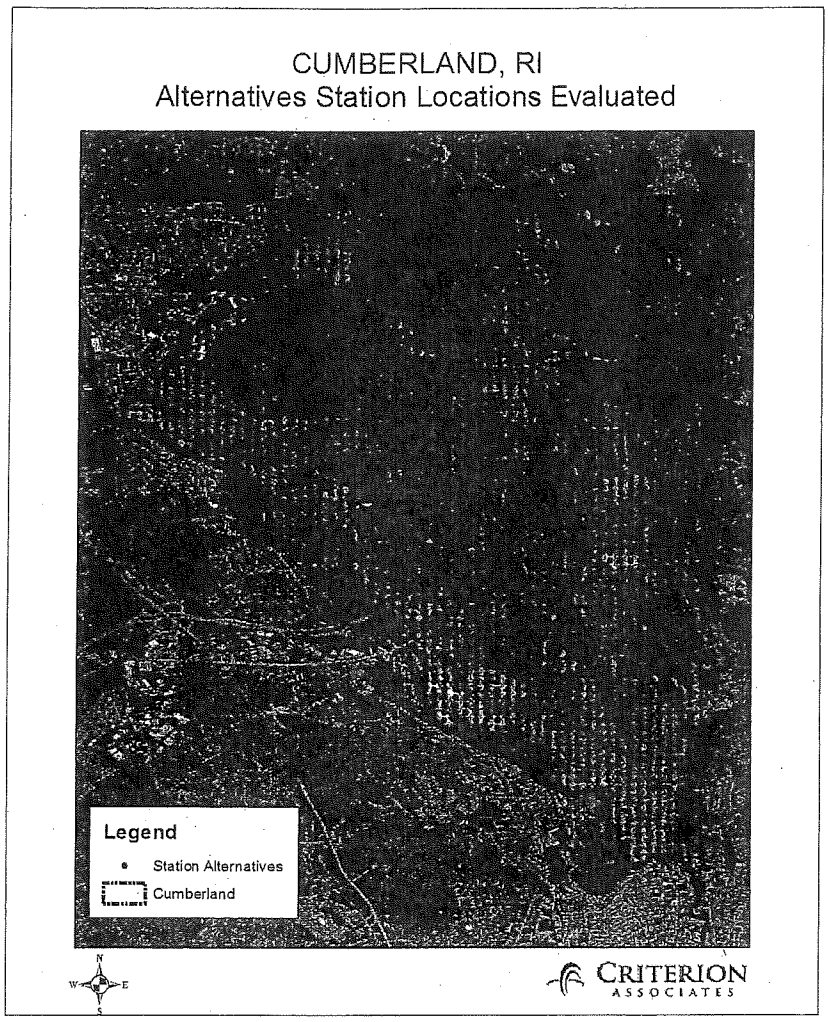
- The project team uses several pieces of GIS software to do the following:
  - Calls for service are added to a database and plotted on a map of the Town.
  - Current and proposed stations are added to a second database and plotted on a map of the Town as well.

- The GIS model is used to calculate the drive time from each station location to each call for service. In this project, the project team utilized three years' worth of call for service data spanning 2009, 2010 and 2011.

- Multiple-call locations are counted more heavily within the model than those where only a single call occurred. This has a notable result in the analyses shown in the subsequent section of the report.

- The GIS Model is then used to determine the proportion of calls that can be reached within pre-determined time periods. In this case, as noted, above the project team utilized 8-minute drive times as the maximum that's would be acceptable in the Town. Given the varying deployment models, the project team did not include a factor for dispatch or reflex time in our analyses.

In this study, the project team was asked to identify 'optimal' locations for fire stations. As we have previously noted, with guidance from the Town's public safety staff, we took this to mean that the Town would consider any location that would provide for more efficient and / or effective service. To that end, our analysts devised a method by which we would consider a wide range of alternatives throughout the entire community. This was done by placing a grid whose points are approximately 1,000 feet apart on a road network map of the Town. The points are then moved to ensure that they are indeed on a road segment, to provide location from the middle of ponds, swamps, fields, etc. from being considered. Note that the model does not consider those locations that are off the road network (such as those shown in the Arnold Mills Reservoir). A map showing this grid is provided, below:



The following section provides the project team's analyses of the current and alternative fire station locations.

C. ANALYSIS OF ALTERNATIVES SHOWS THAT THE SYSTEM CAN BE MADE MORE EFFICIENT AND EFFECTIVE BY SHIFTING LOCATIONS IN A 3-STATION SYSTEM OR A 4-STATION SYSTEM.

The first step that the project team takes is to 'normalize' the GIS model – in other words, the analyst ensures that the model when run provides a prediction of response time that matches current actual experience. Through a process of adjustment in several areas, the project team ensures that the model is properly calibrated. Changes may be made in following parameters:

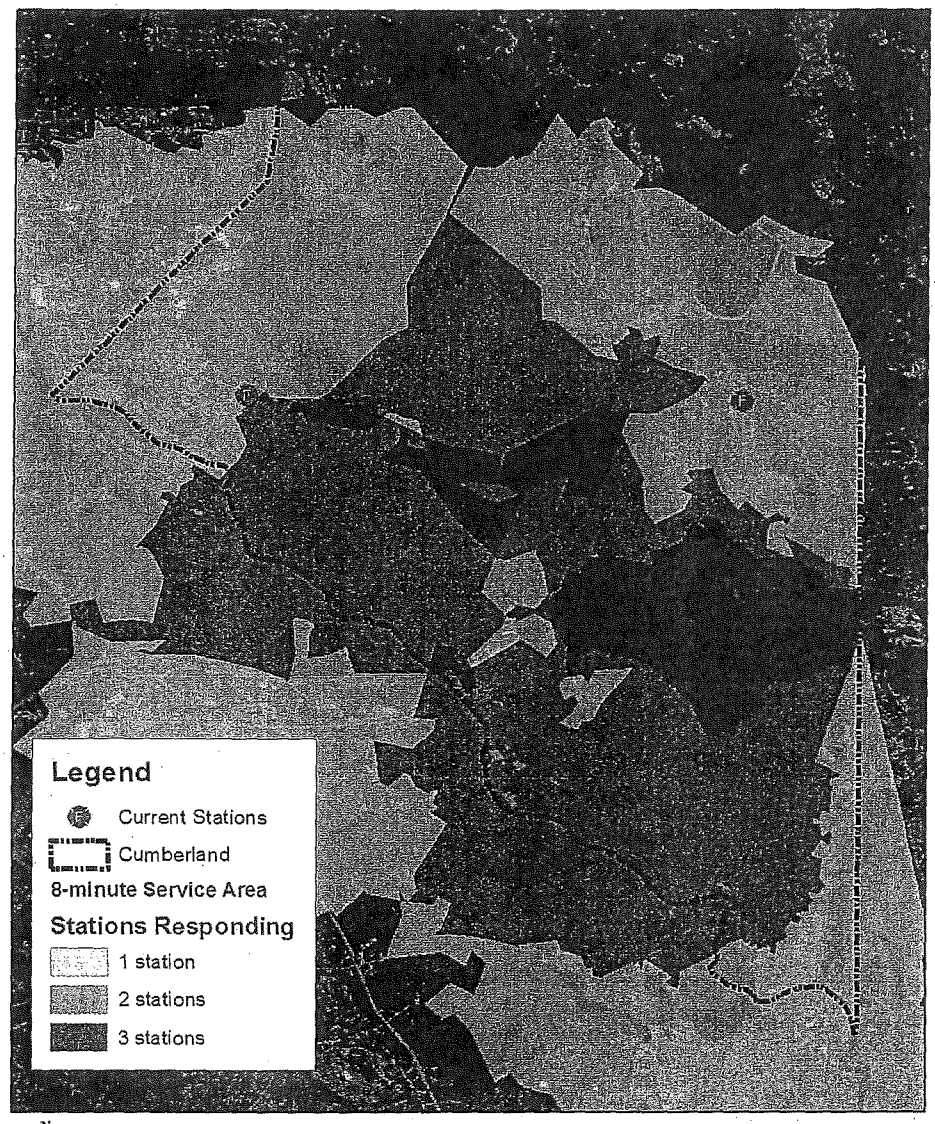
- Travel speeds on roads;
- Delays at intersections;
- Impact of concurrent calls on the system;
- Use of mutual aid;
- Other factors.

Following those steps, the project team then conducts several analyses. In this case, we compared the following four alternatives:

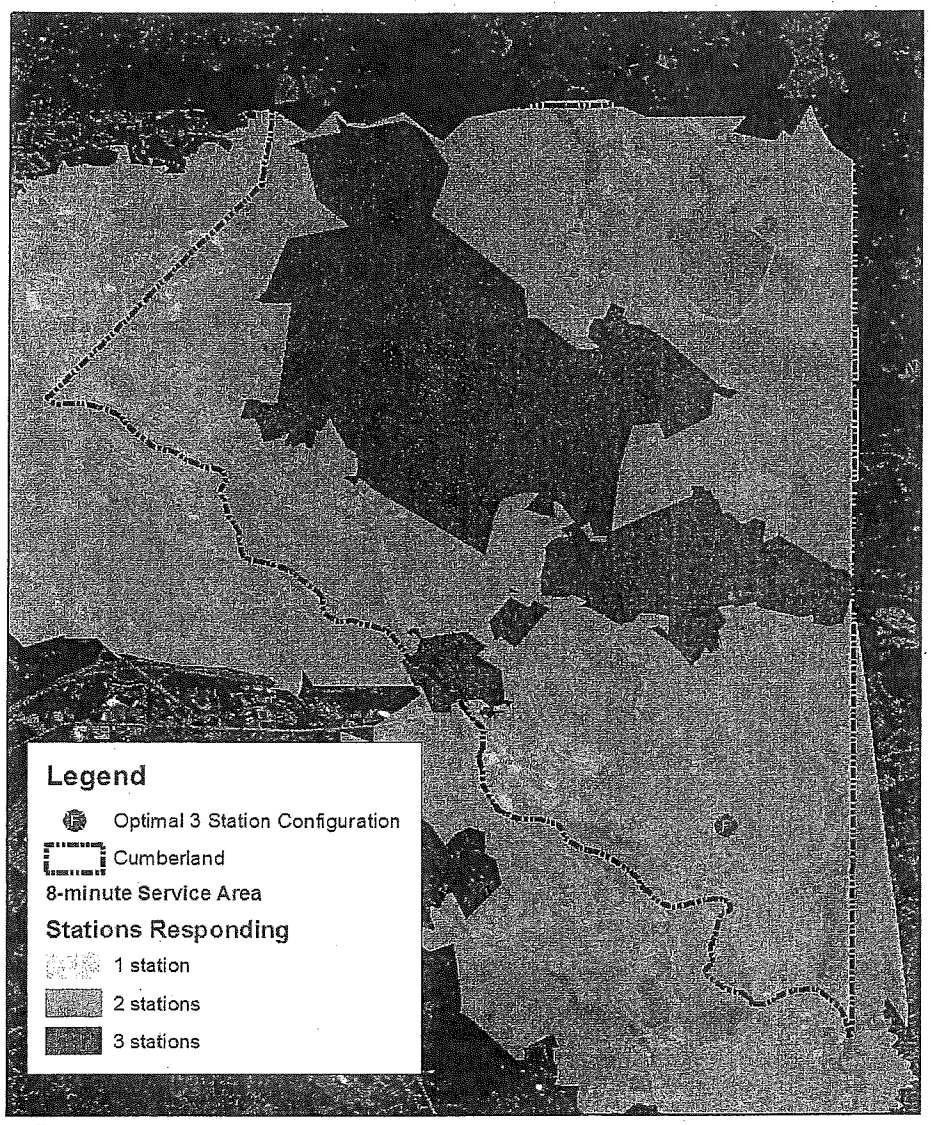
- Current system configuration;
- Optimal 3-station system;
- Optimal 4-station system;
- 4-station system with a central public safety facility located in the 2700 block of Diamond Hill Road.

The maps on the following pages show the resulting GIS analysis of each of these sour scenarios. A discussion of the results follows the maps.

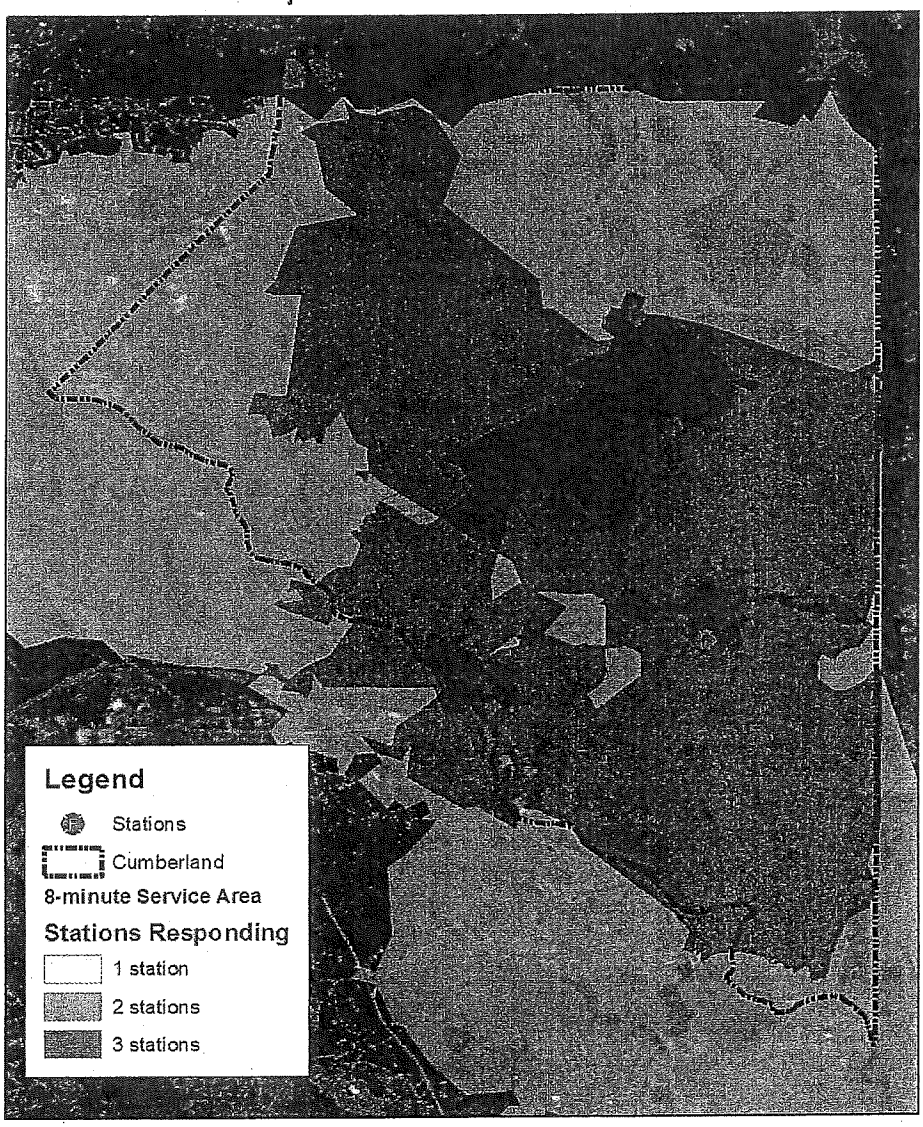
CUMBERLAND, RI
Current Station Configuration
8-minute Service Area



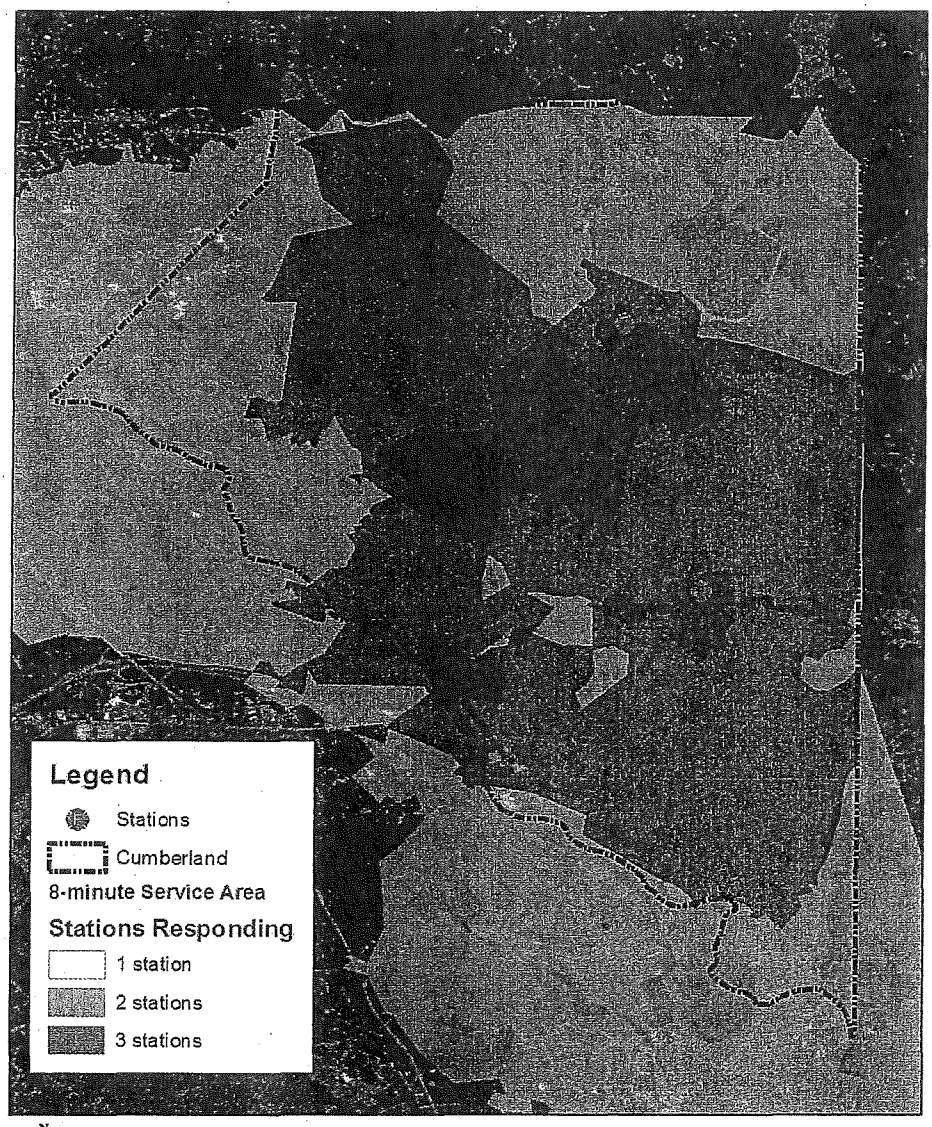
CUMBERLAND, RI
Optimal 3-Station Configuration
8-minute Service Area



CUMBERLAND, RI
Alternative Station Locations Evaluated
4 Optimal Station Locations



CUMBERLAND, RI
Alternative Station Locations Evaluated
2276 Diamondhill and 3-alternate Locations



The analyses, shown on the preceding pages, generated station locations at the following locations:

- **Optimal 3-Station Alternative**
  - Manville Hill and Mendon
  - Diamond Hill and Wampum (ST Johnsville)
  - Pollett and High (North VF)

1. Existing CH
2. Existing NC
3. Existing VF

- **Optimal 4-Station Alternative**
  - Diamond Hill and Bear Hill
  - Manville Hill and Mendon
  - Diamond Hill and Wampum
  - Broad and Cumberland

- **Optimal 4 with 2276 Diamond Hill**
  - 2276 Diamond Hill
  - Manville Hill and Mendon
  - Diamond Hill and Wampum
  - Broad and Cumberland

It is important to note that several of the addresses remain consistent through the three alternatives:

- Manville Hill and Mendon CH
- Diamond Hill and Wampum VF

Further, in the four-station alternative the four addresses are the same – with 2276 Diamond Hill Road located approximately 800 feet north of the intersection of Diamond Hill Road and Bear Hill Road. While the locations are, in and of them selves, interesting the more important information is the impact that each of these alternatives would have on the overall performance of the system. The project team considers the performance of a fire / rescue system using two primary measures:

- The response time performance of the system in responding to calls for service.
- The ability of the system to provide internal redundancy to calls for service (i.e., to handle concurrent calls for service).

The project team examined the response time performance of each system utilizing the following approach:

- The GIS system is utilized to measure the drive time from each proposed location to each call for service location over the sample period. In this case, the project team utilized a three-year sample of response times from the IMC CAD / RMS system maintained by the Town. A similar technique is used to evaluate station location options.

- Concurrent call activity is accounted for by assuming that the closest station does not always respond to each call. In fact, it assumes that the second closest station responds a fraction of the time and in fact that the third closest may also respond at times. The formula for calculating response times like this looks

- Locations that are responded to frequently (assisted living facilities, schools, etc.) are weighted within the formula for the number of times that fire / rescue responses have been required at the address.

The results from these analyses are shown, below:

Percentile	Current Configuration	Optimal 3 Stations	Optimal 4 Stations	4 Stations / 2276 Diamond Hill
10th	0.86	0.90	0.73	0.73
20th	1.37	1.53	1.16	1.21
25th	1.60	1.72	1.30	1.43
30th	1.62	1.81	1.31	1.42
40th	2.00	2.31	1.67	1.80
50th	2.27	2.77	1.92	2.02
Avg	2.56	1.00	2.18	2.26
60th	2.49	3.49	2.11	2.22
65th	2.70	3.91	2.27	2.37
70th	2.99	4.27	2.54	2.66
75th	3.34	4.79	2.83	2.88
80th	3.86	4.92	3.21	3.36
90th	4.74	5.77	3.83	4.15

Note that the response time performance of a 3-station alternative is slower than that of the current, 4-station, system. While this performance variance is measurable, it should be noted that even at the 90th percentile [1] the Optimal 3-station system performs well within the 8-minute

[1] A percentile, or fractile, performance level is often utilized when discussing system performance. In this case the percentiles are saying that the system can reach the first 10%

travel time standard set as one of the key assumptions in the study. Also note that the performance of the optimized 4-station model and the model with a station assigned to 2276 Diamond Hill Road (approximately 800 feet from the optimal location for a central station).

The next concern is the level of overlapping coverage that each system provides. This can also be thought of as system redundancy. This is the capability of the fire / rescue system to respond to more than one call at a time in a station's first due area. This could be important if, for example, an engine is out responding to a car crash when a subsequent medical emergency occurs within that same area. In this case, the project team considers the number of stations that can get to each area of Town. This overlap is shown, on the preceding maps, with the darker colored areas representing areas of deeper coverage. The exhibit below provides a summary of these findings:

- The current system provides for multi-station overlap to 71.7% of calls.
- The optimal 3-station alternative provides for multi-station overlap to approximately 21% of calls. means less overlapping
- The optimal 4-station configuration provides for multi-station overlap to more than 75.5% of calls, while the location at 2276 Diamond Hill Road provides for a level similar to the current system at 71.2%.

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of calls in 0.xx minutes, and so on. The 50th percentile roughly equates to the 'average' response time of the system. Most analyses focus on the fractile performance at the 90th percentile – in this case, all of the systems are able to deliver one or more units in less than eight minutes to 90% of the calls for service.

Current Station Configuration (8-minute Service Area)		% Overlap	% Multi-Station
1 station	1665	26.8%	
2 stations	3394	54.7%	
3 stations	1059	17.1%	71.7%
Calls not Serviced	90	1.4%	

Optimal 3 Station Configuration (8-minute Service Area)		% Overlap	% Multi-Station
1 station	4904	79.0%	
2 stations	1301	21.0%	
3 stations	0	0.0%	21.0%
Calls not Serviced	3	0.0%	

Optimal 4 Station Configuration (8-minute Service Area)		% Overlap	% Multi-Station
1 station	1515	24.4%	
2 stations	3911	63.0%	
3 stations	779	12.5%	75.5%
Calls not Serviced	3	0.0%	

Diamond Hill + 3 Stations Configuration (8-minute Service Area)		% Overlap	% Multi-Station
1 station	1783	28.7%	
2 stations	3625	58.4%	
3 stations	797	12.8%	71.2%
Calls not Serviced	3	0.0%	

D. STATION LOCATION RECOMMENDATIONS

1. The Town of Cumberland should initially pursue a 3-station system to achieve operational benefits described elsewhere in this report.

2. Consideration should be given to the placement of fire apparatus at a new centrally located public safety facility that could also include police, emergency dispatch as well as both fire and EMS administrative staffs. Future → as debt service capability allows

3. The Town should consider analysis of future deployment options for the rescue ambulances in the Town. Placement at a central facility as well as distributed units located in one or more fire stations should be analyzed as part of any future public safety plan. Same as 2

4. The Town should conduct an analysis of future deployment options for both EMS ambulances and fire service apparatus on a regional basis to include area communities such as Lincoln, Central Falls and Woonsocket.

Regionalization can work

Town of Cumberland, Rhode Island
Fire Service
Per Capita Cost Profile
FY 2012

Fire District	Population	Budget	Per Capita Cost	Tax Levy	Estimated Tax Rate
Valley Falls	9,325	$1,638,430	$175.70	$1,506,091	$2.09
Cumberland	5,519	$1,650,768	$299.11	$1,617,359	$2.72
Cumberland Hill	10,027	$2,044,885	$203.94	$1,775,671	$1.67
North Cumberland	7,396	$1,847,599	$249.81	$1,864,653	$1.68
One Fire District (3 stations: 58 sworn personnel)	32,267	7,181,682	$222.57	$6,763,774	$1.88
One Fire District (3 stations: 46 sworn personnel)	32,267	6,181,682	$191.57	$5,763,774	$1.60

TOTAL FOUR FIRE DISTRICTS					
DESCRIPTION	VALLEY FALLS	NO. CUMBERLAND	CUMBERLAND HILL	CUMBERLAND FIRE	COMBINED
BUDGET YEAR	2010-2011	2010-2011	2009-2010	2010-2011	
PERMANENT PAYROLL	$ 685,790	$ 1,030,000	$ 938,000	$ 630,000	$ 3,283,790
OVERTIME	$ 160,000			$ 52,000	$ 212,000
OT TO COVER SICK				$ 50,000	$ 50,000
OT TO COVER VAC				$ 65,000	$ 65,000
SICK PAYOUT				$ 5,000	$ 5,000
HOLIDAY	$ 52,724			$ 37,000	$ 89,724
LONGEVITY/INCENTIVE	$ 42,396			$ 29,000	$ 71,396
OUT OF RANK	$ 2,500				$ 2,500
PART TIME PROGRAM	$ 48,180		$ 36,000		$ 84,180
CALL BACK	$ 6,000			$ 22,500	$ 28,500
CALL FIREFIGHTERS	$ 22,400		$ 14,000		$ 36,400
CLOTHING ALLOWANCE CALL DEPT	$ 500	$ 13,400	$ 11,000		$ 24,900
WARDENS	$ 7,000				$ 7,000
SOCIAL SECURITY	$ 79,588	$ 83,000	$ 80,000	$ 72,000	$ 314,588
PENSION FUND	$ 62,420	$ 170,000	$ 142,000	$ 145,000	$ 519,420
HEALTH INSURANCE	$ 184,526	$ 260,000	$ 278,000	$ 159,085	$ 881,611
DENTAL INSURANCE	$ 15,341		$ 18,500	$ 11,843	$ 45,684
VISION CARE			$ 700		$ 700
LIFE INSURANCE			$ 2,100	$ 1,560	$ 3,660
CLOTHING ALLOWANCE	$ 15,330			$ 9,900	$ 25,230
TUITION	$ 6,700	$ 2,000		$ 4,000	$ 12,700
FF TRAINING & EMS EXPENSES		$ 7,500			$ 7,500
EMPLOYEE WELFARE PROGRAM	$ 625		$ 3,500	$ 1,000	$ 5,125
ANNUAL MEETING	$ 618				$ 618
ANNUAL MEETING CLERK	$ 50				$ 50
ANNUAL MEETING MODERATOR	$ 50		$ 225	$ 100	$ 375
TRUCK PAYMENT	$ 29,460	$ 67,000			$ 96,460
BUILDING REPAIR AND UPKEEP	$ 6,800	$ 6,000	$ 5,000	n/a	$ 17,800

DESCRIPTION	VALLEY FALLS	NO. CUMBERLAND	CUMBERLAND HILL	CUMBERLAND FIRE	COMBINED
BUDGET YEAR	2010-2011	2010-2011	2009-2010	2010-2011	
MAJOR BUILDING REPAIRS			$ 5,800	n/a	$ 5,800
CLEANING	$ 1,475				$ 1,475
EQUIPMENT TESTING & CERTIFICATION	$ 2,855				$ 2,855
FIRE APPARATUS MAINTENANCE	$ 17,500	$ 15,000	$ 11,000		$ 43,500
TRUCK TIRES		$ 1,800			$ 1,800
FIRE EQUIPMENT	$ 7,500	$ 14,000	$ 15,000	$ 10,000	$ 46,500
FIRE EQUIPMENT & REPAIR	$ 2,500	$ 4,000	$ 2,500		$ 9,000
CUMBERLAND HYDRANT FEE	$ 6,600	$ 84,150	$ 85,000	$ 49,500	$ 225,250
PAWTUCKET HYDRANT FEE	$ 66,775				$ 66,775
FIRE WARDEN PER DIEM	$ 500				$ 500
FUEL	$ 15,000	$ 18,000	$ 12,000	$ 13,000	$ 58,000
FURNISHINGS	$ 1,000				$ 1,000
GENERAL REPAIR & UPKEEP	$ 1,000		$ 3,500	n/a	$ 4,500
EQUIPMENT REPAIR				$ 2,000	$ 2,000
INSURANCE	$ 49,026	$ 51,000	$ 46,034	$ 49,000	$ 195,060
CLERK	$ 900	$ 2,938	$ 1,200	n/a	$ 5,038
LEGAL FEES	$ 5,000	$ 28,000		$ 3,000	$ 36,000
DISTRICT ACCOUNTANT			$ 2,700	n/a	$ 2,700
MEDICAL EXPENSE	$ 2,000	$ 1,350		$ 1,500	$ 4,850
EMERGENCEY MEDICAL SUPPLIES	$ 1,475	$ 2,000	$ 5,000		$ 8,475
MISCELLANEOUS EXPENSE	$ 3,500	$ 2,200			$ 5,700
OFFICE EXPENSE	$ 1,000	$ 1,350	$ 2,000	n/a	$ 4,350
PRINTING & POSTAGE		$ 2,200		n/a	$ 2,200
RADIO SIGNAL EQUIPMENT	$ 2,000	$ 2,700	$ 3,000	$ 2,200	$ 9,900
RADIO MAINTENANCE				$ 500	$ 500
EQUIPMENT UPGRADE				$ 5,000	$ 5,000
TELEPHONE	$ 2,475	$ 5,500	$ 3,600	n/a	$ 11,575
TRAINING	$ 2,508	$ 7,500	$ 8,000	$ 8,000	$ 26,008
EMT/MAIN/EMS TRAINING				$ 8,000	$ 8,000

DESCRIPTION	VALLEY FALLS	NO. CUMBERLAND	CUMBERLAND HILL	CUMBERLAND FIRE	COMBINED
BUDGET YEAR	2010-2011	2010-2011	2009-2010	2010-2011	
UTILITIES	$ 19,000	$ 7,000	$ 9,500	n/a	$ 35,500
HEAT & WATER		$ 10,500	$ 7,500	n/a	$ 18,000
FIRE ALARM	$ 2,000				$ 2,000
SEWER ASSESSMENT & USER FEE			$ 1,000	$ 1,500	$ 2,500
AIR CASCADE MAINTENANCE		$ 450		n/a	$ 450
VOLUNTEERS		$ 10,000			$ 10,000
TRUSTEE FEES		$ 12,803			$ 12,803
NEWSPAPER ADS		$ 1,500	$ 550	n/a	$ 2,050
AFFILIATED FIRE ASSOCIATION		$ 900			$ 900
CHIEF'S ADMINISTRATIVE EXPENSE		$ 1,500	$ 3,000		$ 4,500
CHRISTMANS EVENT/APPREC DINNER		$ 2,000			$ 2,000
COMPUTERIZED TAX BILLS		$ 4,500		$ 3,000	$ 7,500
COMPUTER DEVELOPMENT PROGRAM		$ 2,000	$ 3,300		$ 5,300
PAYROLL SERVICE		$ 5,500	$ 3,000	$ 2,500	$ 11,000
TRUCK LEASE INTEREST		$ 12,121			$ 12,121
CONTINGENCY EXPENSE			$ 5,000	n/a	$ 5,000
COMPUTER ACCTS REPORTS			$ 2,550		$ 2,550
COMMISSIONERS			$ 7,700	n/a	$ 7,700
BUSINESS MANAGER			$ 34,171		$ 34,171
BANK FEES				n/a	$ -
HEALTH BENEFITS FUND			$ 20,000		$ 20,000
FIRE TRUCK REPLACE SINKING FUND			$ 95,000		$ 95,000
PRINTING				n/a	$ -
PROFESSIONAL DEVELOPMENT				$ 5,000	$ 5,000
REPLACEMENT ITEMS				$ 3,000	$ 3,000
TOTAL WITHOUT CUMBERLAND FD	**$ 1,642,587**	**$ 1,953,362**	**$ 1,927,630**	**$ 1,461,688**	**$ 6,985,267**
TOTAL COMBINED 4 DISTRICTS	**$ 1,676,797**	**$ 1,984,738**	**$ 1,951,160**	**$ 1,566,888**	**$ 7,179,583**
SAVINGS WITH REDUCTION	**$ 34,210**	**$ 31,376**	**$ 23,530**	**$ 105,200**	**$ 194,316**

DESCRIPTION	VALLEY FALLS	NO. CUMBERLAND	CUMBERLAND HILL	CUMBERLAND FIRE	COMBINED
BUDGET YEAR	2010-2011	2010-2011	2009-2010	2010-2011	
TOTAL SALARY/FRINGE	**$ 1,316,448**	**$ 1,560,000**	**$ 1,470,800**	**$ 1,315,888**	**$ 5,663,136**
EMPLOYEE (FIREFIGHTER) #					**53**
AVERAGE COST PER FIREFIGHTER					**$ 106,851.62**
AVG SALARY/FRINGE					$ 106,852
PROPOSED FIREFIGHTER #					49
AVERAGE COST PER FIREFIGHTER					$ 5,235,730
PROPOSED SAVINGS					$ 427,406
AVG SALARY/FRINGE					$ 106,852
PROPOSED FIREFIGHTER #					46
AVERAGE COST PER FIREFIGHTER					$ 4,915,192
PROPOSED SAVINGS					$ 747,944