6.0 Mutual Aid

In its simplest form, mutual aid is an agreement between fire departments, fire districts or communities to provide assistance if help is needed for a fire, emergency or situation which a single entity cannot mitigate on its own. Aid can be in the form of manpower, specific apparatus (i.e., aerial ladder or platform, tanker, or brush truck) or specialized equipment for a particular fire or emergency (i.e., foam, hazardous materials resources, extrication tools). The Town of Bethlehem's five fire districts are part of the Albany County Mutual Aid Agreement as well as the New York State mutual aid system.

The five fire departments in the Town of Bethlehem have unique, specialized apparatus and equipment that facilitates the ability to share services. For example, the Slingerlands Fire Department is widely known for their rescue expertise and was the first upstate fire department to receive the "jaws of life" in 1972. The department operates Rescue 16, which is equipped with a wide variety of specialized tools necessary for various technical rescue situations. The Elsmere Fire District operates as part of the Albany County Hazardous Materials Response Group. Squad 33, a heavy rescue vehicle, is equipped to operate as a resource in mitigation and decontamination procedures at a hazardous materials incident. As a member of Capital District Regional Hazardous Materials Committee, the Elsmere Fire District participates in group grant applications, group purchasing, and regional training. The Selkirk Fire Department maintains two bulk foam trailers (TR11 and TR12) and a Boston Whaler boat (Rescue 4), for use on the district's seven miles of Hudson River shoreline. The department also operates Rescue 46, a heavy rescue vehicle, which carries technical rescue equipment, and M425, an air cascade truck for refilling air cylinders. Squad 63 is operated by the North Bethlehem Fire Department. This unit provides rehabilitation services at fires and emergencies and can be used in mass casualty incidents. If the need arises, any of these unique resources can be called to an incident in the greater Albany area.

Today, automatic mutual aid is common throughout the five fire districts in the Town of Bethlehem and with neighboring jurisdictions. As the name implies, automatic mutual aid is assistance dispatched automatically upon the receipt of an alarm. Factors that determine an automatic mutual aid response include: time of day, the location of the alarm, the nature of the call (i.e. structure fire, motor vehicle accident). When the criterion is met, adjacent fire departments are dispatched to ensure that adequate resources are responding to the scene in a timely manner. The following illustrates some of the shared services used by the districts.

Daytime Mutual Aid Responses

Time:
Monday to Friday 0600 to 1800 hours

Type of Alarm:
Structure and unknown fires

Response:

- Elsmere Fire District is dispatched to calls originating in the Selkirk Fire District, the Delmar Fire District or the Slingerlands Fire District.
- Delmar Fire Department is dispatched to calls originating in the Elsmere or the Slingerlands Fire Districts.
- Calls in the Slingerlands Fire District on Overlook Street, Andover Road, Old Krumkill Road and Hidden Hallow Road result in the dispatch of North Bethlehem and Delmar Fire Departments.

Type of Alarm:
Motor vehicle accidents

Response:

- The Delmar Fire Department is dispatched in the Slingerlands Fire District.

24-hour Mutual Aid Responses

Time:
24 hours a day, 7 days a week

Type of Alarm:
All Calls

Response:

- All calls on Route 85 in the Slingerlands Fire District results in the dispatch of North Bethlehem Fire Department.

Type of Alarm:
Structure and unknown fires

Response:

- Calls in the Elsmere Fire District along the Route 9W corridor in the area of Feura Bush Rd. result in the dispatch of the Selkirk Fire Department (specific streets are listed in dispatch protocol).
- Calls in the Selkirk Fire District in the area of Elm Avenue result in the dispatch of the Delmar Fire Department (specific streets are listed in dispatch protocol).

Type of Alarm:
Rescue

Response:

- All rescue calls on Route 9W in the Elsmere Fire District results in the dispatch of the Selkirk Fire Department.

Type of Alarm:
Fire, specifically at Price Chopper Plaza 1355 New Scotland Rd. (Slingerlands Fire District)

Response:

- All structure and unknown fire calls at this location result in the dispatch of the North Bethlehem and Delmar Fire Departments.

Out of Town Automatic Mutual Aid Responses:

- Selkirk Rescue 46 responds to all motor vehicle accidents on the New York State Thruway and the Berkshire Spur in the Coeymans Fire District.
- Delmar Truck 20 responds to 34 New Scotland Road in the Onesquathaw Fire District.
- Selkirk Engine/Tanker 43 responds to all calls in the Onesquathaw Fire District between 0800 to 1800 hours.
- North Bethlehem Engine 66 responds to all alarm drops and structure fire calls in McKnownville Fire District and Westmere Fire District, Monday to Friday 0600 to 1800 hours.

One of the questions asked during the interview process of this study was "What one thing is working so well it should not be changed?" The most common, immediate, reply to this question was "the use of (automatic) mutual aid." Many respondents noted the need to have this system in place to deal with manpower issues, especially during the daytime hours, and felt the system works well. The current mutual aid procedures target the time frame (0600 to 1800 hours) when the availability of volunteers to respond to calls is severely limited. Several survey respondents mentioned that in some cases it is difficult for members to leave work to attend calls. As outlined above, automatic response is not limited to the Town of Bethlehem; agreements are currently in place across town lines. The use of automatic mutual aid will continue to evolve and, as now, will be based on needs. The availability of adequate personnel to respond to an emergency and operate safely will always be the overriding factor. Growth in a particular area, the erection of multi-story buildings, need for specific apparatus (i.e., aerial/tower ladder), new and existing target hazards (i.e., large commercial buildings, industrial facilities, and nursing/assisted living facilities) will all impact future mutual aid agreements. The chief officers of the five departments have the knowledge of their respective districts, the response time considerations, and the patterns of availability of personnel, giving these organizational leaders the tools necessary to guide future decisions on mutual aid. Any mutual aid policy must be fluid in order to adapt to ever-changing fire service needs.

7.0 Dispatching

Dispatching, now referred to as emergency communications, is a critical component of the process of detecting and responding to fires and other emergencies. The key criterion for dispatch effectiveness is to minimize the amount of time it takes to locate a call for service, identify its needs, and alert the proper resources to ensure that they respond. Of course, it is also critical to manage communications effectively to monitor the incident, to maintain awareness of its progress, and to promptly identify and secure additional resources necessary to mitigate the emergency. The concept of public safety dispatch, in which a single facility handles emergency calls and dispatching for police, fire, and EMS is well-established and is gaining additional support post-September 11, 2001.

In the context of the Town of Bethlehem, the ability to manage interactions between districts is crucial. Identifying the correct district to dispatch, knowing what additional resources may be needed, and assuring the key information is recorded for later analysis are fundamental to being able to soundly manage the system and to identify areas for improvement.

7.1 Dispatch Standards

There are two main dispatch standards of interest for fire services. Although there are others, National Fire Protection Association (NFPA) 1221 *Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems* (2010 edition) and the Insurance Services Office (ISO) are most influential.

The NFPA 1221 standard contains materials intended to apply to newly constructed communication centers. In addition, many of the requirements would require a detailed engineering inspection and access to detailed as-built drawings. This is particularly important in the area of routing of underground communication and electrical circuits into the building. Analyzing each fire department's full adherence to NFPA 1221 was beyond the scope of this study. The review against the requirements of NFPA 1221 was intended as a high-level overview focusing on the most important areas.

NFPA 1221 is a broad standard that contains detailed requirements for signal wiring, the facilities used, operational guidance, as well as detailed requirements for telephones, dispatching systems, computer-aided dispatch, public alerting systems, and data and network security. The new edition of the standard contains requirements for site emergency plans and fire protection requirements designed to minimize disruption of communication functions in the event of a fire or other condition within the center.

There are a number of requirements that are useful to bear in mind for the construction of a new communications center. These requirements include seismic resistance, regulations governing location size and ballistic resistance of windows, regulation of vehicle access, and general security.

Training requirements in NFPA 1221 conform to NFPA standards for telecommunicators, based upon NFPA 1061, *Standard for Professional Qualifications for Public Safety Telecommunicator*.

These training standards are comparable to the New York State curriculum for telecommunicators, with New York's basic certification corresponding to NFPA 1061 Telecommunicator Level I and the advanced course and/or continuing education satisfying the requirements of NFPA 1061 Telecommunicator Level II. In New York State, public safety telecommunicators are required to complete the Emergency Services Dispatch Training Evaluation Program and pass the final examination under New York state law 21 NYCRR Part 5201.

The ISO's requirements are narrower, and are more related to handling of alarms and staffing levels. The ISO requirements include specific needs for the CAD system to provide prompts for personal accountability alerts on a regular periodic basis throughout an incident. While most CAD systems can be programmed to provide such alerts, they are not used locally in the Town of Bethlehem.

Another general concern common to all the communication centers surveyed was a limited capability for carefully assessing times for dispatch and call processing. For various reasons, including software limitations, operating policies, and management, there is a shortage of individual unit response time information which is critical to an analysis of deployment as well as an assessment of equipment utilization.

7.2 Town of Bethlehem Public Safety Communications

The Town of Bethlehem public safety dispatch function is fulfilled by the Town of Bethlehem police. The Town of Bethlehem police operate a Public Safety Answering Point (PSAP) for all wire line 9-1-1 calls originating in the Town of Bethlehem. This center dispatches for the Town of Bethlehem police, Delmar and Bethlehem emergency medical services, and for four of the five fire districts within the town.

The center is staffed by 11 telecommunicators and one communications supervisor. The communications supervisor works a day shift and does not generally function as a dispatcher. The annual budget for the communications function was approximately $1.1 million in 2009. The dispatch center is located at 447 Delaware Ave., in part of the town government building devoted to the police department.

Wireless 9-1-1 calls are routed to the Albany County dispatch, where they are then transferred to the appropriate dispatch center. With a large number of calls for service originating with cellular or mobile phones, particularly along Interstate 87, this is not a trivial capability. The share of 9-1-1 calls originating from mobile phones has increased and is expected to increase in the future.

Transfer of the wireless callers to the Town of Bethlehem introduces some time delay. While Manitou, Inc. believes this delay is not unreasonable and is consistent with national practices, it is nonetheless a delay. Such a delay is common in dispatch systems where wireless calls are routed to a central location for screening before being transferred to the appropriate dispatch center. The technology for wireless 9-1-1 calls includes the capability for identifying the caller location (also known as Wireless Phase 2), which appears on a map at the Albany County dispatch Center and also appears at the Bethlehem dispatch center once the call is transferred.

The Town of Bethlehem dispatch center is equipped with a CAD system. This CAD system, provided by New World Systems, Inc. serves all public safety clients within the town. The CAD system was installed in 1993. Although the system has the capability for tracking individual unit response times, this functionality appears to be restricted to police units at this time. An analysis of data provided by the dispatch center indicated dispatch and arrival times only for the first due (arriving) fire units. The CAD system also has considerable capabilities for customizing dispatch to fire incidents based on individual property addresses or particular locations within the town. However, much of this capability is not used within the CAD and falls to departmental dispatch policies.

The training regime for new communications personnel includes the two week basic telecommunicator course offered through the New York State Office of Fire Prevention and Control, cardiopulmonary resuscitation (CPR), and 21 hours of continuing education annually. Training for new personnel lasts eight weeks, during which time new employees work alongside seasoned dispatchers and are evaluated on a daily basis. Personnel undergoing training do not count toward minimum staffing within the dispatch center. All dispatchers are trained in emergency medical dispatch (EMD). A quality assurance program is in place in which calls are reviewed on a monthly basis. The center handled over 23,000 citizen-generated incidents and 23,000 officer-generated incidents in 2009.
The police operate a mobile command vehicle, which can replicate the dispatch capabilities of headquarters. This unit, purchased in 2001, can be brought to large incidents and manage communications from the scene.

A list of fire frequencies used by the Bethlehem Communication Center is included in the following table. The frequencies are adequate for the number of companies dispatched and their activity level. In addition to the frequency shown below, there are additional frequencies for EMS and fire police as well as tactical frequencies for direct communication and special operations.

Table 7.1: Town Bethlehem communication center fire frequencies

Name	Transmit	Receive
Bethlehem Fire Control	153.935	155.970 PL94.8
Bethlehem Fire 1	158.8275	154.2725 PL 156.7
Bethlehem Fire 2	158.8125	154.3625 PL 179.9
Albany County Fire Control	153.890	154.415 PL110.9

There are some reported coverage issues in the southern portion of the Town of Bethlehem. Delmar has expressed problems with in-building radio coverage at the following locations: the YMCA at 900 Delaware Ave, the high school at 700 Delaware Ave, the middle school at 332 Kenwood Ave, and Owens Corning at 1277 Feura Bush Rd. Within the Selkirk fire district, geographical issues along the Hudson River in particular creates some areas where transmit capability is limited. In cases where such conditions are encountered, tactical channels relying on

direct communication can be used. There are no plans to augment radio coverage in these areas at this time.

In terms of compliance with NFPA 1221 and ISO standards, the Town of Bethlehem dispatch center appears to comply with key requirements for backup power supervision of equipment and standards for wiring and equipment. The current staffing levels within the dispatch center tend to be near minimum levels given the requirements noted above. This is problematic because with only two personnel on duty, in the event of a sustained incident such as a fire, complex police incident, or a need for emergency medical dispatch instructions to be given over the phone, the remaining telecommunicator is required to multitask and may have to monitor multiple frequencies and tend to multiple incidents. Although this is not desirable, it is very common in dispatch centers of this size. Call processing times were longer than the requirements of NFPA 1221, according to data furnished by the Town.

7.3 Town of Guilderland Dispatch Center

The Elmwood Park Fire District (North Bethlehem Fire Department) is dispatched by the Town of Guilderland police. Although they were originally dispatched by the Town of Bethlehem, they moved their dispatch to Guilderland several years ago. The Town of Guilderland operates a combined public safety dispatch center for police fire and EMS within the town. Agencies dispatched include two police departments, seven fire departments, and three EMS agencies. This center also dispatches EMS for the Town of Knox.

The Town of Guilderland Communications Division is one of five E911 Public Safety Answering Points (PSAPs) within Albany County. It is staffed by 11 full-time telecommunicators under direct supervision of one senior telecommunicator. In addition to training in all emergency service communications, communications personnel receive extensive training and become certified in EMD. This certification enables them to provide medical instruction over the phone to a caller during a medical emergency. The center received over 28,000 calls for service in 2009.

The Town of Guilderland dispatch center operates a CAD system that is shared with Albany County. This shared CAD system, which goes back almost 20 years, was an innovative practice. The CAD system was designed “bottom up” to permit participating agencies to have great flexibility over the detailed operation of their dispatch centers. The shared CAD system enables participating agencies to view the activity of other agencies and to share data instantaneously. This function is important for cross-border dispatch, as often occurs with fire incidents.

The Town of Guilderland operates a mobile command and communication center. This unit can be dispatched to emergency scenes and has dispatch capabilities.

Manitou, Inc. attempted to obtain dispatch information from the Town of Guilderland, but were told following an official Freedom of Information Law (FOIL) request that they were unable to

produce electronic summaries of data from their CAD system. Therefore, we were unable to obtain information to corroborate dispatch times for this center.[8]

The Town of Guilderland's dispatch center utilizes a “rip and run” system linked to the CAD in which key information including the nature and location of an incident are sent to a printer located in each firehouse. The Elmwood Park Fire District reports high satisfaction with the Town of Guilderland dispatch service.

Because the Elmwood Park Fire District serves both the Town of Bethlehem and the Town of Guilderland, there is a regular need for interaction between the two dispatch centers. The centers have the capability for communicating via radio and quick-dial line. A quick dial line is a pre-programmed button that initiates a phone call over a regular telephone line. However, because they use two different CAD systems, exchange of information between the two centers must be done manually, with the one dispatcher relaying key details to the other.

Study participants from the Elmwood Park Fire District believe that the exchange of information between the two dispatch centers, particularly from the Town of Bethlehem to the Town of Guilderland introduces delays in their notification of emergencies. This is particularly important because the majority of Elmwood Park's calls for service fall within the geography of the Town of Bethlehem.

Several issues were raised in this regard in the 2005-2006 time period, but little documentation of concerns has taken place since then. Interviews with the Elmwood Park Fire District representatives confirm that they continue to perceive this as an issue needing attention. The Town of Bethlehem dispatch center, operated by the Bethlehem Police, did not report any concerns in this area.

Manitou, Inc. did not evaluate the Town of Guilderland's dispatch center for compliance with ISO standards or NFPA 1221. However, from our interviews, we believe that the dispatch center is in compliance at a level comparable to the Town of Bethlehem's center. The Town of Guilderland’s dispatch center is located within the police department. In the event of a disruption, its functions can be transferred to Albany County dispatch.

Frequencies carried by the Town of Guilderland communications center are adequate given the number of agencies dispatched and the activity levels. A summary of fire frequencies in use is presented in the table 7.2 below. In addition to these frequencies there are multiple frequencies dedicated to EMS.

[8] Shortly before this report was produced, we were told informally that an electronic summary of dispatch data could be produced. We are pursuing this information at the time of this report.

Table 7.2: Town of Guilderland communications center fire frequencies

Name	Transmit	Receive
Guilderland Fire 1 (Dispatch)	154.220	
Guilderland Fire 2	154.220	154.220 PL 173.8
Guilderland Fire 3	154.250	
Guilderland Fire 4	156.180	
Guilderland Fire 5	154.100	
Guilderland Fire 6	154.205	

In regard to compliance with NFPA 1221 and ISO requirements, a basic evaluation indicates rough compliance with facility and equipment standards as well as with backup power. Staffing levels appear to be at minimum levels and subject to the same qualifications as those in the Town of Bethlehem. The equipment in the dispatch room was recently upgraded.

7.4 Other Dispatch Centers

As part of this study, Manitou, Inc. also gathered information about the Albany County dispatch center. This center, operated by the Albany County Sheriff's office is a public safety dispatch center dispatching for the Sheriff, advanced life-support units operated by the Albany County Sheriff, and 14 fire departments. The Albany County dispatch center is also a primary PSAP for Albany County and the City of Cohoes, City of Watervliet, Town of Coeymans and Village of Green Island. The center also dispatches New York State police units on mutual aid.

All 9-1-1 calls received for other dispatch centers are “one button transferred” via a county-owned telephone switch. The Albany County dispatch center also has the capability of communicating using the Capital District Emergency Radio Network (CDERN), which links dispatch centers and command posts with a common radio frequency. The newer Emergency Services Interoperable Radio System (ESIRS) was designed to connect multidisciplinary assets across disparate radio systems to form a unified command and control system. The ESIRS system links not only Albany County, but bordering county jurisdictions. The ESIRS system is governed by memorandums of understanding from all agencies on the system, including the Federal Bureau of Investigation, US Probation, New York State Police, New York State Park Police, as well as SUNY Albany and other local agencies.

The Albany County dispatch center is located on New Salem Road in the Village of Voorheesville in a facility constructed in 1996. The center operates a CAD system which is shared with several other agencies within Albany County. The CAD system was designed by Hi-Tech Systems. All Albany County agencies share the CAD system with the exception of the Towns of Bethlehem and Colonie. The county’s center tracks multiple unit response times for each incident.

Current shift staffing for the center includes four personnel on duty (minimum of three): one position is dedicated for law enforcement dispatch; another position is dedicated for fire EMS; and the third position acts as a dedicated call receiver. Plans are underway to assume dispatch

responsibilities for additional agencies. This will result in increasing staffing to six in the daytime and five on the midnight shift.

Training for dispatch personnel consists of basic dispatch certification, CPR, EMD, and NYSPIN/E-Justice (law enforcement records). Re-certifications are conducted as needed, and personnel are obligated to receive 21 hours of continued education training annually. In addition weekly bulletins and flyers are transmitted to all telecommunicators.

Albany County maintains a back-up site with a two-position capability. In addition, dispatch functions could be transferred to some of the other sites using the shared CAD system. The number of frequencies maintained is adequate, and more channels are planned as additional agencies move their dispatch to this center.

A summary of fire frequencies in use at the Albany County communication center is presented in Table 7.3 below.

Table 7.3: Albany County communications center fire frequencies

Name	Transmit	Receive
Albany County Fire Control (Dispatch)	154.415	
Albany County Fire Control (Mutual Aid)	159.0975	
Albany County Fire Control (Rural Chiefs)	154.070	
Onesquethaw Fire	154.445	
Voorheesville Fire	154.190	
Albany County Fire Control (Fire Police)	153.830	
Albany County Fire Control (Fire Police Mutual Aid)	154.145	
ESIRS	159.0975	PL 118.8

With regard to regulatory standards, the Albany County dispatch center appears to be comparable to the Town of Bethlehem in terms of compliance. One exception is in the amount of space dedicated for housing of radio and telecommunications equipment, for which the Albany County center has significant expansion room. Although staffing levels at this center are higher than in the Town of Bethlehem, given the larger call volume that must be handled the same caveats apply. Although it was constructed in 1996, the Albany County facility is not equipped with an automatic sprinkler system, which would be a desired feature for any future renovations or expansion. We were unable to obtain data to verify call processing times.