

TOWN OF DURHAM
FIRE AND EMERGENCY MEDICAL SERVICES
STRATEGIC PLANNING PROJECT REPORT



Submitted October 24, 2019

By

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ACKNOWLEDGEMENTS

The following list includes ALL of the people that we spoke to in conjunction with this project. They are listed in alphabetical order.

Castlevetro, Sandra, Owner Shared Response Health Systems, LLC

Chadd, Robert, Durham Fire

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Davenport, Joseph, Public Safety Durham Fair Association

Heidgerd, Richard, Chief Wallingford Fire

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Wimlner, Sue, Payroll/Scheduling DVAC

Wimlner, Thomas, Chief DVAC

Wright, Scott, Former Chief DVAC

Zanker, Michael, EMS Medical Director Middlesex Hospital

DURHAM PUBLIC SAFETY OVERVIEW

Previous Public Safety Planning

In 2014, Echlin Consulting was hired to establish a strategic direction or road map for ensuring the residents of Durham receive a consistent level of emergency medical services. A strengths, weaknesses, opportunities and threats analysis were conducted on Thursday August 14, 2014 with the Public Safety Chief's Council at the Durham Town Hall. The emergency medical services system in the Town of Durham was the focus of the guided discussion. Members of the council were engaged in the process and truly professional during the discussion with an obvious desire to achieve excellence in Durham's emergency medical services system. Many positive attributes were identified by the council members, with a true sense of caring for the community being an overwhelming theme during the entire discussion. Several of the issues identified as weaknesses were operational in nature and can be resolved with better communication between the Durham Volunteer Ambulance Corps and the Durham Volunteer Fire Department.

The planning process established very high-level strategic goals designed to guide both the Durham Volunteer Ambulance Corps and the Durham Volunteer Fire Company in the development of their own department level strategic plans. During this project, it became clear that most of the objectives identified during this process are not being done. Many of the priorities identified during this process are still valid today and would improve services.

NOTE: To date, minimal progress has been made to implement the joint goals identified in this process.

In 2015, the Durham Volunteer Fire Company, utilizing a graduate class from the University of New Haven Fire Science Department, participated in and developed a strategic plan for the fire department. The Durham Volunteer Fire Company has made progress and is using the plan as a roadmap to improve their operations. The Town should take a more active role in holding the departments accountable to the agreed upon goals and objectives.

Agency Overviews

Durham Volunteer Fire Company: The Durham Volunteer Fire Company was founded in 1931 and is authorized as a town service in the town charter Section 6-9.1, Section 7-314 to 7-322. The 60-member

department is led by a set of line and chief officers who are all fully volunteer. The department responds to all fire related calls, motor vehicle accidents with injuries/hazards, ice/water rescues, hazardous material spills, and has recently begun responding to emergency medical calls. The Durham Volunteer Fire Company also does public service calls such as basement pump outs. Operating out of the town's only fire house at 41 Main Street are two engines, one rescue/pumper, one tanker, a hose tender, a brush truck, and a utility truck. The company also maintains its first fire truck, a 1931 Ford Model A pumper as a parade piece. As incentive for their time and effort, the Town of Durham offers active firefighters a tax break on property taxes and a retirement LOSAP program. The Durham Volunteer Fire Company functions as its own independent organization, with its own by-laws and SOP's. However, the vehicles, fire station and equipment are all town owned and funded. Fire officers are elected by majority vote of the present active members, on a yearly basis at the annual meeting, occurring on the second Tuesday of January. The fire company also supports a fire explorer program, chartered by the Boy Scouts of America, with approximately 10 members. The fire explorer program is the department's primary means of recruitment and has supplied many firefighters over the programs 10 years of existence.

Durham Volunteer Ambulance Corps: The Roberts-Strickland Post Volunteer Ambulance Corps, Inc., was organized in Durham in October 1949, by members of the American Legion Post No. 184, and incorporated in 1950. Initially, most of the Ambulance Corps members were Legionnaires. As the membership of the Corps gradually changed, the number of people belonging to both organizations dwindled and little remained in common between the Legion and the Ambulance Corps. In 1971 the two separated and the Corps changed its name to The Durham Volunteer Ambulance Corps.

On November 10, 1976, the Durham Volunteer Ambulance Corps Inc. of Durham, CT and the Town of Durham entered into an agreement authorized at a special town meeting of the Town of Durham on July 26, 1976. The DVAC existed previously but needed to enter into an official agreement with the Town of Durham for the workers to be covered by workmen's compensation insurance.

NOTE: The DVAC Board provided this historical perspective, however written verification of these facts could not be made.

The Durham EMS systems protects the roughly 7,388 residents in the 23.7 square miles of the Town of Durham. In addition to the thousands of single-family homes and businesses, DVAC provides coverage to

many multi-family dwellings as well as assisted living facilities and miles of the state and local highway systems.

The Middlesex Hospital Paramedics provide paramedic level service under its Primary Service Area Designation contract for \$1.00 per capita, or \$7,388,00 in the current fiscal year, to supplement the Basic Life Support staffing provided by DVAC. DVAC operates 3 shifts per day with a manpower level of (21) members on the roster, (14) of whom are reported as active and (7) who regularly respond and/or cover shifts.

Durham Ambulance operates one town owned ambulance outlined later in this report.

Pursuant to State of Connecticut Office of Emergency Medical Services Regulation: 19a-179-4 the Primary Service Area designations for the Town are as follows:

Supplemental F/R	Connecticut State Police (Statewide)
	Durham Volunteer Fire Company Certification # 038SFR
First Responder	Durham Volunteer Ambulance Corps # C038FR
Basic Ambulance	Durham Volunteer Ambulance EMS Certification # C038B1
Advanced Life Support	Middlesex Hospital Paramedic License # L083P1

The Valley Shore Emergency Communications, Inc. is designated as the primary coordinator for day-to-day EMS and ambulance dispatch for the Town of Durham. Valley Shore is also the Regional coordinating point for mutual aid response requests.

Hunters Ambulance Service of Middletown, as well as regional Town based ambulance services, supplement EMS operations by responding to emergency calls when Durham ambulances either cannot respond or need additional resources. This is provided as a part of South-Central Regional Emergency Medical Services Council, Inc. *Region 2 EMS Mutual Aid Agreement*.

The DVAC provides medical support to community events including coverages at Durham Fair.

There currently exist written and executed Paramedic Intercept agreements with both Hunters Ambulance and Middlesex Hospital. These agreements outline how these ALS calls will be bundle billed to users of the service.

A variety of additional EMS services have been added which include a high number of community service calls in the form of lift assists at both private residences and assisted living facilities within the community. It appears there is now debate over the capabilities of DVAC to fulfill their primary EMS mission, with an increasing call volume and decreased staffing levels.

PUBLIC SAFETY STRATEGIC RECOMMENDATIONS

Joint Public Safety

- **There is an imminent public safety risk with 17% of ambulance requests not met in the first 6 months of 2019. The Town must move quickly to restructure the staffing model for DVAC. The Town should develop a relationship with an EMS Staffing agency for weekday coverage from 6am to 6pm and a volunteer stipend model for nights and weekends. We recommend utilizing a \$50.00 per call stipend for any EMS or Fire member who agrees to cover a defined period on the schedule in 6-hour blocks. (see Appendix C for full budget analysis of EMS staffing model)**
- **Opportunity for agency collaboration – The Town of Durham Volunteer Ambulance Corps and r Durham Volunteer Fire Company must work in unison to make both organizations more effective and sustainable. Consider the appointment of an Administrative Director of Fire and Emergency Medical Services who will coordinate with the First Selectmen’s Office, Volunteer Fire Chief, and Volunteer EMS Chief for planning and directing department members and staff toward the goals and objectives of both Fire and EMS agencies. Tasks to include managing the budget, coordinating all non-emergency issues. (see sample job description on Appendix E)**
- **The Town of Durham Volunteer Ambulance Corps and Durham Volunteer Fire Company should collaborate in a joint recruitment and retention committee to identify and establish clear recruitment and retention goals, strategies, and guidelines (including concrete guidelines and goals for dual membership). Recommendations should be forwarded to the Chief’s Council for review and then to the individual department memberships for adoption. (As recommended in**

the 2014 Town of Durham Emergency Medical Services Strengths, Weaknesses, Opportunities, and Threats Analysis

- Length of Service Award programs for Fire and EMS Departments should be reviewed by the Administering Board and standards for qualification for the benefit including required documentation should be approved by the board. The priority for awarding points in the program should focus on response and training.
- The current Joint Chiefs Council is an effective means of making operational and planning decisions in the best interest of public safety, however a lack of consistent follow through by this group has hampered progress.
- Leadership from both the Durham Volunteer Fire Company and the ambulance service need to meet immediately to eliminate barriers that restrict members from both organizations from staffing a full ambulance crew. This meeting should be attended by the First Selectman to ensure both organizations fully commit to the elimination of barriers, including:
 - Lack of joint training and intra agency communication
 - Inconsistent application of policies for joint membership
 - Hostile relationship between the two agencies
- The Town of Durham should establish a written service agreement with both agencies under a joint governance model. This model outlines the duties and responsibilities of each agency in an official policy statement, which should include separation of powers between policy-making function of the boards of directors or other elected officials and the executive and administrative responsibilities of those who carry out those policies. The Towns 'Chief Executive or either chief officer should provide staff leadership in developing policy proposals for the legal authority having jurisdiction to take policy action, they are responsible to report to a governing board or other high-ranking individual for the execution of policy and keeps the higher authority informed on matters affecting their agency.
- While detailed facility assessments were not completed as part of this project, the following observations were made while visiting both locations:
 - Durham Volunteer Ambulance Corps facility is outdated, and the crew quarters condition is a barrier to staffing the station. This facility should be replaced or remodeled to accommodate both overnight and regular crew staffing.

- Durham Volunteer Fire Company facility is in relatively good condition but will require general maintenance. This facility would benefit from additional space to support preventive maintenance operations for self-contained breathing apparatus.
- The Fire and EMS Chiefs should establish a needs assessment of what dispatch protocols are necessary for each agency to perform at its highest level (including, but not limited to, EMS and fire dispatching protocols, accuracy of dispatching times, call handling accuracy, radio equipment infrastructure, etc.). These efforts should be guided by currently accepted national standards of dispatch services including those promulgated by *NFPA 1221 Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems, 2019 Edition - Chapter 7 Operations*
 - Alarm answering time
 - Alarm processing time
 - Unit designation for each emergency response unit (ERU) dispatched
 - Time of dispatch acknowledgment by each ERU responding
 - Enroute time of each ERU
 - Time of arrival of each ERU at the scene
 - Time of patient contact, if applicable
 - Time each ERU is returned to serviceⁱ

The departments should clearly communicate those needs to the current dispatching agency and ultimately include such details in a written contract with an effective provision for oversight.

NOTE: The Town is a voting member of the *Valley Shore Emergency Communications Inc.*, Board of Directors.

Durham Volunteer Fire Company

- The Durham Volunteer Fire Company should create a recruitment and retention standing committee. The committee membership should consist at minimum of dual membership personnel, junior members, members with less than 5 years' service and a senior officer. The membership committee should promote EMS certification to all prospective members and promote dual membership in the ambulance service.

- The Durham Volunteer Fire Company should amend membership by-laws to allow members to reside outside the town borders to retain active members who cannot afford housing in the Town of Durham.
- The Durham Volunteer Fire Company should participate in a medical quality assurance program by appointing a medical officer within the Durham Volunteer Fire Company to serve as the point person for Q/A with Durham Volunteer Ambulance, third party QA agency, and Middlesex Hospital.
- The Durham Volunteer Fire Company should expand the use of Incident Command to routine incidents such as medical emergencies and continue training focus on CONN-OSHA requirements. A greater emphasis should be made to develop relationships with mutual partners from adjacent towns.
- The Durham Volunteer Fire Company should contact Insurance Service Organization and request a consultation on evaluation of “alternate water supply” to determine if the current water supply locations will yield a more favorable Public Fire Protection Rating.
- Following the installation of the public water supply, The Durham Volunteer Fire Company should contact Insurance Service Organization for an upgrade to the Public Fire Protection Rating.

Durham Volunteer Ambulance Corps

- The ambulance service should implement a college live-in and volunteer program with Quinnipiac University. All Quinnipiac Physician Assistant students are required to be certified EMTs by their sophomore undergraduate year. Seek out opportunities to allow them to cover shifts on a volunteer basis and create a dormitory live-in option for students. This will require a reconfiguration of the current living quarters to accommodate overnight crews.
- Durham Volunteer Ambulance Corps should work with the Regional School District to host EMR and/or EMT certification classes at the high school as part of the educational curriculum. This is a process of attracting new volunteer members, a ‘grow-your-own’ program.

- Durham Volunteer Ambulance Corps, after accepting a new member into the organization and throughout their tenure with DVAC, needs to mentor the member and make clear that the member volunteered to join, and the rest of their activities are mandatory.
- Durham Volunteer Ambulance Corps should institute an internal control system for weekly payroll. The current systems allow the Payroll clerk to enter time and attendance for all staff including her own time sheet without an independent verification of accuracy.
- Durham Volunteer Ambulance Corps volunteers must commit to a minimum of three shifts per month (18 hours) to remain a member in good standing. To accommodate student members and others with situational issues, some leeway should be built into the system so that 72 hours per quarter also qualifies.
- Durham Volunteer Ambulance Corps should initiate a bundle-billing agreement with each outside agency that provides paramedic services in the community. This will avoid patients receiving bills from the paramedic service providers in addition to those from Durham Volunteer Ambulance Corps.
- In 2004 the Town and DVAC made a conscious decision to not balance bill any of its transported patients. This action reduces the service's ability to recover additional revenue. This practice in 2018-19 resulted in a revenue loss of over \$16,000.00 and should be reconsidered.
- Durham Volunteer Ambulance Corps should initiate a relationship with a third-party vendor to conduct retrospective patient care quality audits on a minimum of 25% of BLS EMS patient care interventions, on a yearly basis. This will assure the highest level of patient care delivery to the patients being treated. Based on these reviews, ongoing training programs for staff can be developed based on specific deficiencies identified, thus reducing liability for the service and the Town. Even with your internal QA reviews it is prudent to have an additional outside and unbiased team of medical experts conduct at least a sampling of your patient care reports to track trends and protocol compliance. We recommend Girard and Associates, <http://girardassoc.com/> (the rate for this service is approximately \$2.50 per call reviewed)
- We recommend that the Durham Volunteer Ambulance Corps pursue an Ambulance Lease Program for the acquisition of new vehicles. This program should be implemented to supplant current budgetary funds for the acquisition of vehicles with a defined monthly budgetary cost . Currently available lease programs would allow for the replacement of vehicles with little or

no up-front capital costs as well as assuring a fixed monthly payment. Using Lease Purchase Financing means you can own the truck by making payments during the term of the operational lease. Leasing a truck is not the same as leasing a car. When you lease a passenger car you must return it at the end of your lease, but a lease purchase finance is more like financing a car. You make payments and you own it after your last payment. Lease purchase financing can be flexible in terms of payments. Payments can be deferred or broken up into monthly, quarterly, semi-annually and annually. Deferring payment means you can budget for them come next year. You can also lease purchase finance with nothing down, which helps get you that truck faster in times of economic difficulties. The interest rates are also lower because ambulance services have a tax-exempt status.

Recruitment, Retention and Management of Personnel

Durham Volunteer Fire Company

While the department has been able to maintain its membership to meet the service demands, they are susceptible to the same recruitment and retention pressures facing the entire nation with volunteerism. The Durham Volunteer Fire Company has identified the recruitment of younger personnel as challenging. Their concerns are made more urgent as existing members age. Members of the department identified the cost of living in the community as a challenge to attracting and keeping younger members.

Total Members: 48

EMTs – 16

EMRs – 9

EMS Instructor – 1

Fire Instructors – 7

Core Rescue Cert – 10

Pump Operators – 26

Fire Police – 5

Fire I Cert – 44

Fire II Cert – 14

Emergency Medical Services represent 41% of the departments call volume during 2018 with 71% occurring during the day when volunteers are least available. Some Durham Volunteer Fire Company members expressed frustration with Durham Volunteer Ambulance's amount of missed calls causing additional workload for the fire personnel as the medical supplemental first responders. Durham Volunteer Fire Company members who are also part of the ambulance corps expressed frustration with ambulance corps leadership.

Overall, the Durham Volunteer Fire Company members were satisfied with the Durham Volunteer Fire Company leadership; this was a continued theme from the findings in the strategic plan from 2015. This is significant because nationwide the main reason for retention issues is poor leadership. This does not seem to be an issue in the Durham Volunteer Fire Department.

In 2015, the strategic plan identified a generational gap in the department. During the SWOT review with the Durham Volunteer Fire Company personnel this seemed to have been reduced but it still may be a factor in recruiting and retaining new members. The primary feeder of younger members comes from the

junior program. Officers and senior firefighters remain challenged on how to bridge the generational gap. In addition to generational gap in the department, younger members may not be able to afford housing in town forcing them to move to neighboring towns. Durham Volunteer Fire Company by-laws do not allow members to live outside the town limits. By-law changes in the Durham Volunteer Fire Company are difficult to make and very time consuming. Making changes to update the by-laws was identified as a priority in the Durham Volunteer Fire Company strategic plan, but little progress is being made.

Durham Volunteer Ambulance Corps

The status of recruitment and retention in the ambulance corps is concerning. Members indicate that they are down to seven active members who regularly get the ambulance out to calls. One member of the organization is so heavily depended upon, that if her participation were to be eliminated, the ambulance service would likely go into failure. Efforts to recruit new members have been attempted but failed to retain any significant numbers of new members.

The most likely source of immediate help is to utilize Durham Volunteer Fire Company personnel who are trained EMTs or EMRs. There are currently a small number of dual members (members of both the Durham Volunteer Fire Company and ambulance service). The relationship between the Durham Volunteer Fire Company and the ambulance service has broken down to the point where these dual members feel caught in the middle. They are criticized by members of both organizations resulting in minimal numbers of people wanting to belong to both organizations. There are no formal policies or practices in place to allow the Durham Volunteer Fire Company to help staff the ambulance. The Durham Volunteer Fire Company functions only in a first responder mode currently. Leadership in both organizations has failed to address these issues; however, membership decline in the ambulance service has reached a critical state and it is incumbent on the ambulance service leadership to take any reasonable steps to immediately improve ambulance-staffing coverage.

The intake criteria for new volunteers is well defined and established. The process of application and some of the time frames are also well defined. Based on the current guidelines the applicant applies, the process appears to move this application forward in a judicious manner. Once officially accepted, the candidate interview is scheduled and conducted with the Board of Directors.

Once selected, the candidate is scheduled for a pre-employment drug screening and fingerprinting as part of a background check. The candidate background check includes a review of driver history. Once selected, the applicant must ride as an observer on four (4) EMS calls. In our opinion, the interview process works in a fair and efficient manner.

Some members feel that the leadership team is doing an ok job running the service. It should be noted that there must be a level of accountability for performance of the organization's leaders.

Leadership is the life blood of every EMS organization. The provision of high quality, high performance Emergency Medical Services is more than just getting personnel to a patient in a timely fashion. The EMS leader faces several challenges daily to keep the EMS system from slipping into failure. These responsibilities must be executed while always being mindful of conducting oneself in a moral and ethical manner each day. EMS leaders must have impeccable credentials and be well respected by their peers. They must bring a wealth of experience to their positions.

Internal communications are a big area of concern for us as we look at the organization. Communication between volunteers, and even members of the Leadership Team are often viewed as being ineffective.

Every one of the Officers and other mid-management positions are compensated as stipend employees.

Chief	\$250.00 per month	
Deputy Chief	\$200.00 each per month	
Treasurer	\$400.00 per month	
Training Officer	\$50.00 per month	(Currently filled by Chief)
Secretary	\$50.00 per month	
Equipment Officer	\$50.00	
Supply Officer	\$50.00	
Billing/Scheduling/Payroll	\$250.00 per month	
Total:	\$1,300 per month	

Authors Note: Our team has made multiple inquiries to the leadership team of DVAC including a Freedom of Information request for a complete accounting of staff salaries. To date it has only been partially responded to.

Most members we spoke to during interviews believe in the organization and wants it to succeed. However, all have full time jobs or other obligations and DVAC often gets shortchanged and takes a back seat...this simply can't continue when DVAC has pledged to protect the public health and safety.

We live in a highly regulated and litigious environment with significant oversight and penalty potential from State EMS, Medicare, Medicaid, OSHA and the CT Labor Department. The organization AND the officers have too much to lose if a mistake is made due to a failure or inability to supervise properly.

Additionally, the Board of Directors holds all the power of the agency. We are told that the will of membership is often not considered in decision making. This has had a detrimental effect on the organization's recruitment efforts.

DVAC Agency By-laws

The agency by-laws have recently been updated in 2018 and adopted. The agency should set a goal of updating these by-laws every 3 to 5 years in several years. The election of leadership positions is still required every other year. This practice reduces the continuity of the agency leadership team when it is subject to change every other year. It makes it nearly impossible to begin long term agency planning when the players change nearly every year. It also allows for derailment of elections based on popularity.

RECOMMENDATIONS:

The Treasurer shall be responsible for the fiscal operations of the agency. He or she must be bonded for a minimum of \$100,000.

Duties of the Treasurer include:

- *Maintain records of all donations made to the Corps both monetary and non-monetary.*
- *Preparation and presentation of both monthly & yearly fiscal reports.*
- *Prepare annual financial status reports.*
- *Work in concert with the President and Board of Directors on all fiscal matters.*
- *Agency checks shall be signed by any two of the following: President, Vice-President, or Treasurer.*

- *The Treasurer shall maintain all applicable records in accordance with state and federal laws and regulations.*
- *Creation of one annual budget for both the BOD and Operations to follow with input and approval from both groups and monthly update of budget vs. actual spending.*

Volunteer field staff is paid an hourly stipend based on the schedule below.

Probationary Rate	\$1.00 per hours on call
EMT Rate	\$2.00 per hour
EMT/Driver	\$2.50 per hour

In addition, whenever staff respond to a call, they are paid a minimum of (3) hours for each with pay ranges between \$12.85 thru \$18.50 per hour based on seniority.

It is also important to note that we were unable to review individual time sheets to determine the breakout of hours and tasks.

Currently the organization has set up policies that in today’s time intensive climate serve to prohibit the participation of many community-based members. One of the most commonly voiced concerns is the requirement for EMS professional with experience in other services to have to comply with cumbersome entry requirements including weeks of required ride time. These include dual requirements for driver education. In addition, the inability of joint members who are currently certified as EMTs to deliver emergency care without having to do additional DVAC non-federally required training programs. This practice suppresses the ability to utilize already trained personnel.

Most of our recommendations are going to be concentrated in this section since our review has revealed that the organization is in good shape once the crews are dispatched to a call for service and the units are rolling. The biggest areas of problems are assuring that staff is available to answer the ever-increasing call volume.

Management of Personnel Policies

The Durham Volunteer Durham Volunteer Fire Company is recognized in the Town of Durham Charter, while the Durham Volunteer Ambulance Corps is granted authority through the Town of Durham written

EMS Plan and by Connecticut State Public Act 14-217. Although independently run, they are organized under the authority of the Town of Durham, and as such the town bears the ultimate responsibility for the fulfillment of the duties expected by both agencies. These missions are supported by the appropriation of town funds for each organization, in the form of vehicles, facilities, and operating expenses. Errors and omissions by either agency may ultimately result in additional liability for the town.

STRATEGIC RECOMMENDATIONS:

- Opportunity for agency collaboration – The Town of Durham Volunteer Ambulance Corps and Volunteer Durham Volunteer Fire Company must work in unison to make both organizations more effective and sustainable. Appoint an Administrative Director of Fire and Emergency Medical Services who will coordinate with the First Selectmen’s Office, Volunteer Fire Chief, and Volunteer EMS Chief for planning and directing department members and staff toward the goals and objectives of both Fire and EMS agencies. Tasks to include managing the budget, coordinating all non-emergency issues. (see sample job description on Appendix E)
- The Town of Durham Volunteer Ambulance Corps and Durham Volunteer Fire Company should collaborate in a joint recruitment and retention committee to identify and establish clear recruitment and retention goals, strategies, and guidelines (including concrete guidelines and goals for dual membership). Recommendations should be forwarded to the Chief’s Council for review and then to the individual department memberships for adoption. *(As recommended in the 2014 Town of Durham Emergency Medical Services Strengths, Weaknesses, Opportunities, and Threats Analysis*
- Length of Service Award programs for Fire and EMS Departments should be reviewed by the Administering Board and standards for qualification for the benefit including required documentation should be approved by the board. The priority for awarding points in the program should focus on response and training. An effort should be made to issue additional LOSAP points for the completion of EMS calls.
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- Leadership from both the Durham Volunteer Fire Company and the ambulance service need to meet immediately to eliminate barriers that restrict members from both organizations from staffing a full ambulance crew. This meeting should be attended by the First Selectman to ensure both organizations fully commit to the elimination of barriers, including:
 - Lack of joint training and intra agency communication
 - Inconsistent application of policies for joint membership
 - Hostile relationship between the two agencies
- The Town of Durham should establish a written service agreement with both agencies under a joint governance model. This model outlines the duties and responsibilities of each agency in an official policy statement, which should include separation of powers between policy-making function of the boards of directors or other elected officials and the executive and administrative responsibilities of those who carry out those policies. The Towns' Chief Executive or either chief officer should provide staff leadership in developing policy proposals for the legal authority having jurisdiction to take policy action, they are responsible to report to a governing board or other high-ranking individual for the execution of policy and keeps the higher authority informed on matters affecting their agency.
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- The Durham Volunteer Fire Company should amend membership by-laws to allow members to reside outside the town borders to retain active members who cannot afford housing in the Town of Durham.
- The ambulance service should implement a college live-in and volunteer program with Quinnipiac University. All Quinnipiac Physician Assistant students are required to be certified EMTs by their sophomore undergraduate year. Seek out opportunities to allow them to cover shifts on a volunteer basis and create a dormitory live-in option for students. This will require a reconfiguration of the current living quarters to accommodate overnight crews.

- Durham Volunteer Ambulance Corps should work with the Regional School District to host EMR and/or EMT certification classes at the high school as part of the educational curriculum. This is a process of attracting new volunteer members, a ‘grow-your-own’ program.
- Durham Volunteer Ambulance Corps, after accepting a new member into the organization and throughout their tenure with DVAC, needs to mentor the member and make clear that the member volunteered to join, and the rest of their activities are mandatory.

REVENUES AND EXPENSES

Durham Volunteer Fire Department

The Durham Volunteer Durham Volunteer Fire Company receives full funding for capital and operational costs from the Town of Durham. Due to the financial support from the town, the Durham Volunteer Fire Company does not experience fiscal stressors often associated with reduced moral and membership decline. Members can concentrate on providing services instead of fund raising.

Fiscal Year	Apparatus Fund	Capital Equipment	Operating Cost	Total Cost
2019-2020	\$105,000	\$26,500	\$98,501.72	\$230,001.72

Durham Ambulance Billing Analysis

The following shows the call volume responded to by DVAC. Data for the section came directly from dispatch monthly reports, provided by *Valley Shore Emergency Communications*, DVAC internal documents and *Shared Response Health Systems, LLC* billing reports. It is important to note that our analysis of the DVAC volume by day of week and hour of day was difficult to review and verify based on the formatting of the dispatch data that had been collected by *Valley Shore*.

It is important to understand that due to the lack of complete dispatch data by day and hour there is some margin for error but not enough that it should delay implementation and cost savings measures. Due to the poor quality of the data reported by Valley Shore and the inconsistency of data collected by DVAC, we

could not conduct additional data analysis.

Billing and Collections

There are several ways to fund EMS: billing fees, annual fund/membership drives and tax subsidization/tax district. The following is a recap of the last three years to show your account stability, collection rates and how you match up against some industry standards. Your call volume is increasing, and your staffing issues are causing you to lose a significant amount of revenue.

July 1, 2018 thru April 30, 2019

247 Total Call Volume Billed by *Shared Response*

192 Basic Life Support Transports

55 ALS Bundle Billed Transports

46 ALS

1 ALS Level 2

8 ALS Assessment by a Paramedic resulting in BLS Transport

48.6% Medicare

10.5% Medicaid

38.4% Private Insurance

2.5% Uncollectable

\$262,661.67 Gross Charges

\$159,351.32 Net after Contractual Allowances and Bad Debt

July 1, 2017 thru June 30, 2018

324 Total Call Volume Billed by *Shared Response*

250 Basic Life Support Transports

74 ALS Bundle Billed Transports

55 ALS

2 ALS Level 2

16 ALS Assessment by a Paramedic resulting in BLS Transport

52.1% Medicare

8.8% Medicaid

35.6% Private Insurance

3.5% Uncollectable

\$330,933.63 Gross Charges

\$108,474.67 Net after Contractual Allowances and Bad Debt

July 1, 2016 thru June 30, 2017

347 Total Call Volume Billed by *Shared Response*

291 Basic Life Support Transports

56 ALS Bundle Billed Transports

49 ALS

3 ALS Level 2

4 ALS Assessment by a Paramedic resulting in BLS Transport

50.7% Medicare

6.5% Medicaid

37.6% Private Insurance

5.2% Uncollectable

\$330,223.39 Gross Charges

\$151,873.20 Net after Contractual Allowances and Bad Debt

Note: DVAC only holds a bundle billing agreement with Hunters Ambulance Service. When other services provide Paramedic Services those services bill the patient directly for the ALS portion of the transports. Close to 60% of all patients transported have coverage by either Medicare or Medicaid. The reimbursement for these calls is well below the maximum allowable state transport-billing rates.

Example: Current State of CT approved BLS transport Rate \$743.00 of which Medicare pays \$395.53.

As you review the charges, and look at the payer mix, it is critically important to understand a couple of things about the charges and the revenue stream. Regardless of the actual number of requests for service (911 calls), only **completed** calls result in a billable event. Cancellations, refusals, standbys and such do not result in any revenue, yet the organization must expend resources expenses to have an ambulance staffed and able to respond. The amount listed as the Medicare Allowable Rate is the amount that, by participating in the Medicare program, you agree is the maximum compensation you're allowed.

Medicare then pays 80% of the Allowable Rate and the patient or their supplemental insurance is responsible for the remaining 20% co-pay. The differential between the State Rate and the Medicare

Allowable Rate is money that can neither be billed nor collected, it is a contractual allowance (write-off) in accordance with Medicare regulations.

Your collections are affected by the following factors:

- Timeliness in completing the PCR and forwarding onto your billing agent.
- Training on billing rules and regulations as well as improved documentation should be conducted regularly with the field staff as they are changing regularly.

STRATEGIC RECOMMENDATIONS:

- Durham Volunteer Ambulance Corps should institute an internal control system for weekly payroll. The current systems allow the Payroll clerk to enter time and attendance for all staff including her own time sheet without an independent verification of accuracy.
- Durham Volunteer Ambulance Corps should initiate a bundle-billing agreement with each outside agency that provides paramedic services in the community. This will avoid patients receiving bills from the paramedic service providers in addition to those from Durham Volunteer Ambulance Corps.
- In 2004 the Town and DVAC made a conscious decision to not balance bill any of its transported patients. This action reduces the service's ability to recover additional revenue. This practice in 2018-19 resulted in a revenue loss of over \$16,000.00 and should be reconsidered.

FACILITIES & APPARATUS

Durham Volunteer Fire Company

Durham Volunteer Fire Company is a Town owned building located at:
41 Main Street
Durham, CT. 06422

The station has three bays capable of storing 6 vehicles. The administrative offices and crew's quarters are also located within this facility. The Town funds the operations of this facility including maintenance, upkeep and utilities.

Apparatus

Type	Year	Pump Size	On-Board Water
Pumper	2012	2250 GPM	1000 gallons
Rescue Pumper	2014	1750 GPM	750 gallons
Engine	1996	1750 GPM	1000 gallons
Engine	2016	1750 GPM	1000 gallons
Tanker	2013	750 GPM	2500 gallons
Brush		N/A	N/A
Utility		N/A	N/A

Apparatus inventory is consistent with industry standards. Due to the community's lack of municipal fire hydrants, pump size capacity, supply hoses carried, and on-board apparatus water capacity ensures adequate firefighting capacity. The current replacement schedule of apparatus ensures the Durham Volunteer Fire Company is complying with ***NFPA 1911: Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Emergency Vehicles, 2017 Edition - Annex D Guidelines for First-Line and Reserve Fire Apparatus***

"It is recommended that apparatus more than 15 years old that have been properly maintained and that are still in serviceable condition be placed in reserve status; be upgraded in accordance with [NFPA 1912](#); and incorporate as many features as possible of the current fire apparatus standard (see Section D.3). This will ensure that, while the apparatus might not totally comply with the current editions of the automotive

fire apparatus standards, many of the improvements and upgrades required by the current editions of the standards are available to the fire fighters who use the apparatus. Apparatus that were not manufactured to the applicable NFPA fire apparatus standards or that are over 25 years old should be replaced.”

Durham Ambulance Service

Currently DVAC occupies a Town owned building located at:
205 Main Street
Durham, CT 06422

This station has 3 vehicle bays, one that faces the street and 2 on the lower level, a small classroom and bunk room for overnight crews. The administrative offices and crew’s quarters are also located within this facility. The operations of this facility including maintenance, upkeep and utilities is fully funded by the Town budgets.

STRATEGIC RECOMMENDATIONS:

- While detailed facility assessments were not completed as part of this project, the following observations were made while visiting both locations:
 - Durham Volunteer Ambulance Corps facility is outdated, and the crew quarters condition is a barrier to staffing the station. This facility should be replaced or remodeled to accommodate both overnight and regular crew staffing.
 - Durham Volunteer Durham Volunteer Fire Company facility is in relatively good condition but will require general maintenance. This facility would benefit from additional space to support preventive maintenance operations for self-contained breathing apparatus.
- We recommend that the Durham Volunteer Ambulance Corps pursue an Ambulance Lease Program for the acquisition of new vehicles. This program should be implemented to supplant current budgetary funds for the acquisition of vehicles with a defined monthly budgetary cost . Currently available lease programs would allow for the replacement of vehicles with little or no up-front capital costs as well as assuring a fixed monthly payment. Using Lease Purchase Financing means you can own the truck by making payments during the term of the operational lease. Leasing a truck is not the same as leasing a car. When you lease a passenger car you must

return it at the end of your lease, but a lease purchase finance is more like financing a car. You make payments and you own it after your last payment. Lease purchase financing can be flexible in terms of payments. Payments can be deferred or broken up into monthly, quarterly, semi-annually and annually. Deferring payment means you can budget for them come next year. You can also lease purchase finance with nothing down, which helps get you that truck faster in times of economic difficulties. The interest rates are also lower because ambulance services have a tax-exempt status.

TRAINING PROGRAMS/QUALITY ASSURANCE AND IMPROVEMENT

Durham Volunteer Fire Company

Discussions with officers and members of the Durham Volunteer Fire Company indicate the department has been actively implementing the strategic and operational objectives established by the strategic plan in 2015. The most notable area of improvement has been the electronic training records system ensuring the department can demonstrate training of all active members.

The department has enhanced its use of the incident command system (ICS), primary during larger events such as structure fires. There is room for improvement on the utilization of ICS for more of the routine incidents such as medical emergencies. This would improve the working relationship with Durham Volunteer Ambulance Corps. The Durham Volunteer Fire Company should continue to focus training compliance to CONN-OSHA safety standards as identified in the 2015 Durham Volunteer Fire Company strategic plan.

The Town of Durham has invested in the Durham Volunteer Fire Company to ensure proper public fire protection. Through planning, the town has required water supply sources to be strategically located, including 20,000 gallons under the main fire station. Final plans are in place to add a municipal water main through the center of town with hydrants. These improvements taken separately and together create an opportunity to obtain a more favorable Public Fire Protection Rating from Insurance Services Organization potentially lowering property insurance rates for some taxpayers.

The Durham Volunteer Fire Company conducts post incident reviews for major event with participation from all members encouraged. This practice should continue for all low frequency high consequence events such as structure fires. The Durham Volunteer Fire Company as a supplemental first responder to medical emergencies should participate in an EMS Quality Assurance program.

Durham Ambulance Service

The training of new EMS staff can make or break the future success of the agency. In reviewing the new employee orientation and ongoing training programs offered by DVAC, we find a New Employee Orientation program, which includes a probationary period from date of hire. New staff members also work under the guidance of a senior member for their first 90 days.

The service also conducts monthly training meeting where various topics are covered including updates to the equipment carried on the ambulances. Topics delivered yearly include all required OSHA Worker Health and Safety programs, as well as National Incident Management Training. New drivers complete a very comprehensive *National Safety Council Emergency Vehicle Operators Course*, which includes map reading and on road driving evaluations. Members seek ongoing EMT refreshers at outside sources and are reimbursed by DVAC.

The goals of an EMS Quality Assurance program are to provide opportunities for system leaders and providers to improve patient care. The program goals when implemented can increase efficiency and the efficacy of our medical care. QA activities are based upon objective criteria and systematic review and make important contributions to the effectiveness of the EMS system. QA/QI should be geared towards problem identification, remediation, education and constant, consistent follow ups and less towards disciplinary actions. Currently once a PCR is completed, it is forwarded to the DVAC QA Coordinator. She evaluates both the billing data and the patient care performed. These in-house systems may cause conflicts between the EMS providers and the reviewer. Often time interpersonal relations can cloud the results of this process and do not improve patient care delivery or staff job satisfaction.

STRATEGIC RECOMMENDATIONS:

- The Durham Volunteer Fire Company should participate in a medical quality assurance program by appointing a medical officer within the Durham Volunteer Fire Company to serve as the point person for Q/A with Durham Volunteer Ambulance, third party QA agency, and Middlesex Hospital.
- The Durham Volunteer Fire Company should expand the use of Incident Command to routine incidents such as medical emergencies and continue training focus on CONN-OSHA requirements. A greater emphasis should be made to develop relationships with mutual partners from adjacent towns.
- The Durham Volunteer Fire Company should contact Insurance Service Organization and request a consultation on evaluation of “alternate water supply” to determine if the current water supply locations will yield a more favorable Public Fire Protection Rating.
- Following the installation of the public water supply, The Durham Volunteer Fire Company should contact Insurance Service Organization for an upgrade to the Public Fire Protection Rating.
- Durham Volunteer Ambulance Corps should initiate a relationship with a third-party vendor to conduct retrospective patient care quality audits on a minimum of 25% of BLS EMS patient care interventions, on a yearly basis. This will assure the highest level of patient care delivery to the patients being treated. Based on these reviews, ongoing training programs for staff can be developed based on specific deficiencies identified, thus reducing liability for the service and the Town. Even with your internal QA reviews it is prudent to have an additional outside and unbiased team of medical experts conduct at least a sampling of your patient care reports to track trends and protocol compliance. We recommend Girard and Associates, <http://girardassoc.com/> (the rate for this service is approximately \$2.50 per call reviewed)

RESPONSE PERFORMANCE AND STAFFING

Durham Volunteer Fire Company Response History and Performance

The Durham Volunteer Fire Company currently averages a response time of 5 minutes or less operating as a fully volunteer agency. The average number of responders for a structure fire during the weekday is 17, with nights and weekends averaging 28. The department currently meets the ***NFPA 1720: Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Volunteer Fire Departments, 2020 Edition*** benchmark standard:

Table 4.3.2 shall be used by the AHJ to determine staffing and response time objectives for structural firefighting, based on a low-hazard occupancy such as a 2000 ft² (186 m²), two-story, single-family home without basement and exposures and the percentage accomplishment of those objectives for reporting purposes as required in 4.4.2.

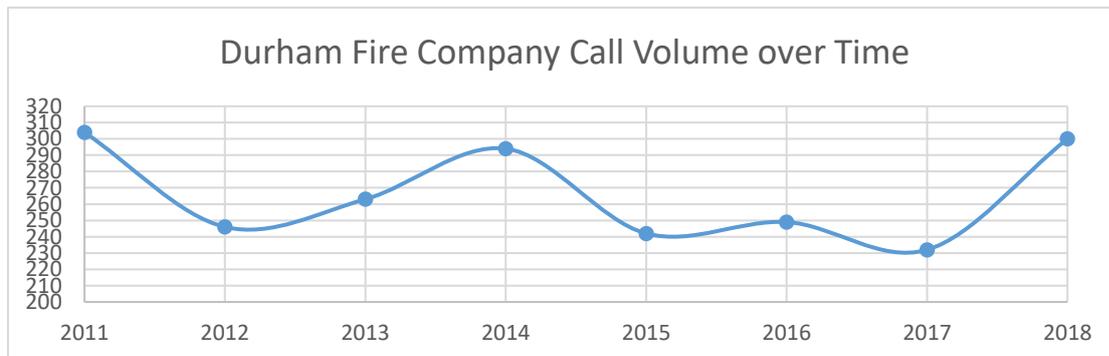
Table 4.3.2 Staffing and Response Time

Demand Zone ^a	Demographics	Minimum Staff to Respond ^b	Response Time (minutes) ^c	Meets Objective (%)
Urban area	>1000 people/mi ² (2.6 km ²)	15	9	90
Suburban area	500–1000 people/mi ² (2.6 km ²)	10	10	80
Rural area	<500 people/mi ² (2.6 km ²)	6	14	80
Remote area	Travel distance ≥ 8 mi (12.87 km)	4	Directly dependent on travel distance	90
Special risks	Determined by AHJ	Determined by AHJ based on risk	Determined by AHJ	90

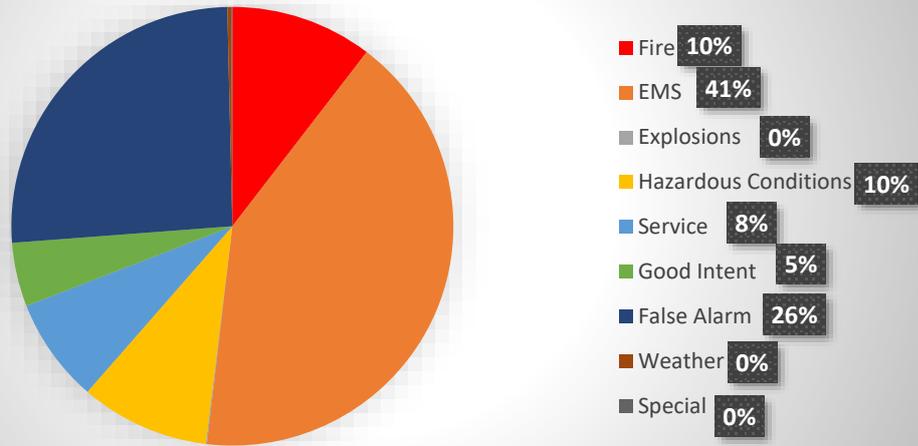
^aA jurisdiction can have more than one demand zone.

^bMinimum staffing includes members responding from the AHJ's department and automatic aid

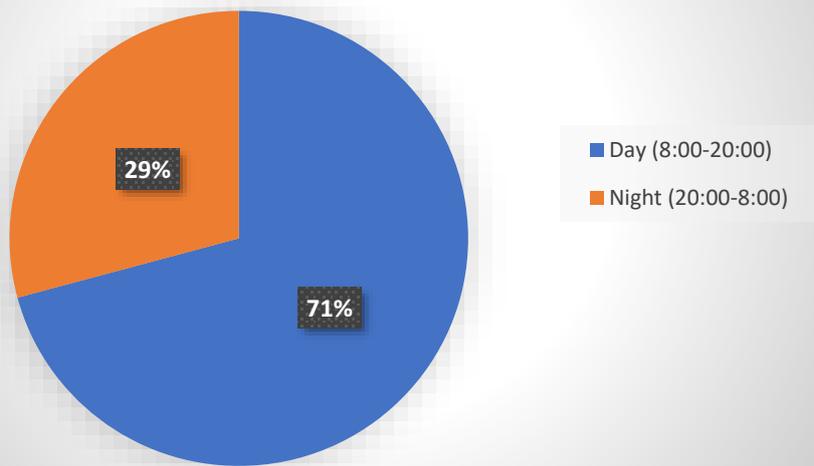
^cResponse time begins upon completion of the dispatch notification and ends at the time interval shown in the table.



Durham Fire Company 10 Year Call Breakdown

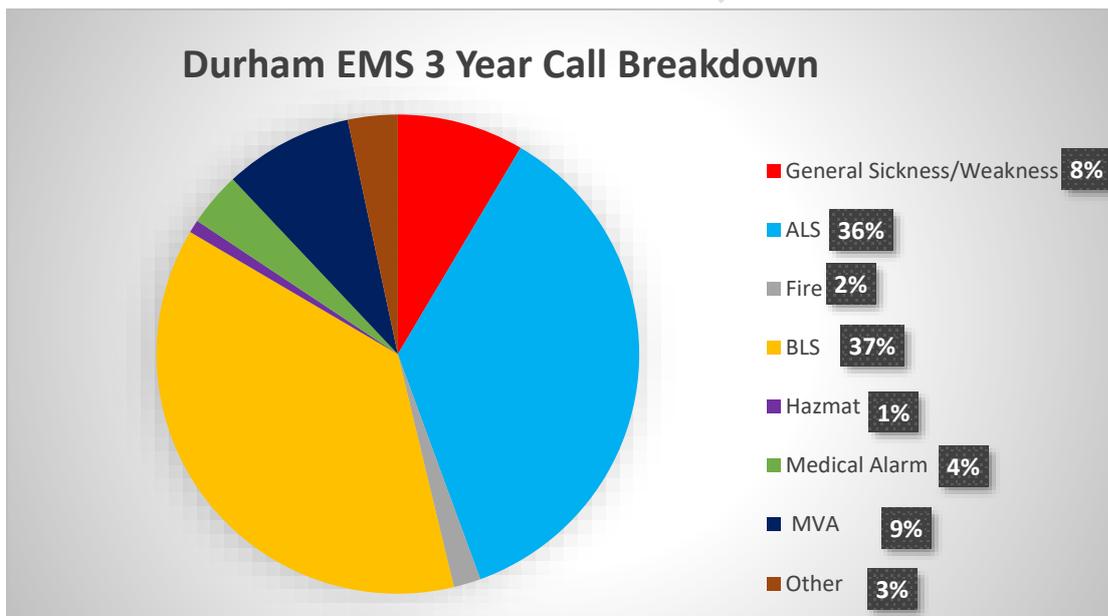
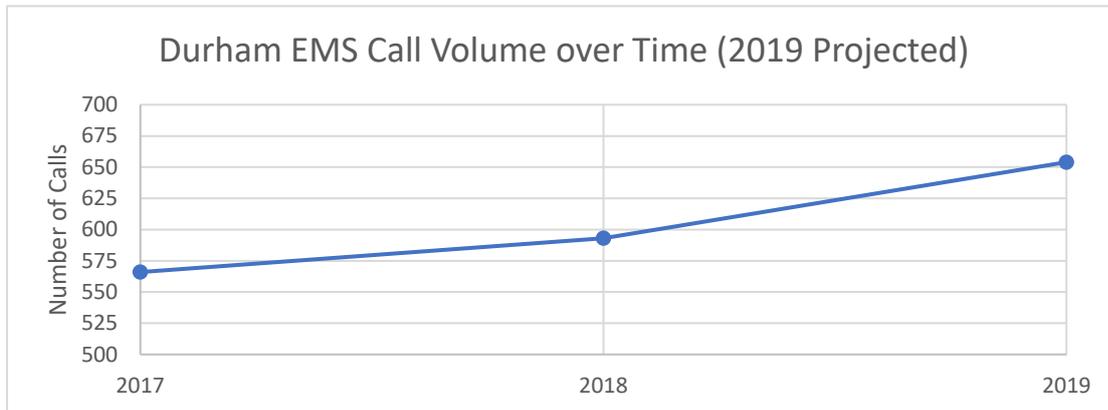


Durham Fire Company Call Time Distribution

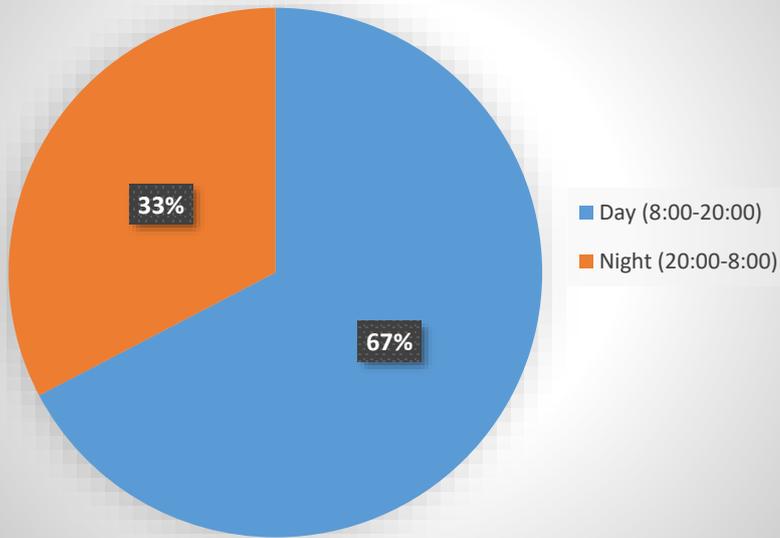


Durham Ambulance Response History and Performance

Authors Note: Our team has made multiple inquiries to the leadership team of DVAC for a complete accounting of response times and run data. To date it has only been partially responded to.



Durham EMS Call Time Distribution



Detailed EMS Response Data

Fiscal Year Data July 1, 2016 through June 30, 2017

Agency Detail	Number of Calls
Total EMS requests reported by Valley Shore	557
Total EMS responses reported by DVAC	556
Calls to passed to Mutual Aid	
Hunters	46
Haddam	6
North Branford	4
Mutual Aid Provided	2
Non-transport calls	127
Total EMS transports billed by <i>Shared Response Health Systems, LLC.</i>	347
Paramedic Intercepts Bundle Billed	
Middlesex Hospital	51
Hunters Ambulance Service	5
Average Response Times as recorded in <i>emsCharts</i> minutes First Responders 11.7 min Ambulance 25.3 min	

Fiscal Year Data July 1, 2017 through June 30, 2018

Agency Detail	Number of Calls
Total EMS requests reported by Valley Shore	515
Total EMS responses reported by DVAC	511
Calls to passed to Mutual Aid	
Hunters	40
Haddam	6
North Branford	4
Mutual Aid Provided	0
Non-transport calls	159
Total EMS transports billed by <i>Shared Response Health Systems, LLC.</i>	324
Paramedic Intercepts Bundle Billed	
Middlesex Hospital	68
Hunters Ambulance Service	6
Average Response Times as recorded in <i>emsCharts</i> minutes First Responders 12.1 min Ambulance 24.0	

Fiscal Year Data July 1, 2018 through April 30, 2019

Agency Detail	Number of Calls
Total EMS requests reported by Valley Shore	380
Total EMS responses reported by DVAC	374
Calls to passed to Mutual Aid	
Hunters	40
Haddam	2
North Branford	2
Mutual Aid Provided	0
Non-transport calls	114
Total EMS transports billed by <i>Shared Response Health Systems, LLC.</i>	274
Paramedic Intercepts Bundle Billed	
Middlesex Hospital	46
Hunters Ambulance Service	9
Average Response Times as recorded in <i>emsCharts</i> minutes First Responders 12.1 min Ambulance 24.0	

Response data recovered from *emsCharts*

Date	Call Volume	First Responders	Call Volume	Ambulance
16/17	512	11.71 min	485	25.37 min
17/18	478	11.77 min	478	26.4 min
18/19	441	12.12 min	432	24.02 min
		Average 11.86 min		Average 25.26 min

Durham Ambulance Peak Hour Staffing Levels

A consistent theme throughout the interviews was the fact that there has been a steady decline in the number of volunteers available to cover shifts, which has left uncovered shifts and led to a passed EMS calls to Mutual Aid.

STRATEGIC RECOMMENDATION:

- There is an imminent public safety risk with 17% of ambulance requests not met in the first 6 months of 2019. The Town must move quickly to restructure the staffing model for DVAC. The Town should develop a relationship with an EMS Staffing agency for weekday coverage from 6am to 6pm and a volunteer stipend model for nights and weekends. We recommend utilizing a \$50.00 per call stipend for any EMS or Fire member who agrees to cover a defined period on the schedule in 6-hour blocks. (see Appendix C for full budget analysis of EMS staffing model)
- Durham Volunteer Ambulance Corps volunteers must commit to a minimum of three shifts per month (18 hours) to remain a member in good standing. To accommodate student members and others with situational issues, some leeway should be built into the system so that 72 hours per quarter also qualifies.

DISPATCHING

Both the Durham Volunteer Ambulance Corps and the Durham Volunteer Fire Company are struggling with the quality of the Valley Shore Dispatch Services. The issues with dispatch identified in the 2014 Emergency Medical Services S.W.O.T analysis still exist and have grown worse. The major issues revolve around quality and the call volume in the regional center. Both agencies indicated a preliminary list of major issues:

- Dispatching to wrong addresses
- Long delays due to busyness of center compared to staffing
- No use pre-arrival instructions for medical and fire responses

STRATEGIC RECOMMENDATION:

- The Fire and EMS Chiefs should establish a needs assessment of what dispatch protocols are necessary for each agency to perform at its highest level (including, but not limited to, EMS and fire dispatching protocols, accuracy of dispatching times, call handling accuracy, radio equipment infrastructure, etc.). These efforts should be guided by currently accepted national standards of dispatch services including those promulgated by *NFPA 1221 Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems, 2019 Edition - Chapter 7 Operations*
 - Alarm answering time
 - Alarm processing time
 - Unit designation for each emergency response unit (ERU) dispatched
 - Time of dispatch acknowledgment by each ERU responding
 - Enroute time of each ERU
 - Time of arrival of each ERU at the scene
 - Time of patient contact, if applicable
 - Time each ERU is returned to serviceⁱⁱ

The departments should clearly communicate those needs to the current dispatching agency and ultimately include such details in a written contract with an effective provision for oversight.

NOTE: The Town is a voting member of the *Valley Shore Emergency Communications Inc., Board of Directors.*

Any of the following pages from the 2015 Strategic Plan highlighted in green represent reports of changes made by the agencies involved

2015

Durham Volunteer Fire Company Strategic Plan





University of New Haven

Prepared by the University of New Haven

2015

Graduate Strategic Planning Program

Peter Struble, Instructor

INTRODUCTION

The Durham Volunteer Fire Company was founded in 1931 and is authorized as a town service in the town charter Section 6-9.1, Section 7-314 to 7-322. The 60-member department is led by a set of line and chief officers who are all fully volunteer. The department responds to all fire related calls, motor vehicle accidents with injuries/hazards, ice/water rescues, hazardous material spills, and has recently began responding to emergency medical calls. The Durham Volunteer Fire Company also does public service calls such as basement pump outs. Operating out of the town's only fire house at 41 Main Street is 2 engines, one rescue/pumper, one tanker, a hose tender, brush truck, and utility truck. The company also maintains its first fire truck, a 1931 Ford Model A pumper as a parade piece. As incentive for their time and effort the Town of Durham offers active firefighters a tax break on property taxes and a retirement LOSAP program. The Durham Volunteer Fire Company functions as its own independent organization, with its own by-laws and SOP's. However, the vehicles, fire station and equipment are all town owned and funded. Fire officers are elected by majority vote of the present active members, on a yearly basis at the annual meeting, the second Tuesday of January. The fire company also supports a fire explorer program, chartered by the Boy Scouts of America, with approximately 10 members. The fire explorer program is the department's primary means of recruitment and has supplied many firefighters over the programs 10 years of existence.

To work toward self-improvement, Durham Volunteer Fire Company collaborated with the University of New Haven Graduate Fire Science Program to facilitate a method to place into writing the department's path into the future. This plan is intended to guide the organization within established parameters set forth by the authority having jurisdiction.

UNH utilized a Strategic Planning process to accomplish more than just the development of a document. It challenged the membership of the DVFC to look critically at paradigms, values, philosophies, beliefs and desires. It challenged individuals to work in the best interest of the "team." Further, it provided the membership with an opportunity to participate in the development of their organization's long-term direction and focus.

DVFC's Strategic Plan sets forth a comprehensive vision and mission statement that provides the agency with a clear path into the future. Additionally, this strategic plan identifies the core values that embody how the agency's members, individually and collectively, will carry out the agency's

mission. In the following pages, the DVFC identifies their goals, objectives and strategies that will allow the department to realize its vision.



DEFINITION OF A STRATEGIC PLAN

The fire service has entered a very competitive evolutionary cycle. Public demands continue to increase, while dollars and other resources continue to shrink. These trends place increased pressure on the modern fire service manager, policy makers, and volunteer staff to develop ways to be more effective and more efficient. In many cases, the public is demanding the accomplishment of specific goals, objectives, and services with fewer resources. To do a more efficient job with the available resources, organizations must set objectives based on constructive efforts while eliminating programs that do not serve the customer.

This document is the result of several strategic planning sessions and includes valuable department member input.

What is a Strategic Plan?

It is a living management tool that:
Provides short-term direction
Builds a shared vision
Sets goals and objectives
Optimizes use of resources

Effective strategic planning benefits from a consistent and cohesively structured process employed across all levels of the organization. Planning is a continuous process, one with no clear beginning and no clear end. While plans can be developed on a regular basis, it is the process of planning that is important, not the publication of the plan itself. The planning process should be flexible and dynamic. New information from customers, like-providers, and life changes are to be factored into the planning process. **The strategic plan should be an operationally useful document.**

STRATEGIC PLANNING PROCESS

The following is a brief synopsis of the steps we utilized in our strategic planning process:

1. **Team** – Graduate students worked closely with the officers of the Durham Volunteer Fire Department,
2. **Values Audit** - Identify the Department's value system through a survey filled out anonymously by all members, officers and support staff.

3. **Identify Values** - Summarized and evaluated the completed surveys to identify the values of the organization and its members. By identifying our core values, we developed an overall perspective of the membership that will be necessary when we begin to evaluate other areas.

4. **Mission & Core Values** – After review of all the responses to the values survey, the team developed a mission statement for the Department. It was decided that some of the core values should be incorporated into the mission statement to make it more meaningful to the members. The draft mission and values were presented to the Department officers for comments and then finalized after their comments and suggestions were considered.

5. **Stakeholders** – By identifying and understanding who all the internal and external stakeholders in the Durham Durham Volunteer Fire Company are, we can better identify their needs and how we can best serve them.

6. **Mandates** - Identified the Department's formal and informal mandates. Mandates comprise those expectations that the Department and its members must abide by. Understanding them allows us to determine where we do and do not have flexibility in our operations and activities.

7. **Strengths, Weaknesses, Opportunities and Threats (SWOT)** – An honest assessment of the internal strengths and weaknesses and the external opportunities and threats of the Department provides a good perspective of our operating environment and limitations. The SWOT also are considered in the process of identifying our strategic issues.

8. **Strategic Issue Identification** – Based upon all the information and the perspectives provided by our planning team members, the strategic issues of the Department were identified.

11. **Envision the Ideal Future** – Once the expected operating environment and strategic issues were identified and discussed, the team then took the opportunity to envision what the ideal future of the Department would look like. That vision of the future is tempered by such things as the SWOT, the mandates and values of the Department.

12. **Strategies to Address the Issues** – Once the strategic issues were evaluated and the ideal future envisioned, our team used the information previously developed to identify potential strategies to deal with each of the strategic issues and choose the most appropriate strategy for each of the strategic issues identified.

13. **Strategies Turned into Action Plans** – Strategy development without conversion into action plans is merely a mental exercise. To assure there is a process for implementation of the strategic chosen, we developed objectives for each strategy. These plans will need to be adapted and implemented as action plans by the department officers.

14. **Development of Appropriate Metrics** – The department officers will need to develop metric for tracking and monitoring the implementation of the action plans and benchmarking of the goals.

THE MISSION

The purpose of the Mission Statement is to answer the questions:

- Who are we?
- Why do we exist?
- What do we do?
- Why do we do it?
- For whom?

After a great deal of work and discussion, the following mission statement is presented for adaption consideration.

“Serving present and future generations”

The mission of the Durham Volunteer Fire Company is to ensure the quality of life, serving present and future generations, by providing fire protection, fire prevention education, and emergency medical services. Our members are motivated by the tradition of pride through interaction with our community, compassionate service and an atmosphere that encourages professionalism.

VALUES AND PHILOSOPHY OF OPERATIONS

Establishing values embraced by all members of an organization is extremely important. Values recognize those features and considerations that make up the personality of the organization. A philosophy of operations embodies the values of the membership and supports the department mission statement.

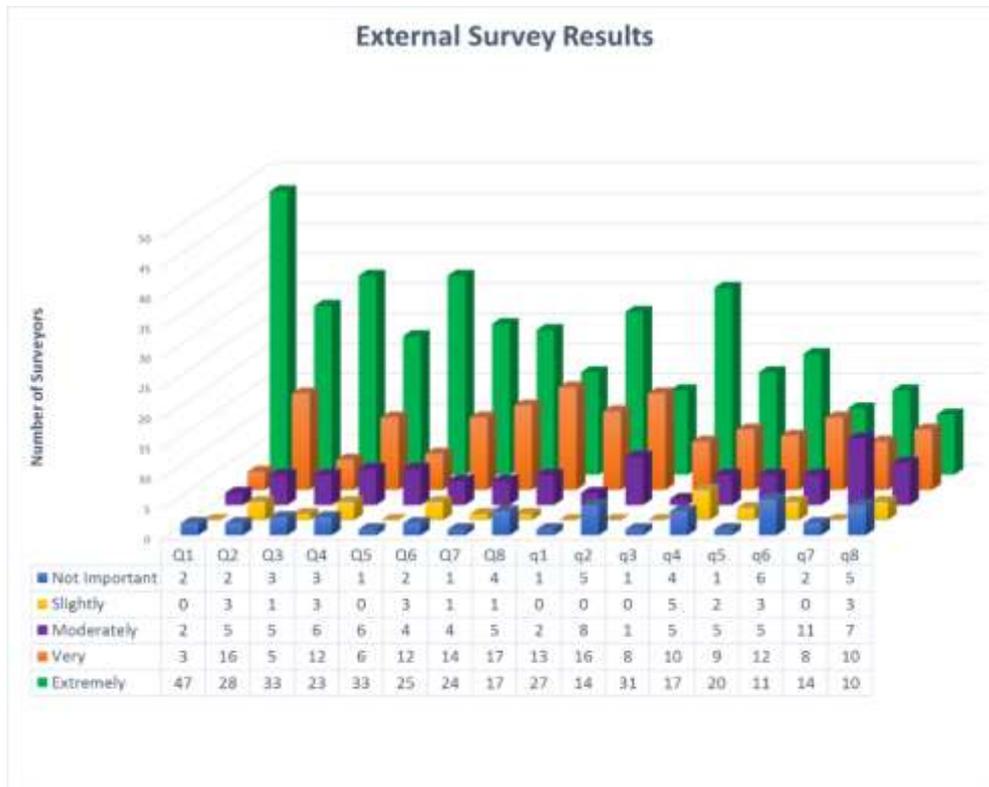
Values

Volunteerism is the policy or practice of volunteering one's time or talents for charitable, educational, or other worthwhile activities especially in one's community.

Philosophy of Operations

- **Maintain a tradition of volunteer service.**
- **Commitment to the community, its residents and visitors.**
- **The department supports and encourages personal development through training, education, and mentoring.**

Community Survey Results (Public Perception of the Department)



Survey Questions Attached

Professionalism

Public perception is of the utmost importance when it comes to a volunteer organization. The Durham community has an overall positive perception of the Durham Volunteer Fire Company in terms of the way they conduct themselves professionally with most of the surveys having positive statements. In addition to the position, there were some negative views, mostly in relation to driving and public appearance. 3 out of the 54 surveys made specific comments regarding the unsafe driving practices of members of the Durham Volunteer Fire Company in either POV with blue lights and sometimes even in fire apparatus. 8 out of the 54 surveys stated negative comments about firefighters inappropriately conducting themselves in public. Some of these surveys referenced “pushy” or “rude” attitudes, with a “can do anything they want” type of behavior in addition to making inappropriate

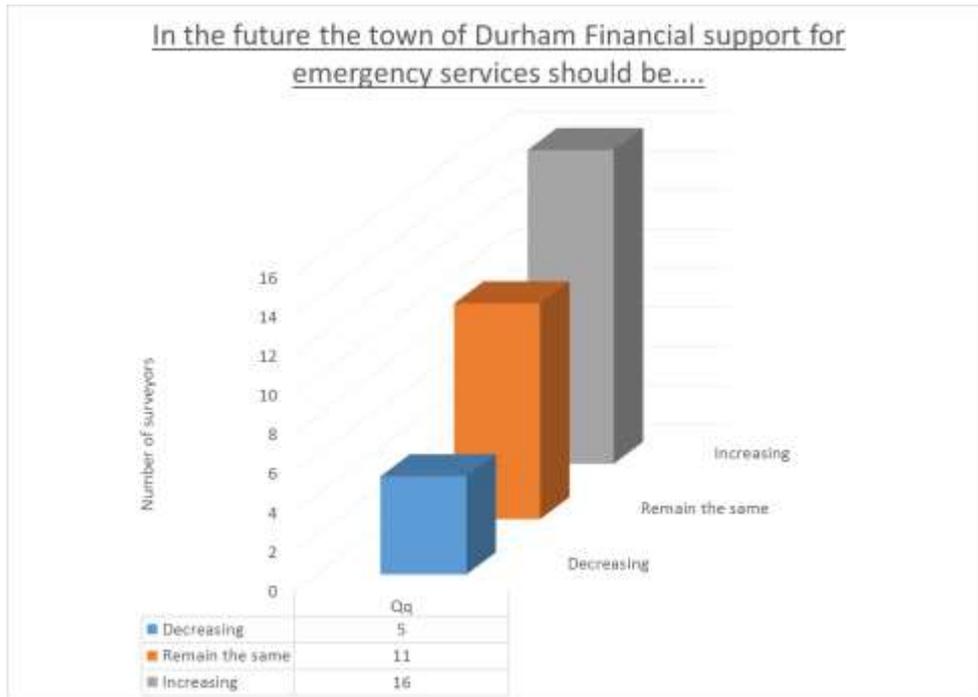
comments while in fire apparel. On a large majority of the surveys, citizens commented on how they felt the Durham Volunteer Fire Company needed to have better public relations with the community, and not interact with them only when they are fundraising.

Response time

Despite an overall positive response to fire emergencies, the Durham community has found faults in membership response times. The community has expressed concern over driving habits utilized by the membership regarding unsafe driving practices, misuse of blue lights in POVs, and too many personal vehicles responding to an incident. When compared to other volunteer fire companies, the Durham Volunteer Fire Company has proven effective in response times. Most of the community has also praised them in their timely response in the same survey.

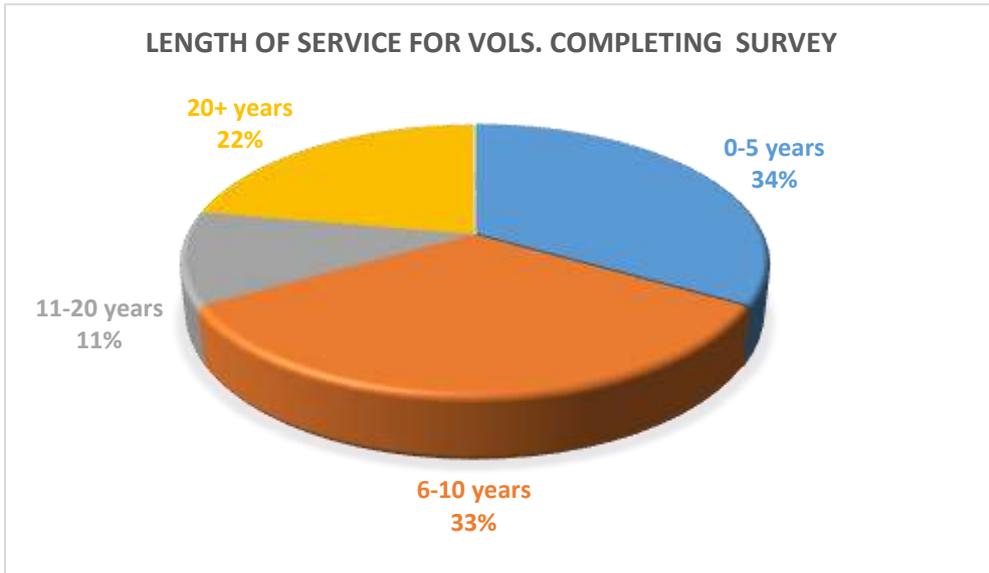
Training

The comments that were made from the external survey about training include the public wanting everyone to be trained as first responders, not just firefighters even if they aren't needed. Also, it was mentioned multiple times that the members should not just be trained but be well trained in all the possible areas of their responsibilities.

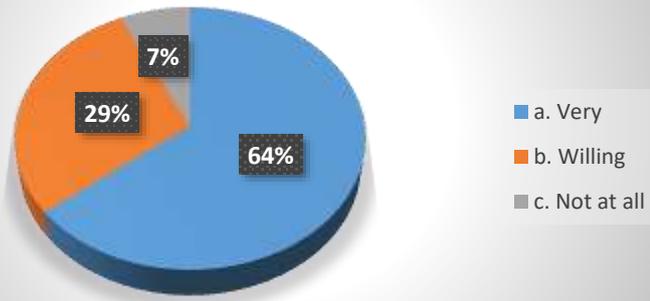


Most of the people who filled out the survey and selected increasing funding did not leave comments. Some of the comments that were mentioned were that the Durham Volunteer Fire Company may have too many apparatuses and that trucks still good are given to other towns.

Internal Value System Survey Results

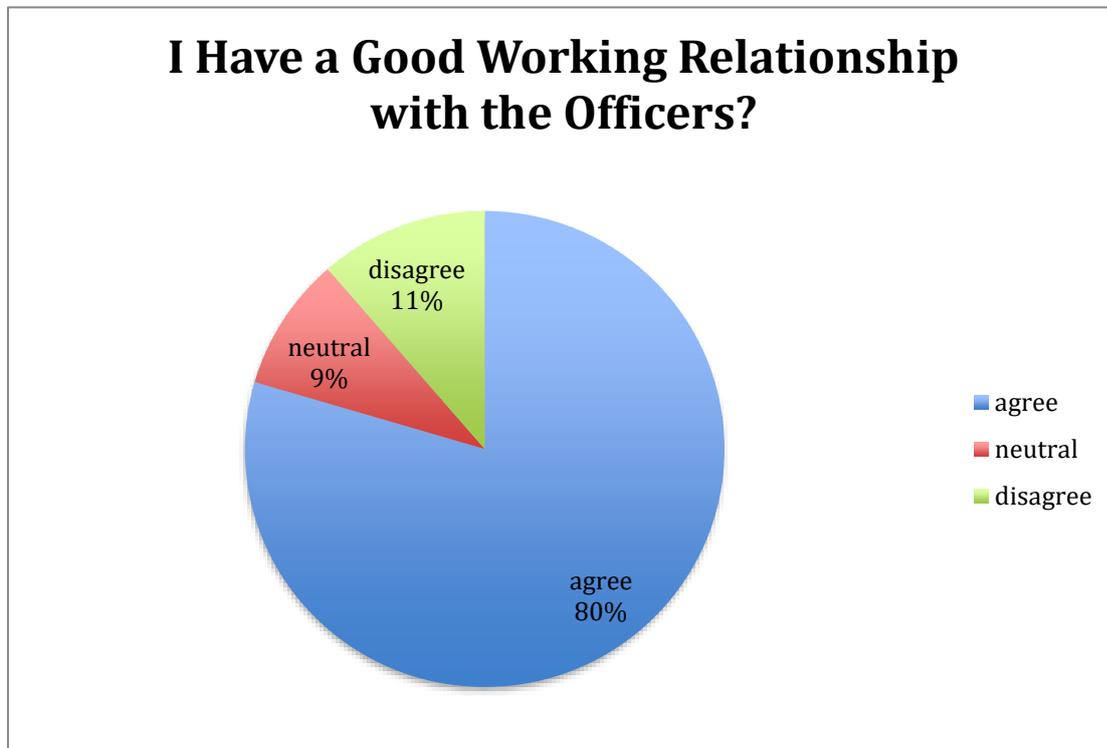


Members' willingness to change

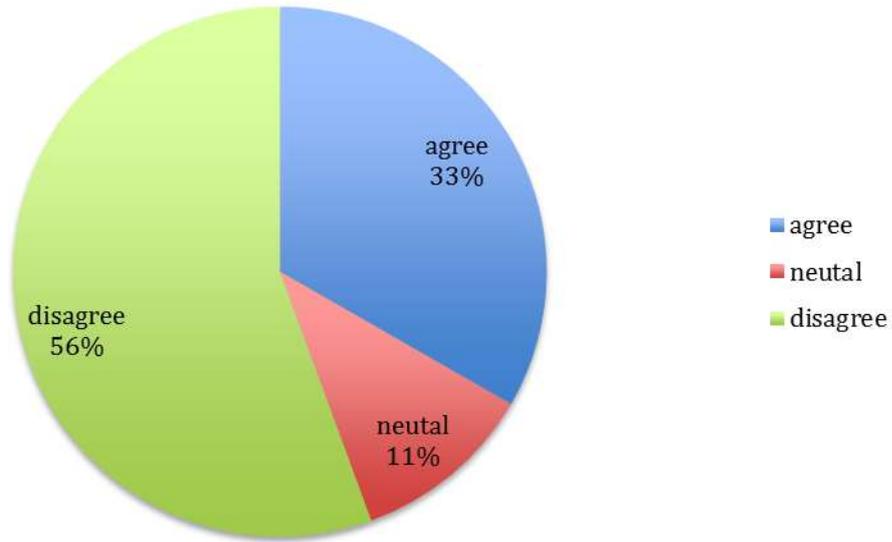


Sample Representation of Response from DVFC

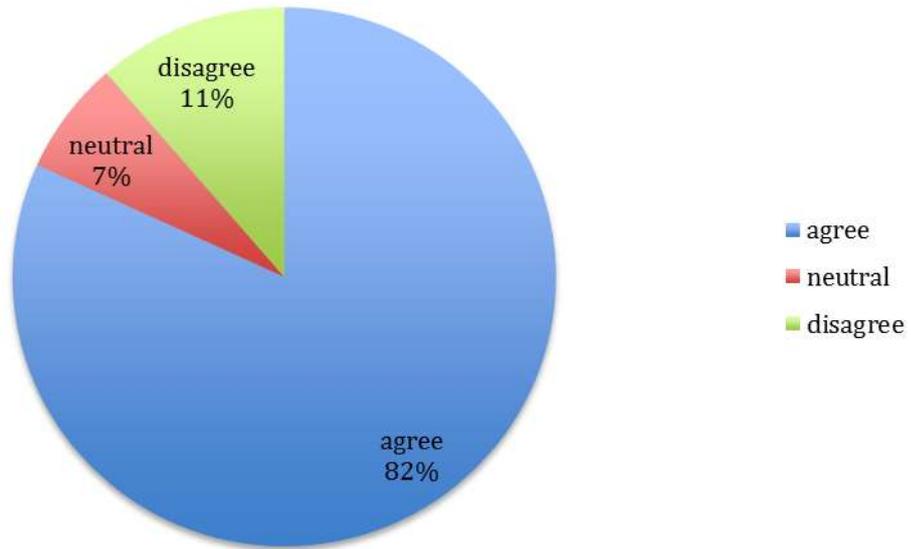
Internal Survey



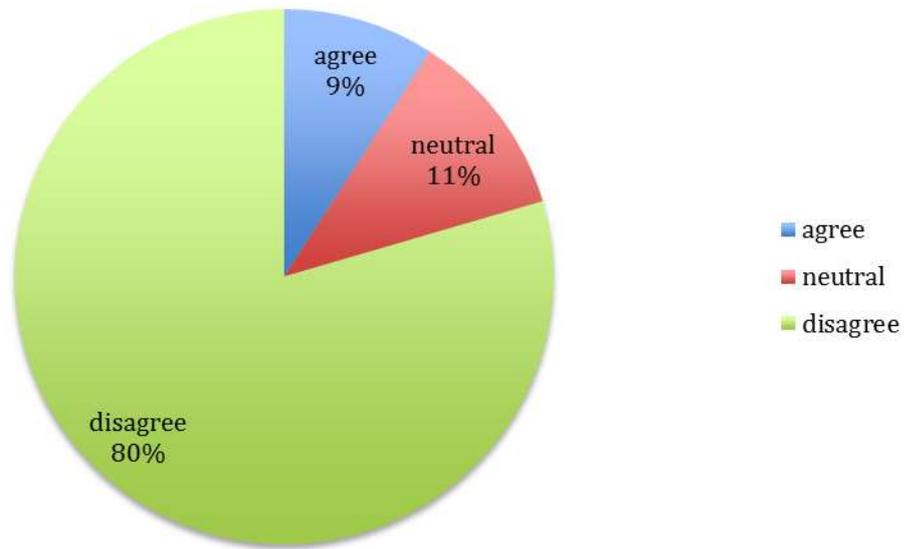
The Leadership Style in the Department Helps its Progress?



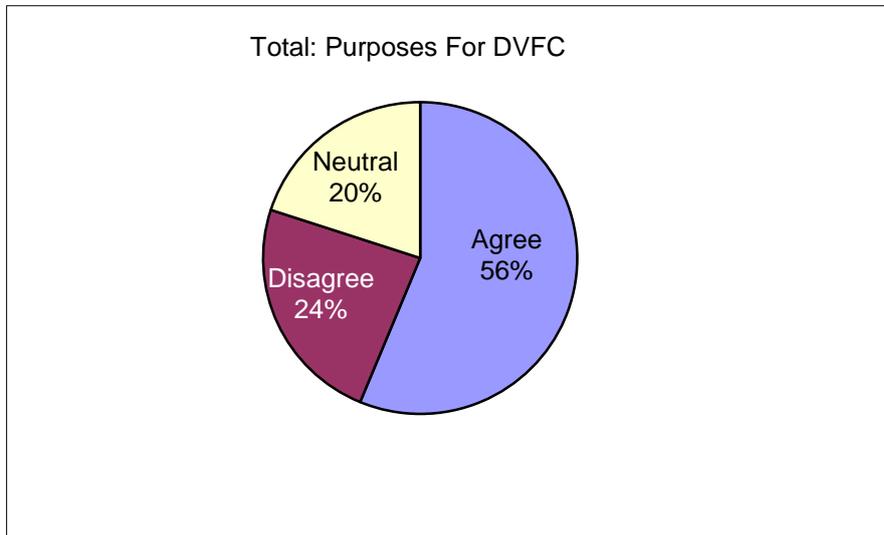
The Fire Officers are Supportive of my Efforts?



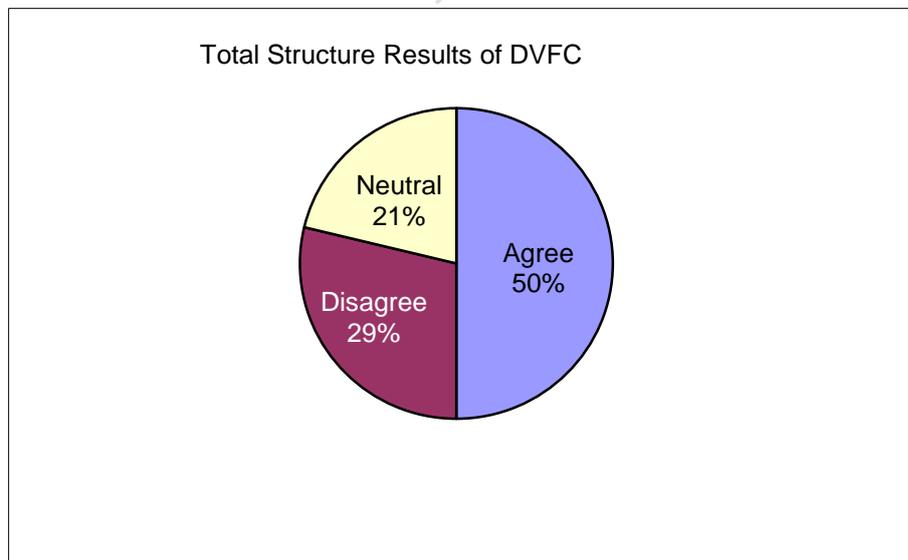
We Completely Resolve all Conflicts in the Department?



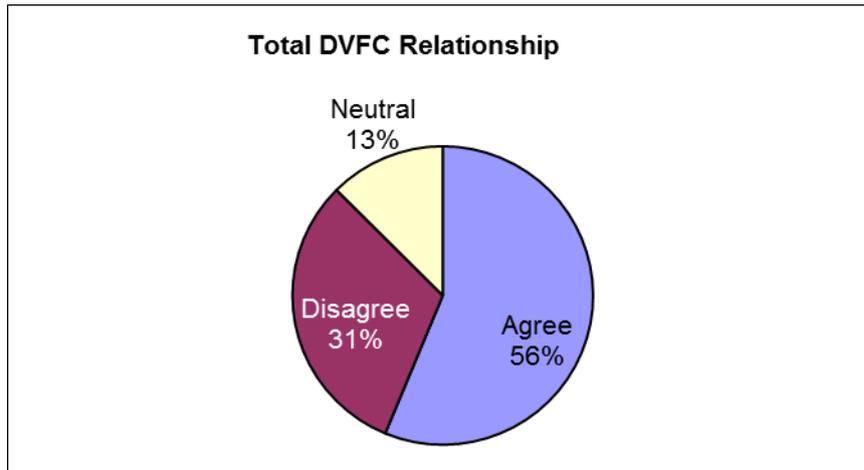
Purpose: The volunteer members agree with the purpose of the organization as defined by its mission, goals and objectives. The purpose should be clear to all members and they should be working towards the stated mission. The purpose of the organization must be continually updated as environments may change.



Structure: The volunteer member agrees that the structure of an organization is fundamentally good with an effective chain of command and the relationships between members.

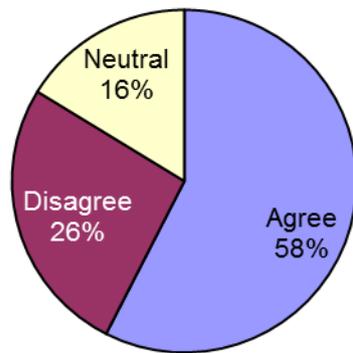


Relationships: The volunteer member agrees that relationships involve people, groups, technology and other functional elements working together to achieve success. Managing relationships is essential to conflict resolution within the organization.



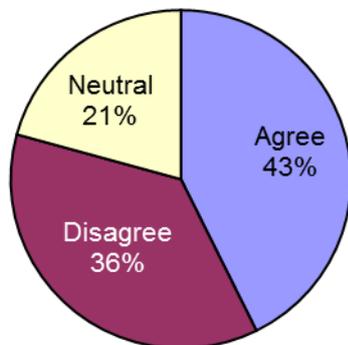
Leadership: The organization’s leaders utilize and coordinate the resources of personnel and materials to accomplish organizational goals. The measure of a leader’s effectiveness is the amount of positive influence and knowledge that members gain from their leaders.

Total Leadership Results of DVFC

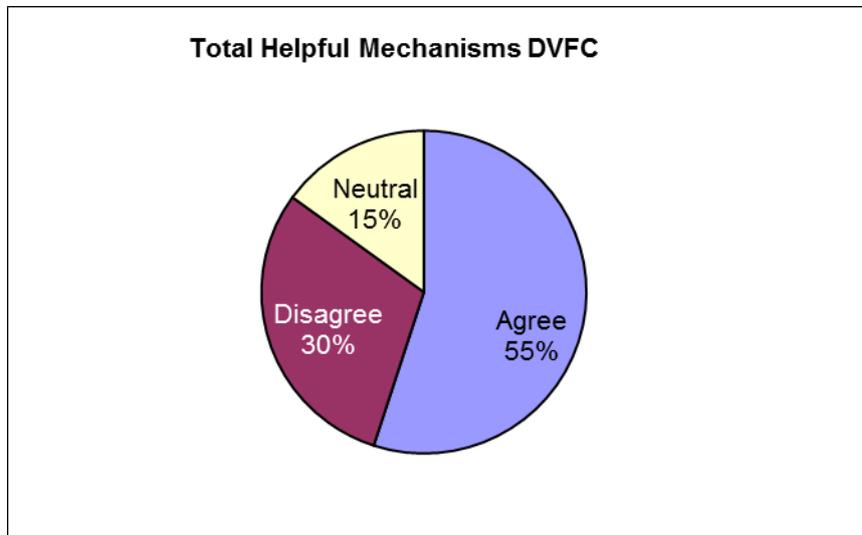


Rewards: The volunteer member agrees that it is important to understand the rewards and recognition system of the department. The rewards need to be equitable and fair among members.

Total Results of DVFC For Rewards



Helpful Mechanisms: The membership agrees that the helpful mechanisms provide the tools that help people cooperate and coordinate activities. These mechanisms include policy and procedure manuals, meetings, memos, reports or positions that exist for linking organizational elements.



SWOT analysis for Durham Fire Company

(Note: March 17th 2015, Durham Volunteer Fire Department, 26 members participated)

Strengths:

Volunteerism	Medical skills
Teamwork	Dedication
Pride	Dispatch
Willingness to learn	Continuous training
Community service	Trust
Large group of volunteer	Town funding
Diverse group/backgrounds (age, gender)	Mutual aid agreement
Water supply	Family support
Quick response	Employer Support
Ability to adapt	Fire fighter program
Modern equipment	

Weakness

Lack of enough drivers	Inconsistent application of discipline
Lack of Organized training	Lack of respect for rank
Generation Gap	Lack of respect of seniority
Limited participation in Non-Fire events	Lack of willingness to adapt to new techniques (strategy and tactics)
Armchair QB	Lack of uniformity of tactics

Accountability on Fire Ground	Lack of understanding of SOP
Not following SOP/ SOG	Lack of ICS (Scene Safety)
Not everyone has email	Minimal call volume
Outdated by-laws	Too many fires
Maintaining confidentiality (talking about EMS/ Fire calls on fire scene)	Same 4-5 people contributing
Communication inside Fire house	Lack of physical fitness
Clean up	Lack of true ICs
Minimal Involvement in EMS	Shortage of staffing during daytime
	Lack of respect for Firefighters (visitors)

Opportunities

Increase drills/ training	Training with EMS provider
Increase drivers	Increase involvement EMS in the town
Message board (Improve communication)	Fire prevention education
Use SOP, SOC as drill/lesson plan (→need change by-laws)	Formalize Driver training
Update by-laws	Increase explorer program
Increased emphasis on use of ICs	Physical fitness activities (Fitness for duty/gym)
Delegation of workload	Increase daytime manpower
Utilization of experienced members	Better utilization of training
Membership program (transfer knowledge)	More require training
Culture of respect between generations	

Threats

Members (People might leave because of the increased training, loss of membership)

Family impact

Durham EMS (leadership)

Budget



GOALS AND OBJECTIVES

Training - Officers and members of the DVFC will acquire and maintain the necessary skills and knowledge to fulfill the requirements of the company's mission through training, education, and mentoring.

Operational Objective: The department shall develop a guideline for a qualified training program.		
<i>Project Number</i>	<i>Project Action Plan</i>	<i>Completion Date</i>
	Appoint certified training officer who will chair a training committee.	<i>In progress</i>
	Establish Training committee made up of a cross section of members from across the various years of experience in the department.	<i>In Progress</i>
	Training committee will develop a training schedule in compliance with NFPA 1720 Section 5.3 <i>Training Systems</i> (provided as appendix)	<i>Now Posted</i>
	Develop and implement training record management system	<i>In Progress</i>
	Include all mandatory CONN-OSHA training (provided as appendix)	
	Assign both new and senior members to training committee	

Operational Objective The training committee will develop training with EMS provider		
<i>Project Number</i>	<i>Project Action Plan</i>	<i>Completion Date</i>
	Develop quarterly training with Durham Volunteer Ambulance Corps	<i>Not yet</i>
	Conduct post training "hot wash" with officers from both ambulance and fire services after each training session. (Need Blood Borne Jointly) CIRMA Driver Education	

Operational Objective The training committee shall develop a driver training program.		
<i>Project Number</i>	<i>Project Action Plan</i>	<i>Completion Date</i>
	Schedule bi-annual 2Q endorsement testing dates	<i>In house trainers</i>
	Schedule classes in conjunction with testing dates	<i>1 per year</i>
	Recruit senior members as driving instructors	<i>Happens now</i>

Operational Objective The training committee will increase emphasis on ICS/NIMS training and usage.

<i>Project Number</i>	<i>Project Action Plan</i>	<i>Completion Date</i>
	Utilize ICS at all training drills to increase usage	<i>More training needed</i>
	Conduct quarterly fire ground evolution drills that require use of ICS	

Emergency Medical Services - The DVFC will support an optimal model for the delivery of Emergency Medical Services to the citizens and visitors of the Town of Durham.

Operational Objective: Actively participate in determining the appropriate scope of Emergency Medical Services needed for the community.

<i>Project Number</i>	<i>Project Action Plan</i>	<i>Completion Date</i>
	DVFC will establish a committee consisting of officers and firefighters to work with Town executives and DVAC representatives to identify necessary services.	
	Solicit key stakeholders throughout the community to advise the Durham Volunteer Fire Company regarding its role in EMS for present and future.	<i>Minimal Progress</i>

Operational Objective: The DVFC will provide education and information about current Emergency Medical Services and identify opportunities for advancement.

<i>Project Number</i>	<i>Project Action Plan</i>	<i>Completion Date</i>
	Participate in National EMS Week as a public safety education event.	
	Publicize Fire company involvement in Emergency Medical Service system via social media, newspapers, and community events.	

Operational Objective: Develop an EMS Training Program to optimize fire company involvement in the current and future Emergency Medical Services system.

<i>Project Number</i>	<i>Project Action Plan</i>	<i>Completion Date</i>
	Present the opportunity and encourage members to become EMR/EMT certified.	
	Provide volunteer duty-related EMS training including practical and classroom sessions with regularity.	

Operational Objective: Be the leader to push, initiative and to establish an optimal model of EMS delivery in the Town of Durham.

<i>Project Number</i>	<i>Project Action Plan</i>	<i>Completion Date</i>
	Obtain general EMS delivery system information from comparable and successful communities.	
	Work with Town Executives and DVAC to implement chosen EMS delivery model	

Department Structure -The DVFC will ensure an organizational structure which facilitates and supports the operational and administrative requirements of its mission.

Operational Objective: The DVFC will review, revise, and update the current by-laws to make them more applicable to current times.

<i>Project Number</i>	<i>Project Action Plan</i>	<i>Completion Date</i>
	Form a schedule to have committee meetings	<i>In progress</i>
	Form a by-laws committee	
	Remove limitation of training nights from by-laws	

Operational Objective: Consistently review and revise the SOPs and SOGs of the company

<i>Project Number</i>	<i>Project Action Plan</i>	<i>Completion Date</i>
	Annual review by training committee	<i>Currently under review</i>

Operational Objective: Increase emphasis on the use of the Incident Command System.

<i>Project Number</i>	<i>Project Action Plan</i>	<i>Completion Date</i>
	Create Incident Management System that is specific to DVFC and meets the requirements of NIMS 100,200.	<i>Done</i>
	Provide all members with ICS training	
	Incorporate outside partners into ICS training	

Communication - DVFC shall have clear, open, and respectful lines of communication for the membership, the citizens, and the visitors of the Town of Durham.

Operational Objective: Bridge the information gap between the members of the company.		
<i>Project Number</i>	<i>Project Action Plan</i>	<i>Completion Date</i>
	Create a message board in the firehouse with postings of scheduled events	Emails and message board

Operational Objective: Increased community interaction.		
<i>Project Number</i>	<i>Project Action Plan</i>	<i>Completion Date</i>
	Host biannual open houses for the community	Needs Improvement
	Make the fire station available for the community meetings.	
	Provide fire safety education programs at the grade school level at least once a year during fire prevention week.	

Operational Objective: Create a website with information about the fire company.		
<i>Project Number</i>	<i>Project Action Plan</i>	<i>Completion Date</i>
	Create a member logon area where members can access important dates and information.	On line now
	Create other public forums (such as a Facebook page, Twitter account, etc.)	

Operational Objective: Utilize technology in order to coordinate response efforts.		
<i>Project Number</i>	<i>Project Action Plan</i>	<i>Completion Date</i>
	Incorporate responding techniques to get a better grasp on who will be responding to an incident system such as: (Active 911, I am responding, etc.)	Active 911

Personnel - DVFC shall commit to the highest levels of volunteerism through an atmosphere of mutual respect, teamwork, diversity, professionalism, and acceptance of the value that all members bring to the organization.

Operational Objective: Develop a professional code of conduct for the DVFC consistent with its mission and commitment to “the highest levels of volunteerism.”		
<i>Project Number</i>	<i>Project Action Plan</i>	<i>Completion Date</i>
	Establish a committee to create and present for adoption a code of conduct for DVFC.	<i>In process</i>
	Create a progressive discipline policy to ensure fair, firm, and consistent treatment of all members. (provided samples as attachment)	<i>In process</i>
	Recognize the contributions of all members and value the diversity they bring to the organization.	
	Resolve and narrow the gap of generational diversity in order to accomplish successful teamwork.	

Appendix A



4.3 Staffing and Deployment.

4.3.1 The fire department shall identify minimum staffing requirements to ensure that a sufficient number of members are available to operate safely and effectively.

4.3.2* Table 4.3.2 shall be used by the AHJ to determine staffing and response time objectives for structural fire fighting, based on a low-hazard occupancy such as a 2000 ft² (186 m²), two-story, single-family home without basement and exposures and the percentage accomplishment of those objectives for reporting purposes as required in 4.4.2.

4.3.3* Where staffed stations are provided, when determined by the AHJ, they shall have a turnout time of 90 seconds for fire and special operations and 60 seconds for EMS, 90 percent of the time.

4.3.4* Upon assembling the necessary resources at the emergency scene, the fire department shall have the capability to safely commence an initial attack within 2 minutes 90 percent of the time.

4.3.5* Personnel responding to fires and other emergencies shall be organized into company units or response teams and shall have required apparatus and equipment.

4.3.6 Standard response assignments and procedures, including mutual aid response and mutual aid agreements predetermined by the location and nature of the reported incident, shall regulate the dispatch of companies, response groups, and command officers to fires and other emergency incidents.

4.4 Reporting Requirements.

4.4.1* **Incident Reports.** The fire department shall maintain a standardized reporting system that collects specific information on each incident.

4.4.1.1 The incident report shall include the location and nature of the fire or emergency and describe the circumstances of the incident and the operations performed.

4.4.1.2 This report shall identify the members responding to the incident.

4.4.2 Annual Evaluation.

4.4.2.1 The fire department shall evaluate its level of service, deployment delivery, and response time objectives on an annual basis.

4.4.2.2 The evaluation shall be based on data relating to level of service, deployment, and the achievement of each response time objective in each demand zone within the jurisdiction of the fire department.

4.4.3 **Quadrennial Report.** The fire department shall provide the AHJ with a written report, quadrennially, which shall be based on the annual evaluations required by 4.4.2.

4.4.3.1 The quadrennial report shall define demand zones and/or circumstances in which the requirements of this standard are not being met.

4.4.3.2 This report shall explain the predictable consequences of identified deficiencies and address the steps within a fire department strategic plan necessary to achieve compliance.

4.5 Fire Suppression Operations.

4.5.1* **Incident Commander.** One individual shall be assigned as the incident commander.

4.5.1.1* The assumption and identification of command shall be communicated to all units responding to or involved at the incident scene.

4.5.1.2 The incident commander shall be responsible for the overall coordination and direction of all activities for the duration of the incident.

4.5.1.3 The incident commander shall ensure that a personnel accountability system is immediately utilized to rapidly account for all personnel at the incident scene.

4.5.2 **Company Officer.** The company officer/crew leader shall at all times be aware of the identity, location, and activity of each member assigned to the company.

4.5.2.1 Each member of the company shall be aware of the identity of the company officer/crew leader.

Table 4.3.2 Staffing and Response Time

Demand Zone ^a	Demographics	Minimum Staff to Respond ^b	Response Time (minutes) ^c	Meets Objective (%)
Urban area	>1000 people/mi ²	15	9	90
Suburban area	500-1000 people/mi ²	10	10	80
Rural area	<500 people/mi ²	6	14	80
Remote area	Travel distance ≥ 8 mi	4	Directly dependent on travel distance	90
Special risks	Determined by AHJ	Determined by AHJ based on risk	Determined by AHJ	90

^aA jurisdiction can have more than one demand zone.

^bMinimum staffing includes members responding from the AHJ's department and automatic aid.

^cResponse time begins upon completion of the dispatch notification and ends at the time interval shown in the table.

4.5.2.2 Orders addressed to individual members, particularly verbal orders and orders at incident scenes, shall be transmitted through the company officer.

4.6 Initial Fire-Fighting Operations.

4.6.1 Initial fire-fighting operations shall be organized to ensure that at least four members are assembled before interior fire suppression operations are initiated in a hazardous area.

4.6.2 In the hazardous area, a minimum of two members shall work as a team.

4.6.3* Outside the hazardous area, a minimum of two members shall be present for assistance or rescue of the team operating in the hazardous area.

4.6.3.1 One of the two members assigned outside the hazardous area shall be permitted to be engaged in other activities.

4.6.3.2 The assignment of a member shall not be permitted if abandoning that member's critical task(s) to perform rescue would jeopardize the safety and health of any fire fighter operating at the incident.

4.6.4 Initial attack operations shall be organized to ensure that if, upon arrival at the emergency scene, initial attack personnel find an imminent life-threatening situation where immediate action could prevent the loss of life or serious injury, such action is permitted with less than four personnel when conducted in accordance with NFPA 1500.

4.7 Sustained Fire-Fighting Operations.

4.7.1 The fire department shall have the capability for sustained operations, including fire suppression; engagement in search and rescue, forcible entry, ventilation, and preservation of property; accountability for personnel; the deployment of a dedicated rapid intervention crew (RIC); and provision of support activities for those situations that are beyond the capability of the initial attack.

4.7.2 The capability to sustain operations shall include sufficient personnel, equipment, and resources to efficiently, effectively, and safely conduct the appropriate operations.

4.7.3 The fire department shall be permitted to use established automatic aid or mutual aid agreements to comply with the requirements of Section 4.7.

4.8 Intercommunity Organization.

4.8.1* Mutual aid, automatic aid, and fire protection agreements among the affected AHJs shall be in writing and shall address issues such as liabilities for injuries, disabilities, and deaths; cost of service; authorization to respond; staffing; and equipment, including the resources to be made available and the designation of the incident commander.

4.8.2 Procedures and training of personnel for all fire departments in mutual aid, automatic aid, and fire protection agreement plans shall be comprehensive enough to produce an effective force to deal with the emergencies they respond to and to ensure uniform operations at those emergencies.

4.8.3 Companies responding to automatic or mutual aid incidents shall be equipped with communications equipment that allow personnel to communicate with the incident commander, division or group supervisors, or branch directors.

4.9* Emergency Medical Services (EMS).

4.9.1* The provisions of this section shall apply only to those fire departments that are involved in EMS delivery.

4.9.2* The fire department shall clearly document its role, responsibilities, functions, and objectives for the delivery of EMS.

4.9.3 EMS operations shall be organized to ensure the fire department's emergency medical capability includes personnel, equipment, and resources to deploy the initial arriving company and additional alarm assignments.

4.9.4 The fire department shall be permitted to use established automatic aid or mutual aid agreements to comply with the requirements of Section 4.9.

4.9.5 System Components.

4.9.5.1 The basic treatment levels within an EMS system, for the purposes of this standard, shall be categorized as first responder, basic life support (BLS), and advanced life support (ALS).

4.9.5.2 The specific patient treatment capabilities associated with each level shall be determined by the AHJ for the approval and licensing of EMS providers within each state or province.

4.9.6 Quality Management.

4.9.6.1 The fire department shall institute a quality management program.

4.9.6.2 All first responder and BLS emergency medical service provided by the fire department shall be reviewed by the fire department medical personnel and that review process shall be documented.

4.9.6.3 All fire departments with ALS services shall have a named medical director with the responsibility to oversee and ensure quality medical care in accordance with state or provincial laws or regulations.

4.9.6.4 Fire departments providing ALS services shall provide a mechanism for immediate communications with EMS supervision and medical oversight.

4.10* Special Operations.

4.10.1 The provisions of this section shall apply to fire departments that are involved in the delivery of special operations response.

4.10.2 The fire department shall adopt a special operations response plan and standard operating procedures (SOPs) that specify the role and responsibilities of the fire department and the authorized functions of members responding to hazardous materials emergency incidents.

4.10.3 Special operations shall be organized to ensure that the fire department's special operations capability includes sufficient personnel, equipment, and resources to safely deploy the initial arriving company and additional alarm assignments providing such services.

4.10.4* The fire department shall limit its operations to only those specific special operations functions for which its personnel are trained and are properly equipped.

4.10.5 The fire department shall be permitted to use established automatic aid or mutual aid agreements to comply with the requirements of Section 4.10.

4.10.6 All fire department members who respond to emergency incidents involving hazardous materials shall be trained to the applicable requirements of NFPA 472.

4.10.7 The fire department shall have the capacity to implement an RIC during all special operations incidents that would subject fire fighters to immediate danger of injury, or in the event of equipment failure or other sudden events, as required by NFPA 1500.

4.10.8 When a higher level of emergency response is needed beyond the capability of the fire department for special operations, the fire department shall determine the availability of outside resources that deploy these capabilities and the procedures for initiating their response.

Chapter 5 Systems

5.1 Safety and Health System.

5.1.1* A fire fighter occupational safety and health program shall be provided in accordance with NFPA 1500 to form the basic structure of protecting the health and safety of fire fighters, regardless of the scale of the department or the emergency.

5.1.2 As a minimum, the fire department shall ensure an AED is available on scene with personnel adequately trained in its use.

5.2* Incident Management System.

5.2.1 An incident management system shall be provided in accordance with NFPA 1561 to form the basic structure of all emergency operations of the fire department, regardless of the scale of the department or the emergency.

5.2.2* An effective incident management system shall be designed to manage incidents of different types, including structure fires, wildland fires, hazardous materials incidents, emergency medical operations, and other types of emergencies that could be encountered by the department.

5.2.3 The incident management system shall be consistent with the National Incident Management System (NIMS) and the National Response Framework (NRF).

5.3 Training Systems. The fire department shall have a training program and policy that ensures that personnel are trained and competency is maintained to safely execute all operations consistent with the department's organization and deployment as addressed in Chapter 4.

5.4* Communications System.

5.4.1* The fire department shall have a reliable communications system to facilitate prompt delivery of public fire suppression, EMS, and special operations.

5.4.2 All communications facilities, equipment, staffing, and operating procedures shall comply with NFPA 1221.

5.4.3 Operating procedures for radio communications shall provide for the use of standard protocols and terminology at all types of incidents.

5.4.4 Standard terminology, in compliance with NFPA 1561, shall be established to transmit information, including strategic modes of operation, situation reports, and emergency notifications of imminent hazards.

5.5 Pre-Incident Planning.

5.5.1* The fire department shall set forth operational requirements to conduct pre-incident planning.

5.5.2 Particular attention shall be provided to target hazards.

Annex A Explanatory Material

Annex A is not a part of the requirements of this NFPA document but is included for informational purposes only. This annex contains explanatory material, numbered to correspond with the applicable text paragraphs.

A.1.1 The standard includes minimum requirements that are intended to provide effective, efficient, and safe protective services that operate on a sound basis to prevent fires, reduce risk to lives and property, deal with incidents that occur, and prepare for anticipated incidents. The standard sets minimum standards considered necessary for the provision of public fire protection by volunteer and combination fire departments. It addresses the structure and operation of organizations providing such services, including fire suppression, emergency medical services (EMS), hazardous materials operations, and special operations.

A.1.1.1 The delivery of services that are directed toward saving lives from a variety of perils is generally included in the mission of the fire service, although the nature and extent of these services varies from one jurisdiction to another.

In addition to duties at fires, fire departments should be prepared to perform rescue work and provide emergency care for those injured in connection with incidents such as traffic accidents, train wrecks, aircraft crashes, floods, windstorms, weapons of mass destruction/terrorism, and earthquakes, unless specifically excluded from involvement.

In many areas, the fire department is designated as the primary provider of EMS. This responsibility could involve the delivery of basic or advanced (paramedic) life support services and could include ambulance service. These services could be performed by fire fighters or by members of the fire department specializing in EMS. The impact on fire department resources and the department's continued ability to perform its other responsibilities should be considered when the department undertakes the EMS activity.

A.1.3.1 The authority having jurisdiction (AHJ) generally has the responsibility to determine the following:

- (1) Scope and level of service provided by the fire department
- (2) Necessary level of funding
- (3) Necessary level of personnel and resources, including facilities

In order to provide service, the AHJ can have the power to levy taxes, solicit funding, own property and equipment, and cover personnel costs. The authority necessary is conveyed by law of a local jurisdiction.

In addition, the governing body also should monitor the achievement of the management goals of the department, such as fire prevention, community life safety education, fire suppression, employee training, communications, maintenance, and department administration.

Spelling out the specific parameters of services to be provided allows the fire department to plan, staff, equip, train, and deploy members, career and volunteer, to perform these duties. It also gives the governing body an accounting of the costs of services and allows it to select those services they can afford to provide. Likewise, the governing body should identify services it cannot afford to provide and cannot authorize

the fire department to deliver; those services should be assigned to another agency.

The fire department should be no different from any other government agency that has the parameters of its authority and services clearly defined by the governing body.

A.1.4 See Annex B.

A.3.2.1 Approved. The National Fire Protection Association does not approve, inspect, or certify any installations, procedures, equipment, or materials; nor does it approve or evaluate testing laboratories. In determining the acceptability of installations, procedures, equipment, or materials, the authority having jurisdiction may base acceptance on compliance with NFPA or other appropriate standards. In the absence of such standards, said authority may require evidence of proper installation, procedure, or use. The authority having jurisdiction may also refer to the listings or labeling practices of an organization that is concerned with product evaluations and is thus in a position to determine compliance with appropriate standards for the current production of listed items.

A.3.2.2 Authority Having Jurisdiction (AHJ). The phrase “authority having jurisdiction,” or its acronym AHJ, is used in NFPA documents in a broad manner, since jurisdictions and approval agencies vary, as do their responsibilities. Where public safety is primary, the authority having jurisdiction may be a federal, state, local, or other regional department or individual such as a fire chief; fire marshal; chief of a fire prevention bureau, labor department, or health department; building official; electrical inspector; or others having statutory authority. For insurance purposes, an insurance inspection department, rating bureau, or other insurance company representative may be the authority having jurisdiction. In many circumstances, the property owner or his or her designated agent assumes the role of the authority having jurisdiction; at government installations, the commanding officer or departmental official may be the authority having jurisdiction.

A.3.3.2.1 Automatic Aid. Automatic aid is established through a written agreement between AHJs that provides for the simultaneous dispatch of a predetermined response of personnel and equipment to a neighboring jurisdiction upon receipt of an alarm, and is included as part of a communication center’s dispatch protocols.

A.3.3.3 Alarm. In some jurisdictions, an alarm is referred to as an incident or call for service.

A.3.3.9 Company Officer. This person could be someone appointed in an acting capacity. The rank structure could be either sergeant, lieutenant, or captain.

A.3.3.11 Demand Zones. A demand zone can be a single building or a group of buildings. It is usually defined in terms of geographical boundaries, called fire management areas or fire management zones.

A.3.3.19 Fire Suppression. Fire suppression includes all activities performed at the scene of a fire incident or training exercise that expose fire department members to the dangers of heat, flame, smoke, and other products of combustion, explosion, or structural collapse. [1500, 2013]

A.3.3.20 First Responder (EMS). A first responder also assists higher level EMS providers.

A.3.3.21 Hazard. Hazards include the characteristics of facilities, equipment systems, property, hardware, or other objects; and the actions and inactions of people that create such hazards.

A.3.3.25 Incident Management System (IMS). The system should be consistent with NIMS and the National Response Framework. The system is also referred to as an incident command system (ICS).

A.3.3.27.2 Basic Life Support (BLS). Basic life support could also include expediting the safe and timely transport of the patient to a hospital emergency department for definitive medical care.

A.3.3.28 Member. A fire department member can be a full-time or part-time employee or a paid or unpaid volunteer, can occupy any position or rank within the fire department, and can engage in emergency operations. [1500, 2013]

A.3.3.30.2 Special Operations. Special operations include water rescue, extrication, hazardous materials, confined space entry, high-angle rescue, aircraft rescue and fire fighting, and other operations requiring specialized training. [1500, 2013]

A.3.3.31 Rapid Intervention Crew (RIC). Emergency services personnel respond to many incidents that present a high risk to personnel safety. Departments in compliance with 29 CFR 1910.134 need to have a minimum of two people on scene fully equipped when members are operating in an immediately dangerous to life and health (IDLH) or potentially IDLH atmosphere. The primary purpose is the rescue of injured, lost, or trapped fire fighters. Departments utilizing an incident management system in accordance with NFPA 1561, or 29 CFR 1910.120 along with a personnel accountability system, have incorporated the RIC into their management system. Many departments have redefined their response plans to include the dispatch of an additional company (i.e., engine, rescue, or truck) to respond to incidents and to stand by as the RIC/company. Incident commanders can assign additional RICs based on the size and complexity of the incident scene. This requirement is also included as part of special operations incidents in NFPA 1500, Chapter 8.

A.4.1 Suppression capability is an expression of how much fire-fighting power can be put into action at a fire. It includes the amount of apparatus, equipment, and personnel available; the time needed to respond and place equipment in action; the water supply; the application of strategy and tactics; the level of training; and all of the components that add up to effective fireground operations.

A.4.1.1 Departmental regulations and operating procedures and orders should be developed for the purpose of ensuring uniformity and effectiveness in department actions and operations. These procedures should be published and circulated to all members, and training should be provided whenever major changes or additions are made. A system should be established that requires each member to read and acknowledge existing and revised regulations and procedures.

Such procedures should cover matters not subject to frequent changes and should be reviewed at least annually to ensure that they are current. All members should have access to the system of orders and directives that relate to their unit. Orders should be reviewed periodically by company officers during company meetings or training sessions.

The departmental procedures should specify the channels through which orders are to be transmitted. All orders should pass through the established chain of command and should be acknowledged. The chain of command also should be followed, in reverse order, for reports and other communications from units to headquarters.

A.4.1.2 The succession of command responsibility is necessary to provide for continuity of operations following death, injury, disability, or the absence of individuals. Succession should include the job title designation “acting” but should not imply automatic reassignment or promotion.

A.4.2 In many communities, the fire department is assigned primary responsibility for the management of hazardous materials emergencies. In some cases, this includes regulatory responsibilities to identify and minimize risks to the community resulting from the storage, use, transportation, and disposal of hazardous materials. (*See 29 CFR 1910.120.*)

The process used to plan response to these emergencies is also a viable tool for planning response (e.g., fire suppression, EMS, and technical rescue) to other risks within the community. The planning process should be coordinated with community and private sector planning processes that are implemented to meet legal requirements. The resulting comprehensive emergency management plan (CEMP) should be developed by the local emergency planning committee (LEPC) and exercised at least annually. The CEMP should include evacuation plans, intervention strategies, sources of expertise, and specialized assistance and disposal plans. The planning process should identify clearly the AHJ for command responsibility during hazardous materials incidents and other emergency responses to incidents within the community.

Disaster planning should be coordinated at all levels of government in anticipation of large-scale emergencies. Legislation or legal restrictions could establish the overall controlling authority in disaster operations. All planning and activity should occur within the framework of these restrictions. (*See Annex B.*)

NFPA 1600 is a document that provides additional information to assist users in preparing for, responding to, and mitigating disasters in their jurisdictions. In addition, it covers federal, state, and local disaster agencies’ roles and responsibilities within a comprehensive planning process.

See NFPA 1250, which provides additional information and tools to assist in the risk management process.

A.4.2.2 A variety of factors should be taken into account, including the size, height, and configuration of buildings; special life risks; exposures between structures; construction types; occupancy classifications; and other hazards.

A.4.3.2 Table 4.3.2 outlines demographic areas, as defined by the U.S. Census Bureau; staffing and deployment requirements; and fractal measurements. The suburban area is based on the requirements provided in the report by the Ontario Fire Marshal’s Office, *Shaping the Future of Fire Ground Staffing and Delivery Systems within a Comprehensive Fire Safety Effectiveness Model*, a report referenced in *NFPA 1710*, as well. This requirement must be met 80 percent of the time. Rural areas have a lower population density and require six people (two in/two out plus the incident commander and pump operator), a requirement that is derived from the country-UK standards of fire cover and must be met 80 percent of the time. The remote areas reference the OSHA “two in/two out” requirement and the assembly of four persons 90 percent of the time. Travel distances are varied and can be computed utilizing the ISO travel formula. This travel formula is as follows:

$$1.7 \times \text{distance} + 0.65 = \text{travel time}$$

For evaluation of response time objectives based on Table 4.3.2, the fire department needs to record the number of members on the scene at the end of the response time given in the table for each incident. For example, in an urban area, the

fire department would record the number of members on scene 9 minutes after the completion of the dispatch notification. They would then determine how many times they had at least 15 members on scene within that 9-minute time interval and calculate a percentage based on the total calls in urban areas. To meet the objective defined in this standard for an urban area, they would need to assemble at least 15 members within 9 minutes for 90 percent of the incidents.

A.4.3.3 The AHJ must determine when a station is considered staffed. This can be determined by the number of personnel, response SOPs, local conditions, community risk assessment, and level of service provided.

A.4.3.4 The AHJ should determine the number and type of fire company units to be provided. All personnel except those assigned to staff or support units or those serving as chief officers should be assigned to a specific company unit. The fire chief’s responsibility is to ensure that the best use is made of personnel and equipment. *See NFPA 1561* for additional information.

A.4.3.5 Modern computerized dispatch systems have the capability of providing specific dispatch assignments for individual buildings. Where street fire alarm boxes are provided, a response assignment should be prepared for each box location. Where street boxes are not used, zone numbers should be assigned to different points, sectors, or properties.

The number and type of units assigned to a particular incident depend on the availability of units at the time the incident occurs. Dispatchers should be given the authority to use judgment, within departmental guidelines, when they encounter situations or circumstances that demand modification of normal response assignments.

Procedures for the redistribution of available companies within the jurisdiction should be established in such a manner as to provide the best possible protection in the event of major incidents or high activity. Mutual aid companies should be used for back-up coverage in these situations.

A.4.4.1 Reports on emergencies are essential to providing an accurate record of a department’s activities. Reports also serve as a basis for determining local, state, and national fire trends and for establishing the needs of a fire department. *NFPA 901* should be used as the basis for classifying data on emergency incidents. The *FEMA National Fire Incident Reporting System (NFIRS)* should form the basis of an incident reporting system. The purpose of 4.4.1 is to inform fire departments of the importance of having a reporting system, even if such a system is not required by local, state, or provincial law.

A.4.5.1 The responsibility for assigning fire companies at an emergency belongs to the incident commander, who establishes priorities and assigns units based on identified objectives. Normally, on a first alarm response, the first engine company and truck company respond directly to the front of the emergency, while other responding units stand by or stage nearby until assigned to a particular task. Whenever an emergency situation demands extended operational activities, additional alarms should be called to provide reinforcements and a reserve supply of personnel and equipment at the scene.

Arriving companies that have not been assigned according to standard operating procedures (SOPs) or directions from the incident commander should proceed automatically to a standby or staging position. These units should stop short and remain uncommitted about a block from the scene until assigned by the incident commander. Staging positions should take into account access to potential operating positions, water supply, and traffic

conditions. The primary emphasis is on avoiding the independent commitment of companies to tasks or positions that conflict with the incident commander's objectives. Once the initial command responsibilities are completed, the incident commander should begin to obtain progress reports from operating units and evaluate efforts. The initial action plan should then be revised or refined as necessary.

The convergence of many units at the scene of an incident, particularly units that are not part of a planned response system, can cause major problems. Procedures should be established on a regional basis to provide for orderly response when major incidents occur. All responding multiple alarm companies should gather in a specific area designated by the incident commander. This formal staging area should be located away from the emergency scene in order to provide adequate space for assembly of all response apparatus. The first officer to arrive in this designated location should automatically assume control of the staging area. This officer should maintain an accurate log of available companies and, when requested to by command, should verbally assign companies to report to specific sectors or divisions or for specific functions with instructions on where and to whom to report.

A.4.5.1.1 Fire department SOPs should define operational procedures for the passing of or transferring of command. Command should never be transferred to an individual not on the scene. The arrival of senior officers on the scene does not result in an automatic transfer of command. The identity of incident command could change during the course of an incident, but the continuity of responsibility and accountability should be maintained.

On a typical first alarm assignment, the chain of command is usually transferred on the arrival of a chief officer. The officer being relieved should be prepared to provide the superior with an assessment of the general conditions and tactical priorities, such as the location of companies that are assigned, the identity of companies available for assignment, and the need for additional resources.

The situation faced by a company officer assuming initial command of an incident dictates an operating mode in each case. The basic options available to that officer are as follows:

- (1) *Investigation Mode.* If fire is not evident, the first arriving company officer investigates while all other units stand by in staging mode or positions. The company officer assumes command responsibility.
- (2) *Initial Attack Mode.* The first arriving company officer assumes command responsibility while leading an initial rapid attack to stabilize the situation. This mode is effective where fast action is critical and will control the situation quickly.
- (3) *Command Post Mode.* The first arriving company officer identifies the large, complex situation and assigns resources while setting up a command post operation from the outset.

In each case, the company officer assuming command is fully responsible for the identified tasks assigned to the command function. The degree of personal involvement in tactical actions varies in each mode.

A.4.6.3 RIC members should have the fire fighters' personal protective ensemble and protective equipment, self-contained breathing apparatus, and any specialized rescue equipment that could be needed for the specifics of the operation underway as required by NFPA 1500.

A.4.8.1 Where applicable, the mutual aid agreement should include automatic responses on first alarms (automatic aid). This concept contemplates joint response of designated apparatus and personnel on a predetermined running assignment basis.

Mutual aid concepts should be considered on a regional basis. In an effective mutual aid arrangement, each fire department should retain reserves of personnel and apparatus. Traditionally and legally, overall command of the incident is vested with the senior officer of the jurisdiction experiencing the emergency.

Some areas use consolidated dispatching to coordinate the response of fire companies to assist an outside fire department. The management of responses can be made easier by utilizing computerization, running cards, and other advance planning.

A.4.9 An emergency medical services (EMS) system is defined as a comprehensive, coordinated arrangement of resources and functions that are organized to respond in a timely, staged manner to medical emergencies, regardless of their cause. The term *system* can be applied locally or at the state, provincial, or national level.

The following are the fundamental functions of an EMS system:

- (1) System organization and management
- (2) Medical direction
- (3) Human resources and training
- (4) Communications
- (5) Emergency response
- (6) Transportation
- (7) Care facilities
- (8) Quality assurance
- (9) Public information and education
- (10) Disaster medical services
- (11) Research
- (12) Special populations

A.4.9.1 See requirements as outlined in NFPA 1710.

A.4.9.2 In addition to the resources provided by the fire department to meet these response criteria, other community resources should be considered. The initial treatment could be enhanced by other means, including citizens trained in cardiopulmonary resuscitation (CPR) or self-help instructions from trained communications personnel. The plan for delivering basic life support should include consideration of these alternatives.

A.4.10 Special operations incidents can include, but are not limited to, the following:

- (1) Rope rescue including high angle
- (2) Water rescue
- (3) Trench/collapse rescue
- (4) Confined space rescue
- (5) Extrication rescue
- (6) Air/sea rescue
- (7) Urban search and rescue (USAR)
- (8) SWAT (special weapons and tactics team) operations

The specific role of the fire department in responding to special operations incidents should be outlined in the community's emergency management plan. This plan defines the scope of activities and responsibilities assigned to the fire department and the level of service that is provided in each area.

A.4.10.4 Although fire departments are called to respond to a variety of incidents and should have the ability to perform special operations to the extent that can be reasonably anticipated, the possibility of being called to a situation that was unanticipated or was impossible to predict is significant. In these situations, the fire department could or could not have the specific training, procedures, or resources to deal with the problem. In those types of incidents, the incident commander is responsible for evaluating the situation, the risks that are involved, and the capabilities of the resources that are available to take action before an action plan can be developed. The operational risk management guidelines should be used to determine the appropriate action in such circumstances.

A.5.1.1 NFPA 1500 addresses all areas of fire service occupational safety and health and serves as an umbrella document for other specific NFPA fire department safety and health documents. In addition, it also meets the intent of 29 CFR 1910.134.

A.5.2 Emergency incidents can involve operations that vary considerably in their complexity and scale. The control of these incidents depends on the planned, systematic implementation of an effective fireground organization to accomplish identified objectives. Every fire department, regardless of size, needs a proper system to regulate and direct emergency forces and equipment at both routine and major incidents.

A.5.2.2 Incident management systems are designed to provide a standard approach and response to all types of incidents and have been developed and implemented by many fire departments. A basic concept of these systems uses an incremental approach in building a command structure, starting with the first officer arriving at the scene of an incident. The development of the command structure should coincide with the commitment of emergency forces assigned to the situation. The specific methods used by various fire departments differ, but the essential operational objectives remain consistent. The main distinguishing characteristics of the various incident management systems currently employed involve terminology and specific details of organization structures.

Individuals with specific expertise, particularly in highly technical areas, perform some functions best. The fire department should endeavor to have more than one qualified indi-

vidual to perform all essential functions within the incident management system.

A.5.4 The provision and operation of a reliable communications system is essential to the delivery of public fire services. The nature and extent of the system provided varies with the size and nature of the jurisdiction served, the services provided, and other local conditions and preferences.

A fire communications system could serve an individual jurisdiction or multiple jurisdictions. In many cases, a regional system, operating under a valid intergovernmental agreement, provides operational advantages and reduced overall costs as compared with a number of smaller systems serving individual jurisdictions. The benefits could be reflected in a more functional mutual aid system, as well as in operational advantages within the communications system itself.

A.5.4.1 NFPA 1221 covers the time frame from when an alarm is received at a public safety answering point (PSAP) until notification of emergency response units begins. The communications system cannot control the time from the initiation of the event (start of fire, identification of medical problem, etc.) until the emergency is detected and a call is placed to the PSAP or a signal is transmitted from a detection device. Likewise, the fire department cannot initiate a response until the alarm is processed and the appropriate fire department resources are notified. NFPA 1221 requires that 95 percent of alarms received on emergency lines be answered within 15 seconds, and 99 percent of alarms be answered within 40 seconds. It also requires that emergency alarm processing be completed within 60 seconds 80 percent of the time and emergency alarm processing be completed within 106 seconds 95 percent of the time. See Figure A.5.4.1 (a). Where alarms are transferred from the primary PSAP to a secondary answering point or communications center, the transfer procedure must not exceed 30 seconds for 95 percent of all alarms processed. See Figure A.5.4.1 (b).

A.5.5.1 Fire departments, when conducting prefire planning, should use NFPA 1620 for fires and other related emergencies.

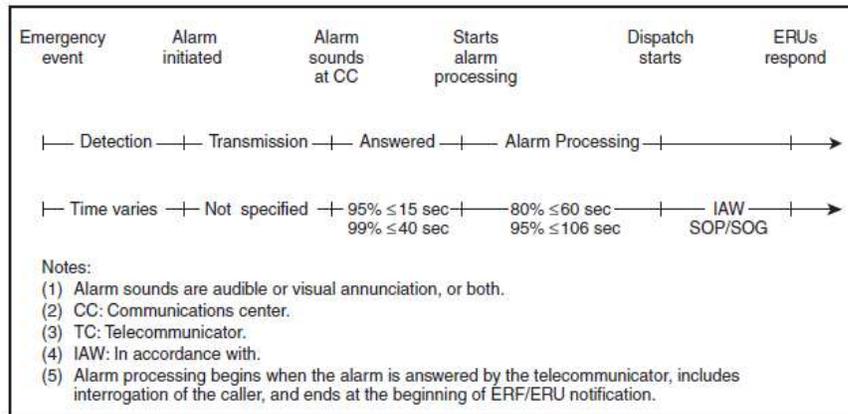


FIGURE A.5.4.1(a) Alarm Time Line Where Primary PSAP Is Communications Center. [1221:Figure A.7.4.1(a)]

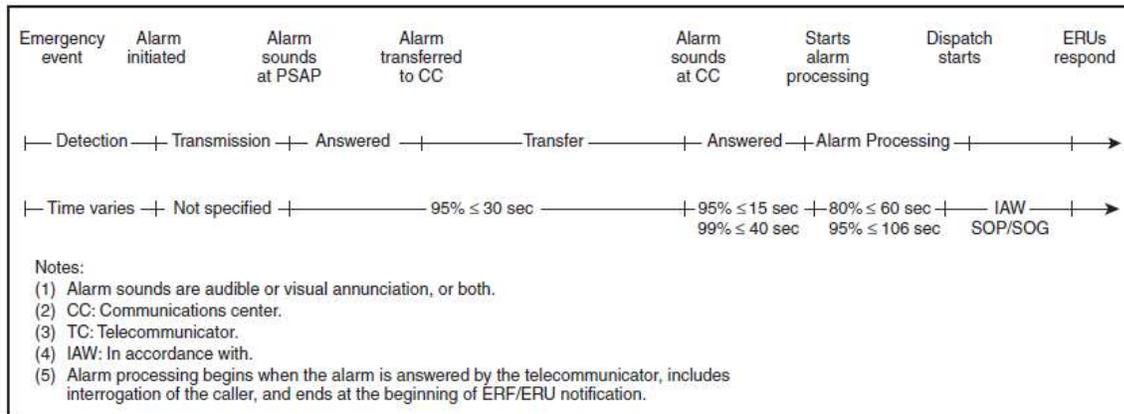


FIGURE A.5.4.1(b) Alarm Time Line Where Primary PSAP Is Other Than Communications Center. [1221:Figure A.7.4.1(b)]

Annex B Risk Management Model

This annex is not a part of the requirements of this NFPA document but is included for informational purposes only.

B.1 This model is used as an example of how a community-wide risk management plan can be utilized to protect both citizens and property. While NFPA 1720 is scoped strictly to focus on deployment, staffing, and service levels, the realization is that this is one component of a total community fire protection planning process. An AHJ can determine that other components could reduce the risks of fire and therefore adopt stronger building and fire prevention codes, enforce those more vigorously, and enhance their public life safety education components. These models are

included for that purpose. Figure B.1 illustrates a fire department process map.

B.1.1 This annex addresses the need for fire departments to develop an overall “defense-in-depth” strategy for the delivery of fire services. The development of such a strategy should include an assessment of the tools available to the fire service for accomplishing the goals of fire safety.

B.1.2 Fire safety objectives can be defined as those ideas that a department aspires to deliver. For example, fire department objectives could include such statements as “Maintain injuries and life/property losses as low as reasonably achievable (community and department).” The accomplishment of this objective should not be left to fire-fighting operations alone. See Figure B.1.2 for fire safety concepts.



FIGURE B.1 Fire Department Process Map.



FIGURE B.1.2 Fire Safety Concepts for Fire Department Operations.

B.1.3 Fire prevention is not simply preventing fire. It is the systematic application of codes, standards, engineering principles, and an understanding of human behavior to achieve the objective of limiting the loss of life and property.

B.1.3.1 As outlined in NFPA 1, fire prevention includes egress, construction design, building services, fire protection, and occupancy. All of these elements work together to provide the occupants and fire department personnel with a level of fire safety not otherwise available.

B.1.3.2 By ensuring that each of these elements is balanced, the fire department can maintain a reasonable level of risk for the community and the department.

B.1.3.3 To provide risk management, the fire department must utilize all of the tools available. In order of preference, those tools are as follows:

- (1) Fire-safe design and construction
- (2) Suppression systems
- (3) Detection systems
- (4) Occupant fire prevention practices
- (5) Fire department-conducted fire-safety inspections
- (6) Fire rescue response

B.1.3.4 A structure designed and constructed to withstand the effects of fire is the most important asset in achieving fire risk management. A structure relying solely on fire rescue response offers the greatest challenge to the occupants and fire department personnel.

B.1.4 Fire impact management is the ability to manage the impact of a fire on occupants and structures. The participation of the fire department in the design, construction, maintenance, and use of a structure provides defense-in-depth against fire losses.

B.1.4.1 Structures that are designed with noncombustible construction, are protected with fire protection systems, and are routinely inspected to ensure appropriate occupant use are most likely to provide the lowest risk levels and therefore are the least difficult to manage.

B.1.4.2 Fire-fighting operations on fully compliant structures for which the fire fighters know the occupancy conditions can be conducted with a plan that commits resources only as necessary to accomplish the pre-established goals.

B.1.4.3 Pre-established goals for each structure define the commitment of resources in order to limit risk to occupants, the structure, and fire department personnel.

Annex C Informational References

C.1 Referenced Publications. The documents or portions thereof listed in this annex are referenced within the informational sections of this standard and are not part of the requirements of this document unless also listed in Chapter 2 for other reasons.

C.1.1 NFPA Publications. National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 1, *Fire Code*, 2012 edition.

NFPA 901, *Standard Classifications for Incident Reporting and Fire Protection Data*, 2011 edition.

NFPA 1221, *Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems*, 2013 edition.

NFPA 1250, *Recommended Practice in Emergency Service Organization Risk Management*, 2010 edition.

NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, 2013 edition.

NFPA 1561, *Standard on Emergency Services Incident Management System*, 2008 edition.

NFPA 1600[®], *Standard on Disaster/Emergency Management and Business Continuity Programs*, 2013 edition.

NFPA 1620, *Recommended Practice for Pre-Incident Planning*, 2010 edition.

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.

REQUIRED MINIMUM TRAINING FOR CONNECTICUT FIRE SERVICES TO MEET STATE REGULATIONS

Firefighting 1910.156(c)	Hazardous Materials Operations Hazardous Materials Response 1910.120(q)(6) Training of Department Responders to a Haz Mat	Command Leaders and Incident Commanders Incident Command and Standard Operating Procedures - HazMat 1910.120(q)(6)(v)	Infectious Disease Control 29 CFR 1910.1030	Confined space 1910.146
<ol style="list-style-type: none"> 1. Training and Education commensurate with duties 2. Prior to work as firefighter 3. Officers have more comprehensive training than members. 	<ol style="list-style-type: none"> 1. (i) Awareness (no set hours). Department takes no action and remains in the cold zone. 2. (ii) Operational (8 hrs). When the Department acts in a defensive mode and does not mitigate (Damping, diking and decontamination is operational level) 3. (iii) Technician (24 hrs). This level mitigates (plug & patch) and uses chemical protective clothing. Note: Must meet specific competencies. List in 1910.120(q)(6) for each type of responder. 	<ol style="list-style-type: none"> 1. Requires 24 hours training equal to operations plus - competencies listed in 120(q)(6)(v)(A-F) <p>ICS courses are a means of meeting this requirement as long as employer specific conditions and plans are also addressed.</p> <p>Note: The standard allows for command to be passed on as higher ranking officers arrive. 120(q)(6)(v) applies to employees who are expected to assume command.</p>	<ol style="list-style-type: none"> 1. Communicable Disease Risk Exposure and Prevention of the Transmission of Bloodborne Pathogens for Emergency Responders <p>TB</p> <ol style="list-style-type: none"> 1. Have a program, training, skin test and respirators if: exposed to active or possible active TB and <ol style="list-style-type: none"> A. Transport them B. Prolonged indoor contact with patient C. High Risk Procedures <p>Note: State EMT, MRT, EMT-P Training covers some elements. Training must be site specific and annual for 1030.</p>	<ol style="list-style-type: none"> 1. Only required for rescue activity. 2. Based on hazards, monitoring and rescue equipment to be used. 3. Annual Training 4. The "employer" must ensure timely, effective rescue where outside service is used. (see appendix "F") <p>The 1910.146 is intended for employers entering spaces to supply their own rescue capability.</p>
<p>1910.156(c)(2) - Training (Frequency)</p> <ol style="list-style-type: none"> 1. At least quarterly for interior 2. Annual for others <p>The following subjects (Examples or Key Elements)</p> <ol style="list-style-type: none"> 1. Safety and Protective Equipment 2. Chemistry of Fire and Fire Behavior 3. Self Contained Breathing Apparatus 4. Fire Streams 5. Hose 6. Pumping Fire Apparatus 7. Ladders 8. Rescue 9. Forcible Entry 10. Ventilation 				
<p>Examples of Training Standards</p> <p>IF S.T.A. ESSENTIALS meet 1910.156(c)</p> <p>F.F.I exceeds or meets this requirement. Training can be classroom and hands on.</p>				

EMERGENCY VEHICLE OPERATIONS

Not required but suggested there be a program in place. It is strongly recommended that a fire department have personnel on the scene of an incident that have at least First Responder certification to provide emergency medical care to any firefighter injured on the scene.

1. The local authority having jurisdiction may require additional training and education. **EXAMPLE:** A fire department may require Responder Certification or Emergency Medical Technician Licensure.
2. Curriculum for firefighting practices will be based upon interior or exterior fire attack principles, practices and procedures. The equipment in the department and the instructor will make this determination. (Training on any special hazards (an industrial location, location with particular hazards), have to be included in training.
3. The Department of Labor and the supporting agencies and organizations encourage each fire department to exceed this minimum training. High standards for training and education, and health and safety are key factors to quality job performance and service to the community. State of Connecticut, Commission on Fire Prevention and Control courses often exceed OSHA requirements.
4. All training must have an evaluation component and participants must pass the evaluation to receive credit for the training. A pass/fail system is adequate. Evaluation instruments and/or activities are to be determined by the instructor based upon the instructional objectives of the class. Training activity must be documented.
5. All training and education must be delivered by an instructor who is capable of delivering subject and trained in the area being taught. (See Appendix A to 1910.156).
6. All training components require annual refresher training of sufficient content and duration needed to maintain competency. Competency can be demonstrated annually in place of refresher training. Means of demonstrating competency must be documented by the Department. Employer could use drills, tests as means of demonstrating competency.
7. Attendance at "state" Fire School could be included as meeting training as long as employer specific conditions are addressed as well.
8. OSHA standards allow flexibility and do not specify that recipients have a certificate. Employer must certify training is done.
9. OSHA does not regulate level of EMS response (i.e., BLS, MRT, EMT, Paramedic, etc.).

Rev. 10/2016ef

Firefighting Practices

29 CFR 1910.156(c) Fire Brigades

1. Training and education commensurate with those duties and functions members are expected to perform, provided before they perform fire emergency activities.
2. Training and education frequently enough to assure each member is able to perform assigned duties and functions satisfactorily and in a safe manner.

All members shall be provided training at least annually. Members who are expected to perform interior structural firefighting shall be provided training at least quarterly.

Hazardous Materials

29 CFR 1910.120(q)(6) and (8) Hazardous Waste Operations and Emergency Response

General Requirements

1. Training shall be based on the duties and function to be performed by each emergency responder. Hazardous Material First Responder Awareness - Individuals who are likely to witness or discover a hazardous substance release and have been trained to initiate an emergency response plan. You can tailor to your operation.
2. Annual refresher training of sufficient content and duration to maintain competencies, or shall demonstrate competencies yearly.
3. 1910.120(q)(1) Emergency response plan. Must cover all elements. Town plan may meet these requirements.
4. 1910.120(q)(3) Requires provision for having a safety officer, air monitoring prior to SCBA removal, back up personnel, first aid support at site, PPE, implementation of decontamination.

EPA 40 CFR Part 311

EPA Regulations are identical to OSHA.

Incident Command System (ICS)

CFR 1910.120(q)(3)(ii) Hazardous Waste Operations and Emergency Response

Requires the implementation of an Incident Command System. Training in ICS is inherent in this requirement. For officers who are expected to be I.C. [see 1910.120(q)(6)(vi)]

Infectious Disease Control

29 CFR 1910.1030 Bloodborne Pathogens

All employees with occupational exposure shall participate in a training program at least annually. Occupational exposure means reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from performance of duties. This covers most, if not all, fire departments in the State of Connecticut.

1910.1030 Requires the following:

1. Written exposure control plan
2. Training
3. PPE
4. HBV vaccinations
5. Post exposure follow up
6. Maintain records of training (3 years)
7. Maintain medical records 30 years

Breathing Apparatus

Must comply with 1910.134

- 1910.134(c) Written respirator program
- 1910.134(e) Medical evaluation
- 1910.134(f)(2) Annual fit test
- 1910.134(g)(1) Facial hair policy - not allowed in face seal area
- 1910.134(g)(2) Written procedures for dangerous atmospheres planning for communications, standby persons equipped for rescue of entrants.
- 1910.134(h) Monthly SCBA inspections
 - Records of inspections
 - Low air alarms
 - 30 minute bottles
 - Cylinders fully charged
 - Current hydrostatic test on cylinders
 - Flow test apparatus as recommended by manufacturer

Other Requirements General

1. 1910.156(d)(1) - Equipment annual inspection and maintenance
 - a. Hose (To NFPA 1962 or equivalent)
 - b. Ground and aerial ladders (To NFPA 1932 and 1914 or equivalent)
2. 1910.156(b)(1) - Organizational statement
3. 1910.156(e)(1) - PPE provided at no cost
4. 1910.156(e)(1-5) - PPE meets 156 or NFPA
5. 1910.147 - Lockout/Tagout. Employee exposure most likely will apply to large department with repair facility
6. 1910.1200 - Employee exposure (site chemicals such as cleaners, fuels)
 - a. (e) Program must be in writing
 - b. (g) Material safety data sheets available to employees
 - c. (h) Training (firefighters may have equivalent through 1910.120 awareness level)
7. 31-371 - OSHA notice posted
8. 31-374 - Forms 300 must be maintained back 5 years. 300A has to be posted every February 1 through April 30.

Maintaining a safe workplace in accordance with all laws is your responsibility. This informational guide is intended to provide a generic non exhaustive overview of CONN-OSHA firefighting standards. This document does not itself alter or determine compliance with any particular CONN-OSHA standard.

Appendix B

Progressive Discipline Policy

Purpose

This procedure will define the areas of authority for officers as it pertains to discipline. The goal of this organization will be to change the employee's behavior, not punish them. The Fire Officer will bring to bear the least severe penalty that is strong enough to convince the employee his/her behavior will not be tolerated.

Informal Talk/Counseling

This is the first step in progressive discipline. This level is appropriate for employees, with good records, who have broken a minor rule. The employee should be told of his/her violation and asked for an explanation. The employee is told to change his/her behavior.

This is handled on the level of the problem (Lieutenant/Fire Fighter, Captain/Lieutenant, or Chief/Captain).

Verbal Warning

This is the second step in progressive discipline. This warning is appropriate when an employee has failed to respond to counseling, the employee is told of the violation, told this is a Verbal Warning, and warned of more severe discipline if his/her behavior does not improve.

The Captain and the Deputy Chief should be notified before issuing a Verbal Warning. There will be cases where an officer must issue a Verbal Warning immediately and will be unable to consult with the Deputy Chief first.

In all cases, the Chain of Command will be utilized, and all levels will be made aware of the situation as soon as practically possible.

Written Warning

This is the third step in progressive discipline. This warning is appropriate when an employee has failed to respond to a Verbal Warning, or when initial behavior gives just cause.

Officers will submit all information, of the offense, to the Deputy Chief in written report form.

the Deputy Chief will issue the Written Warning.

ALL WARNINGS WILL BE ISSUED IN PRIVATE

Further Disciplinary Action

Further disciplinary action will occur at the Chief Officer level. Officers will submit all information, of the offense, to his/her Superior Officer in written report form.

Officers can involve his/her Superior Officer at any level of discipline and should; anytime a warning is going to be Written or higher.

3. How well is the Durham Volunteer Fire Company meeting your personal expectations in this area?

Effectiveness: Excellent Good Average Fair Poor

Comments

Response to Other Emergencies

Other emergencies include motor vehicle accidents, carbon monoxide detector activations, Hazardous material incidents, etc.

1. What is the importance of response to other emergencies?

Importance: Extremely Very Moderately Slightly Not Important

2. How do you personally judge the effectiveness of the Durham Volunteer Fire Company in the area?

3. How well is the Durham Volunteer Fire Company meeting your personal expectations in this area?

Effectiveness: Excellent Good Average Fair Poor

Comments

Fire Prevention and Code Enforcement

In the town of Durham, Fire Prevention and Code Enforcement are done by the Fire Marshal who is a separate entity from the Durham Volunteer Fire Company located in the town hall.

1. What is the importance of fire protection and code enforcement?

Importance: Extremely Very Moderately Slightly Not Important

2. How do you personally judge the effectiveness of the Durham Volunteer Fire Company in the area?

3. How well is the Durham Volunteer Fire Company meeting your personal expectations in this area?

Effectiveness: Excellent Good Average Fair Poor

Comments

Public Fire Safety Education

The Durham Fire Company provides public fire safety education through town functions and school assemblies. What is the importance of public fire safety education?

Importance: Extremely Very Moderately Slightly Not Important

2. How do you personally judge the effectiveness of the Durham Volunteer Fire Company in the area?

3. How well is the Durham Volunteer Fire Company meeting your personal expectations in this area?

Effectiveness: Excellent Good Average Fair Poor

Comments

Effectiveness:	Excellent	Good	Average	Fair	Poor
<i>Comments</i>					

Public Relations

1. What is the importance of public relations?

Importance:	Extremely	Very	Moderately	Slightly	Not Important
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2. How do you personally judge the effectiveness of the Durham Volunteer Fire Company in the area?

3. How well is the Durham Volunteer Fire Company meeting your personal expectations in this area?

Effectiveness:	Excellent	Good	Average	Fair	Poor
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Comments

In the future, the Town of Durham’s financial support for emergency services should be:

Decreasing	Remain the same	Increasing
------------	-----------------	------------

Comments

*If you chose decreasing or increasing do you have specific areas in which you would like to see change?
Please explain.



2014

Town of Durham Emergency Medical Services Strengths, Weaknesses, Opportunities, and Threats Analysis



Prepared by ECHLIN Group Training and Consulting L.L.C.

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Wallingford CT, 06492
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EXECUTIVE SUMMARY

The purpose of this planning exercise is to establish a strategic direction or road map for ensuring the residents of Durham receive a consistent level of emergency medical services. This process is a first step and is not the establishment of a strategic plan. The Town of Durham through its Public Safety Chief's Council should seek to develop and adapt a town wide Public Safety Strategic Plan. The plan should establish very high-level strategic goals that guide both the Durham Volunteer Ambulance Corps and the Durham Volunteer Durham Volunteer Fire Company in the development of their own department level strategic plans. The Public Safety Chief's Council should elicit input from citizens as part of this process. August 14, 2014

The strengths, weaknesses, opportunities and threats analysis were conducted on Thursday August 14, 2014 with the Public Safety Chief's Council at the Durham Town Hall. The emergency medical services system in the Town of Durham was the focus of the guided discussion. Members of the council were engaged in the process and truly professional during the discussion with an obvious desire to achieve excellence in Durham's emergency medical services system. Many positive attributes were identified by the council members with a true sense of caring for the community as an overwhelming theme during the entire discussion. Several of the issues identified as weaknesses were operational in nature and can be resolved with better communication between the Durham Volunteer Ambulance Corps and the Durham Volunteer Fire Department. The group was able to identify several opportunities for improvement and they have been summarized in this report into the following goals:

- Public Safety Strategic Plan - – *The Town of Durham will adopt a public safety strategic plan that ensures each resident receives consistent service in the areas of emergency medical services, fire and rescue services, and law enforcement.*
- Revision of the EMS Plan – *The Town of Durham shall establish a local emergency medical services plan that meets the requirements of Connecticut General Statutes 19a-181b (effective October 1, 2014).*
- Operational Issues – *The Town of Durham Volunteer Ambulance Corps, and the Durham Volunteer Durham Volunteer Fire Company shall identify and resolve operational issues that can be addressed at the leadership level.*

- Opportunity for Agency Collaboration – *The Town of Durham Volunteer Ambulance Corps and Volunteer Durham Volunteer Fire Company shall work in unison to make both organizations more effective and sustainable.*
- Dispatch, Communications and Information Management – *Dispatch, communications, and information management - High quality dispatching services shall be a priority issue for the Town of Durham to maintain effective communications and information management systems.*

Each of these goals is followed by several objectives to be implemented by the Public Safety Chief's Council. In several of the objectives we have recommended that committees be established and report back to the Public Safety Chief's Council. Both the Fire Chief and EMS Chief should delegate the committee work to others in the organization. This will allow the Chiefs to focus on higher strategic issues needed to be addressed by the Public Safety Chief's Council, encourage buy in from agency members, and better utilize the division of labor. One issue identified by both agencies was the unproductive bantering and long-standing historical grievances between the agencies. Promoting collaborative working relationships within committees focused on common issues will begin to break down these long-standing differences. It is obvious these differences have already been minimized at the chief's level due to the working relationship of the Public Safety Chief's Council. Strong leadership by the officers of Durham Volunteer Ambulance Corps and the Durham Volunteer Durham Volunteer Fire Company will be critical to ensure the future success of both organizations. Retaining high quality members is the key to a successful volunteer public safety agency. There are many reasons that volunteers choose to leave a volunteer service, however, poor leadership is most often cited as the primary contributing factor to the decision. Given Durham's long history of volunteerism, providing high quality leadership should be a top priority of both public safety organizations.

A template for an action plan follows the objectives in this report. This report should be used as a working document. The Public Safety Chief's Council can fill in the action plan section including due dates and responsible parties to make sure there is continuous forward progress. There are four addendums provided at the end of this report as samples to help the council implement some of the recommendations contained in this report.

It was a pleasure to work with this group of true professionals. The Town of Durham is extremely fortunate to have so many volunteer professionals willing to give their time and talent to the community so selflessly.

Peter J. Struble Echlin Group

MANDATES

FORMAL MANDATES: The formal mandates are those requirements that are set forth in rules, regulations, policies, ordinances, resolutions, laws, and statutes.

INFORMAL MANDATES: The informal mandates are those expectations of the citizens, and the public safety agencies. They include functions, programs, and services that have been accepted as standard but have not been formally mandated.

FORMAL MANDATES	INFORMAL MANDATES
<ul style="list-style-type: none"> • Connecticut general statutes on municipal requirement for an EMS plan. • OEMS regulations for EMS responder training. • OEMS regulations for operation of a transporting ambulance. • OEMS regulations for primary service area assignment. • Connecticut general statutes on municipal responsibility to provide emergency medical services. • Connecticut general statutes on dispatch pre-arrival instructions • Town of Durham charter-annual budget and municipal accounting practices. 	<ul style="list-style-type: none"> • Tradition of volunteer service for both Durham Volunteer Ambulance Corps and Durham Volunteer Fire Department.

Dedicated staff	Part of the community
High quality of care	Patient satisfaction
Good response time	Close/local
Training	Good relationship with Middlesex paramedics
Teamwork	Professionalism
Willingness to work with many community entities	Communication
Durham Volunteer Fire Company supplemental R-1	Unified planning team/command
Good equipment	Supplemental R-1 responsive to requests
Preparedness planning	Financial support of system by town
Years, longevity, and depth of experience	Recruiting
Leadership of all organizations	Good relationships with state and region organizations
Strong mutual aid support	Willingness to consider new ideas and changes
Support from board of selectmen and finance	Public access AEDs
Stipend Program	Tax Abatement

STRENGTH, WEAKNESSES, OPPORTUNITIES AND THREAT ANALYSIS

Strengths

Weaknesses

Passed calls	Lack of second vehicle
Unreliable ALS	Old ambulance
Long response for mutual aid	Inconsistent ALS psa model
Cost of dispatch services	Quality of dispatch services
Joint training EMS and fire	Lack of radio communication between departments
Retention of staff	Recruitment
Inefficient utilization of medically trained personnel	Lack of communication on status of dual members

Daytime staffing	Not enough dual members
Over response to scenes	Lack of responder certification visibility
Inadequate facility space	Sometimes poor relations between departments
Generational differences	Goals and responsibilities of each agency
Unproductive bantering and criticism	Holding on to history and grudges
Call reviews QI/QA	Multiple agencies doing EMS (Unity of command)
Lack of clarity in town's role in public safety	PIO training and identification
Lack of patient care transfer protocol	Lack of clear command and control on-scene (ICS)
Issues with fire police	Public information/education
Understanding of stipend program	Public relations
HIPPA issues (education/understanding)	EMS is not in the town charter
Different policies between agencies (disciplinary/probationary period)	Cancellation of additional resources
Responder competency (of some) – lack of system for assurance that is fair and consistent	Lack of hard data (dispatch issue)
Lack of performance measurements	Lack of periodic (monthly) activity report

Opportunities

Identify operational issues that can be changed at the leadership level to resolve issues	Dispatch must become a priority issue at the chief level
Opportunity for agencies to work together and in unison to make both organizations stronger	Formalizing relationships through agreements contracts, charter, etc.
Public safety strategic plan	Revision of EMS plan
Recruitment and retention	Utilization of space facilities improvement plan through budgeting and design
Unified training plan	

Threats

Fire and EMS members	Valley Shore Dispatch
Middlesex Hospital	Middlesex Hospital Paramedics
Healthcare industry/cost	Residents/Tax-Payers
Fire, EMS, and town leadership	

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GOALS AND OBJECTIVES

GOAL 1:

Public Safety Strategic Plan – The Town of Durham will adopt a public safety strategic plan that ensures each resident receives consistent service in the areas of emergency medical services, fire and rescue services, and law enforcement.

Operational Objective 1a: The Town of Durham public safety chief’s council shall develop high-level strategic goals that will serve to guide the Durham Volunteer Ambulance Corps and the Durham Volunteer Durham Volunteer Fire Company in the establishment of their own organizational level plans.

Project Number	Project Action Plan	Completion Date

Operational Objective 1b: The Town of Durham, the Durham Volunteer Ambulance Corps, and the Durham Volunteer Durham Volunteer Fire Company shall formalize relationships through agreements, contracts, and charter changes as necessary to be a part of the public safety strategic plan.

Project Number	Project Action Plan	Completion Date

Operational Objective 1c: The Town of Durham, the Durham Volunteer Ambulance Corps, and the Durham Volunteer Durham Volunteer Fire Company shall establish a facilities and equipment improvement plan for public safety needs through budgeting and design to be a part of the public safety strategic plan.

Project Number	Project Action Plan	Completion Date

Operational Objective 1d: The Town of Durham, Connecticut State Police, the Durham Volunteer Ambulance Corps, and the Durham Volunteer Durham Volunteer Fire Company will appoint and establish (a) public information officer(s) and clear guidelines that meet each agency’s expectations for public information dissemination. Guidelines shall also be established for notification of key members of the Town of Durham Public Safety Chief’s Council for timely dissemination of information during ongoing major events.

Project Number	Project Action Plan	Completion Date

GOAL 2:

Revision of the EMS plan – The Town of Durham shall establish a local emergency medical services plan that meets the requirements of Connecticut General Statutes 19a-181b (effective October 1, 2014).

Operational Objective 2a: The Town of Durham Public Safety Chief’s Council shall review the current emergency medical services plan and ensure it identifies the following EMS levels; public safety answering point, an EMS agency for initial response, basic ambulance service, advanced life support service, mutual aid call arrangements, and any supplemental responders.

Project Number	Project Action Plan	Completion Date
		done

Operational Objective 2b: The Town of Durham Public Safety Chief’s Council shall establish performance standards for each EMS level of the Town of Durham’s emergency medical services system.

Project Number	Project Action Plan	Completion Date

Operational Objective 2c: The Town of Durham Public Safety Chief’s Council shall establish written agreements with each EMS level of the Town of Durham’s emergency medical services system.

Project Number	Project Action Plan	Completion Date

Operational Objective 2d: The Town of Durham Volunteer Ambulance Corps and the Durham Volunteer Durham Volunteer Fire Company supplemental first responder service should include provisions in the EMS plan for quality assurance and improvement.

Project Number	Project Action Plan	Completion Date

GOAL 3:

Operational Issues – The Town of Durham Volunteer Ambulance Corps, and the Durham Volunteer Durham Volunteer Fire Company shall identify and resolve operational issues that can be addressed at the leadership level.

Operational Objective 3a: The fire and EMS service Chiefs shall create a joint committee to study and make recommendations to the Chief’s Council for changes to on scene operational procedures and protocols to resolve differences between the two organizations (including, but not limited to, ICS, patient care transfer protocol, responder certification visibility, on scene resource management, etc.).

Project Number	Project Action Plan	Completion Date

Operational Objective 3b: The fire and EMS service chiefs shall create a joint committee to study and make recommendations to the Chief’s Council for changes to administrative functions and procedures to resolve differences between the two organizations (including, but not limited to, disciplinary policies, probationary policies, etc.).

Project Number	Project Action Plan	Completion Date

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GOAL 4:

Opportunity for agency collaboration – The Town of Durham Volunteer Ambulance Corps and Volunteer Durham Volunteer Fire Company shall work in unison to make both organizations more effective and sustainable.

Operational Objective 4a: The Town of Durham Volunteer Ambulance Corps and Volunteer Durham Volunteer Fire Company shall collaborate in a joint recruitment and retention committee to identify and establish clear recruitment and retention goals, strategies, and guidelines (including concrete guidelines and goals for dual membership). Recommendations should be forwarded to the Chief’s Council for review and then to the individual department memberships for adoption.

Project Number	Project Action Plan	Completion Date

Operational Objective 4b: The Town of Durham Volunteer Ambulance Corps and Volunteer Durham Volunteer Fire Company shall collaborate in a joint training and education committee to identify and establish training goals common to both disciplines (including, but not limited to, SMART triage, HIPPA, refresher training, etc.). Recommendations should be forwarded to the Chief’s Council for review and then to the individual department memberships for adoption.

Project Number	Project Action Plan	Completion Date

GOAL 5:

Dispatch, communications, and information management - High quality dispatching services shall be a priority issue for the Town of Durham to maintain effective communications and information management systems.

Operational Objective 5a: The Chief’s Council shall establish a needs assessment of what dispatch services are necessary for each agency to perform at its highest level (including, but not limited to, EMS and fire dispatching protocols, accuracy of dispatching times, call handling accuracy, and radio equipment infrastructure, etc.). The departments should clearly communicate those needs to the current dispatching agency and ultimately include such details in a written contract.

Project Number	Project Action Plan	Completion Date

Operational Objective 5b: The Town of Durham Volunteer Durham Volunteer Fire Company and Volunteer Ambulance Corps shall produce a monthly status report summarizing agency activities, and adherence to established performance standards.

Project Number	Project Action Plan	Completion Date

Addendum A

Examples of high-level strategic goals for Public Safety Strategic Plan

- Develop and implement fiscal sustainability policies to support core services that proactively ensure the health, safety and welfare of our citizens, attract, develop, and retain a high performing volunteer workforce, and fund infrastructure needs.
- Ensure residents of the Town of Durham receive emergency medical and fire services at a level equal to or greater than residents in similarly sized Connecticut communities.

Addendum B
Sample Agreements and Contracts

**AGREEMENT BETWEEN THE TOWN OF WALLINGFORD
AND
HUNTER'S AMBULANCE SERVICE, INC.**

THIS AGREEMENT is entered into this 12th day of June 2012 by and between the Town of Wallingford, a municipal corporation located in the County of New Haven and State of Connecticut (hereinafter referred to as the "Town"), and Hunter's Ambulance Service, Inc. a licensed ambulance service within the State of Connecticut (hereinafter referred to as Hunter's).

1. The term of this Agreement shall extend from June 12, 2012 to June 12, 2014, unless sooner terminated as hereinafter provided or extended by written agreement with both parties.

2. Hunter's agrees it will furnish at no cost to the Town, back up emergency medical services at the paramedic level on a twenty-four hour/seven days a week/365 days a year basis when requested and in conformance with standards contained in this agreement.

3. In furtherance of Paragraph 2 above, Hunter's shall supply the Town with one fully equipped ambulance at all times, to be stationed in a mutually acceptable location. Ambulance shall be staffed in conformance with State of Connecticut regulations. If private non-emergency

calls result in transport outside of Town, cover must be provided. If emergency calls for response in Town result in transport outside of Town, best efforts must be made to cover or return to service in Town.

4. Hunter's shall maintain a twelve (12) minute or less response time standard for at least 90% of all requests for Echo, Delta, and Charlie priority emergency medical services and a fifteen (15) minute or less response time for at least 90% of all requests for Bravo and Alpha priority emergency medical services, except as noted below. Response time standards shall be measured utilizing data obtained from Hunter's computer aided dispatch center and may be compared with the Town computer aided dispatch system. Response time is measured from the time Hunter's receives the call from C-Med to the time of arrival on the emergency scene. When Hunter's unit of response to an emergency under this agreement is less than the Paramedic level (EMT-B or EMT-IV), AND the Wallingford Durham Volunteer Fire Company Paramedics are not available, AND the call requires Paramedic intervention based on EMD standards or condition of the patient, Hunter's shall coordinate Paramedic Intercept services through its dispatch center, or through C-med depending on 1.) The availability of Paramedics in Hunter's system, and 2.) The direction of travel the transporting ambulance. Exceptions to these standards are for system overload, defined as four or more ongoing emergency medical calls in Town (including Wallingford Fire Dept. Ambulances) in the same hour, adverse roadway

conditions due to weather which reduce safe traveling speeds (including, but not limited to: snow, rain and fog), and any other mutually agreed upon circumstances.

5. Hunter's shall also provide at no cost standby at emergency scenes at the request of Police/Fire Chief or designee. The standby unit will be dedicated to the emergency scene while there is a condition that is immediately dangerous to life and health.

6. Hunter's shall provide the Town, upon written request, copies of all records, recordings, documents and/or testimony pertaining to any and all radio, telephone, or written documentation on the Town's calls that involve the use of Hunter's personnel.

7. Hunter's shall maintain Medical Malpractice Liability Insurance coverage and Automobile Liability coverage in an amount not less than amounts established by State of Connecticut laws and regulations. The Town shall be named as an "additional insured" on each such policy. Hunter's will indemnify and hold the Town harmless from any and all claims including the expenditure of reasonable attorney's fees that may arise out of the negligence or willful actions of Hunter's in connection with the provisions of the services provided for in this Agreement.

8. At all times Hunter's is an independent contractor under the terms of this Agreement.

9. This agreement cannot be transferred, assigned, or otherwise conveyed to any other party than Hunter's without the written approval of the Town.

10. It is expressly agreed that this written contract embodies the entire agreement of the parties.

11. This Agreement may be terminated by either party upon 60 days written notice sent by first class U.S. Mail to the respective parties:

Mutual Aid Agreement

In the interest of promoting the safety and general welfare of the public in the Town of Wallingford and the Town of North Branford and providing fire protection and other related emergency services in those communities, the undersigned Mayor of said Town of Wallingford and being duly authorized and empowered, agree; that upon formal request from the respective Fire Chief of each Town or his authorized representative, each said Town will dispatch mutual aid manpower and/or equipment to the other in response to such call.

Each mutual aid response shall be the financial responsibility of the responding town subject to such additional or amending agreements to be formulated by the parties hereto or their legal successors.

Each party to this Agreement waives all claims against all other parties to this Agreement for compensation for any loss, damage, personal injury, or death occurring to personnel and/or equipment as a consequence of the performance of this agreement.

Each party to this Agreement provides ambulance service consistent with the State of Connecticut Health Department regulations. Each party hereto shall procure and maintain, at its sole and exclusive expense, insurance coverage, including: comprehensive liability, personal injury, property damage, worker's compensation, auto, and, if applicable, emergency medical service professional liability. Each town will provide a certificate of insurance naming the other town as additional insured for the use of each other's ambulances in the event it becomes necessary to loan such equipment.

Approved: Town of Wallingford, Connecticut _____, 2012
By: _____, Mayor
By: _____
By: _____
Town of _____ North Branford
By: _____

Addendum C

Sample Performance Reports

The data in this report is taken directly from EMS Charts Software and can be reported out monthly, quarterly or annually. Additional categories can be added such as cardiac arrest, trauma, or seizure. Any data element under the EMTs Clinical Impression could be reported out. Reports should not contain addresses and names to ensure HIPPA compliance.

FIRE/EMS TRANSPORT DIVISION PERFORMANCE REPORT

DATE RANGE Fiscal Year July 1 2012 to June 30, 2013

OUTCOMES

	Total	
Treated and transported By WFD Ambulance		3153 (87% of all emergency transports excluding Acuity)
Treated, Transferred to CMED		<u>488 (13% of all emergency transports excluding Acuity)</u>
Total		3641
Treated, Transferred to CMED with WFD Medic Onboard 8:00am to 8:00pm		52
Treated, Transferred to CMED with WFD Medic Onboard 8:00pm to 8:00am		27
Treated, Refused Transport		133
Patient Refused Care		398
Canceled		70
Dead at Scene		44
No Patient Found		<u>107</u>
No Data		
Total		4393 (4% increase in Call Volume from FY11/12)

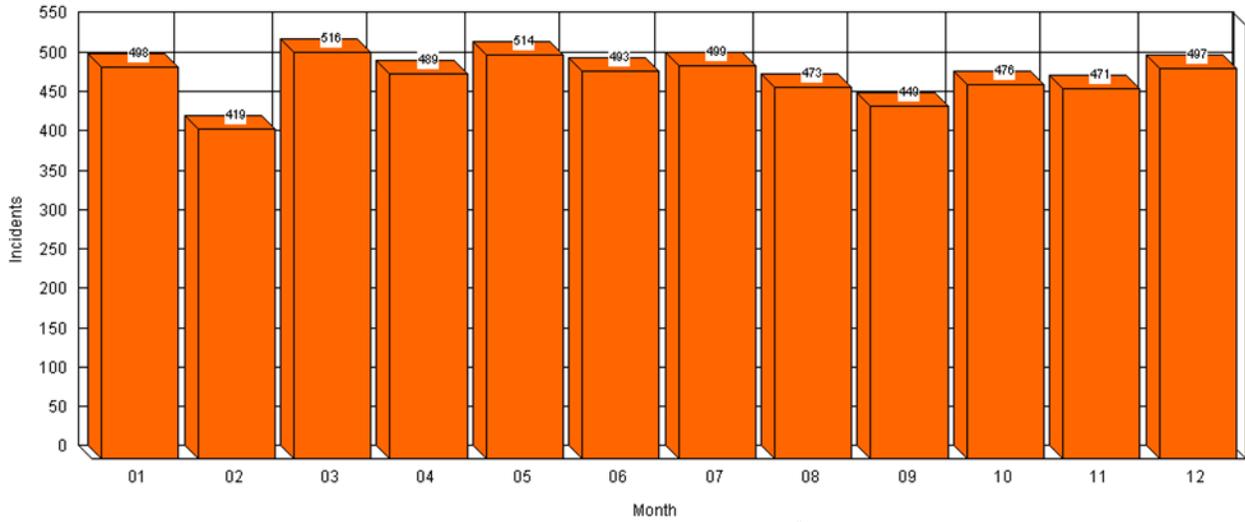
Unit-Hour Utilization Efficiency Measurements

Unit-hour utilization (UHU) is often used as a primary measure of EMS unit workload. UHU is the total number of unit-minutes per hour that units are in service. There is some evidence to suggest that a UHU of approximately 0.42 represents the optimum utilization for responding to emergency calls, balancing availability, and productivity. Too far above 0.42 and personnel are arguably overworked, and the unit availability is low (i.e., often busy when a call arrives). Too far below 0.42 and the cost-effectiveness of the unit could be questioned. Wallingford Fire Department previously operated one ambulance 24 hours per day. The highest call volume occurred between 8:00 a.m. and 8:00 p.m. The unit-hour utilization during that period was .68 UHU. The ambulance was committed 68% (41 minutes) out of every hour; therefore, available to respond an average of only 19 minutes out of every hour during the daytime into the early evening.

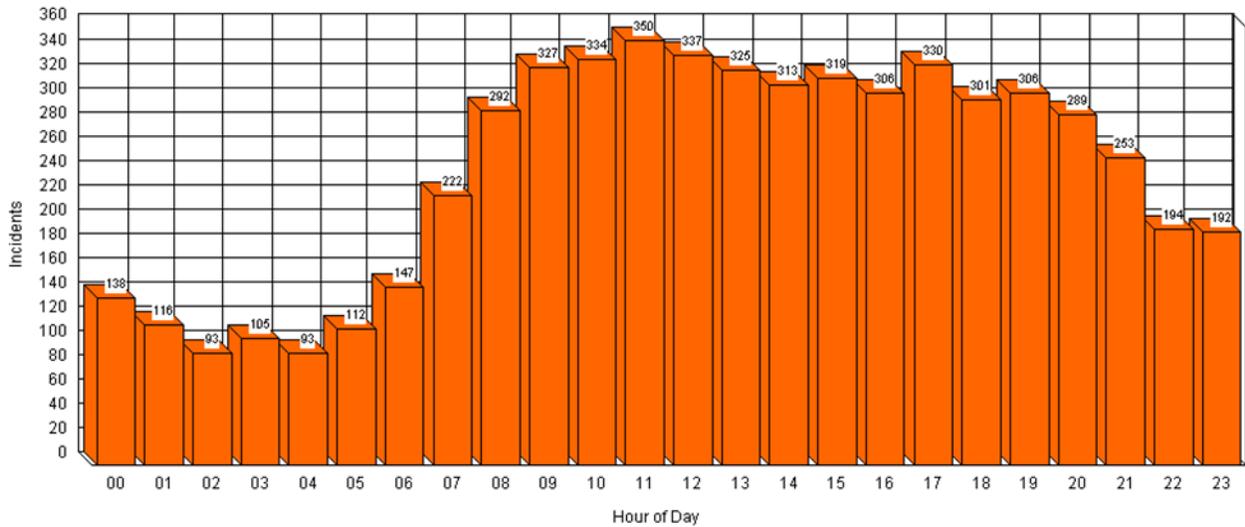
UHU Statistics for
8:00 am - 8:00 pm **UNH .27 for each WFD Transport Unit**
8:00 pm - 8:00 am **UHU .19 for one WFD Transport Unit**

The following reports are included as part of the FireHouse Software Program

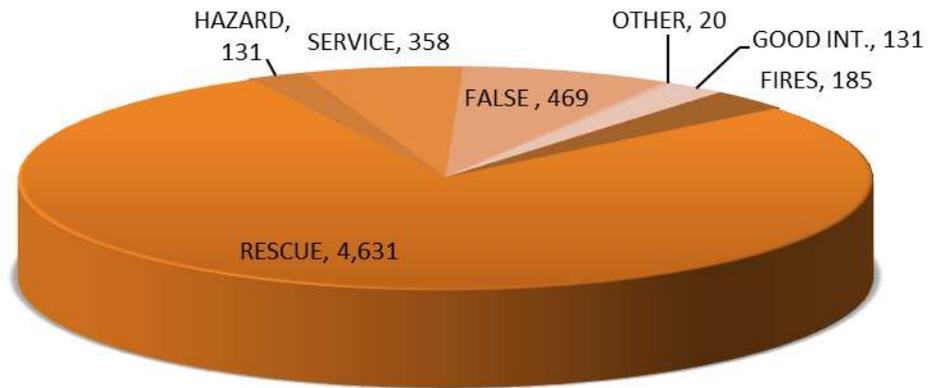
WFD 2010 Responses By Month



WFD Responses by Hour of Day



2010 RESPONSES BY INCIDENT TYPE



TOTAL RESPONSES 5,794
Plus an additional 131 Good Intention Calls

Addendum D
Sample Performance Standard for EMS

This performance standard is from Iowa and takes into consideration both national standards and the challenges of a rural communities capabilities.



Appendix C: Durham Volunteer Ambulance Expense Budget Proforma

DVAC	Staffing Model				Budget Projection		
	Hours	# staff	# days	Rate	Weekly	Annual	
Direct Labor							
Ambulance # 1	12	2	5	\$25.00	\$ 3,000.00	\$ 156,000.00	24/7/365
Night and Weekend Crew Coverage					\$ -	\$ 25,000.00	
					\$ -	\$ -	
Chief of EMS	Stipend				\$ 75.00	\$ 3,900.00	
Deputy Chief	Stipend				\$ 50.00	\$ 2,600.00	
Secretary/Payroll	Stipend				\$ 50.00	\$ 2,600.00	
Treasurer	Stipend				\$ 50.00	\$ 2,600.00	
	0	0	0	\$ -	\$ -	\$ -	
Total direct labor					\$ 3,225.00	\$ 192,700.00	
Non-labor costs							
Advertising & promotion							
Recruit Physicals						\$ 5,129.00	
WasteRemoval3000.0							
Books & training						\$ 1,330.00	
Capital replacement Ambulance						\$ 5,800.00	
Valley Shore dispatch fee							town to pay
Consulting services QA						\$ 1,000.00	
Fuel / Oil							Covered by Town
Insurance - Workers Comp							Covered by Town
Insurance General Liability							Covered by Town
Meals & entertainment						\$ 2,135.75	
Medical supplies						\$ 5,500.00	
Medical control /QA services						\$ 1,200.00	
Office and other supplies						\$ 1,200.00	
Payroll taxes						\$ 1,521.00	
Postage						\$ 322.43	
Printing							
ProfessionalFees (AC/Leg/Billing)						\$ 14,270.00	
Rent expense/Building Maint.							Covered by the Town
Service contracts - payroll						\$ 5,000.00	
Telephone / Utilities						\$ 1,152.00	
Uniforms						\$ 10,000.00	
Vehicle Maintenance Cost						\$ 2,000.00	
Total Non-Labor						\$ 2,000.00	
Total operations expense						\$ 194,700.00	
Town Contribution							
Fair Association		\$ 6,500					
Estimated billing revenue		\$ 163,663			Profit/loss	\$ (31,037)	all red discretionary spending
Cost per billable call				500		\$ 389.40	Cost per call
Population - Primary	7,388						
Population - Secondary	0						
Price per capita - ALL	\$ 26.35						

**TOWN OF DURHAM
FIRE AND EMERGENCY MEDICAL SERVICES
STRATEGIC PLANNING PROJECT
COMMUNITY SURVEY RESULTS**



Submitted July 5, 2019
By

The Guercia Group,
LLC 17 North Branford
Rd Wallingford, CT
06492
860-471-1455

The content of this report is the property of the Town of Durham / Durham EMS/Fire, and is considered proprietary in nature. The information contained herein is to be used for the internal business decisions of the Town of Durham may not be utilized, released, conveyed, copied or reproduced in any fashion whatsoever without the expressed written consent of the Town of Durham and the Durham EMS Commission.



To: Town of Durham and Durham EMS Commission

From: Lenny Guercia

Date : July 15, 2019

RE: Community Survey Results

We encourage you to read both the critique and praise with an open mind, every complaint is an opportunity to improve your leadership abilities. This feedback, as well as the opportunities outlined in our report, will help to craft a great future for the organization.

On June 10, 2019 we emailed customized community surveys to the residents of Durham. The surveys were due July 1, 2019

To date we have received

163 Responses

Summary of Results:

- The longevity of residents is extremely diverse. More than 71% of residents living in Town for more than 14 years.
 - 68% of residents have had to use Fire and or EMS services
 - 85% used EMS and 41% used Fire Services
-
-

- Overall level of professionalism is outlined below.

Town of Durham Survey

	POOR	NEEDS IMPROVEMENT	BASICALLY OK	VERY GOOD	EXCELLENT	NOT ENOUGH INTERACTION TO JUDGE	TOTAL
911 Provided pre-arrival instruction	3.76% 5	6.77% 9	12.03% 16	19.55% 26	27.07% 36	30.83% 41	133
Timeliness of Response	8.21% 11	11.94% 16	9.70% 13	20.15% 27	34.33% 46	15.67% 21	134
Professionalism of Rescuers	1.49% 2	6.72% 9	12.69% 17	17.16% 23	45.52% 61	16.42% 22	134
Quality of Care Provided	1.52% 2	6.82% 9	9.85% 13	20.45% 27	43.18% 57	18.18% 24	132
Issues with billing for ambulance services	4.80% 6	7.20% 9	8.00% 10	7.20% 9	16.80% 21	56.00% 70	125
Suppressed Fire	0.93% 1	0.00% 0	2.80% 3	6.54% 7	19.63% 21	70.09% 75	107

- Rating the importance of services delivered.

	EXTREMELY	VERY	MODERATELY	SLIGHTLY	NOT IMPORTANT	TOTAL	WEIGHTED AVERAGE
Response Time to Emergencies (arrive in less than 5 minutes)	71.25% 114	20.00% 32	7.50% 12	0.63% 1	0.63% 1	160	1.39
Fire Safety Education	40.76% 64	26.75% 42	21.66% 34	6.37% 10	4.46% 7	157	2.07
Fire Suppression	62.66% 99	25.95% 41	7.59% 12	2.53% 4	1.27% 2	158	1.54
Emergency Medical Services provided	76.58% 121	17.72% 28	5.70% 9	0.00% 0	0.00% 0	158	1.29
Cost Effectiveness of Service Delivery (budget)	39.62% 63	27.04% 43	25.16% 40	5.03% 8	3.14% 5	159	2.05

Sample of Important Feedback Noted on the survey:

“Both organizations tried to hide money, discipline, alcohol/drug use by members.” “Combining Emergency Services”

“Durham EMS Does Not Plan Well”

“Durham EMS is only concerned with making money and not the towns people”

Appendix E: Public Safety Administrator Job Description

Town of Farmington

Title: Director of Fire and Rescue Services
Department: Fire

Date: October 2011
EEO Class:

POSITION SUMMARY:

This is a highly responsible, professional and managerial position involving the direction of a municipal combination volunteer and career fire department.

GENERAL DUTIES:

Duties include planning and directing department members and staff toward the goals and objectives of the Fire Department, managing the budget, and coordinating all non-fire ground operations of the Fire Department.

Work involves responsibility for coordinating activities with other Town Departments, other agencies, and other organizations.

Administrative work involving fire, rescue, and emergency medical services administration, record keeping, computer knowledge, management analysis, and policy development.

Work involves responsibility in budget preparation. Responsible for purchasing decisions, fleet management programs, and compliance with applicable codes and regulations. Work will involve maintaining training records, and scheduling ongoing training requirements. Responsible for overseeing the completion of incident reports. This work requires that the employee have considerable knowledge of general Durham Volunteer Fire Company administration.

Preparation of the annual budget and the ongoing monitoring and control of department expenditures.

Preparation of financial statements and reports. Participates and makes recommendations to the Town Manager in organizational and management review matters. Conducts research into policy options and makes policy recommendations to the Town Manager.

Maintains records, scheduling training requirements, and completes and maintains fire reports.

Coordinates with the Town Manager's Office and the Volunteer Fire Chiefs for the screening of new volunteer fire fighters, entrance physical exams, and future training requirements.

Serves as the Deputy Fire Marshal.

Performs related work as required.

SUPERVISION RECEIVED:

Works under the general direction of the Town Manager.

SUPERVISION EXERCISED:

Provides general supervision to all Durham Volunteer Fire Company Staff and Members, including Career Fire Fighters, Part Time Fire Fighters, Volunteer Fire Fighters, Volunteer Emergency Medical Technicians, Volunteer Officers, and Volunteer Chiefs.

KNOWLEDGE, SKILLS AND ABILITY:

Thorough knowledge of fire and emergency medical services administration principles and practices.

Considerable knowledge of public administration principles and practices as applied to departmental budgeting and financial management.

Considerable ability to administer policies and procedures at the department level including goals, objectives, planning, financial management, decision-making, and report development and writing.

Considerable ability to supervise the work of a Town Department through the Volunteer Fire Chiefs and subordinate supervisors/officers and Career Fire Fighters.

Considerable knowledge of procurement and purchasing techniques and practices.

Considerable ability to communicate orally and in writing, and to coordinate administrative activities.

Strong ability to administer policies and procedures including scheduling, budgetary work, day-to-day problem solving and report writing.

Thorough ability to work with a large group and to establish and maintain an effective working relationship.

Considerable ability to maintain records, budget, and training requirements.

Considerable ability to effectively manage change.

PHYSICAL DEMANDS:

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 perform the essential functions. While performing the duties of this job, the employee is regularly required to use hands to handle, feel, and operate office equipment, or controls, and reach with hands and arms. The employee is frequently required to sit. The employee is occasionally required to walk, talk, hear, sit, and smell. Specific vision abilities required by this job include close vision and the ability to adjust focus.

QUALIFICATIONS:

A Bachelor's Degree from a recognized college or university in public administration, or a related field, plus a minimum of six years of Durham Volunteer Fire Company and/or town government experience with a minimum of three years supervisory experience, or an equivalent combination of education and qualifying experience substituting on a year-for-year basis. Three years of fire ground experience.

Experience with volunteer fire departments preferred.

Connecticut Fire Officer I or higher certification preferred.

Master's Degree in Public Administration or Fire Science or related field preferred.

Connecticut Certified Fire Marshal preferred.

Connecticut Fire Service Instructor I or higher Certification Preferred

Connecticut Emergency Medical Services Instructor Certification Preferred

SPECIAL REQUIREMENTS:

Valid Connecticut Driver's License.

ⁱ NFPA 1221 Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems, 2019 Edition - Chapter 7 Operations

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