

STANDARDS OF COVER ANALYSIS



PORTSMOUTH, NH FIRE DEPARTMENT

JUNE 2016

EXECUTIVE SUMMARY

The Portsmouth Fire Department is a full-time, career fire and emergency services organization that serves the City of Portsmouth, New Hampshire. The city occupies 15.64 miles and is part of the larger seacoast region of the state. A historic seaport and popular summer tourist destination, Portsmouth is a diverse community made up of residential, commercial, industrial, retail, cultural, recreational and service-related occupancies.

History, tradition, and experience has influenced how fire departments provide services to a community. Many times fire stations are built using this design and staffing is often determined by what the local fire chief has perceived is needed or required. However, this process of producing a Standards of Cover document has driven the Portsmouth Fire Department to complete a community risk assessment and analysis to define and compare the community's needs against national models and standards. It has enabled the department to establish response and deployment policies based on identified and anticipated risks. It also provides performance measures and accountability in carrying out those policies. In this document are the facts, figures, measures and accountability for the delivery of emergency services by the Portsmouth Fire Department.

The ability to provide emergency services and the quality of how these services are provided can be measured by the standards set in this document. The department will need to continue to monitor the changes in the community, along with the changes in risks and future service demands in order for the department's Standards of Cover document to remain relevant and applicable.

INTRODUCTION

This report serves as the Portsmouth Fire Department Integrated Risk Management Plan: “Standards of Cover” document. The Commission of Fire Accreditation International (CFAI) defines the process, known as “deployment analysis,” as a written procedure which determines the distribution and concentration of fixed and mobile resources of an organization. The purpose for completing such a document is to assist the department in ensuring a safe and effective response force for fire suppression, emergency medical services (EMS), and specialty response situations in addition to homeland security issues.

COMMUNITY OVERVIEW

The City of Portsmouth, New Hampshire is located in eastern Rockingham County along the Piscataqua River. The city is bordered to the north east by the State of Maine. The area was settled in 1623 and the city was incorporated in 1849. The city occupies 15.64 miles and is part of the larger seacoast region of the state. According to the web site PortsmouthNH.com (2012), the geographic location, historic past and cultural strength of Portsmouth regularly lands it on various "best places to live" lists.

According to the most recent U.S. Census, the population of Portsmouth is 21,440. Regarding social and housing characteristics, most of the population is white at 91.5% and the median value of owner-occupied housing units in the city from 2009-2013 is \$327,900. The median age of the residents is 40.3. The median household income is \$64,577 and the mean is \$81,288. Unemployment is at 4.6% and of those over 16 years of age, 74% are in the labor force. Seventy-eight percent of those in the workforce are employed by private businesses and 14.2% are government employees. The five top employers for 2012 in Portsmouth are 1) the U.S. Department of State Consular Center at 1380 employees, 2) the City of Portsmouth at 1339, 3) Liberty Mutual at 1013, 4) Lonza Biologics at 660, and 5) John Hancock with 400 employees. The land area is 15.6 square miles and the population density is 1,361 people per square mile.

Portsmouth has had a Council-Manager form of government since 1947. The city manager is an appointed official who serves at the pleasure of the nine-member city council. Among other duties the manager advises the council in a non-voting capacity. The manager is the head of the

local government and oversees the operations of all city departments. In Portsmouth, the police and fire departments are overseen by independently elected three person commissions. The City of Portsmouth's fiscal year begins on July 1 of each year and ends the following June 30. The City Charter requires the City Manager to submit a recommended capital improvement plan three months prior to the submission date of the fiscal year recommended budget (usually around January or February). The fiscal year recommended budget must be submitted to the City Council a minimum of 45 days before the start of the fiscal year. Most years this is done on or before May 15. The budget, which includes the general fund and enterprise funds, is prepared and presented by department and function. Activities of the general fund and enterprise funds are included in the annual appropriated budget. Project length financial plans are adopted for the capital project funds. The City ensures compliance with legal provisions contained within the annual appropriated budget as approved by the City Council by use of budgetary controls. An example is the maintenance of an encumbrance accounting system; that is encumbered amounts being carried over at year-end. The City Manager, with the approval of the City Council, may also transfer all or a portion of any unencumbered balance from one department to another.

As required by City Charter, the City Council must adopt a budget by June 30. If for some reason the City Council fails to take any action or adopt the proposed budget on or before that date, the budget submitted by the City Manager is the adopted budget. This method, according to the Charter, is deemed to be adopted by City Council. Once the budget is adopted there can be no further appropriations made for any purposes unless voted by a two-thirds majority of the City Council. This must be preceded by a public hearing.

The City of Portsmouth utilizes a combination of program and performance budgeting. Each department submits a budget based on stated service levels, goals, and objectives. When proposed to the City Manager, service levels and the overall budget are considered within the budgetary and service goals of the City Council. For example, for FY 14, the City Council had set a goal of a 4.0% or less overall budget increase for each city department. After the departments submit their budget to the City Manager, it becomes his budget, at which time he may exercise discretion in adjusting individual lines. This is not the case when his budget is submitted to the City Council. Although they may evaluate each department's proposed budget line-by-line, they

do not have the ability to reduce or add to specific lines (objects). What they can exercise, however, is adjusting the “bottom line”.

DEPARTMENT OVERVIEW

The Portsmouth Fire Department (PFD) is a full-time, career fire and emergency services organization that serves the City of Portsmouth, New Hampshire. Heavy tourism and a healthy work force increases the service population of the PFD. The Department is operated by a three-member Board of Fire Commissioners under a Council / Manager form of Government. The fire department has 44 firefighters, 12 officers, 1 fire prevention officer, 2 deputy chiefs, 1 chief, and 1 executive assistant and 1 part-time secretary. Labor contracts governing personnel policies and practices are negotiated with the Board of Fire Commissioners and approved by the Portsmouth City Council.

MISSION STATEMENT

Provide quality emergency, life safety, and prevention services for our citizens, businesses and visitors, with the highest level of valor, integrity, commitment, teamwork, and community involvement.

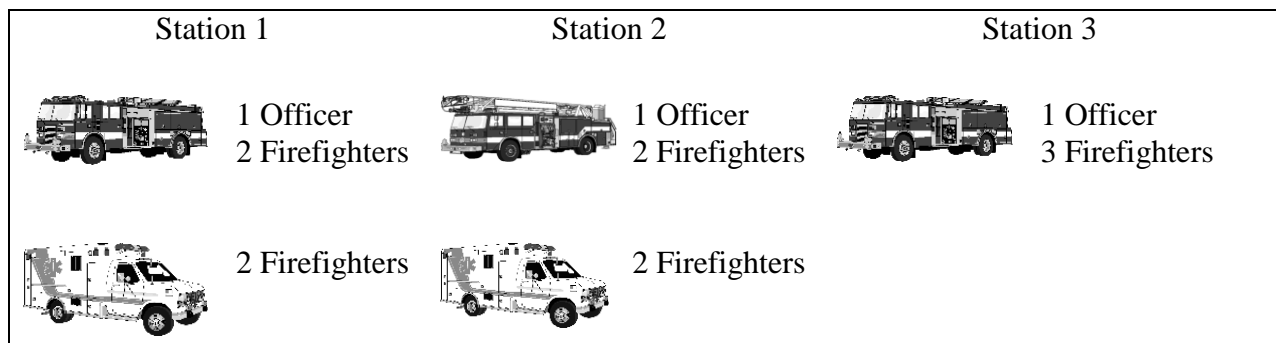
VISION STATEMENT

The vision of the Portsmouth Fire Department is to be a recognized leader in the fire service and respected by our citizens for anticipating and responding to their ever changing needs. The department will embrace new technologies and techniques, focusing on training and education to provide the highest level of customer services and satisfaction in a professional and caring manner.

CURRENT SERVICE LEVELS

The department maintains three fire stations staffed 24 hours a day. The department’s “Central Station”, situated in historic downtown, is known as Station 1. This station houses the Administrative and Prevention Offices, Engine and Ambulance Company 1, Engine 6 and Ambulance 3 in reserve, and Command Support Resources. The department’s fire and rescue boat, Fire Boat 1, is located at the NH Port Authority and is staffed by the Station 1 companies. The southern portion of the city is covered by Station 2 which houses Ladder 2, Tower 5, Forestry 1 and Ambulance 2. Station 3 is located on the Pease International Tradeport and houses Engine 3 with an engine and heavy rescue in reserve. The maximum shift staffing is 14; this includes 3 officers and 11 firefighters. Figure 1 provides an overview of the distribution of personnel at maximum staffing.

Figure 1 Distribution of Personnel



PFD Shift Staffing

Table 1 PFD Maximum Firefighter and Officer Compliment per Shift

Rank	Compliment
Captain	1
Lieutenant	2
Firefighters	11
Total	14

DISTRIBUTION OF FACILITIES

Station 1: 170 Court Street. Built in 1919

Station 1 serves as the fire department's Central Fire Station. Built in 1919 in the Downtown District, the facility originally served as the department's main fire station housing all personnel and equipment. The location of the Central Station is consistent with the risks of a business and commercial district surrounded by residential properties of the early 20th Century. The Court Street location is easily accessible to all major routes and bridges. The station houses Engine 1 and Ambulance 1, with an engine and ambulance in reserve.

Station 2: 3010 Lafayette Road. Built in 2010

Situated along the southern portion of Portsmouth's US Route 1, Station 2 was constructed in 2010 and replaced the original Station 2 that was built at the corners of Lafayette Road and Heritage Avenue. Planned to protect the growing residential and retail occupancies of the southern area of the city, the original station was considered to be the "rural" station that housed one (1) engine company. In 2010, a new fire station was constructed at the corners of Lafayette and Ocean Roads. The new station provides additional space for both apparatus and personnel, along with a 50-person training room / emergency operations facility. Currently, Ladder 2 and Tower 5, Ambulance 2, and the Forestry Unit run out of this station.

Station 3: 127 International Drive. Built circa 1950

Formally the structural fire station for the Pease Air Force Base, the city began to staff Station 3 in December of 1993 after the base closed. The area was speculated to become the industrial and economic engine of the greater seacoast and Portsmouth under the auspices of the Pease Development Authority (PDA). Initial equipment resources were to respond within the former military base, to the north and western portions of the city, which included NH Route 16/4, Interstate 95, and the retail district along Woodbury Avenue, Route 33, Panaway Manor (residential), and Schiller Power Station (Eversource). The initial staffing consisted of an engine with one officer and two firefighters. The station was open approximately three years when, in January 1997 due to a failure of the City and PDA to come to agreeable terms for adequate funding

of staffing, the station was closed. The City Council assumed that the City was subsidizing growth and development of the Pease Tradeport and elected not to fund the operation of the station. However, staff for the station was re-assigned to Station 1; primarily to day shifts. Retirements and minimum staffing levels supported this administrative move. After the City and PDA came to an agreement, the station was reopened in August 1998. The station experienced reduced staffing and intermittent closure during 2012. Today the primary response unit in the station is Engine 3 with Engine 4 in reserve.

RESPONSE DISTRICTS

The city is divided geographically into three primary response districts; 1, 2, and 3. These response districts or zones were initially established based on station locations and anecdotal travel times from those fixed facilities to specific areas within the city. Sometime in the 1990s a special sub-district was defined in District 1. Known as District 4, this district is the older, high occupancy and congested area of downtown. In 2005, a travel time survey was conducted by the PFD as part of a *Standard of Coverage* project. Using posted speed limits (plus or minus 5 mph), actual travel times were documented along primary routes in the city from each fixed fire station facility. The response district boundaries were then revised based on 6 minute travel time routes. The response district boundaries were again revised following the opening of the new Station 2 in 2010. In addition to a new location of a fire station and reassignment of resources, the PFD was experiencing increased call volume in both fire (13.6%) and ambulance (15.1%) over the previous year. Two additional response districts were subsequently added; District 5 located between 1 and 3, and District 6 that focused on the interstate and Spaulding Turnpike (Appendix .1).

DISPATCH CRITERIA

Portsmouth Fire Department apparatus are assigned and dispatched to emergency requests through pre-determined criteria. Fire response dispatch criteria is based on National Fire Protection Association (NFPA) 1710, incident complexity, safety best practices, and National Incident Management System (NIMS) vehicle type / kind (Appendix 2). Emergency Medical Services (EMS) response dispatch criteria is similarly based, with the additional consideration of The

National Academies of Emergency Dispatch (NAED) Medical Priority Dispatch System version 12 (Appendix 3).

RESPONSE DATA 2010 TO 2014

The PFD currently provides fire protection, advanced life support ambulance, fire prevention, hazardous materials response, marine, and special rescue services to the seacoast community of Portsmouth, New Hampshire.

Figure 2 Total Incident Activity 2010 to 2014

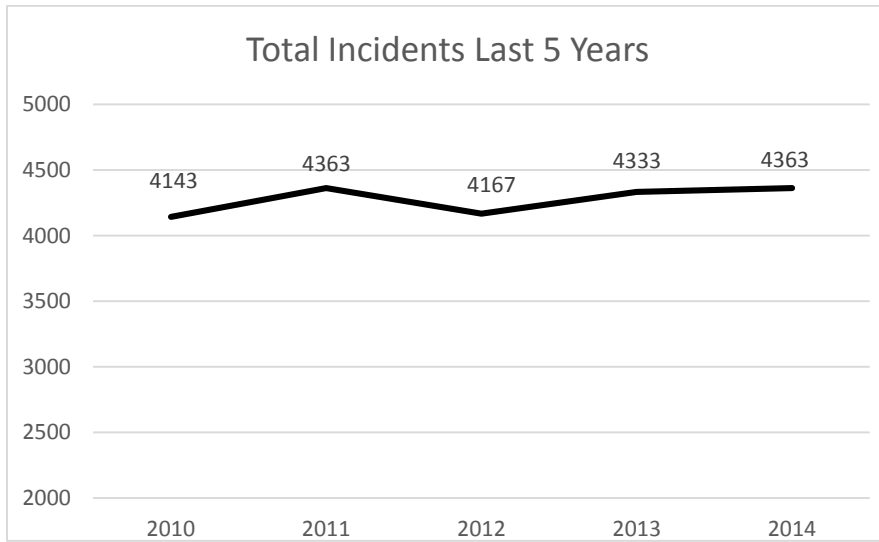


Figure 3 Fire and EMS Activity 2010 to 2014

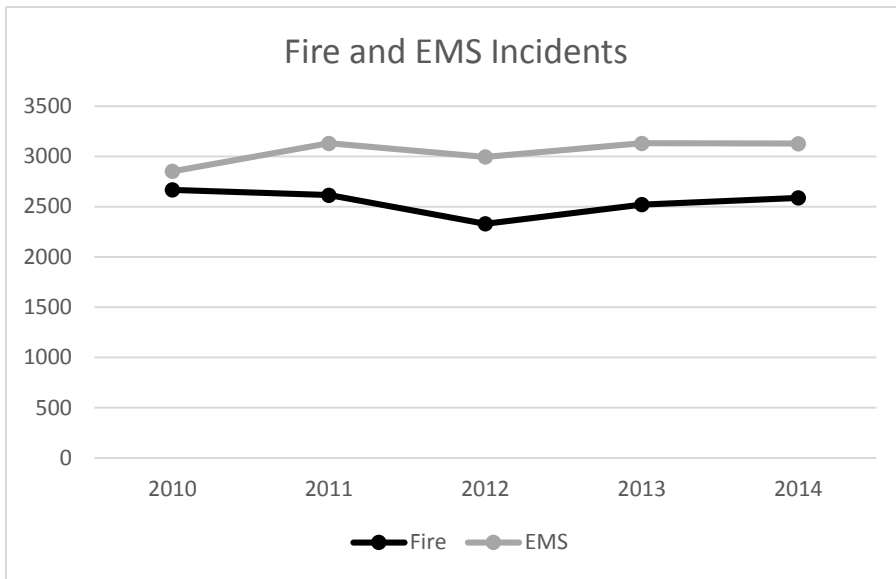


Figure 4 Fire and EMS Incidents by Day of Week 2010 to 2014

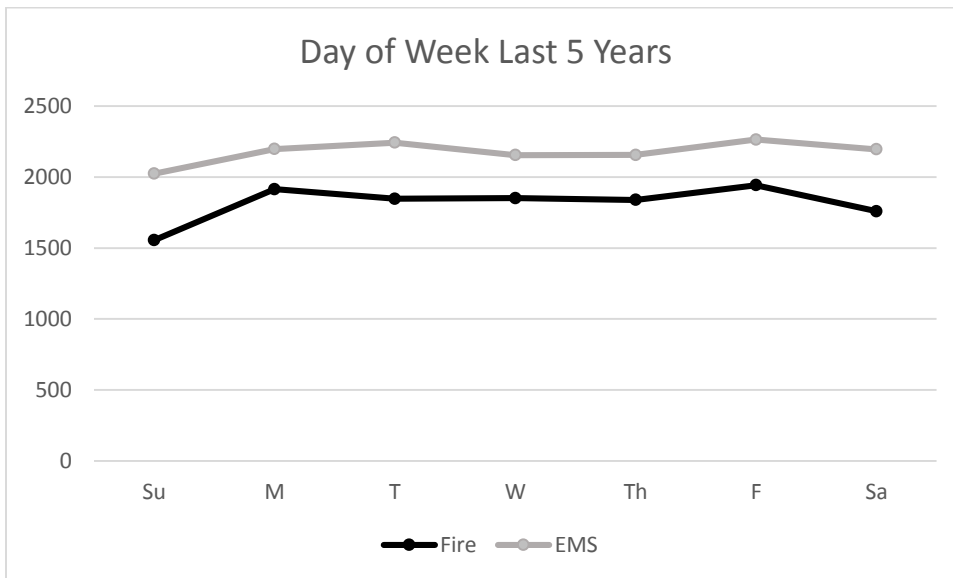


Figure 5 Fire and EMS Incidents by Time of Day 2010 to 2014

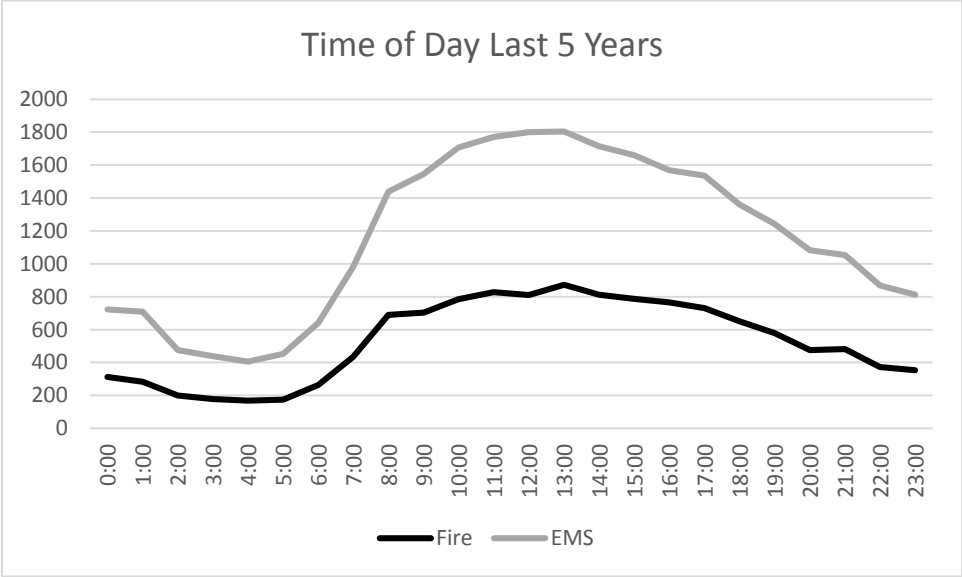


Table 2 Fire Responses by Occupancy Type 2010 to 2014

Occupancy Type	Total	%	Yearly Avg.
Assembly	437	3.4%	87.4
Restaurant	426	3.4%	85.2
Passenger Terminal	21	0.2%	4.2
Theater	34	0.3%	6.8
Educational	164	1.3%	32.8
Day Care	14	0.1%	2.8
Health Care	1,477	11.6%	295.4
Detention	31	0.2%	6.2
1 or 2 Family Residential	2,140	16.8%	428
Multi-Family Residential	2,168	17.1%	433.6
Residential Boarding	210	1.7%	42
Hotels	544	4.3%	108.8
Business / Mercantile	1,496	11.8%	299.2
Recreational / Open Land	211	1.7%	42.2
Industrial	421	3.3%	84.2
Street / Highway	2,713	21.3%	542.6
Storage	203	1.6%	40.6
Total	12,710		

Figure 6 Fire Incidents by Category 2010 to 2014

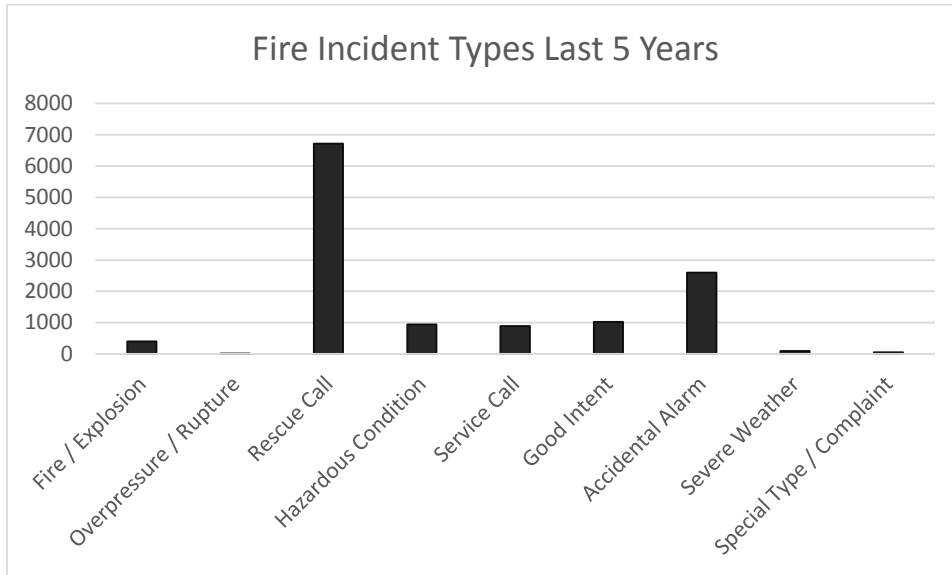


Table 3 Fire Incidents by District 2010 to 2014

District	Total	%
District 1	6,977	54.9%
District 2	2,055	16.2%
District 3	3,441	27.1%
Outside City	237	1.9%

Table 4 Top 10 EMS Incident Types 2010 to 2014

Top Ten Incident Types	Occurrences	%
Fall Victim	2,139	14.04
Motor Vehicle Crashes	1,619	10.63
Breathing Problem	1,482	9.73
Other	1,202	7.89
Chest Pain	1,167	7.66
Unconscious / Fainting	875	5.74
Sick Person	779	5.11
Medical Alarm	520	3.41
Seizures	490	3.22
Psychiatric / Behavioral	478	3.14

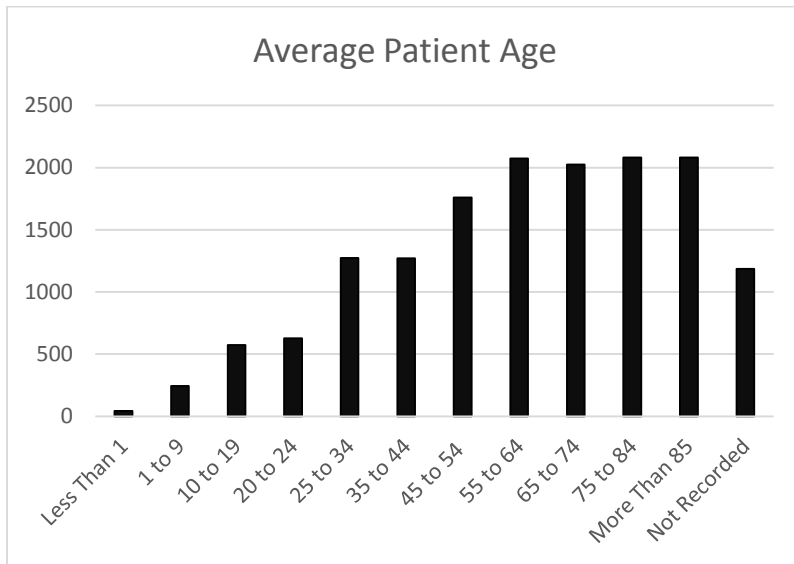
Table 5 EMS Incidents by District 2010 to 2014

District	Total	%
District 1	8,436	70.3%
District 2	1,782	14.9%
District 3	1,774	14.8%
Outside City	780	6.5%

Table 6 EMS Responses by Location Type 2010 to 2014

Location Type	Total	%	Yearly Avg.
Home / Residence	7,159	46.98	1432
Street or Highway	2,570	16.87	514
Health Care Facility	2,085	13.68	417
Trade or Service (business, restaurant)	1,865	12.24	373
Public Building (school, office)	466	3.06	93
Residential Institution	403	2.64	81
Other	281	1.84	56
Place of Recreation or Sport	163	1.07	33
Unknown	70	0.46	14
Airport	63	0.14	13
Industrial	53	0.35	11
Lake, River, Ocean	36	0.24	7
Not Applicable	11	0.07	2
Mine or Quarry	3	0.02	1
Not Recorded	1	0.01	0

Figure 7 Average Patient Age 2010 to 2014



RESPONSE TIME ANALYSIS

According to the Commission on Fire Accreditation International (CFAI), response time and those individual time elements within the overall response time are critical components of an organization's ability to positively impact the outcome of an emergency event. Fire growth is exponentially based upon such things as fuel concentrations and elapsed time to interventions. The elapsed time to effective interventions also have a direct relationship in determining survivability and quality of life during medical or traumatic emergencies.

According to the CFAI, total response time consists of (a) notification and alarm processing, (b) turnout time, and (c) travel time. Notification and alarm processing are the time points which an alarm or request for emergency response is received by an agency and the time interval it takes to retransmit that emergency to the specific agency's resources. Turnout time is the time point at which the responding units are notified to the beginning of travel time. The NFPA 1710 benchmark for staffed fire stations is 60 seconds. Travel time is the actual time of travel from turnout to the arrival on scene and is based on criteria for different risk categories and / or the NFPA 1710 standard benchmark 5 minutes.

Notification and alarm processing for the PFD are the responsibility of two entities; 1) the New Hampshire Bureau of Emergency Communications (9-1-1) Public Safety Answering Point (PSAP) and 2) the Portsmouth Emergency Communications Center. The 9-1-1 PSAP is located in Concord, New Hampshire. Police and fire requests are immediately transferred to the Portsmouth Emergency Communications Center. A nationally recognized Emergency Medical Dispatch (EMD) Protocol is utilized for callers reporting medical emergencies. Callers answer a few brief questions so that the proper response and pre-arrival treatment may be determined. Once identified, the problem is relayed to the Portsmouth Emergency Communications Center within 90 second benchmark 97% of the time.

Units and resources of the PFD are dispatched by the Portsmouth Emergency Communications Center which is located at the Portsmouth Police Department. This is a combined public safety dispatch center under the supervision of the police department. Notification and alarm processing following receipt of the request from the 9-1-1 PSAP or direct phone call into the center is governed by their staffing, policies, and procedures. The PFD is responsible for

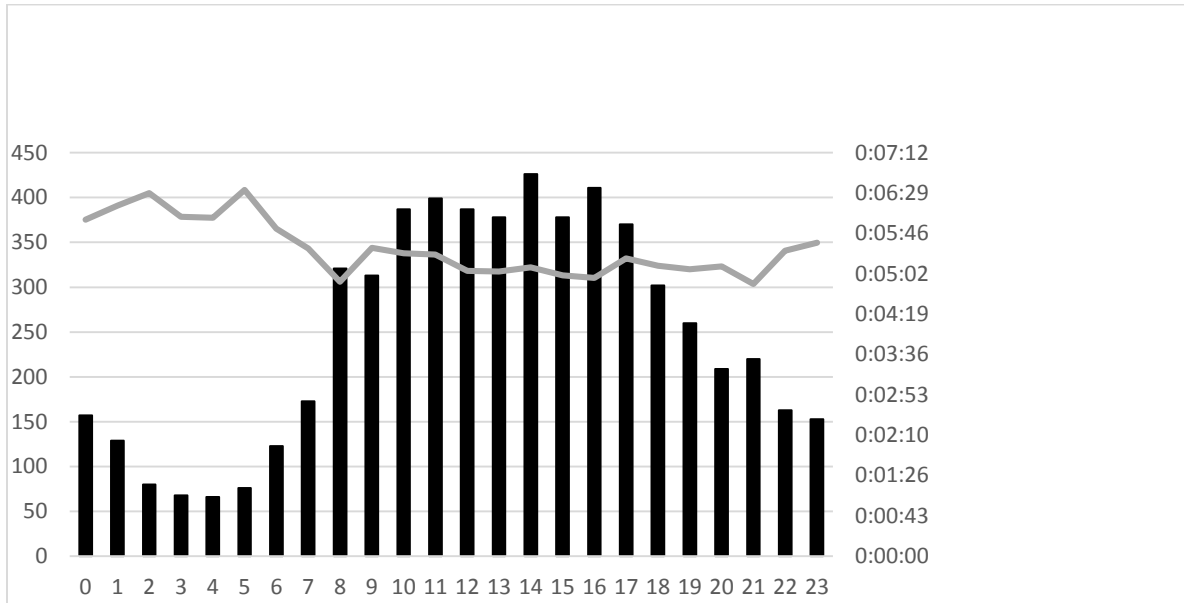
turnout and travel times and therefore, total response time reported by the PFD is calculated on the sum of turn-out + travel time only.

In 2004, the PFD began to develop Standards of Cover and performance measures as part of the operational budget process. The program was designed based on the NFPA 1710 standard and the CFAI's *Creating and Evaluating Standards of Response Cover for Fire Departments 4 ed.* and addressed three main areas: (a) existing deployment, (b) service level objectives, and (c) performance and reliability. A standard of cover and performance measure document was produced and served as the template for the department's budget presentation on March 1, 2005. The PFD has since monitored performance and reliability of department resources, as well as measuring and revising service level objectives. The integrated time and performance objective statements address structure fire, wildland fires, special hazards, and emergency medical responses. The PFD performed a response time analysis of all incidents that occurred from January 1, 2009 through December 31, 2013. The source of the information was the PFD dispatch database which is part of the PFD's electronic record management system. The following table and chart provide insight into turnout and response times of the PFD over a 5 year period.

Table 7 Statistics of All Incident Times

	Turnout	Travel	Response
Mean	0:01:32	0:03:55	0:05:34
Median	0:01:46	0:03:25	0:01:34
Max	0:04:05	0:14:00	0:19:54
Min	0:00:01	0:00:01	0:00:01
90 th Percentile	0:02:39	0:07:37	0:09:28

Figure 8 Average Response Time (turn-out + travel) to Priority Incidents by Time of Day



The above chart (Figure 8) includes incidents that met “priority” designation. The black bars indicate number of calls per hour and the gray line represents response time trends in minutes. Categories included actual or reported fires, hazardous atmospheres, serious trauma, and serious or potentially serious medical conditions (i.e. chest pain, breathing difficulty, cardiac arrest, and overdose). When these were reviewed, the average response time was 5:18.

Table 8 provides an evaluation of the performance benchmark of 90% for priority incidents only for the years 2010 through 2014. Priority incidents for fire include structure fires, smoke in the building, and smoke coming from a building. Priority incidents for EMS include respiratory difficulty and arrest, cardiac arrest, chest pain, and trauma.

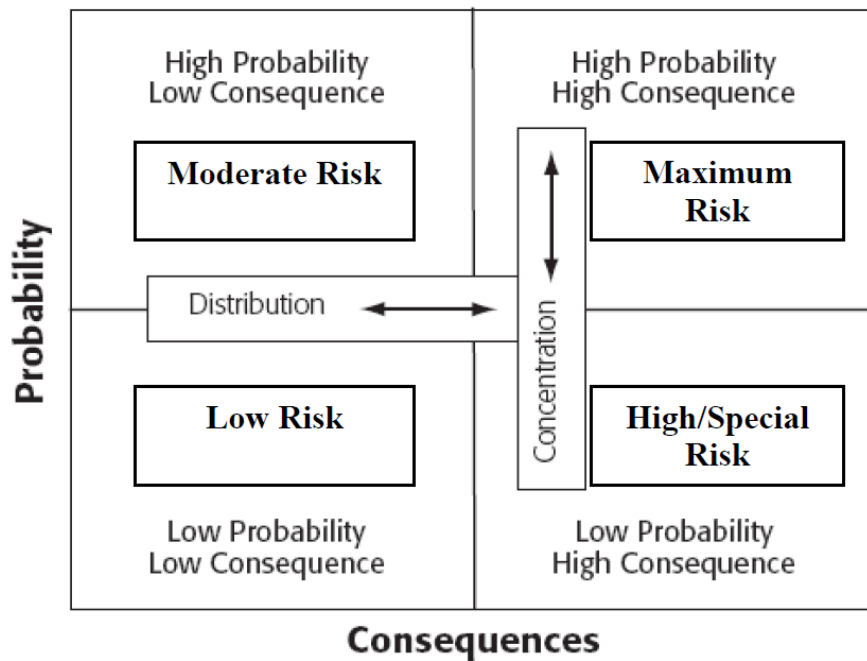
Table 8 90th Percentile Response Time for Priority Incidents

	2010	2011	2012	2013	2014	Avg.
First EMS Unit D1 and 4	8	8	8	8	8	8
First EMS Unit D2	8	8	9	9	8	8.4
First EMS Unit D3 (5 and 6)	10	10	10	10	10	10
First Fire Unit D1 and 4	7	7	8	8	8	7.6
First Fire Unit D2	7	7	8	6.6	8	7.3
First Fire Unit D3 (5 and 6)	8	8	10	8	9	8.6

RISK ANALYSIS

Creating accurate service level objectives requires an analysis of risks within a jurisdiction. This risk analysis forms the basis for goals associated with response times and the allocation of on scene resources.

Figure 9 Risk Probability and Consequence



HAZARD ANALYSIS AND ASSESSMENT

This risk assessment includes fire, emergency medical services, hazardous materials, technical rescue, criminal and civil issues, public works risks, weapons of mass destruction (WMD) and terrorism risks.

The top threats to Portsmouth are:

- Severe Winter Ice & Snow Events
- Wind and Heavy Rain Events
- Multiple Vehicle Accident
- Hazardous Materials Accident
- Wind Driven Fire Event
- Multiple Casualty Incident
- Shipboard and Marine Accidents

Additional details on hazard assessments for Portsmouth can be found in the City of Portsmouth's Emergency Operation Plan; 2012.

The department's risk assessment includes the following components (Appendix 4):

- Estimated fire flow
- Proximity of a hydrant
- Occupancy height
- Access to the occupancy
- Occupant load
- Occupant mobility
- Fire protection and warning
- Probability of an event
- Economic and Environmental impacts
- Life Safety Impact

OCCUPANCIES

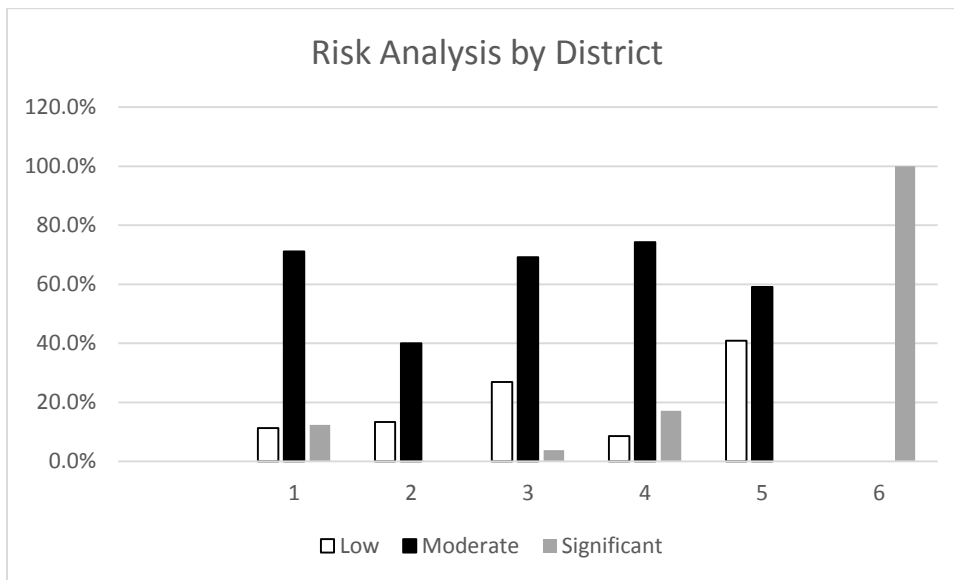
The following type of occupancies and locations are representative of the diverse risks in the city:

- Assembly
- Education
- Health Care
- Hotels and Dormitories
- Apartment Buildings
- One and Two-Family Residential
- Mercantile
- Business
- Industrial
- Storage
- Streets / Highways
- Historical
- Ship / Marine
- Airport

RISK BY RESPONSE DISTRICT

Two hundred and twenty-nine (229) existing occupancies and locations were evaluated during the 2016 assessment. These occupancies and locations were selected based on the following criteria: 1) response occurrence, 2) known or anticipated hazards, and 3) representation of occupancy types. The selected occupancies and locations do not represent all locations in the city. The reference for the Risk Analysis Scoring can be found in Appendix 4. Each occupancy was scored into four (4) risk categories; Low (>20), Moderate (20-29), Significant (30-39) and Maximum (40+). Figure 10 provides a risk analysis by response district.

Figure 10 Risk Analysis by Response District



EFFECTIVE RESPONSE FORCE

Apparatus Staffing and Deployment Standards

Staffing of fire apparatus and ambulances can be determined based on a number of variables. Traditional considerations often include the demographics of a community, the demand and numbers of service requests, the nature of risks and hazards in the service area, the type and age of buildings in the community, the type of occupancies (i.e. residential, commercial, industrial), and travel times from existing stations to the coverage area. The National Fire Protection Association (NFPA) has identified the standards to increase the chance for positive outcomes from fire and other emergencies. Staffing of each company shall be led by an officer who shall be considered part of the company. All engine and ladder truck companies should be staffed with a minimum of four on-duty personnel. According to *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* (2009), the fire department's suppression resources should be deployed to provide for the arrival of an engine or ladder company within 5-minutes (turnout + response time) and/or the initial full alarm assignment within 9-minutes (turnout + response times) to 90% of emergency incidents (NFPA, 2009). The initial full alarm assignment should provide for incident command, water supply, two hose lines, victim search and rescue, ventilation, aerial device operations, and firefighter safety and rescue. Staffing to accomplish these capabilities begins at 15 on-duty personnel and may include up to three additional personnel assigned to firefighter safety and rescue.

Additional studies and standards that influenced staffing considerations include the National Institute of Standards and Technology (NIST) *Report on Residential Fireground Field Experiments* (2010) and the U.S Occupational Safety and Health Administration (OSHA) Respiratory Standard 29 CFR 1910.134. The NIST study concluded that four-person crews were more effective than two or three-person crews when it came to extinguishing fires in a 2000 square foot house (15% faster than two-person and 6% faster than three person) and rescuing occupants (30% faster than two-person crews and 5% faster than three-person crews). Additionally, four- and five-person crews were able to complete 22 essential firefighting and rescue tasks in a residential property 30% faster than two-person crews and 25% faster than three-person crews.

The OSHA regulation requires firefighters entering dangerous atmospheres do so in teams of two with a minimum of two more firefighters available outside to assist or rescue those inside (2-in / 2-out rule). Therefore, firefighters entering a building with smoke, toxic gases, or fire must do so only after there are a total of four firefighters on scene. An exception to this rule is when a victim is visible from the outside of the hazardous environment and readily accessible to the firefighters. The ratio of firefighters outside the dangerous environment to those inside after the initial entry is not required to be maintained at 2 to 2 (i.e. 6 firefighters inside requires 6 outside). The intent is to insure there is adequate resources, equally equipped, to affect a rescue of the inside crews. This is accomplished by applying the NFPA 1710 standards.

NFPA 1710 Staffing and Deployment Standards for EMS

- A fire department first responder with an automated external defibrillator (AED) shall be deployed to provide for the arrival of the AED within a 4-minute travel time to 90 percent of the incidents.
- A fire department providing Advanced Life Support (ALS) shall be deployed to provide for the arrival of an ALS company within an 8-minute travel time to 90 percent of the incidents provided a first responder with AED or BLS unit arrived in 4-minutes or less travel time.
- Personnel deployed to ALS emergency responses shall include a minimum of two members trained at the emergency medical technician–paramedic level and two members trained at the emergency medical technician–basic level arriving on scene within the established travel time.

Additional Requirements for EMS

New Hampshire RSA 153-A:11 Licensure of Emergency Medical Care Providers states that except for automated external defibrillation pursuant to RSA 153-A:28-31, a person shall not provide emergency medical services as a paid or volunteer member of a public or private emergency medical services unit in this state, or as a paid or volunteer member of any police or fire department who, as a condition of employment, may be expected to routinely provide

emergency medical services in the line of duty, without being licensed by the commissioner. The interpretation of this statute is that although a fire department may not provide ambulance services, employees of the department must be licensed emergency care providers if the department responds to and provides initial emergency care on a regular basis.

CRITICAL TASKS CAPABILITIES: FIRE RELATED SERVICES

Critical tasking is the process of assigning tasks to firefighters that must be conducted in a timely manner at structure fires in order to control the fire prior to the flashover point. There are still critical tasks after flashover, but the essence of critical tasking is most effective prior to flashover. While creating standards of response coverage, the capability of arriving companies and individual firefighters to achieve these duties must be taken into consideration. On-scene operations, critical tasking, and maintaining an effective response team are elements of response coverage that determine staffing levels, number of apparatus needed, and duties to be performed by each team while on the fire ground.

The Portsmouth Fire Department performs offensive interior fire attack whenever possible, placing firefighter safety in high regards, and using the RECEO VS approach (rescue, exposure, confinement, extinguishment, overhaul ventilation, and salvage). In rescue situations, the first objective is to put a hose line between the victims and the fire, if possible to assist with the rescue. The second is to contain the fire to the point of origin. Before on-scene procedures can be established, the incident commander (IC) must determine whether or not the fire ground will operate under an offensive or defensive strategy. A defensive strategy is one that allows for no interior fire attack; therefore, no rescue of endangered victims is attempted. All firefighting is performed from outside the structure with the goal of containing the fire to the initial structure involved.

An organization providing for an offensive strategy requires the necessary fire companies to arrive sooner than they would have to if only the defensive strategy was provided for. Locations of fire stations and fire apparatus play a major role in the probability of a successful rescue. The incident commander must maintain scene management in order to properly implement the plan of attack. Scene management is not separate from, but is an integral part of successfully managing the incident. Objectives of scene management are life safety for firefighters (accountability, etc.) and non-emergency personnel on the scene, stabilizing the incident by controlling non-emergency personnel so they do not interfere with fire ground activities, and conserving property through timely implementation of resources to gain and maintain control.

The Portsmouth Fire Department has evaluated the critical tasks needed to control fires in each respective risk category. Whenever firefighters are operating in an immediate danger to life and health (IDLH) environments, additional personnel must be staged to perform rescue functions for interior firefighters, commonly known as two-in / two-out. In this situation, a command structure must also be in place. The growth of fire and the dynamics that are involved, as well as the uniqueness of the occupancy and life safety risks combine to determine which fire ground duties may be required to aid in mitigating potential loss.

On-scene Operations

Before a specific on-scene strategy can be established an initial size-up must be completed by the first arriving unit. The first fire company to arrive at the scene will usually initiate the incident command system (ICS) and then rescue and fire attack, taking into consideration the present and expected behavior of the fire. This size-up should facilitate which strategy may be utilized – offensive, defensive, or transitional.

Offensive strategy:

Normally an interior fire attack operation with the top priority of this strategy is to search and rescue any trapped victims. The Portsmouth Fire Department employs this strategy most often attempting to limit the number of fires that spread beyond the room of origin. For this reason the Portsmouth Fire Department uses an aggressive fire attack whenever possible, taking into consideration firefighter safety and other pertinent concerns.

Defensive strategy:

Normally an exterior fire attack operation, and does not maintain an interior attack, except if it is necessary to rescue firefighters. There are no attempts to rescue any civilian victims because the stage of the fire is past the flashover point and that the probability that any victims would be presumed to be beyond rescue. In this situation, nearly all of the firefighting is to be performed from the outside of the structure with the concept of containing the fire to the initially involved structure. In the case of a large structure with a defensive attack implemented, a portion of the

building may be salvaged with the use of an interior attack to create a safe haven for trapped occupants taking advantage of the building's design.

Transitional / Combination strategy:

Utilized when the fire companies are faced with changing fire conditions, this strategy can go from offensive to defensive as well as defensive to offensive. The offensive to defensive strategy is best used when a structure is rendered to be unsafe for continued interior operations. The defensive to offensive strategy is also appropriate when on scene units are waiting for the arrival of sufficient resources to safely amount an offensive attack or when the initial defensive mode of operations has reduced the to a point where interior operations can be conducted in a safer manner. The combination attack is an effective tactic to exercise when the two-in/two-out cannot be initially met. These strategies have common tasks no matter which one (or more) is employed. These tasks are unified, but can be separated into two basic functions: life safety and fire flow.

Life safety tasks:

Related to finding trapped, disoriented, or incapacitated victims and removing them safely from the structure. Fire flow tasks relate to simply getting water on the fire. Life safety tasks are based upon many factors, such as, number of occupants, the age of the occupant, their location in relationship to the fire, their status (awake or asleep), and their ability to remove themselves from the structure.

Fire flow tasks:

Depending primarily on the type of strategy that is used. If the responding units use the offensive strategy, they will be using hand lines to attack the fire. If responding units use the defensive strategy, they may retain the use of master-streams. Master-stream devices take relatively few firefighters to operate when affixed to the fire apparatus. Master-stream devices not affixed to apparatus may take more firefighters to deploy and operate. These master-streams will be used to extinguish the fire and keep it from advancing to any adjacent exposures.

INITIAL CRITICAL TASKS

Critical tasks are assignments that must be completed in order to control the incident are described below. These are the tasks that must be accomplished by the initial response force if the PFD is to meet its mission, goals and objectives. The number in parentheses is the minimum number of personnel required for that task.

Attack Line (2):

A 1 ¾ inch hose that produces up to 200 gallons per minute (GPM) and is usually handled by a minimum of two firefighters. The selection of attack line for a given situation depends on the type of structure, the distance to the seat of the fire, and the stage of the fire. The pre-connected lines are the fastest to use but are limited to fires within 200 feet of the pumper. When attack lines are needed beyond this limit, 150 feet of 1 ¾ inch hose is supplied through a wye or reducer appliance by a 2 ½ inch hose. A 2 ½ inch attack line may be used when the fire has passed the flashover stage and threatens an unburned portion of the structure and must be made up depending on the situation and conditions. This will require a minimum of one (1) additional firefighter to accomplish.

Back-Up Line (2):

A 1¾ inch hose line that produces up to 200 GPM and is usually handled by a minimum of two firefighters, or a 2½ inch hose line that produces up to 250 GPM handles by two to three firefighters. This line is in place to serve as a protection line in case the attack line becomes disabled or there is a need to deploy it in an emergency.

Search and Rescue Crew (2):

A minimum of two firefighters are assigned to search for and remove living victims while the attack crew moves between the victims and the fire to stop it from advancing to them. A two-person crew is normally sufficient for most structures, but additional crews are required in multi-story buildings or structures with people who are not capable of self-removal.

Ventilation Crew (2):

During the initial firefighting operations a minimum of two firefighters are assigned to perform horizontal ventilation channels when the attack crew is ready to enter the building. If it is performed too soon, the fire will receive additional oxygen and grow. If it is performed too late, the attack crew cannot force the fire in the desired direction. Instead, the gasses and smoke will be forced back on the firefighters and endangering them as well as any victims and or unburned property they are protecting.

Rapid Intervention Team (2):

A minimum of two firefighters equipped with personal protective equipment (PPE), SCBA and tools available near the entry point to go into the structure in case the attack team declares a Mayday or an emergency.

Pump Operator, Primary Engine (1):

One firefighter assigned to deliver water, under the correct pressure, to the attack, back-up, and building fire suppression systems. The pump operator monitors the pressure changes caused by changing flows on each line, and ensures that water hammer does not endanger any of the hose line crews. This firefighter also completes the hose hookups to the correct discharges and the water supply hookup to intake. The pump operator can sometimes make the hydrant hookup alone if the pumper is near the hydrant, but the hydrant spacing normally prevents this.

Pump Operator, Water Supply Engine (1):

One firefighter assigned to deliver water, under the correct pressure, to the primary engine, aerial apparatus, and / or the attack, back-up, and building fire suppression systems. The pump operator monitors the pressure changes caused by changing flows on each line, and ensures that water hammer does not endanger any of the hose line crews. This firefighter also completes the hose hookups to the correct discharges and the water supply hookup to intake. The pump operator may make the hydrant hookup alone if the pumper is near the hydrant using a hydrant assist valve.

Aerial Operator (1):

One firefighter assigned to correctly position, deploy, and operate the aerial apparatus. This firefighter may also complete the hose hookups to the correct intakes, discharges and aerial water supply hookup. This firefighter should always be aware of hazards such as power lines, potential building collapse, high winds, and fire impingement on the aerial.

Incident Command (1):

An officer assigned to remain outside of the structure and manage the incident. The IC should specifically coordinate the attack, evaluate results, redirect the attack, arrange for more resources, the release of resources and monitor conditions if the incident. If any of the critical tasks are not assigned, the IC has the responsibility to ensure the tasks are fulfilled.

Safety Officer (1):

One firefighter or officer on the fire ground dedicated to the exterior of the structure with the sole responsibility of firefighter and scene safety. The assignments of responding fire companies are often due to the sequence of their arrival. However many times because of varying circumstances, a fire company may not be in its station or district. When this occurs the IC must ensure that the critical tasks for the incident are assigned.

CRITICAL TASKS CAPABILITIES: EMERGENCY MEDICAL SERVICES

The following critical tasks and staffing are established in the initiation of basic and advanced life support to patients experiencing medical or traumatic emergencies:

Emergency Medical Services – Low Risk (minor medical illness or traumatic event):

This type of response can normally be handled by two providers. One Advanced Emergency Medical Technician (AEMT) is the primary care provider while the other is the secondary care provider. The second Emergency Medical Technician (EMT) also has the added responsibility of ensuring safe transport to the hospital while basic medical care is being continued in the patient compartment.

- Primary Care Attendant – (1) AEMT/Paramedic
- Secondary Attendant / Driver – (1) EMT/AEMT

Emergency Medical Services – Moderate Risk (critical or serious medical or traumatic event):

This type of response may be handled by two providers, but the condition of the patient may warrant additional personnel. Advanced Life Support responses require the added training of the AEMT- and/or Paramedic. Responsibilities include airway management, cardiac monitoring and interpretation, I.V access, and medication administration

- Primary Care Attendant – (1) Paramedic
- Secondary Attendant– (1) AEMT
- Driver – (1) EMT/AEMT

Emergency Medical Service -Significant Risk (multiple casualties):

Ambulance Company: The Ambulance Company has the initial responsibility of scene safety, then primary patient care. A mass casualty is considered anything more than the initial alarm assignment units can effectively manage. This can be considered 5-6 patients. The initial scene size up will determine the number of apparatus required for the incident. The Portsmouth Fire Department utilizes a pre-determined, 5 level run card that includes mutual aid response.

Emergency Medical Services -Motor Vehicle Accident:

In addition to an Ambulance response, all motor vehicle accidents require a minimum of one Engine / Ladder Company to respond. Reported highway, roll-over, head-on, or entrapment motor vehicle incidents will receive an additional Engine or Ladder Company to provide blocking and/or assist in extrication operations.

Engine Company / Ladder Company: The Engine or Ladder Company has the initial responsibility of scene safety as well as taking steps to ensure continued scene safety. This could be as simple as directing traffic until the Police Department arrives, shutting down the road so that traffic come to a stand-still while rescue efforts continue or can be as complicated as vehicle stabilization and/or using extrication tools to extricate the patient (s). The Engine/Ladder Company allows for more man-power at the scene as typically the Ambulance Company cannot be responsible for all of the tasks required at an incident.

- Incident Commander: 1 - Fire Officer/AEMT
- Driver: 1 - Firefighter/AEMT
- Provider: 1 – Firefighter

Cardiac Arrest:

Ambulance Company: The Ambulance Company has the initial responsibility of scene safety, then primary patient care. Cardiac arrest requires more staff than the typical ambulance response. Responsibilities include airway management, chest compressions, I.V access, medication administration, operation of defibrillator, etc.

- Airway Management: 1 - Firefighter/Paramedic / AEMT
- Chest Compressions: 1 - Firefighter/AEMT (relocated from Engine / Ladder Company)
- I.V. Access / Med Admin/ Defibrillation: 1 - Firefighter/Paramedic/ AEMT

Engine / Ladder Company:

- Incident Commander: 1 - Fire Officer/AEMT
- Driver (Relocated to ambulance for transport): 1 - Firefighter/EMT

SPECIAL RISK, HAZARDOUS MATERIAL INCIDENTS, TECHNICAL RESCUE CRITICAL TASKS

The following critical tasks and staffing are established as a standard in order to cease the escalation of the identified hazardous materials or technical rescue emergency:

Hazardous Materials

In the early stages of a hazardous-materials incident (HMI), it may be necessary for all available on-duty personnel to assist in accomplishing tasks required to identify, isolate, secure, and mitigate the incident. Any HMI beyond the routine fuel spills/odor investigation may require the response of a full initial alarm assignment and a chief officer.

The initial IC or Chief Officer may request the Seacoast Technical Assistance Response Team (START) for a HMI. START provides all-hazards and all-planning emergency hazardous materials response by combining the resources of the fire service, communities, industry and individuals. The team is made up of 40 hazardous material technicians and a Board of Directors from SCFOMAD member fire departments and operates out of two equipment trailers located in Exeter and Portsmouth. These trailers carry a majority of the team's equipment. A portable decontamination shelter is located at the Dover Fire Department.

Hazardous Materials Incident- Low to Moderate Risk (fuel spill / leak / odor investigation)

- Incident Commander - (1)
- Driver/Operator - (1)
- Air Monitoring - (1)
- Support Function - (2)

Hazardous Materials Incident – Significant to Maximum Risk (CBERN)

- Incident Commander - (1)
- Research/ documentation - (2)
- Safety Officer - (1)
- Entry Team - (2)

- Back up Team - (2)
- Air Monitoring - (2)
- Support Functions - (4)
- Decon Team - (3)
- Setup and Support - (2)
- Pump Operator - (1)
- Haz-Mat Decontamination Trailer
- AEMT - (1)
- Paramedic – (1)

Special Rescue

Confined space, below grade, rope rescue incidents require basic and specialized equipment, ropes and rigging, safety considerations, scene management and organizations, ascending and descending systems, rappelling, belaying, lowering and raising systems, and litter management. It also involves atmosphere monitoring and the provision of basic medical care and advanced life support. Any such incident will require the response of a full initial alarm assignment, chief officer, and the consideration of mutual aid from the Pease Air National Guard and Portsmouth Naval Shipyard Fire Departments' technical rescue resources.

Confined Space, Below Grade, Rope Rescue Incidents- Moderate to Significant Risk

- Incident Commander - (1)
- Incident Command Aide- (1)
- Safety Officer - (1)
- Primary Rescue - (2)
- Air monitoring- (1)
- Secondary Rescue - (2)
- Rope/Haul Team (if needed) - (6)
- AEMT – (1)
- Paramedic – (1)

- Shoring Team (if needed) – (4)
- Strut Team (if needed) – (3)

Water Rescue

The Portsmouth Fire Department supports the search and rescue of victims in or near tidal waterways and the Piscataqua River. Other agencies that have jurisdiction and response capabilities include the US Coast Guard, NH Marine Patrol, NH Fish and Game, and Maine Marine Patrol. These incidents involve operating in swift moving water, swimming, self-rescue, victim rescue, boat operations, night operations, and multi-agency coordination. The initial response for a water rescue requires an engine and ambulance response by land or via the department's fire boat. The IC may request the deployment of a full initial alarm assignment as needed.

Land-Side Incidents – Low to Moderate Risk:

- Incident Commander - (1)
- Primary Rescue - (2)
- AEMT- (1)
- Paramedic – (1)

Water-Side Incidents – Moderate Risk (Piscataqua River and Tributaries)

- Incident Commander - (1)
- Boat Operator – (1)
- Rescuer - (1)
- Backup Rescuer - (1)
- Paramedic / AEMT – (1)

Water-Side Incidents – Significant to Maximum Risk (Piscataqua River and Tributaries)

- Boat Officer - (1)
- Boat Operator – (1)
- Rescuer - (1)

- Backup Rescuer - (1)
- Paramedic / AEMT – (1)
- Land-Side Support – (3)
- Incident Commander – (1)
- Safety Officer – (1)
- Ambulance – (2 EMS Providers)

SERVICE LEVEL OBJECTIVES – STANDARDS OF COVER

Service level objectives have been established based upon the community risk, current resources, and budgetary considerations. These objectives drive the distribution and concentration of forces which are currently in place, and which will influence future station locations and staffing levels. Services provided include structural fire suppression, emergency medical services (EMS) response and ambulance transportation at the Advanced EMT (A-EMT) and Paramedic level, and rescue services (vehicle extrication, high angle, water, ice, trench, confined space and building collapse rescue). Hazardous Material response is at the operations and decontamination level with technician response provided by the Seacoast Technical Assistance Response Team (START). It is important that the Portsmouth Fire Department (PFD) continues to monitor and evaluate changes in the community risk dynamics and emergency response demand as the development of the City continues.

Performance Goal

The PFD shall limit the risk to our communities and our citizens from fire, injury, death, and property damage associated with fire, accidents, illness, explosions, hazardous materials incidents, and other natural or manmade emergencies through prevention and response. Performance Level Objectives outline the commitment of the department to meet pre-established objectives regarding the timeliness of response to specific risks. The objectives that follow are the result of a thorough evaluation and categorization of our risks. For each risk we have analyzed our historical response to that risk, the outcome of those responses and have analyzed the potential for future risk in each defined category. Specific performance measures have been established based on our analysis and mission.

Benchmark Definition

A benchmark is defined as a standard from which something can be judged. Searching for the best practices will help define superior performance. This document uses a combination of

standards for determining best practices for fire and EMS response. Current and predicted economic indicators and factors will also influence the balance of risk and adequate effective response force. These response resources are enhanced by prevention mitigation intervention; employing enforcement, education, and engineering innovations.

INTEGRATED TIME AND PERFORMANCE OBJECTIVE STATEMENTS

Structure Fire (Low Risk)

Goal:

Effective first alarm response force of 14 personnel deployed via two engines, 1 aerial device, two ambulances, plus a minimum of one chief officer shall respond.

Measure:

The first unit shall arrive within 8 minutes total reflex time, for 90% of all requests for emergency services. The completed first alarm units shall arrive within 10 minutes total reflex time, for 90 % of all requests for emergency services. A chief officer shall arrive within 20 minutes total reflex time, for 90% of all requests for emergency services.

Performance Objectives:

To stop escalation of a minor fire when found. Includes conducting search and rescue, confining fire damage to the area near the room of origin, and limiting extension of smoke and heat damage to the floor of origin. The first arriving unit is capable of starting rescue work or advancing the first line for fire control. Second due units provide additional personnel for tasks already started, plus ventilation, water supply, and firefighter safety support.

Structure Fire (Significant and Moderate Risk)

Goal:

Effective first alarm response force of 14 personnel deployed via two engines, 1 aerial device, two ambulances, plus two chief officers shall respond.

Measure:

The first unit shall arrive within 8 minutes total reflex time, for 90% of all requests for emergency services. The completed first alarm units shall arrive within 10 minutes total reflex time, for 90 % of all requests for emergency services. A chief officer shall arrive within 20 minutes total reflex time, for 90% of all requests for emergency services.

Performance Objectives:

To stop escalation of a major fire when found. Includes conducting search and rescue, confining fire damage to the area or floor of origin, and limiting extension of smoke and heat damage to area or floor of origin. The tasks of rapid intervention rescue for trapped / lost firefighters, property salvage, and crew rotation with rehabilitation requires at a minimum 14 additional personnel on the fire scene.

Wildland Fire (Significant and Moderate Risk Interface Zones)

Goal:

Effective first alarm response force of 10 personnel deployed via two engines, one forestry, one ambulance, plus a minimum of one chief officer shall respond.

Measure:

The first unit shall arrive within 8 minutes total reflex time, for 90% of all requests for emergency services. The completed first alarm units shall arrive within 10 minutes total reflex time, for 90 % of all requests for emergency services. A chief officer shall arrive within 20 minutes total reflex time, for 90% of all requests for emergency services.

Performance Objectives:

To stop the escalation of a major or serious fire when found. Includes controlling the fire to the area of origin on a high fire danger day without spread to adjacent structures or escalating to a size requiring significant additional resources including mutual aid.

Special Risk, Hazardous Material Incidents, Technical Rescues

Goal:

Effective first alarm response force of 8 personnel deployed via two engines, one ambulance, plus a minimum of one chief officer shall respond.

Measure:

The first unit shall arrive within 8 minutes total reflex time, for 90% of all requests for emergency services. The completed first alarm units shall arrive within 10 minutes total reflex time, for 90 % of all requests for emergency services. A chief officer shall arrive within 20 minutes total reflex time, for 90% of all requests for emergency services.

Performance Objectives:

To stop the escalation of a serious fire, rescue, or hazardous materials emergency when found. Includes controlling the fire to the area of origin without spread to adjacent structures, rescuing trapped occupants, or containing the spread of a hazardous materials release.

Emergency Medical Service -Significant Risk (Multiple Casualty)

Goal:

Effective first alarm response force of 14 personnel deployed via two engines, 1 aerial device, two ambulances, plus a minimum of one chief officer shall respond.

Measure:

The first unit shall arrive within 8 minutes total reflex time, for 90% of all requests for emergency services. The completed first alarm units shall arrive within 10 minutes total reflex time, for 90 % of all requests for emergency services. The chief officer shall arrive within 20 minutes total reflex time, for 90% of all requests for emergency services.

Performance Objectives:

To stop the escalation of the medical emergency beyond the level of severity found upon arrival. Includes aggressive triage, treatment and transport. Additional significant response resources are required including mutual aid.

Emergency Medical Service -Moderate Risk (Critical or Serious Medical or Traumatic Event)

Goal:

Effective first alarm response force of 5 personnel deployed via one engine and one ambulance, which includes a minimum of one paramedic certified provider, shall respond.

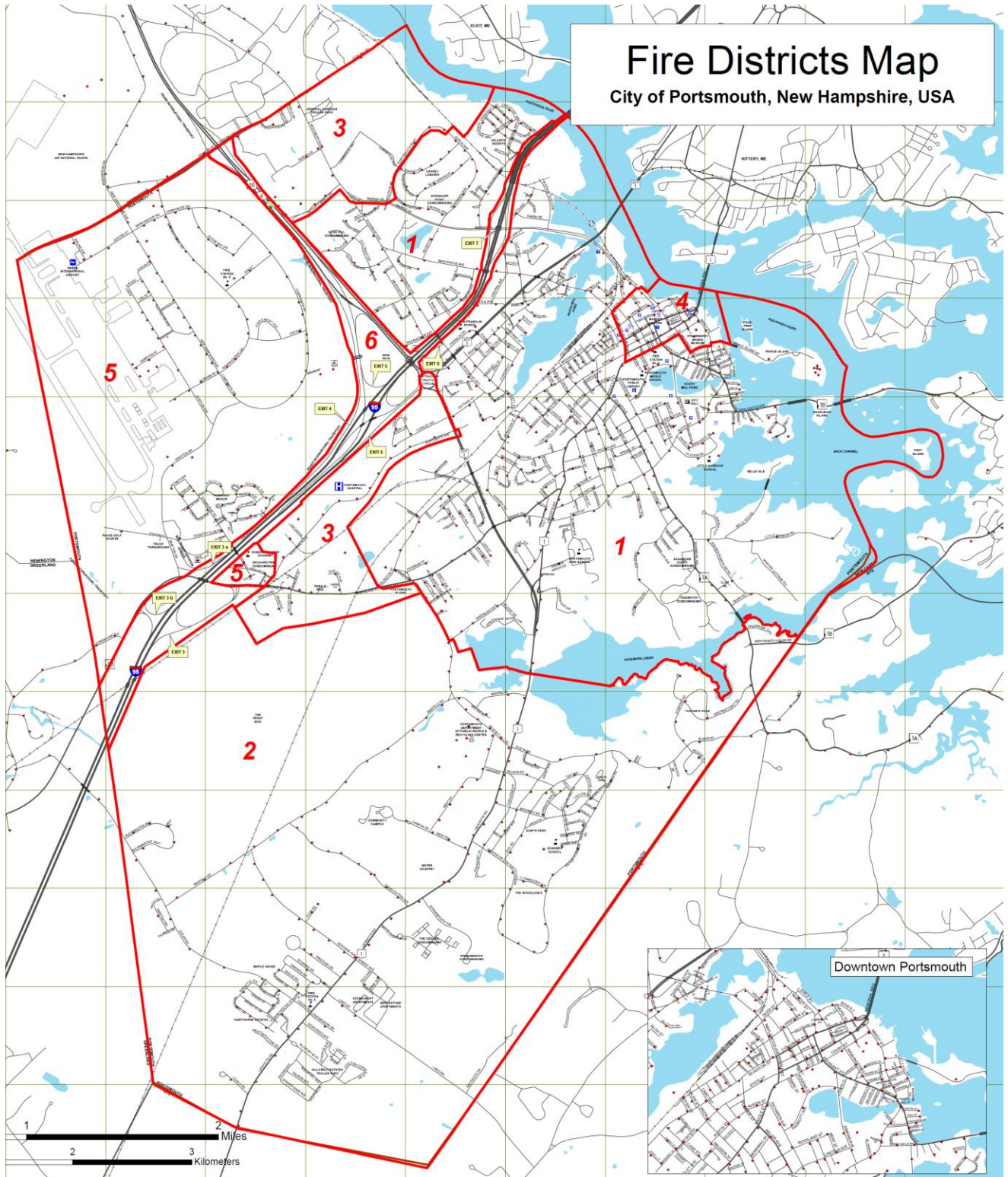
Measure:

The first unit shall arrive within 8 minutes total reflex time, for 90% of all requests for emergency services. The completed first alarm units shall arrive within 8 minutes total reflex time, for 90% of all requests for emergency services.

Performance Objectives:

To stop the escalation of the medical emergency beyond the level of severity found upon arrival. Includes patient assessment, basic and advanced life support measures, and / or rescue as necessary for three or fewer patients.

Appendix 1



Appendix 2

Fire Dispatch Criteria 2016						
Code	Incident Type	1 Eng	1 Amb	2 Eng / Amb	All Companies	Chief
FA2B	Aircraft Alert- 2B	X	X			
FAIR	Aircraft Crash - 3B				X	X
FALA	Fire Alarm Activation				X	
FAPP	Fire - Appliance	X	X			
FBEL	Rescue - Below Grade				X	
FBOX	Box Alarm				X	
FBRU	Fire - Brush or Woods (add Forestry)	X				
FCHI	Fire - Chimney				X	
FCON	Rescue - Confined Space				X	X
FDUM	Fire - Dumpster	X	X			
FELE	Rescue - Elevator	X	X			
FEXO	Explosion				X	X
FGAS	Odor of LP/Nat Gas Outside	X				
FGMB	Gas Main Break / Rupture				X	
FH20	Water Rescue - Victim				X	X
FHAZ	Spill - Gas, Oil, Unknown Chemical	X				
FHEI	Rescue - Heights				X	X
FIND	Industrial Accident			X		X
FING	Odor of LP/Nat Gas Inside				X	
FLIG	Lightning Strike - No Fire	X	X			
FLOC	Lock out	X				
FMA	Mutual Aid Provided	X				
FMAI	Alarm Maintenance					
FMAR	Marine Incident - Check Situation	X	X			
FMIS	Service Call	X				
FMIS	Service Call / Misc	X	X			
FMON	CO Detector Activation	X	X			
FMUT	Mutual Aid Response					X
FMVA	MVA	X	X			
FOUT	Fire - Outside - No Exposure	X	X			
FPED	MVA - Pedestrian	X	X			
FROL	MVA - Head On / Rollover			X		
FRRA	Train Accident				X	X

Fire Dispatch Criteria 2016

Code	Incident Type	1 Eng	1 Amb	2 Eng / Amb	All Companies	Chief
FSEA	Search	X	X			X
FSHI	Fire - Shipboard / Boat				X	X
FSMI	Smoke In The Building				X	
FSMO	Smoke Coming From Building				X	
FSPI	Liquid Spill / Leak	X				
FSTR	Fire - Structure				X	X
FTRD	Train Derailment	X	X			
FTRE	Trench Rescue			X		X
FVEH	Fire - Vehicle	X	X			
FWAT	Water Problem	X				
FWIR	Wires Down or Arcing	X				
TRAP	MVA With Entrapment			X		

Appendix 3

EMS Dispatch Criteria 2016			
Category	Incident Type	Paramedic Response	Engine Response
EMS	Abdominal Pain		
EMS P	Allergic Rx	X	
EMS P	ALS Intercept	X	
EMS	Animal Bite / Attack	X	
EMS	Assault		
EMS	Behavioral Problems		
EMS P	Burns	X	
EMS P	Cardiac Arrest	X	X
EMS P	Cardiac Condition	X	X
EMSP	Chemical Exposure	X	X
EMS P	Chest Pain	X	X
EMS P	Childbirth	X	X
EMS P	Diabetic	X	
EMS P	Difficulty Breathing	X	
EMS P	Electrocution	X	X
EMS P	Environmental Emergency- Heat Stroke / Hypothermia	X	
EMS	Fall - From Height	X	X
EMS	Fall - Minor Injury		
EMS P	Fractures	X	
EMS	Head Injury		
EMS	Hemorrhaging		
EMS	Medical Aid		
EMS	Medical Alarm		
EMS P	Multiple Casualty Incident	X	X
EMS	Multiple Injuries	X	
EMS	Mutual Aid - Non Paramedic		
EMS	MVA		X
EMS P	MVA - Entrapment	X	X
EMS P	MVA - Head On - Rollover	X	X
EMS P	MVA vs Pedestrian / Bicycle	X	X
EMS P	Near Drowning	X	X

EMS Dispatch Criteria 2016

Category	Incident Type	Paramedic Response	Engine Response
EMS	Neck / Back Injury		
EMS	Neck / Back Pain		
EMS P	Overdose - Drug / ETOH	X	X
EMS P	Overdose - Poisoning	X	
EMS P	Rescue - Water / Confined Space / Industrial	X	X
EMS P	Seizure	X	
EMS P	Stab / Gun Shot / Penetrating	X	X
EMS P	Stroke / CVA	X	
EMS P	Unresponsive: With Pulse	X	X

Appendix 4

Risk Analysis Scoring Reference

<p>A. Est. Fire Flow</p> <ol style="list-style-type: none"> 1. 500 2. 1500 3. 3000 4. 5000 5. 6000 + <p>B. Proximity of Hydrant</p> <ol style="list-style-type: none"> 1. < 100 ‘ 2. 200’ 3. 300’ 4. 400’ 5. 500’ + <p>C. Building Height</p> <ol style="list-style-type: none"> 1. 1story 2. 2 stories 3. 3 stories 4. 4 stories 5. 5 + stories <p>D. Access</p> <ol style="list-style-type: none"> 1. All sides 2. 3 Sides 3. 2 Sides 4. 1 Side 5. None <p>E. Occupant Load</p> <ol style="list-style-type: none"> 1. 0-10 2. 11-50 3. 51-100 4. 101-300 5. 300+ <p>F. Occupant Mobility</p> <ol style="list-style-type: none"> 1. Awake / Amb 1-2 stories 2. Asleep / Amb 1-2 stories 3. Awake / Amb 3+ stories 4. Asleep / Amb 3+ stories 5. Non-ambulatory 	<p>G. Fire Protection and Warning</p> <ol style="list-style-type: none"> 1. Automatic / Sprinkler 2. Local / Sprinkler 3. Manual / Sprinkler 4. No Sprinkler 5. No system <p>H. Probability of Event</p> <ol style="list-style-type: none"> 1. Rare 2. Annually 3. Monthly 4. Weekly 5. Daily <p>I. Economic Impact</p> <ol style="list-style-type: none"> 1. None 2. Minimal Dollar Loss 3. Moderate Dollar Loss 4. Significant Dollar Loss 5. Requires Long Term Recovery <p>J. Environmental Impact</p> <ol style="list-style-type: none"> 1. None 2. Minimal 3. Moderate 4. Significant 5. Requires Long Term Recovery <p>K. Life Safety Impact</p> <ol style="list-style-type: none"> 1. None 2. Minimal Risk to Life 3. Moderate Risk to Life 4. Significant Risk to Life 5. Mass Casualty
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