

City of Port Jervis Fire Department

Port Jervis, New York

Fire Station and Staffing Review



Emergency Vehicle Response

Otisville, New York

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City of Port Jervis

Orange County, New York

Fire Station Location and Staffing Review

1.0 Overview:

At the request of Mayor Russell Potter on behalf of the City Council and Chief Officers of the Port Jervis Fire Department the staff of Emergency Vehicle Response was contracted for the purpose of conducting a comprehensive analysis of the fire protection facilities and resources of the Port Jervis Fire Department. This analysis was to include a review of the fire department's apparatus and equipment resources during the initial phase which was completed and transmitted to the City during June, 2013. Numerous recommendations were offered within the report to identify operational and safety improvements for each piece of apparatus and a fleet replacement plan to detail the time frame and specific apparatus that should be acquired in the future.

The second portion of the evaluation would focus on a review of the current condition of each fire station, suitability of each location and the staffing response levels to incidents from each of the seven volunteer fire companies. In addition Emergency Vehicle Response would review the department's response practices and apparatus assignments to alarms as well as make recommendations in the areas of water supply and goals for water delivery to develop the needed fire flows.

The overall goal is to provide the City of Port Jervis and the Fire Department with a long range plan to develop replacement strategies, financial planning and an improvement plan to insure safe operations and deployment practices to enhance fire protection. The cost of replacement fire apparatus and the routine maintenance of the fire stations represent a large financial investment on behalf of the City and should result in enhanced fire protection facilities to protect the community.

While past practice has been to provide an each fire company with a new piece of apparatus every twenty years financial considerations together with the ability for each fire company to staff their vehicles on a regular basis dictates that there must be a demonstrated need for this equipment. The impact of Insurance Services Office standards with respect to fire station locations, staffing levels and operations were reviewed to assess the Fire Department's performance and impact on commercial and residential fire insurance rates.

Fire Station Location and Staffing Review

1.0 Overview:

During the period between March and August of 2013 the staff of Emergency Vehicle Response performed many days of field work and analysis to visit each fire station, review available response records as well as travel most all roadways and areas within the City. The on site inspections of each fire station were conducted to gain information on station facilities, apparatus bay space, apparatus egress, internal fire protection systems, parking for responding members and the capabilities to accommodate additional vehicles.

Emergency Vehicle Response personnel also conducted an overall review of the land area, development and structural conditions in the first due response area within the city in order to identify natural boundaries, target hazard buildings, observe traffic flows and impediments for apparatus responses. This information was utilized to evaluate the suitability of the current fire stations together with the Fire Department's staffing levels and how these compare to the nationally recognized standards developed by the National Fire Protection Association and the Insurance Services Office.

2.0 Executive Summary:

The history regarding the formation of the seven fire companies comprising the Port Jervis Fire Department has largely been the determining factor in the location of each station dating back to the first fire company in 1850. As early fire apparatus were pulled to the scene by members the location of the fire station was largely dependant upon personnel who lived in the immediate area of the station. For this reason stations were initially located in the different geographic areas of the city while up until 1974 only the Neversink Engine Company and the Maghogomock Ladder Company shared company quarters in a single station.

Over the years as the existing fire stations required major repairs or the replacement apparatus would not fit in the apparatus bays; the City built a number of replacement fire stations in reasonably close proximity to the older facilities. With modern fire apparatus and the demographic of the department's personnel where members live in different areas of the community the neighborhood fire station is no longer the center of activity. Fire company membership does not require living within a specified distance of the respective fire station and with the overall downturn in volunteerism; members frequently travel from one end of the city to the other to staff the apparatus for an emergency response.

Prior to 1974 the City operated from six different station locations, unfortunately the two stations housing multiple companies have walls between them which promotes the segregation of sharing members with no single location capable of accommodating any additional vehicles due to the limited apparatus bay space. Current apparatus bay space is generally adequate however Engines 822 and 826 had to be designed to fit into the cramped bay areas with the facilities at the Tri-States Engine Company 6 station being inadequate in many areas as will be detailed in Section 4.5 of this report.

Fire Station Location and Staffing Review

2.0 Executive Summary:

During 1954 the fire department transitioned with one of the engine companies becoming a rescue service and currently operates with five engine companies, one ladder company and a rescue/salvage company. The department operates from five stations located in various areas of the City with Engine 821 and Ladder 827 co-located at a station at 25 Orange Street built in 1990 and Engine 822 and Rescue 823 operating from a station at 22 Hammond Street, adjacent to the Public Works garage that was built during 1974. Engine 824 is assigned an engine with an articulating water tower with station facilities at 31 Owen Street which is the newest fire station completed in 1997. Engine 825 and the fire police unit operate from a station built in 1987 at 143 West Main Street with Engine 826 located in a single bay station built in 1950 at 257 East Main Street.

2.1 Key Observations:

Several issues have been identified in this report which will require appropriate architectural and financial planning by the City of Port Jervis to improve the present level of emergency response capabilities as well as reduce future maintenance and utility costs in the future:

1. The buildings housing Engine Company 2, Rescue Company 3 and Engine Company 6 are in need of replacement and should be consolidated into a single multi-purpose facility. Several recommendations are made in Section 6.0 to identify potential locations for this combined station with an open apparatus bay capable of accommodating four (4) pieces of apparatus. Based upon the geographic boundaries within the City and the response patterns there is no requirement to justify having five separate fire station facilities within the community. Combining two of the engine companies and the rescue company into a single modern facility will provide for improved services where the responding members can staff the apparatus that is due on the call rather than having a few members respond to each location while trying to amass a response crew.
2. The fire departments current system to record personnel response and staffing levels is reliant upon a hard copy sign in sheet with no ability to summarize incident data and other critical information. Each fire company maintains there own record forms which in most instances do not identify members who responded on the apparatus or where at the scene of the incident. The Fire Department needs to consider a fire service database and software interface to electronically capture incident information including apparatus and personnel response, unit staffing levels, training records, apparatus testing and maintenance and other critical department records that are currently manually archived in several different locations and are inadequate.

Fire Station Location and Staffing Review

2.1 Key Observations:

3. The availability of volunteer personnel to provide staffing for the seven fire companies varies widely and in some cases does not provide for the recommended minimum of four (4) certified interior fire fighters on each responding unit. At times a greater number of vehicles are required to respond to an incident in order to achieve a reasonable and safe number of personnel at the incident scene. The department currently operates with a Duty Engine concept where personnel respond to a designated fire station to provide adequate staffing for mutual aid responses. This concept needs to be expanded for other types of incidents as detailed in Section 5.0 of the report. On many minor alarms a single staffed engine could handle the incident with a command officer. Having a combined fire station facility without walls and individual company quarters will serve to improve staffing levels and ultimately response times with companies cooperatively sharing personnel.
4. The past practice within the Fire Department is to alert all companies for any report of a fire with companies responding based upon the availability of a qualified driver and two qualified personnel to any alarm. The department needs to establish a tiered response system for minor incidents to alleviate situations where multiple units including the aerial ladder truck would respond to minor incidents such as brush fires and vehicle fires.

3.0 City of Port Jervis Demographics:

The City of Port Jervis is located along the east bank of the Delaware and Neversink Rivers in the western portion of Orange County, New York. The city is approximately 2.7 square miles in size with a current population of 8,800 residents. Access to the area from Interstate 84, New York State Route 6 and Route 209 provides several heavily traveled routes for both commuter and truck traffic. Traffic patterns through the community can become moderate at times which may impact the response of volunteer personnel who must travel from their home or business locations to the fire station to staff the apparatus. While there are a number of traffic light controlled intersections in the community there are no traffic preemption devices in use on the apparatus.

The water supply is generally adequate in most areas of the City with available fire flows ranging from 1500 to over 8000 gpm at 20 PSI residual pressure. During the most recent Insurance Services Office (ISO) survey conducted in May, 2011 the water supply grading achieved a total of 35.91 points of credit out of a possible 40 points, which indicated a strong water system. Port Jervis presently maintains an Insurance Services Office (ISO) rating of Class 4. The Class 4 rating applies to those areas of the community that are within 1000 feet of the public fire hydrant and five miles from the closest fire station. It should be noted that all areas of the City are within 1.50 miles of the nearest fire station and that one centrally located station could reasonably meet the fire protection needs of the response area.

Fire Station Location and Staffing Review

3.0 City of Port Jervis Demographics:

During the most recent ISO survey the Fire Department was required to have three engine companies and one ladder company in service with a required fire flow of 3500 gpm. Recommendations offered in Sections 5.0 and 7.0 of this report should assist the fire department in strengthening and improving their operations and safety components from a practical standpoint as well as meeting the baseline requirements of the nationally recognized standards promulgated by the National Fire Protection Association.

The Fire Department achieved a total of 28.34 points of credit out of a possible 50 points with only 6.93 points of credit afforded for the staffing and deployment portions of the evaluation out of an available 15 points. In comparison to other community's response areas of similar size, the City of Port Jervis has a large number of target hazards commercial and multiple occupancy residential structures that would require significant personnel and apparatus resources above the Insurance Services Office minimum of three engines and one ladder company. Building projects such as Waters Edge apartments Hillside apartments and the Silk Mill condominiums require well staffed apparatus together with effective apparatus placement to effectively combat fires in these styles of building construction.

While the Fire Department currently operates with five engine, one ladder and one rescue/salvage company there is little coordination and commonality among these units when operating together. One of the goals and objectives of this fire protection study is to determine the appropriate level of service that the community needs given the current apparatus, equipment and fire station assets in the department. Several fire companies currently enjoy strong personnel response while others are struggling to staff their assigned apparatus to incidents.

The Fire Department has enjoyed a long and rich history of providing fire protection with a number of individual fire companies. Due to the high cost of maintaining the fire stations, apparatus and equipment when combined with a clear assessment of the availability of volunteer personnel to staff each vehicle the time has come to combine several of the companies into a single fire station facility in order to share the available personnel assets while providing for some enhanced electronic tracking of incidents.

The fire department chief officers should be commended for doing an admirable job to coordinate the activities of the seven fire companies including running down reports, checking on needed vehicle and equipment repairs, observing training classes as well as response to incidents. While the department has achieved a good track record with respect to handling emergency incidents with all volunteer staffing their should be some consideration towards providing some part time administrative support to relieve the chief officers from spending their time on record keeping and tracking down missing monthly reports and other pertinent information.

Fire Station Location and Staffing Review

4.0 Review of Current Fire Stations:

Each of the fire stations were reviewed for suitability of use including structural conditions, apparatus bay space, traffic considerations, parking areas, fire protection systems, back up power supplies, office space and meeting room areas and general condition. Following is an assessment of each fire station facility:

4.1 Neversink Engine Company #1, Maghogomock Hook and Ladder Company #1:

These two companies have shared quarters dating back to 1884 in the original station on Orange Street which is now utilized for the department's training room and museum. The current structure is located at 25-27 Orange Street and is a two story non-combustible building that was completed in 1990. Each company has its own quarters with separate outside entrances, apparatus bays, meeting rooms and associated storage areas. Unfortunately there is no way to travel from one portion of the building into the adjoining area without going outside of each company's area.

The building is approximately 8500 square feet in size with 2350 square feet dedicated to the apparatus bays. These areas are adequate in size for the current vehicles with each bay provided with a 14 foot overhead door. The ramp area leading to Orange Street is approximately forty feet long and provides good access to the street. There are no traffic control devices located adjacent to the fire station.

The building is protected by a combination wet and dry automatic fire sprinkler system together with a heat and smoke detection system. A natural gas emergency generator is available to supply the entire building in the event of a power supply interruption. A call box is located on the front of the station which is tied into the Orange County 911 Communications Center. Each side of the building is provided with a fax printer to receive alarms from the 911 control center.

Adjacent to the station on the east side of the building is a small parking area that can accommodate seven vehicles. A wood frame dwelling on the west side of the building presents a modest exposure to this portion of the building.

There is a modest amount of storage space within each company's quarters with wooden cabinets in the apparatus bays with a larger enclosed area on the second floor. There is no central hose or equipment storage area in the station with a small amount of spare hose maintained on a workbench in Engine 1's quarters.

Each company has a small recreation room located on the first floor with a meeting room on the second floor overlooking the apparatus bays. Housekeeping was good on the first floor areas and fair in the storage lockers and other portions of the building. The fire department is in the process of constructing wooden lockers to accommodate protective turnout gear which will eliminate the need to carry this equipment on the apparatus. The engine company bays had sixteen gear lockers with ten provided for the ladder company.

Fire Station Location and Staffing Review

4.1 Neversink Engine Company #1, Maghogomock Hook and Ladder Company #1:

This fire station is generally well located within the response area and provides good coverage for both pieces of apparatus. As detailed in Section 6.0 a single, properly located fire station could adequately protect all areas of the city. As this station is the second newest fire station in use the recommendation is to continue to operate from this location with the following recommendations to be implemented to improve the safety and operational efficiency of the members assigned to each of these fire companies:

1. An architectural review should be conducted to explore the feasibility of providing direct access between the two apparatus bays from within the building. This would provide improved egress and communications between the two apparatus bays and would permit free travel for personnel to staff the appropriate piece of apparatus due on the call without having to travel outside of the building and across the overhead door openings.
2. Consideration should be given to the immediate utilization of the gear lockers to enable personnel to don all protective gear prior to staffing the apparatus for response.
3. The second floor storage areas should be cleaned and organized with any unnecessary equipment removed from these areas. General housekeeping in these areas should be improved.
4. Between both fire companies a single modest storage area should be dedicated to accommodate spare hand tools, hose, repair tools and parts.
5. The apparatus bays in each portion of the station should be cleaned of all loose equipment, tools, maintenance material and gear that are not utilized on a regular basis.
6. Once the new rear mount aerial ladder is placed into service the apparatus bay floor for the truck should be appropriately marked to show where the vehicle should be located to provide adequate space around the vehicle when in quarters.
7. Consideration should be given to integrating the fire protection systems into a central alarm facility to monitor these systems in the event of a fire. The central alarm monitoring location would alter the 911 communications center in the event of an actual alarm indication.
8. Consideration should be given to the installation of an exhaust extraction system for each of the two apparatus bays for use to capture diesel emissions from the engine and ladder apparatus.

Fire Station Location and Staffing Review

4.2 Delaware Engine Company #2, Fowler Rescue and Salvage Company #3:

The Delaware and Fowler companies had previously each operated from their own quarters until 1974 when both units combined into a single facility located at 22 Hammond Street. This fire station was built using City personnel and is two story non-combustible building built adjacent to the DPW garage and City Hall. Each company has its own quarters with separate exterior entrances, apparatus bays and meeting rooms. As with Station One there is no way to travel from one portion of the building into the adjoining apparatus bays without going outside of the building. Each door has a unique key or access code to gain entry into that portion of the building.

The building is approximately 3100 square feet in size with 1780 square feet dedicated to the apparatus bays. The bay area for Rescue 823 is adequate with each bay provided with a 14 foot wide by 11 foot high overhead door. The apparatus bay for the engine is smaller due to an office area located behind the apparatus. Engine 822 was designed to fit into this smaller area which has limited room for any additional equipment. The station is set back from the Hammond Street with a long ramp area. The ramp area includes parking spaces for up to thirteen vehicles which are frequently utilized by personnel working for the DPW. There are no traffic control devices located adjacent to the fire station.

The building does not have any fixed fire protection or alarm systems. There is no emergency back up power supply other than a portable 5000 watt generator that could power a small portion of the building in the event of a power supply interruption. A call box is located on the front of the station which is tied into the Orange County 911 Communications Center. Each side of the building within the apparatus bays is provided with a fax printer to receive alarms from the 911 control center.

At the rear of the building there is a small garage area, approximately 500 square feet in size equipped with an eight foot high overhead door. This area is utilized to house the department's two rescue boats and associated equipment. This space is very crowded with no room for future expansion.

Each company has a recreation and meeting room located on the second floor with an enclosed stairwell leading from the ground floor to these areas. Housekeeping throughout the building was fair with very limited storage areas. There is no formal office or administrative areas within either company's quarters. The building exterior exhibited signs of cracking in the cinder block walls and is in need of cleaning and painting.

This fire station is generally well located within the response area and provides good coverage for both pieces of apparatus. As detailed in Section 6.0 this location could be utilized as one of the options to replace the existing structure with a four bay fire station to operate as a combined facility to accommodate three of the current fire companies into a single station. The existing building could be converted for use by other City departments should an alternate location be chosen to construct a new fire station.

Fire Station Location and Staffing Review

4.2 Delaware Engine Company #2, Fowler Rescue and Salvage Company #3:

The current building is in fair condition and other than serving as garage space for the current apparatus lacks many of the features of a modern fire station facility. As the building is approaching forty years old the structure would require some renovations and upgrading to provide fire protection system installation and suitable back up power supplies. With the segregated company areas the existing building does not lend itself to modernization and still leaves issues relating to the quarters for Engine Company 6. The following recommendations should be implemented to improve the safety and operational efficiency of the members assigned to each of these fire companies:

1. Consideration should be given to the immediate utilization of the gear lockers to enable personnel to don all protective gear prior to staffing the apparatus for response.
2. The first and second floor areas should be cleaned and organized with any un-necessary equipment removed from these areas. General housekeeping in these areas is poor and should be improved.
3. Between both fire companies a single modest storage area should be dedicated to accommodate spare hand tools, hose, repair tools and parts.
4. The apparatus bays in each portion of the station should be cleaned of all loose equipment, tools, maintenance material and gear that are not utilized on a regular basis.
5. The rear bays utilized for storage of the department's rescue boats should be cleaned and organized for all pieces of equipment and water rescue gear.

4.3 Howard Wheat Engine Company #4:

The Howard Wheat Engine Company is located at 31 Owen Street in a single story non combustible building that was occupied in 1997. This is the newest fire station facility operated by the department and houses one vehicle Engine 824. This facility was constructed on City owned property on Owen Street at the intersection of Hammond Street. Engine Company 4 was relocated two blocks further south from their original station located on Seward Avenue.

The building is approximately 3800 square feet in size with a single drive through apparatus bay measuring approximately 1020 square feet. This bay area for Engine 824 is adequate with a fourteen foot high overhead door. This is the only fire station that is provided with a drive through bay, although the area can only accommodate a single piece of apparatus. A temporary shed outbuilding in the rear of the station houses the fire company's antique pumper.

Fire Station Location and Staffing Review

4.3 Howard Wheat Engine Company #4:

The station is set back from the Owen Street with a long ramp adequate to safely accommodate the engine apparatus. There is a small parking area that can accommodate four vehicles in front of the station with a larger open area for twelve vehicles at the rear of the property. There are no traffic control devices located adjacent to the fire station.

The building is protected by an automatic fire sprinkler system together with a heat and smoke detection system that is not tied into a central alarm facility. There is a small 5000 watt portable generator that could power a small portion of the building in the event of a power supply interruption. A call box is located on the front of the station which is tied into the Orange County 911 Communications Center. The apparatus bay is equipped with a fax printer to receive alarms from the 911 control center.

The station has a well designed and maintained recreation and meeting rooms located on the west side of the building. Housekeeping throughout the building was very good with well maintained storage areas. There was no formal office or administrative areas in the building. The building exterior and adjacent property was in good condition.

This fire station is generally well located to cover the southern portions of the City and is within .74 miles distant from Station 6 on East Main Street. In retrospect, when this facility was built the station should have been designed to accommodate at least two full size pieces of apparatus. The land area is ideal for a station location with immediate access to both Jersey Avenue and East Main Street.

The recommendation is for the City to maintain this facility as a single engine company with the following recommendations implemented to improve the safety and operational efficiency of the members assigned to this station:

1. Additional gear lockers and protective turnout gear should be acquired to permit each active interior qualified personnel to be issued NFPA compliant protective equipment.
2. Consideration should be given to the installation of a diesel or natural gas powered back up emergency generator of sufficient size to power necessary circuits within the station during an extended power outage.
3. Consideration should be given to integrating the fire protection systems into a central alarm facility to monitor these systems in the event of a fire. The central alarm monitoring location would alter the 911 communications center in the event of an actual alarm indication.
4. Consideration should be given to the installation of an exhaust extraction system.

Fire Station Location and Staffing Review

4.4 Excelsior Engine Company #5, Fire Police Company:

The fire station housing Engine 825 and the fire police unit is located at 141 West Main Street in a two bay facility built in 1987. The building is a one story non-combustible structure located on the east side of West Main Street across from Ferry Street. While just .85 miles distant from Station One, this location serves the northern portion of the City with good access to Pike Street and the Main Street corridor. Like Station Four, this location is nearby a residential area where a number of volunteer personnel live in close proximity to the station.

The station is approximately 4000 square feet in size with a single bay to accommodate the engine approximately 1200 square feet in size. This bay area for Engine 825 is adequate with a twelve foot high overhead door. The fire police portion of the building has a separate exterior door with a small garage area approximately 380 square feet together with a small office area. In between the quarters for the engine and fire police units is a cut off portion of the structure that is utilized for the departments breathing air compressor and refill station.

The station has a sixty foot long ramp area to safely accommodate the engine apparatus as well as responding member's vehicles. Adjacent to the station is a larger parking area together with a small shed used for miscellaneous storage. There is a flashing signal on West Main Street that is activated when there is an alarm to alert motorists.

There are no fixed fire protection systems or alarms in the building at present. There is a small 5000 watt portable generator that could power a small portion of the building in the event of a power supply interruption. A call box is located on the front of the station which is tied into the Orange County 911 Communications Center. The apparatus bay is equipped with a fax printer to receive alarms from the 911 control center.

The station has adequate room for the existing apparatus with a small tool and storage room located to the rear of this area. Directly off the apparatus bays is a small recreation and meeting room for use by the fire company. Housekeeping throughout the building was good and well maintained. There was no formal office or administrative areas in the building. The building exterior and adjacent property was in good condition.

This fire station is generally well located to cover the northern portions of the City, although it is within .85 miles from Station One and 1.00 mile from Station Two. The past practice of having neighborhood fire stations had more value when the demographics of the community had members living within a close proximity to their respective station. From a casual review of fire reports as recorded by the individual companies, the Excelsior Engine Company and several others have a strong neighborhood following based upon their response and staffing levels. While it would be difficult to recommend the construction of multiple fire stations given today's perspective on department operations, this building and location should continue to operate as a single engine station for the immediate future.

Fire Station Location and Staffing Review

4.4 Excelsior Engine Company #5, Fire Police Company:

The recommendation is for the City to maintain this facility as a single engine company with the following recommendations implemented to improve the safety and operational considerations:

1. Gear lockers and protective turnout gear should be located within the fire station apparatus bays to enable personnel to don all protective gear prior to staffing the apparatus for response. No turnout gear should be carried inside of the apparatus crew cab or body.
2. Consideration should be given to the installation of fire protection systems including automatic sprinklers, heat and smoke detection systems in the station. These fixed systems should be integrated into a central alarm facility to monitor these systems in the event of a fire. The central alarm monitoring location would alter the 911 communications center in the event of an actual alarm indication.
3. Consideration should be given to the installation of an exhaust extraction system.
4. Consideration should be given to the installation of a diesel or natural gas powered back up emergency generator in place of the portable generator to be designed with sufficient size to power necessary circuits within the station during an extended power outage.
5. Tools, equipment and non-fire related items should be removed from the apparatus bays and kept in another location of the building or removed from the property.

4.5 Tri States Engine Company #6:

The Tri States Engine Company station is the oldest fire station facility having been constructed in 1950. The company has operated from this location since its inception in 1890. At that time a fire station located at the far south end of the City may have made some sense, however before evaluation of the building structure and other considerations, placing a fire station within .20 of a mile from the City boundary and response district does not make practical sense. With the City borders shared with the Hugenot and Sparrowbush Fire Districts the need to have Port Jervis fire apparatus adjacent to these areas is no longer a consideration in sighting fire station locations.

The station is located at 257 ½ East Main Street across from Barclay Street. The building is a two story of ordinary construction with a single apparatus bay. The building exterior has stone work on the first floor with a stucco finish on the second story. The station is exposed on the west side with a narrow alleyway to a Ford car dealership and to the south from a wood frame dwelling.

Fire Station Location and Staffing Review

4.5 Tri States Engine Company #6:

The station is approximately 2450 square feet in size on both floors with 690 feet dedicated to a small apparatus bay area. When parked in the station the engine is within three feet from the rear wall and 8.00 inches from the overhead door. It is impossible to move across the front of the engine without having the apparatus bay door raised. The first floor bay area also contains a small kitchen, bathroom and unenclosed wooden stairs to the second floor.

The overhead door has a clear door opening of 138 inches wide and 115 inches high. Engine 826 which is the longest pumper in the department's fleet at 33 feet, 6 inches long is very cramped in the apparatus bay and due to the overall height cannot operate with the deck gun master stream appliance mounted on the vehicle. The ramp onto West Main Street is approximately 21 feet long which does not allow the apparatus to be safely parked in this area.

There are no traffic control devices specifically for the fire station although there are two traffic signals along East Main Street at nearby intersections. Traffic patterns in front of the station are moderate at all times with heavy commuter vehicle traffic both in the morning and evening hours. These traffic patterns would certainly impede the safe movement of apparatus when responding or returning from incidents as well as restricting the movement of members responding to the fire station. Parking is very limited as on the east side of the station shares a parking lot with a diner. Across the street from the station is a small unimproved lot that is used for member parking and when the apparatus has to be removed from the station's apparatus bay.

The second floor of the station has a meeting room and small recreation area with only one means of egress outside of the building. Housekeeping throughout the building was fair to poor with internal exposures from the heating plant and kitchen areas. There are no internal fire protection systems in the building. A portable 8000 watt generator can be hooked up to power a small portion of the building in the event of an extended power outage. A call box is located on the front of the station which is tied into the Orange County 911 Communications Center. The apparatus bay is equipped with a fax printer to receive alarms from the 911 control center.

There are no gear racks in the station, partially due to the limited space on the apparatus floor. For this reason the majority of the company's turnout gear is carried on the apparatus including four sets of gear inside of the crew cab. This is a dangerous and unsafe practice that encourages personnel to don turnout gear while the vehicle is in motion.

There is no administrative office area within the station with very limited enclosed storage areas for spare equipment. A small amount of spare hose is maintained on a rack behind the engine together with a smoke ejector and the portable generator.

Fire Station Location and Staffing Review

4.5 Tri States Engine Company #6:

There has been some discussion in the past to relocate the station across the street onto the vacant property on Barclay Street. This land when combined with the City owned park to the north would not provide adequate land for a fire station and would do nothing to change the traffic patterns in the area or improve the location of the station which could positively impact response times for the engine. Other potential concerns for locating a fire station in this area could be during times of flooding with the Neversink River or other natural emergencies.

This station is currently incapable of operating for extended periods of time due to the lack of emergency power and facilities to support long term incidents. As each of the fire companies are staffed by volunteer personnel the ability to staff individual companies is dependant upon personnel being able to access their station before the incident occurs. Should there be valid reasons to have a single piece of apparatus to respond to incidents in this portion of the City any unit could be pre-positioned prior to the area being cut off and inaccessible to vehicular traffic.

The recommendation for this station is to have the City design and construct a new fire station at either one of the suggested locations detailed in Section 6.0 of this report. The current facility which is now 63 years old has outlived its usefulness and is not in a good location to provide fire protection to any portion of the community. The staffing levels available from Engine Company 6 would be better served when combined with the resources of Engine Company 2 and the Rescue/Salvage Company. A new combined fire station would permit the available volunteer personnel to staff the apparatus due on the call with a full crew rather than having two or three units each responding understaffed or not being able to respond due to lack of qualified personnel or a driver.

The following recommendations should be implemented while the City plans to design and construct a new station to replace the current facility:

1. All turnout gear should be removed from the engine and placed on the apparatus bay area. The chairs and other miscellaneous equipment should be removed from the apparatus bays.
2. Housekeeping throughout the station should be improved with no open storage areas. The alley between the fire station and the Ford dealership should be kept free of accumulated items and brush.
3. Non slip surfaces should be provided on the open stairwell step risers and concrete areas of the apparatus floor adjacent to the cab step areas.
4. Apparatus records and maintenance manuals should be secured and kept in a bookcase while accessible to company officers and members as may be needed.

Fire Station Location and Staffing Review

5.0 Fire Company Response Staffing:

The Port Jervis Fire Department operates with five engines, one ladder truck and one rescue/salvage company all staffed with volunteer personnel. Members of the department join a specific fire company and are generally assigned and trained to work with their company. Several companies encourage members from other stations to ride and staff their apparatus during an incident depending upon the individual members home or work location within the City. Overall members of the seven respective fire companies generally function within their own home station.

The membership of each company varies with different classification of personnel based upon the By-Laws of the organization. For purposes of this study the focus was placed upon the number of active, certified interior firefighters, drivers and other personnel who could perform various duties at an emergency incident. For each alarm or incident where personnel are alerted each company completes a hard copy attendance report. This form is utilized to record the personnel who responded, although it generally does not indicate personnel who staffed the apparatus or responded to the scene of the incident in their private vehicles. Engine Company 1 is the only one that records and tracks the staffing level of the apparatus to each incident.

The incident response sheets are turned into the Chief's office on a monthly basis and then stored for future reference. A review of these hard copy records for the period 2010 through 2012 indicates that the detail and amount of information recorded varies widely among the companies and the ability to discern apparatus staffing levels and number of operating personnel at any particular incident is almost impossible. There is clearly room for improvement and a need to provide the department with computers and software programs to capture and record incident response data and staffing as resource information for use by the fire department chief officers.

All department members are alerted to calls via pager and radio by the Orange County 911 center. Upon receipt of an alarm members respond to their respective stations to staff the apparatus. A recently developed department policy requires that apparatus is staffed with a minimum of three qualified personnel including the driver before responding to an alarm. Prior to this policy apparatus could respond with only one or two personnel to an incident.

The past practices and response policies of the department permitted multiple apparatus to respond to incidents within the City for any type of call. Emergencies requiring standby's for helicopter landings, water rescues and mutual aid calls received a specific level of response depending upon the nature of the incident. Minor alarms such as vehicle fires, brush or outside fires could receive a multiple company response depending upon staffing and the availability of driver's, especially during the daytime hours. On reported structural fires and automatic alarms all companies could respond with whatever staffing was available. For this reason there is a range of activity levels and actual number of apparatus responses from each of the seven companies.

Fire Station Location and Staffing Review

5.0 Fire Company Response Staffing:

The fire department annually responds to a wide range of incidents including water rescues, building fires, automatic alarms and mutual aid to neighboring jurisdictions. There are several buildings that due to the fire alarm systems are responsible for a large percentage of the automatic alarms which typically result in false or unintended alarms. Following is a breakdown of incidents for the period 2010 to 2012

Table 5.1 Alarm Summary by type of Incident 2010-2012

<u>Year</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>
Structure	76	69	55
Outside Fire	21	32	15
Vehicle Fire	5	9	3
Rescue	21	48	20
Automatic Alarm	125	149	134
Mutual Aid	147	132	71
Other	134	240	122
Total Alarms	529	679	420

5.2 Comments on Table 5.1

#1. The greater numbers of incidents during 2011 were due to hurricane storms and weather related calls for department services.

#2. The department responds with a normal compliment of apparatus to all reported structure fires including automatic alarms. These incidents routinely account for almost thirty three percent of all alarms and calls within the City. Several buildings account for a large percentage of these calls including the Bon Secours Hospital and 174 Pike Street.

#3. The actual number of vehicle accidents within the City requiring extrication and fire department services account for a very small percentage of incidents, generally three to four calls per year.

#4. Due to the apparatus and staffing resources available within the department, the Port Jervis Fire Department is frequently called upon by the neighboring jurisdictions to assist at out of town incidents under mutual aid.

Fire Station Location and Staffing Review

For the period between 2010 and 2012 the fire department responded to an average of 542 incidents ranging from a high of 679 runs during 2011 to 420 runs during 2012. The fire department provided the individual company run sheets for all incidents during 2012 for review. A detailed analysis of the available records provided the following data:

Table 5.2 Number of Company and Apparatus Responses-2012

<u>Company</u>	<u>Calls Answered</u>	<u>Apparatus Responses</u>
Engine 1	324	271
Engine 2	256	182
Engine 4	330	275
Engine 5	251	211
Engine 6	140	102
Truck 1	293	197
Rescue 3	51	16

5.2 Comments on Table 5.2:

1. Each fire company is not required to respond to every incident, therefore no single company responded to every incident that was recorded as one of the 420 runs during 2012.
2. Individual company members who chose to respond to another fire station other than their home company would have their name recorded as part of that company's staffing. For example, if Engine 1 did not have a driver or this vehicle was out of service for maintenance purposes, members from Engine 1 could ride and operate from Truck 1 as they share quarters.
3. Several fire companies, notably Rescue 3 did not submit all of their monthly reports as many were missing and unavailable for review. Other companies, Engine 1, Engine 4 and Engine 6 provide monthly summaries to go along with the individual call sheets to verify the actual number of personnel responses to the fire station.
4. The ladder truck is not required to respond to every incident or minor alarms and for this reason the number of company responses is slightly less than some of the engine company units. In fact, the ladder truck should not be utilized to respond to outside fires, vehicle fires, wires down or other incidents unless specifically called by a chief officer.
5. The actual run numbers and utilization of each piece of apparatus varies widely with the most active companies responding to over seventy percent of all incidents during this period.

City of Port Jervis

Fire Station Location and Staffing Review

Following is a summary of the staffing levels for each of the seven fire companies to significant incidents including structure fires, outside building fires and reported working fires during 2012.

Table 5.3 Company Staffing Levels for Structural Fires- 2012

<u>Company</u>	<u>Total Response</u>	<u>Percent of Apparatus Response</u>
Engine 1	7.56	64.5 %
Engine 2	4.75	43.3 %
Engine 4	4.50	65.4 %
Engine 5	7.55	50.2%
Engine 6	4.47	24.2 %
Truck 1	6.90	46.9%
Rescue 3	2.25	3.8%

Total Average City wide response: 37.98

5.4 Comments on Table 5.3:

1. Approximately eighty alarms were studied for this time period to develop these numbers. These numbers were not broken down to identify the individual number of officers, interior and exterior fire personnel who responded to each alarm. Most nationally accepted standards call for a minimum staffing of four personnel on each piece of apparatus in order to safely operate on the fire ground.

2. Only Engine Company 1 records the staffing levels on the apparatus. Average staffing on Engine 821 for the period was 4.46 personnel.

3. As every fire company may not respond to every incident the total average staffing of 37.98 personnel is not reflective of the actual number of operating personnel on the fire ground. It was not possible to identify the on scene staffing levels for these incidents using the current fire department records and incident forms.

4. As a percentage of the total number of alarms it can be determined that Engine Companies 1, 2, 4 and 5 as well as the ladder truck respond and are utilized at these incidents. The response records from Rescue Company 3 were incomplete and the response levels from Engine Company 6 are limited to approximately 33 percent of all alarms with actual apparatus response of 24.2 percent when staffing and drivers are available.

Fire Station Location and Staffing Review

5.0 Fire Company Response Staffing;

The NFPA 1720 Standard covers the organization and deployment of fire suppression operations and emergency medical services for volunteer fire departments, regardless of size and other internal department specific structure. This document outlines the needed apparatus and personnel resources required to safely and effectively operate at all incidents.

The NFPA 1720 standard identifies five different types of geographic areas and the recommended and the minimum number of personnel that should be available for response. These categories include the following: special risk areas, urban, suburban, rural and remote. Special risks areas are target hazards or where significant life safety concerns would be present. Urban areas are those where greater than 1000 people per square mile are present, where suburban locations are defined where 500 to 1000 people per square mile are located. Rural areas are those where less than 500 people inhabit the areas of the community.

From the perspective of the demographics of Port Jervis much of the built up areas within the City's response district would be considered to be urban with a combination of commercial, institutional and residential structures where the daytime working population falls within these parameters.

The standard outlines the following requirements for the **minimum staffing** levels and the associated response time to at least ninety (90) percent of all alarms as follows:

Table 7.4 NFPA 1720 Response Criteria

<u>Demand Zone</u>	<u>Minimum Staffing</u>	<u>Response Time</u>
Special Risk	Determined by AHJ	Determined by AHJ
Urban	15	9.0 minutes
Suburban	10	10.0 minutes
Rural	6	14.0 minutes
Remote	4	14.0 minutes

The reference to AHJ is a term that means that the local authority responsible for fire protection, in this case the Port Jervis Fire Department may determine the specific benchmarks to meet this perceived fire and emergency hazard at these locations. Base upon a review of the response levels for the past three years the fire department generally would meet these requirements, however the initial response of apparatus may require that several units would be necessary to assemble the required minimum staffing due to the response of volunteer personnel on both apparatus and with personnel vehicle response to the scene.

City of Port Jervis

Fire Station Location and Staffing Review

5.0 Fire Company Response Staffing:

The National Fire Protection Associations recommendations for response to structural firefighting for various occupancy hazards where interior fire operations are going to take place are as follows:

For high hazard occupancies such as schools, hospitals, nursing homes, high-rise buildings and where other high life hazard or large fire potential exists:

A minimum of four (4) engine, two (2) ladder trucks and two (2) chief officers with not fewer than twenty four (24) personnel. In addition a safety officer and rapid intervention team should be available for a total of twenty nine (29) members.

For medium hazard occupancies including apartments, offices, mercantile and industrial occupancies:

A minimum of three (3) engines, one (1) ladder truck and one (1) chief officer with not fewer than sixteen (16) personnel. In addition a safety officer and rapid intervention team should be available for a total of twenty one (21) members.

For low hazard occupancies such as one and two family dwellings:

A minimum of two (2) engines, one (1) ladder truck and one (1) chief officer with not fewer than twelve (12) personnel. In addition a safety officer and rapid intervention team should be available for a total of seventeen (17) members.

Additional alarms should be at least the equivalent of the initial alarm with special requests such as a “working fire dispatch” or for special resources when required. As is often the case with volunteer organizations there are fire companies that can provide sufficient resources in terms of apparatus and personnel to effectively handle minor incidents where one or two units are operating, but may lack sufficient staffing to provide a full first alarm response. Due to the availability of personnel, some of the Port Jervis companies can be reasonably confident of providing minimum staffing for the apparatus at all times. The inability of Port Jervis fire companies to cross staff the apparatus is a potential liability and can increase response times as single station companies await personnel to staff one piece of apparatus.

Additionally there needs to be increased cross training of personnel to operate other department vehicles in the event that regular members are not available. In the past the Port Jervis fire department has been largely self sufficient due to the number of pieces of apparatus and staffing levels. Mutual aid is readily available from Orange County fire stations as well as those in adjacent Pike County, Pennsylvania, Sussex County, New Jersey and is utilized as needed to provide additional resources when requested.

City of Port Jervis

Fire Station Location and Staffing Review

The following recommendations are offered to strengthen and improve the apparatus response and staffing levels for all of the fire companies and the City of Port Jervis Fire Department.

5.5 Response to Alarms and Staffing Recommendations:

1. The minimum response to all reported structural fires within the response area as noted on the box alarm assignments should be: three engine companies, one ladder truck and one heavy rescue apparatus. Additional units from other stations may respond with staffing according to the department's standard operating guidelines.
2. The fire department should acquire and make operational use of a computer based software system to record all pertinent information on incidents including apparatus responses, staffing levels and equipment utilized. This system should provide for terminals in each station to allow company officers to log in and input data as required. The department should modify their incident response forms to indicate the names of personnel responding on each piece of apparatus to the alarms. The company and chief officers should monitor the staffing levels of the department on a quarterly basis to adjust staffing levels and apparatus response as may be required. The current system of hand written response records is often incomplete and does not provide the necessary information to use in reviewing and analyzing company level performance.
3. The fire department chief officers should develop a phantom box card system to provide for the response of the closest available engine, ladder and special service companies for structural fire response for up to four alarms from neighboring departments. Engines, ladders and special service apparatus assignments should be written and fully developed to provide for these pre-determined assignments. All areas of the first due area should be evaluated with approximately four to six box areas needed to address the response area and special target hazard buildings in the community.
4. Consideration should be given to establishing a "working fire dispatch" for incidents where all hands will be utilized for a period of time. While the number of units assigned on this alarm may vary, the minimum recommended response should be two fully staffed engine companies and one special service. The special service company may be either a ladder company or rescue apparatus. In addition a trained rapid intervention crew should automatically be assigned to any alarm where all companies will be committed to fire operations for a period of time.
5. All box alarm assignments for the response area should be reviewed annually and updated by a working group of company and chief officers. Apparatus assigned to the first alarm should be programmed where engine, ladder and tanker apparatus should be pulled from individual fire companies to insure adequate staffing. This single pull system should insure that automatic aid units listed on the box assignment will provide for at least the minimum staffing on each apparatus. The minimum staffing on each piece of apparatus should be four (4) personnel all of whom are certified for interior operations.

Fire Station Location and Staffing Review

5.5 Response to Alarms and Staffing Recommendations:

6. Where possible the assignment of units on each alarm should come from the closest available fire station, regardless of community or jurisdictional affiliation. There may be unique instances that due to the known staffing limitations or resource capabilities of a neighboring fire company that the strict adherence to roadway mileage cannot be the only determining factor. However, in most cases the order of response of units on the initial and subsequent alarms should be largely based upon the closest available apparatus that can provide the service to the center of the box area.

7. The department's duty engine program should be expanded to include cross staffing of engine company apparatus for minor incidents such as vehicle fires, outside fires and other minor incidents that do not require the response of multiple engine apparatus. Consideration should be given to analyzing the past several years worth of alarms to identify based upon local conditions incidents where two engines or two engines and one ladder could safely mitigate the emergency with a minimum of twelve personnel, excluding chief officers.

8. In order to receive the maximum credit possible from the Insurance Services Office during the evaluation of the fire companies staffing levels, on alarms where multiple companies are activated for a structural fire the fire reporting records should indicate the individual staffing levels of the automatic aid companies, including the total staffing levels.

9. Consideration should be given to conducting quarterly multi-company training exercises within the first due area to familiarize the neighboring fire companies with target hazard structures and operational procedures utilized by the fire department. Credit for conducting these multi-company drills is taken under consideration by ISO when reviewing fire department staffing levels.

10. Each of the engine, truck and rescue apparatus should have assigned riding positions based upon the seat location on the apparatus. These riding positions will be detailed to go along with the department standard operating procedures and will provide for minimum staffing levels of four (4) personnel on each unit. Riding assignments may then be expanded to provide for riding assignments for each seating position on the apparatus.

11. The fire department should regularly revise and update the standard operating procedures and guidelines to keep pace with current department operations, training and practices. Consideration should be given to establishing a working group of company officers, senior personnel and chief officers to revise and enhance the existing company regulations which can then become a part of the regular training program for all fire department members.

12. As mentioned in Phase one of the fire protection review the department should to the extent possible, standardize the hose bed layouts, tool and equipment placement on each piece of apparatus. Major appliances, hose loads and hand tools should be mounted within the compartments with standard locations on each engine apparatus in the department.

City of Port Jervis

Fire Station Location and Staffing Review

5.5 Response to Alarms and Staffing Recommendations:

13. During the 2011 ISO survey of the City, the fire department obtained 6.97 points out of a possible 15.00 points for the response of members to alarms. ISO standards are based upon staffing levels of six personnel per unit and with the requirements for three engines and one ladder truck apparatus to structural fires. This would require an average response of twenty four personnel to alarms. It should be noted that the ISO standards are based upon the response of personnel who are assigned to the fire station, either career staffing, or volunteer staffing where the apparatus is manned for a minimum of an eight hour period. Another nationally recognized response standard is NFPA 1710 which requires that the fire department be capable of supplying a minimum of four personnel on the first due apparatus to all areas within four minutes of notification of alarm. One of the possible reasons for the lower points of credit in this area was the lack of any consolidated staffing levels and individual fire company records.

14. The department should prepare a response protocol system to provide for an appropriate level of apparatus and personnel response to alarms for the different types of calls. Specific cross training should be provided to personnel from Engine 1/Truck 1 and Engine 2/Rescue 3 to enable personnel from these shared facilities to be able to operate the apparatus and equipment from the other fire company in order to bolster the apparatus staffing when required.

6.0 Fire Station Location Analysis:

The locations of the present five fire stations provide mainly good protection to most areas of the city. These stations were all built upon City owned property and were constructed between 1950 and 1997. One nationally accepted criterion for establishing parameters for fire station locations is published by the Insurance Services Office in their Fire Suppression Rating Schedule. The Insurance Services Office is a private, not for profit service organization that provides various rating formulas and inspection services for member insurance companies. The Fire Suppression Rating Schedule is utilized by ISO to rate the ability and performance of fire departments in the areas of apparatus, training, equipment, personnel response, apparatus response and communications.

These parameters as established by ISO are utilized to develop the base fire insurance rates for municipalities with recognized water supply systems with fire hydrants. Municipalities are graded by ISO and awarded a numeric classification between 1 and 8 depending upon the total points of credit given under the evaluation.

The City of Port Jervis is presently rated by the ISO at Class 4 applying to those areas within hydrant protection and the water system. This rating was awarded to the in June, 2011. The water system achieved a grading of Class 2, with the fire department awarded a Class 5.

City of Port Jervis

Fire Station Location and Staffing Review

6.0 Fire Station Location Analysis:

The placement of the fire stations and associated response distances directly impact upon the rating that a municipality receives as a result of the ISO grading. With the existing roadways within the community, the ISO criteria for apparatus response distances are still a reasonable barometer of the effectiveness of the station location. The ISO schedule addresses fire station locations by establishing the recommended and the maximum distances for apparatus response over public roadways as follows:

Table 6.1 Insurance Service Office Response Distance Criteria

Apparatus Type	Distance	Comment
First due engine	1.50 miles	Recommended Distance
First due ladder/ Special service	2.50 miles	Recommended Distance
First due engine	3.00 miles	Maximum Distance Commercial Property
First due engine	5.00 miles	Maximum Distance Residential Property

The ISO criteria represents the recommended distance from the fire station for all properties in the built upon areas of the fire district. The maximum allowable distance from the fire station of three miles for commercial buildings and five miles for private dwelling is established if the property is to be credited for response by the local fire department. For this reason fire departments have historically located fire stations within their response areas based upon this mileage criteria and the availability of personnel to insure the response of units with a minimum of at least four personnel

Fire flow requirements are engineering calculations, which determine the water supply that would be required to control and extinguish a fire in a structure. Fire flow demands place requirements on both public hydrants systems and local static water supplies such as streams or ponds. These fire flow requirements impact upon the ISO grading of the City in the areas of water supply, number of required engine companies and required pump capacity. During the most recent ISO inspection the basic fire flow was determined to be 3500 gpm.

The current location of the five fire stations insures that virtually all areas of the community are within 1.50 miles from the nearest fire station. The location of Stations 2, 4 and 6 show a considerable amount of overlap where one or more of these stations would not be needed with the remaining location capable of satisfying the ISO mileage standards.

City of Port Jervis

Fire Station Location and Staffing Review

6.0 Fire Station Location Analysis:

There is a demonstrated need for new quarters for Engine Company 6 and more importantly a single location to combine Engine Company 2 and 6 together with the Rescue/Salvage Company 3 into a new fire station location. While there may be other locations with available land for use as a combined fire station in the opinion of Emergency Vehicle Response there are two preferred properties that should be considered for the new fire station.

6.2 Option #1: Orchard Street

The City of Port Jervis owns property on Orchard Street between Fowler Street and Church Street. This land extends over to Hill Street and on mapping provided is identified at number 26 Orchard Street. This land would be suitable for a three to four bay fire station with the possibility of several drive through bays. This facility would combine the two oldest stations built in 1950 and 1974 into a single location where three companies would share quarters.

The combined station would permit cross staffing and training for each of the fire companies and would provide for improved response levels on the apparatus as compared to the current situation where each of the three companies have to provide a driver, officer and staffing for each individual piece of apparatus. Based upon the activity levels and response data reviewed Engine Company 6 and the Rescue Company are currently suffering from a lack of personnel and as a result the number of alarms where the apparatus actually responds is less than twenty five percent of all alarms.

The current Fire Station 2 could be turned over to the City for use by other agencies and would provide a single modern fire station that would be designed to meet the needs of the community for the next forty to fifty years.

6.3 Option #2: 22 Hammond Street

The current station for Engine 2 and the Rescue Company was constructed by the City Department of Public Works during 1974 and has outlived its usefulness as a fire station. Other than providing a storage location for the apparatus the building lacks modern fire protection systems, back up power supply, has limited storage and administrative areas and each company is segregated into its own portion of the building. The location provides adequate space to expand the footprint of a new building into a multipurpose structure and could provide for a needed additional apparatus bay for department use.

This new building would replace the entire current structure and would be large enough to safely accommodate the current apparatus for Engine Company 2, Engine Company 6 and the Rescue/Salvage Company. The current Fire Station 6 could be auctioned off as surplus by the City with these three companies housed in a single, combined facility. There are trade offs for each of these locations with either one being preferred over maintaining the status quo or building a stand alone fire station to house a single piece of apparatus in any location within the City.

Fire Station Location and Staffing Review

Following is a summary of the mileage distances between the current and proposed fire station locations:

Table 6.4 Fire Station Locations:

<u>Fire Station</u>	<u>Distance</u>
Station One to Station Two	.46 miles
Station One to Station Five	.86 miles
Station One to Orchard Street	.65 miles
Station Two to Station Four	.55 miles
Station Two to Orchard Street	.45 miles
Station Four to Station Six	.77 miles
Station Four to Orchard Street	.36 miles
Station Six to Station One	1.57 miles
Station Six to Station Two	1.26 miles
Station Six to Orchard Street	1.14 miles

6.5 Comments on Table 6.4:

The distances between any combinations of the current fire station locations provides more than adequate coverage to meet the Insurance Services Office standards and certainly goes to the point that a single fire station properly located could meet the fire protection needs of the community. This strategy is not recommended as the current facilities of Stations 1, 4 and 5 are adequate and all are less than twenty five years of age. The staffing and response levels of the four companies quartered in these stations are performing well and with increased training and cross staffing initiatives this should continue.

The past history of the fire department has been to support the individual fire companies with apparatus, equipment and individual fire stations to permit each volunteer fire company to operate within their own quarters. The present demographics of the community have changed over the years where active fire department personnel may not be necessarily reside within the immediate area of their companies fire station. While having fire personnel respond in their private vehicles across town to staff the apparatus has been the accepted practice for years, there needs to be a change in the mode of operations to permit staffing of the needed apparatus with adequate personnel to enhance the safety and operations of the Port Jervis Fire Department.

Fire Station Location and Staffing Review

Consideration should be given to retaining the services of an architectural engineering firm at some point in the near future to study the two suggested locations for the new combined fire station facility. With the acquisition of the new ladder truck no further apparatus purchases are planned until 2017. Prior to that time plans should be developed and in process to replace both Fire Station 2 and Fire Station 6 into a single combined location for the three fire companies. The following recommendations are offered for the basic design of the new fire station for Engine 2, Engine 6 and the Rescue/Salvage Company:

6.6 Fire Station Design Criteria:

1. The new station should be provided with a minimum of four drive thru bays, each with a front and rear bay door design of adequate dimensions to provide clear access for apparatus that has minimum dimensions of ten feet wide and fourteen feet high. Additional non-drive thru bays may be provided as necessary due to plot size and building layout for support units, rescue boats and chief's vehicles.
2. Apparatus bays should provide for sufficient room to allow each primary response apparatus to be housed in its own bay. Adequate room should be provided in each bay area to allow for routine truck and equipment maintenance. Each bay should be provided with sufficient wash and drainage provisions in addition to overhead reels to support air, water and other services.
3. The fire station should be fully protected by an NFPA approved automatic sprinkler system and smoke/heat detection system which should be monitored by a central alarm facility.
4. The station should be provided with a watch desk and communication area that is immediately adjacent to the apparatus bays and should have a clear view of the ramp and parking area.
5. The fire station plot design should allow for clear access to the adjacent streets with traffic control devices where required that can be activated from either the apparatus or watch desk location.
6. The areas adjacent to the apparatus bays should provide for adequate storage areas for turnout gear for responding members, hose and spare equipment with a wash bay for decontamination cleaning of gear and hand tools.
7. Additional room adjacent to the apparatus bays should be made for small tool and equipment repairs, hose storage and spare equipment.
8. Sufficient apparatus bay and garage space should be allocated to house all department owned vehicles in an enclosed and secured space. There should be at least one additional spare bay designed into the station that is not occupied by a piece of apparatus reserved for future use by the department.

Fire Station Location and Staffing Review

6.6 Fire Station Design Criteria:

9. The station design should provide for sufficient office and administrative space for the fire chief and other line officers, administrative officers and other personnel as may be needed.

10. The bunkroom, washroom and kitchen facilities should be designed to accommodate a minimum of twelve fire personnel each with their own room. The bunkroom should be located within close proximity to the apparatus bays and all living areas within the station should be located on the main floor of the building.

11. All areas of the fire station should be properly secured from unauthorized entry by outside personnel.

12. A properly sized back up emergency power supply with the ability to power all areas and functions within the building should be provided.

13. A properly sized room should be provided within the main area of the fire station to be used exclusively for department training and other related activities. This room should be equipped with appropriate audiovisual and computer capabilities together with a department library and resource area for all department personnel.

14. The fire station should be provided with a properly sized physical fitness room with fire radio communications and telephones provided within this area.

15. The overall fire station design should incorporate all of the presently required fire protection and building code requirements with fully developed plans by a registered architectural firm with demonstrated experience in fire station design.

7.0 Water Supply Evaluation:

The City of Port Jervis is served by a strong water supply system that can provide fire flows between 1500 and 8300 gpm at 20 psi residual pressure. During the most recent ISO survey the water system together with fire hydrant conditions acquired 35.91 points of credit out of a possible 40.00 points. The fire department's engine apparatus are equipped with 650 gallon to 1000 gallon booster tanks with three engines, 821, 822 and 826 each carrying the larger water tank. Each of the engines is equipped with five inch hose for supply line and hydrant assist valves. Not all of these appliances are utilized as some valves are not attached to the supply line and carried inside of body compartments.

Several of the engine apparatus lack sufficient preconnected attack lines to produce near the rated pump capacity of the vehicle. While maintaining a rated pump capacity of 9000 gpm the current units are not sufficiently set up to deliver large caliber streams and heavy flow attack lines. The department currently uses a number of different nozzles and appliances which are not standardized among the five engine company vehicles.

Fire Station Location and Staffing Review

7.1 Water Supply Recommendations:

The following recommendations are offered to improve the water supply capabilities of the fire department:

1. Each engine company should be equipped with a minimum of 1200 to 1400 feet of five inch supply line. Due to the strength of the City water supply consideration should be given to any new engine apparatus to have the capability of laying dual 5.00 inch supply lines to maximize the capabilities of the municipal water system.
2. Stream shapers with smooth bore tips should be provided on all master stream appliances including deck guns, portable monitors and the aerial ladder.
3. The fire department should be consulted in the preliminary stages of any building design to provide input with respect to hydrant locations, building detection systems, sprinkler connections and points of egress for department apparatus.
4. The attack line hose loads on all engines should be standardized to the extent possible on each of the department's engine apparatus in accordance with the specific recommendations detailed in Section 6.0 of the Apparatus Fleet Review.
- 5 Each engine company should be equipped with a small portable master stream device capable of producing a minimum of 500 gpm. This appliance should be connected to 200 feet of three inch preconnected hose and used for rapid deployment on structures with heavy fire conditions.
6. The supply line hose beds on each engine should be marked at the five hundred and thousand foot intervals to make these points easily indentified on the fire ground.
7. The nozzles on the various attack lines on each of the engine apparatus should be standardized to provide common pump pressures and water flow delivery for all pumps.
8. Consideration should be given to color coding the department's attack line hose to coordinate with the hose diameter and attack line length as a pilot project on at least one of the department's engine apparatus.
9. Future engine units should be acquired with 500 gallon water tanks in lieu of the current 1000 gallon tanks. With a strong City water supply for the hydrants and 5.00 inch hose there is no need for large capacity booster tanks.
10. The fire department should conduct several multi-unit drills with neighboring fire departments on water supply operations at target hazards within the first due area. Water supply evolutions should be developed and routinely practiced with all first alarm companies with complete records kept on this training.

Fire Station Location and Staffing Review

7.1 Water Supply Recommendations:

11. The four way hydrant valves carried on each engine should be attached to the 5.00 inch supply line bed for immediate use on the fire ground. Each of the supply lines should be provided with a hose line marker to indicate the engine company's supply line.

12. The department's engine companies should conduct monthly multi-unit training sessions on advancing attack lines, hydrant operations, pumper hose relays and master stream operations.

13. All active drivers currently certified to operate their respective companies apparatus should be cross trained to operate at least one or two other vehicles in the department's fleet. A vehicle training coordinator's position should be established to develop this schedule and oversee the department's driver-operator training as well as pump operations.

14. With the anticipated delivery of the new rear mount aerial ladder to replace Truck 827, personnel from other companies especially Engine Company 1 should be cross trained in the safe and proper operation of the new truck including positioning, stabilization and aerial ladder operations.

8.0 Summary

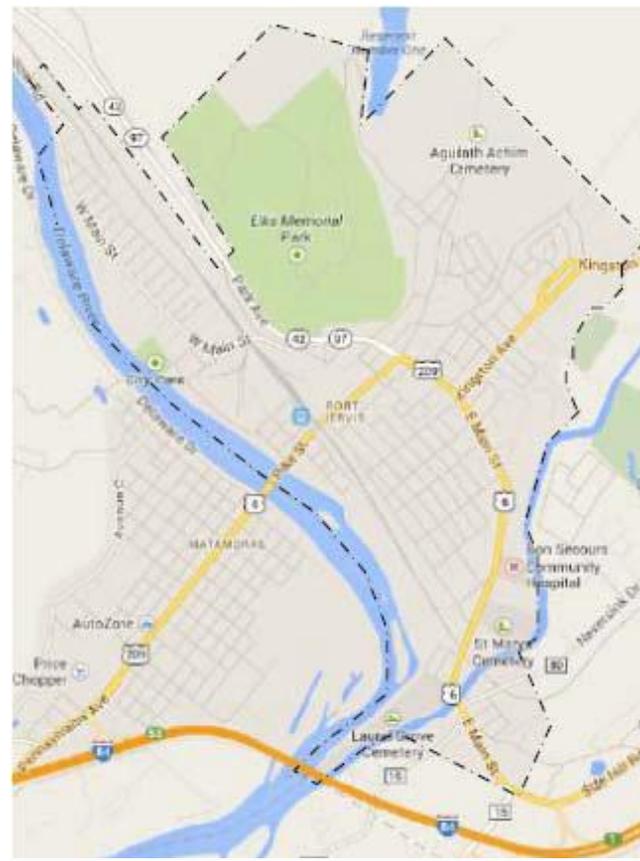
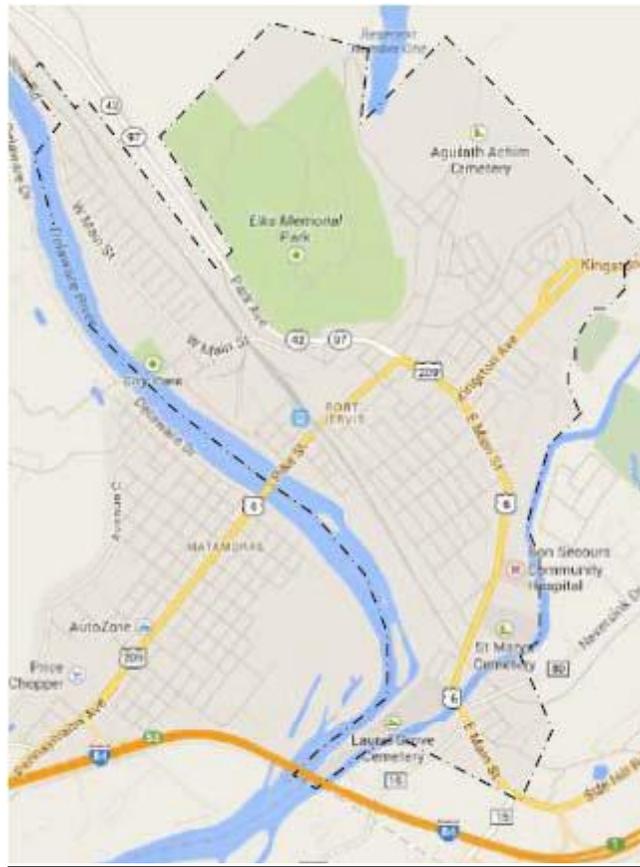
We gratefully acknowledge the cooperation and assistance of the Chief Officers of the Port Jervis Fire Department who provided information on the fire department's apparatus, response policies and procedures. The summary and findings as written in this report are solely those of Emergency Vehicle Response and have not been influenced by any representative of the City or Fire Department personnel.

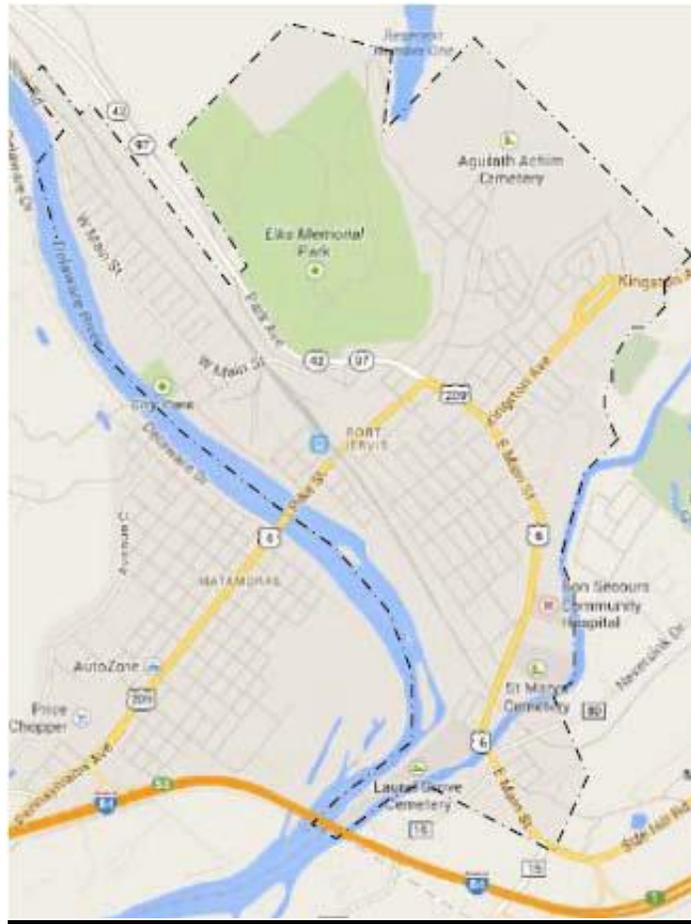
The staff of Emergency Vehicle Response looks forward to meeting with City officials and the Port Jervis Fire Department officers to review and discuss the findings and recommendations included in this report.

Respectfully submitted,

Michael Wilbur

Tom W. Shand





City of Port Jervis

Fire Station Location and Staffing Review

9.0 Appendix Fire Station Location Mapping:

On pages 32 through 34 are three (3) maps for reference with respect to Section 6.0 Fire Station Location Analysis. This mapping is provided to emphasize the importance of proper fire station coverage with respect to the baseline Insurance Services Office criteria of 1.50 mile travel distance for the closest engine company to all areas of the city. As was stated previously the Fire Department has historically operated with seven, independent fire companies under the command of an elected fire chief and other command officers. While this independence has provided some strong leadership within the company ranks the department has suffered from lack of standardization in apparatus, equipment carried and even methods for recording individual fire reports.

The culmination of the comprehensive review of Fire Department operations, procedures, apparatus, equipment and staffing capabilities has uncovered a number of strengths within the organization which are a clear asset to the City of Port Jervis. Moving forward the department in cooperation with the City fathers needs to develop a long term program to fund not only apparatus but a single new fire station that will combine the resources of Engine Companies 2 and 6 together with the Rescue Company. This facility will provide improved fire protection through increased unit staffing, reduction in response times and the ability to cross staff vehicles as needed.

The attached reference maps show the following features:

Page 32: Maps indicates the present station locations of each of the five (5) stations within the City. ISO mileage coverage would show a considerable overlap of services with no discernible requirement for multiple fire stations.

Page 33: Map indicates the portion of the City that would be within 1.50 miles from a proposed new fire station on Orchard Street. This specific location would permit multiple engine companies and the rescue company to service all areas within the City from a single location.

Page 34: Map indicates the portion of the City that would be within 1.50 miles from the current location of Engine Company 2/Rescue Company 3 on Hammond Street. A new fire station located on current City owned property would accommodate three fire companies, including Engine Company 6 into a single, combined facility designed in accordance with the recommendations outlined in Section 6.6 of this report. Again, this location would adequately service all areas within the city and there is no requirement to build a new single engine company station at any location which would improve the current response patterns.