Consulting Services

Study

Participating in Regional E911 Communications Services

For

Greenfield, MSP Shelburne Falls and Montague Massachusetts

Final Report

Submitted to:

Contracting Agency
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EXECUTIVE SUMMARY

The City of Greenfield through the Greenfield Police Department awarded a contract to the Center for Technology Commercialization, Inc. (CTC) to conduct a **Study for further Regional Dispatch Services for the City of Greenfield, the Town of Montague and the Massachusetts State Police Regional Dispatch Center within Franklin County**. CTC was to conduct a technical assessment for the City of Greenfield and to make recommendations for one of the following options for the Greenfield emergency communication services:

(1) To join the Massachusetts State Police operated Shelburne Control, a Regional Emergency Communications Center for twenty-six communities in Franklin County and to host it at the newly planned Greenfield Public Safety Complex, or at the existing Shelburne Control at the Shelburne Falls State Police Barracks that, for the purpose of this report, will be called the MSP Franklin County Regional Emergency Communication Center (MSP-FCRECC).

(2) To develop a Regional Emergency Communications Center (RECC) with the Town of Montague and/or other interested Franklin County public safety agencies; but remain separate from MSP-FCRECC.

CTC has been qualified by the Massachusetts State 911 Department to provide Technical, Operational and Governance Feasibility Consulting Services in compliance with RFR State 911 10-005 under a contract with the State 911 Department on April 12, 2010. CTC has conducted numerous studies throughout Massachusetts since 2010.

The consulting services, requested and proposed, include a technical review of the community emergency dispatch capabilities and an assessment of their potential for interoperability of the three dispatch studied PSAP systems in order to establish a regional emergency communication center (RECC).

The methodology used by CTC included the following:

- Interviewed the key public safety leaders and their staff in Greenfield, Montague, and the State Police.
- Conducted site and communication system assessments.
- Identified issues that would impact their 911 call taking and dispatching services
- Assessed current and anticipated staffing requirements
- Analyzed financial and governance documents important to the development of this study that will provide the needed information for the organizations and communities necessary to implement the recommendations regarding the most effective and efficient site for the RECC and the implementation recommendations.
- Included in the technical assessment were the following elements:
    - Microwave upgrades to connect county radio resources to RECC located in Greenfield.
    - Broadband connectivity options for information technology including CAD/RMS server data sharing.
    - New dispatch center facility analysis for the dispatch area, employee requirements, equipment needs and the technology and utility backroom.
    - Communicate with vendors to obtain quotes for the recommended technology upgrades.

The report is provided in three sections:

I. Information gathered
   a. Interviews
   b. Site Assessments
   c. Technology Systems

II. Analysis
   a. Facility
   b. Staffing and Budget
   c. Decision Making Matrix

III. Recommendations

Recommendation Summary:

1. Consolidate Greenfield and Montague and the MSP-FCRECC. This further regionalization effort will provide excellent opportunities for both communities. A rating scale was used to assess the three options based upon eight variables that would be of great importance to make the decision to transition to MSP-FCRECC, a Greenfield RECC or to remain as independent public-safety answering points (PSAPs). The MSP-FCRECC at the site of the newly planned Greenfield Pubic Safety Facility was rated the highest.

   The primary reasons for the MSP-FCRECC high rating include the following:

   a. MSP-FCRECC, as we know it today, has developed operational expertise in providing regional emergency communications call taking and dispatching services through a wide geographical area for twenty-six communities. The center has had strong support from the communities along with dispatch personnel having received awards for these vital services provided. The Shelburne Falls Barracks is very functional but leaves little room for expansion and is not ADA compliant.
   b. Greenfield will provide space for the center at the planned Greenfield Public Safety Facility at no-cost. Negotiations between Greenfield and the MSP regarding utilities for the center will take upon signing of an agreement. It is recommended that the utilities be provided by Greenfield as part of the overall utility expenses.

   c. The purpose of such a move would be to:
      - Enhance the emergency communication services.
      - Provide for a more robust emergency communication capability.
      - Provide for cost savings to all communities through greater economy of scale.
      - Reduce the cost of future replacement of communication equipment.
      - Provide for greater information sharing between communities regarding crime patterns and suspects through the Computer Aided Dispatch (CAD) and Records Management Software (RMS).

2. Leverage the capability of the MSP-FCRECC to provide for a more robust dispatching capability to handle a surge of calls due to major incidents by providing greater shift dispatcher staffing and uniform dispatching protocols.

3. Develop an outreach program to all of the communities to inform the citizens and the public safety personnel of timelines of the potential changes, the rationale for the change and the benefits to them in the form of enhanced services

4. Develop a plan to provide the administrative support that the dispatchers have been providing and to allow community members to interact with the Police and Fire Departments for administrative matters. These issues are of great importance to Montague and to a lesser degree to Greenfield. Strategies should include:
    a. Provide administrative support during certain hours of the day during the week to support this effort with either full-time or part-time employees, such as considering putting their records function and storage in the current dispatch area and using a records clerk to work on that function as well as other community business with the police department such as records requests.
    b. Schedule hours for those administrative functions and inform the public.
    c. Review the administrative functions that could be put online through the internet, such as the Burn Permit system that MSP-FCRECC has at this time. The online burn permit system allows community members to apply online. The system is managed by the community fire departments and provides notice to applicant when it is an appropriate day to burn. The data base is a very useful tool for both the community fire department and the dispatch center.

5. Utilize the established operational policies and procedures of the MSP-FCRECC as a base of protocols to initiate a review process with Greenfield and Montague Public Safety agencies to meet the unique needs of the disciplines of the emergency response agencies to ensure the appropriate resources are provided at the time they are needed.

6. Assist MSP-FCRECC to seek State 911 RECC Developmental Funding to implement the needed changes necessary to connect to the Regional Emergency Communications Center. Those elements include the cost of:
    a. Build out of the space at the Greenfield Public Safety Facility for the MSPFCRECC.
    b. Radio communications system connectivity between the MSPFCRECC and Greenfield and Montague.
    c. Enhanced security for the Montague Public Safety Facility during the times when the facility may not be staffed.
    d. A regional software system for Computer Aided Dispatch (CAD) and Records Management Systems (RMS)
    e. Project Management.
    f. Transitional Training.

INTRODUCTION

The City of Greenfield applied for State 911 Department Development Grant Funding to hire a pre-qualified consultant to conduct a technical assessment for the City of Greenfield to consider any of the following options for the Greenfield emergency communication services:

(1) To join the MSP Franklin County Regional Emergency Communication Center (MSP-FCRECC) , a Regional Emergency communications Center for twenty-six communities in Franklin County, and host it at the newly planned Greenfield Public Safety Complex, or at the existing MSP-FCRECC at the Shelburne Falls State Police Barracks.
(2) Develop a Regional Emergency Communications Center (RECC) with the Town of Montague, and/or other interested Franklin County public safety agencies; but remaining separate from MSP-FCRECC.

The contract to conduct this study was awarded to CTC, Inc., a Massachusetts based private non-profit 501c3 company that was qualified by the Massachusetts State 911 Department on April 12, 2010 to provide Technical, Operational and Governance Feasibility Consulting Services in compliance with RFR State 911 10-005 under a contract with the State 911 Department.

The CTC Chief Executive Officer (CEO) and former Massachusetts State Police Lt. Colonel/Deputy Superintendent (ret.) Thomas J. Kennedy conducted this study with Gary Cromack, who has worked with CTC on similar projects in Massachusetts.

Mr. Cromack has over 30 years of wireless and telecommunications system experience to assure public safety systems build out for interoperability, intelligent transportation systems utilizing CAD/AVL, nuclear power plant off-site notification systems (radio, multi-point Fax and Data); public safety Land Mobile Radio (LMR) communications system design and coverage analysis (analog and P25 digital – conventional and simulcast); point-to-point microwave system design and capacity, reliability analysis; performing wireless enterprise architecture and radio/wireless systems engineering; independent test and evaluation and management of radio tower site properties including: site lease management, interference analysis, and FCC and FAA filings. Mr. Cromack, as Cromack Industries Inc., supported CTC as a sub-contractor

METHODOLOGY

Scope of Services/ Methodology

Conduct a Kick-off Meeting

When providing these services, CTC finds it is advantageous to all parties to conduct a kick-off meeting with the public safety chiefs and town administrators to engage all levels of the team prior to undertaking tasking. It was proposed that this meeting be conducted to address the following issues:

- Meet principals of the project team;
- Review statement of work and identify any additional direction for administrative process regarding the contract;
- Review project deliverables, appropriate electronic format, and timeline; and
- Present timelines for community PSAP visits.

The results of this initial meeting ensures a clear pathway to success.

Tom Kennedy presented the project at a **Working Group (WG)** meeting on December 15th at the Greenfield Police Station. The Working Group was made up of Police and Fire Chiefs as well as other representatives of the Greenfield Police and Fire Departments, the Montague Police Department, the Turner Falls Fire Department and the Massachusetts State Police Communication Section including the Director, the Dispatch Services Director and the Supervisor of the MSP Shelburne Falls Regional Dispatch Center. The presentation included a discussion regarding the project, the proposed methodology, as well as an introduction of the CTC Team. Each of the issues listed above was covered during the meeting and information was gathered from the WG regarding all of the issues.

Task 1: Provide an Analysis of Existing Conditions

Conducted on-site visits to the City of Greenfield, the Town of Montague and the MSP-FCRECC for twenty-six communities in Franklin County to observe operations, facilities and equipment, and to identify opportunities for cost sharing in future communications technologies and dispatch equipment.

The analysis of the existing equipment, systems, methods and practices, included the following:

Equipment

- Identify current technology, radio systems, telephone systems and software being utilized.
- Analyzed how a regional center would affect interoperability of communications on a local, regional and statewide basis.
- Evaluate the ability to share currently separate applications between each town such as, but not limited to, CAD systems, mapping systems and radio systems.
- Evaluate the compatibility of current radio systems, mapping, telephone and related equipment at each current center and identify required equipment at new regional center.

Staffing

- Review of personnel structures and costs for all three locations if they regionalize further. Included in the analysis will be current personnel and estimated personnel costs for staffing the RECC along with the costs to maintain or increase other public safety services at existing local agencies.

Logistics

- Determine whether a satisfactory arrangement can be made regarding governance, procedures, accountability, service, standards and control.
- Identify how a regional center would affect the array of services provided by the existing PSAPs.
- Determine the capacity for coordination of local and regional police, fire and EMS resources including response to routine events and major disasters.
- Determine total number of incoming emergency and administrative telephone calls, radio messages and other incidents handled.
- Evaluate 911 call surge capacity.

Research and Planning

- Review opportunities for improvement to present operations, staffing, training, management, supervision, and governance.
- Identify number of personnel working each shift.
- Ascertain the core and supplemental services provided by current communications personnel.
- Identify the potential legal and organizational structures for the regional center.

Financial

- Analyze existing personnel structure and costs and the personnel costs for staffing of a regional center.
- Determine the one-time and recurring operational and capital costs of consolidation and the financial impact on all three sites.
- Identify one-time and annual financial resources, as well as requirements associated with such funding, from the MA State 911 Department to provide ongoing support and sustainability into the future.
- Provide a cost/benefit analysis assessing the cost effectiveness or ineffectiveness of a proposed merger.

Task 1 Methodology

1. Conducted interviews with the leadership of the public safety functions at all three sites as well as dispatch personnel. We believe that this face-to-face interview is the most important step in the process to identify elements of a regional dispatch operation as well as concerns that those community leaders may have with such a set up. The steps that CTC takes in this process are as follows:
    - Interviewed the key public safety leaders and their staff in Greenfield, Montague, and the Massachusetts State Police, including the Communications Section Director, the Dispatch Services Director and the Supervisor of the MSP Shelburne Falls Regional Dispatch Center.

- Conducted site and communication system assessments.
- Reviewed issues that would impact on their 911 call taking and dispatching services.
- Reviewed staffing requirements, current communication interoperability plans as well as any other relevant studies or plans that have an impact on this study.
- Analyzed financial and governance documents related to the development of this project that will provide the needed information for the organizations and communities necessary to implement the recommendations regarding the most effective and efficient site for the RECC and the implementation recommendations.
- Gathered 911 call data from the State 911 Department as well as calls for service from the Chiefs in each community and agencies dispatched other than the police and fire department, and information on administrative calls and other services performed by the dispatchers.

2. Visited the three sites to assess their current operational procedures, use of information and communication technology, and dispatch layout. The steps included the following:
   - Visually assessed all communications and IT systems
   - Gathered and examined the operating cost of the individual dispatch centers to provide a detailed, line item annual operating cost report
   - Reviewed the existing 911 dispatch facilities, systems, equipment, and procedures and provided an assessment of current call volumes.
   - Examined the current dispatch facilities and validate or invalidate the need for a new physical plan for all purposes, including examination for potential or increased opportunities for cost-sharing in future technologies and dispatch equipment.
   - Gather information on present operations, staffing, training, and supervision.
   - Analyzed the infrastructure and technical systems in place at each PSAP including the identification of the following technical requirements to be assessed:
     - Microwave upgrades to connect county radio resources to RECC located in Greenfield.
     - Broadband connectivity options for information technology including CAD/RMS server data sharing.
     - New dispatch center floor plan and furniture requirements, and backroom support equipment floor plan and resource requirements.
     - Impact of wireless 911 calls on the existing PSAPs.

3. Determined the needed equipment and IT necessary to establish and standardize the enlarged RECC if a recommendation is made to have that occur.

4. Determined a recommendation for the identification of an RECC location including the following:
   - Provided an RECC Facility Analysis noting space needs for dispatch consoles and all appurtenances related thereto, office space, employee space, server space, utility space, and physical security features, and provided a building preliminary design.
   - Ensured preliminary plans provide for expansion capability.
   - Considered any State or Federal guidelines or requirements.

INFORMATION GATHERED

A. Interviews

To support the Emergency Communication Regionalization Study for Greenfield, Montague and the State Police operated RECC at Shelburne Falls, information was gathered from the two communities and the State Police through interviews and a survey instrument. A total of sixteen (16) dispatchers and public safety leaders provided information. The questions and the responses are listed below. Where a response has been identified multiple time by respondents, the item is placed in bold and the number of subsequent times that a response has been given is identified by the star symbol, i.e., the "Standards use of the same dispatch protocols" was identified as a strength by four of the interviewees. The site question was listed by the three options. Most of the respondents only listed one choice for this question**. The respondents clearly saw great effectiveness and efficiency in a large RECC managed by the State Police Dispatch Services at a new site in Greenfield**. A key issue that will be faced in the transition planning process is in the Labor category regarding the identification of seniority for the transitioning dispatchers. During the interview process, observations were also made regarding leadership of the Greenfield, Montague Police and Fire Department and the MSP Communications Section personnel.

1. What do you see as the Strengths of Regionalization Options?
    - **Standardized/Use of same dispatch protocols*****
    - More effective – stronger dispatch protocols and oversight
    - Greater situational awareness practices, i.e., informing FDs when ambulance has been contacted
    - **Greater information sharing***
    - **Resources – more personnel*****
    - **Put all under one roof****
    - Coordination with other dispatchers
    - **Financial – state contributions*****
    - **Training***
    - Better communications and flow of information
    - Benefits outweigh downside
    - Simplify communications
    - **Enhanced mutual aid*****
    - One CAD/RMS system
    - Sufficient dispatchers for call surge
    - Stronger dispatch protocols
    - **Enhanced officer safety***
    - **Communities to come together***
    - **More efficient service to the public within dispatching and emergency response***
    - Team effort
    - Quality of service is primary benchmark for consolidation
    - A Central database for retrieving and extolling information provides innumerable benefits

2. What do you see as the Weaknesses of Regionalization Options/key issues to be addressed/barriers to be overcome?
    - Meeting needed space requirements
    - Mechanical/technology
    - Decreased local service level
    - Current dispatchers handle police officer support duties
    - Operational procedures in CAD system
    - Loss of working relationships with public safety agencies and the community
    - **Labor issues – seniority******
        - Greenfield FD – recall issue – paging vs. phone calls
    - Interpersonal relationships for dispatchers coming from three different sites*
    - **Need updated dispatch protocols***
    - **Keep out the dynamics of politics****
    - **Loss of local controls***
    - Staffing needs to be sufficient
    - Identify other duties that will be retained by agencies
    - **Loss of local knowledge, i.e., landmarks and etc.***
    - Lack of local input into operations
    - One on one communications between dispatchers and officers may be lost
    - Airtime/demand on dispatchers time
    - People may think that they are not getting the same level of service
    - Who is to run the center?
    - **Cost of the RECC?***
    - **Will jobs be lost?***
    - **Not having anyone at the PD window or to monitor prisoners*****
    - Current police officer staffing issues
    - Montague – population grossly under- reported
    - Montague – EMD/Medcare – delays in response time
    - Cost of implementation

3. What recommendations would you make for the successful integration for the call taking and dispatch functions into any of the preferred options?
    - Do what is best for the employees and the community
    - Get the dispatchers on the same page
    - Inform people that nothing is changing/level of service
    - Be patient with callers
    - **Need open communications/transparency******
    - **Work out labor / union issues******
    - Transition training – dispatch protocols (SOPs and radio codes)
        - Local knowledge-landmarks, repeat callers and responder nuances
        - Requires:
            1) Management coordination meetings
            2) Ride along
    - Site recommendations – Choices 1, 2 and 3.
        1) MSP-FCRECC **at Greenfield site 3, 1,2,1,1,1,1**
        2) Greenfield RECC with Montague 1,2,1
        3) Stay the same 2,3

**Note--the numbers listed beside the option lists the number of times that the option was the number 1, 2 or 3 choice of the option. Several chose to list only one recommendation and other listed all three. One chose to not provide a recommendation.*

- Identify a new name for the RECC
- Current dispatchers – first choice to hire
- Retain current dispatchers
- Transition local community knowledge
- Need sufficient on duty dispatchers
- Create working relationships with line personnel
- Greater level of training opportunities*
- Work together
- Strong support for regionalization
- County radio system is in poor condition
- Requires clear cut plan
    - Best option
    - Cost estimate including staffing and other recurring costs
    - Policy and Procedures
- Requires sufficient space for RECC for operations, technology, supervision, training and parking
- May require new dispatch paradigm for MSP-FCRECC
- Requires a number of policy, procedures, templates and factors to be investigated

a. Leadership

Leadership is a critical factor to successfully consolidate or outsource any services that are important to the mission of the public safety agency. This requires the skills to work with their staff and the community to manage the change process. In the course of the interviews, CTC has found the chiefs of the police and fire departments have excellent leadership skills and a willingness to successfully undertake this transition. They have recognized the benefits of such a transition and have offered recommendations to make this a successful consolidation. Their key focus was always on the mission of their agencies and their community's needs. The leadership of the State Police Communications Section was outstanding in providing a great deal of support to the study including the information needed for the interviews/survey, technical and operational recommendations. The study contractor was provided ready access to the Communications Director, the Dispatch Services Director and the Manager of the Shelburne Falls Regional Dispatch, as well as the radio engineers and radio technicians.

b. Administrative Functions

Dispatchers in Montague perform many functions that support the police, fire and EMS departments within their communities and also are the first people you meet when you go into the Police Station. They also provide a physical presence for the security of the facilities and are able to monitor prisoners being booked and incarcerated in the station cell blocks. Over the years these duties have evolved and went far beyond the duties for which the public safety dispatcher positions were created. Keeping the dispatcher focused on the services that are needed by today's environment to manage events that require knowledge of advanced technology in computer and radio systems, the incident command system and most importantly emergency

medical dispatch protocols. The MSP Shelburne Regional Dispatch provides a vital communications link for all of the twenty-six communities and to other community services through the call taking of administrative messages. The number of these calls were reduced when the region initiated an online burn permit process. Greenfield Dispatch has primarily limited the role of dispatchers to call taking and dispatching of public safety services. The Greenfield Police Department went through a careful analysis of these duties as they transitioned them to other personnel.

c. Governance

The governance document is one of the most important documents for the communities to consider prior to joining an RECC. It is the framework that the emergency communication/dispatch services will be provided and it goes beyond the current tenor of the current chiefs and town administrators. The document will identify who is going to operate the RECC and under what conditions. The role of the community will be identified for input, feedback for the performance of the center and any other administrative terms of the agreement. The current agreement that the State Police use for the current regional dispatch centers allows for this input and feedback. See Appendix B for the Agreement currently used for the Department of State Police and the Towns that are participants in the Regional Dispatch Centers.

B. Site Assessments

The existing three sites were visited by the CTC Team. Observations were made of the dispatch area, backroom and employee areas were visually assessed and information was provided. We determined that none of the three sites would allow for the space needs for the consolidation of the three sites into a complete Franklin County Regional Emergency Communications Center. Greenfield has offered to include space in the planned Greenfield Public Safety Facility at no cost to the center in lieu of an annual fee for the call taking and dispatching services.

Community/PSAP/RECC Profiles

1. Overview

The County of Franklin, Massachusetts consists of twenty-six (26) individual municipalities. Of the 26 municipalities, MSP-FCRECC serves as a Regional Emergency Communications Center for twenty-four (24) and Greenfield and Montague each operate their own PSAP. The key purpose of this study is to research the feasibility of bringing together all of the emergency communication 911 call taking and dispatching services of the three sites into one site operated by one organization. To do that requires a good understanding of each of the following individual sites:

a) MSP-FCRECC (24 of 26 county FD/PD/EMD)
b) City of Greenfield, FD and PD
c) Town of Montague (Turners Falls Fire and Montague Police)

Each site is structured to meet all of the demand for those dispatch services as summarized by the following chart of data elements.

	Population (2016)	2015 – 911 Call Volume	2017 Calls for Service CFS) recorded in CAD
Greenfield (PSAP)	17,456	6,387	32,601
MSP-FCRECC	44,685	8,465	25,851 • Note-97,367 administrative phone calls not recorded in CAD
Montague (PSAP)	8,241	2,110	19,036
Total	**70,382**	**16,962**	**77,488**

This report details the technical communications site survey data for the above locations, organized as follows:

a) MSP 3-Position dispatch center, plus one supervisor position
   a. Main dispatch room
   b. Outdoor radio equipment shelter
b) Greenfield FD/PD/EMD 3-Position dispatch
   a. Main PSAP at Greenfield PD
   b. EOC at Greenfield Fire
c) Montague FD/PD/EMD 2-Position dispatch
   a. Main dispatch at Montague FD/PD/EOC building
   b. EOC at Montague FD/PD/EOC building

2. MSP-FCRECC /Regional Dispatch

The Massachusetts State Police Regional Dispatch Center in Shelburne Falls began operations on 7-1-1994 dispatching for 13 communities. In 1996 several other communities and agencies joined the center and it transitioned into its current size and scope of operations. The dispatchers at Shelburne Falls operate the State Police Regional Dispatch Center 24 hours a day, 365 days a year on the second floor of the Shelburne Falls Barracks, on Route 2. There is limited expansion capability at this site as it is not ADA compliant. This dispatch center is currently the largest regional dispatch center in the Commonwealth in regards to the number of agencies dispatched. The dispatch center supplies services for portions of—and in most cases—all of the needs of 26 towns, and 82 agencies in Franklin County Massachusetts directly, and other agencies indirectly. There are four NG911 positions/consoles and one administrative positions at the center. The center provides call taking and dispatching services for police, fire, ambulance, public works and other municipal functions. The center provides Emergency Medical Dispatch (EMD) services with all of the dispatchers trained and certified in this process. Because this is the only site that is operated as a Regional Emergency Dispatch Center additional information is provided in the description of the center to provide an explanation of the broad range of services that it provides.

The duties and responsibilities of the center include but are not limited to:

- Answering and communicating on 54 radios
- Answering and communicating on 33 phone lines
- Dispatching appropriate services including police, fire, ambulances and ancillary services

- The dispatchers answer the NAWAS (National Alert Warning System) phone, serve as the contact point for Franklin County
- The dispatchers answer the NAS Nuclear Alert System phone for Vermont Yankee Nuclear Power Facility and serve as a siren activation point.
- The dispatchers serve as the Tri-State Fire Mutual Aid Dispatchers, coordinating mutual aid response for Franklin County, Southern Vermont, New Hampshire, and several Massachusetts counties.
- The center serves as a warning point for dam failures (25 dams), nuclear exercises, air medical coordination, weather emergencies, etc.
- The dispatchers are all certified in EMD (Emergency Medical Dispatch)
- All medical calls are processed in the EMD format.
- All dispatchers participate and are continually monitored with the EMD QA (Quality Assurance) program.
- The center performs 100% call review on medical calls for quality assurance and each dispatcher also is reviewed for at least one non-medical incident pert week.
- The dispatch center also serves as the control point for Mass Casualty Incidents in the Franklin County area.
- The center provides monitoring and processing of the Shelburne Falls Fire alarm system.
- The center answers business calls for many of the Agencies that they serve.
- The center serves as the control point for the Statewide Fire and EMS Mobilization plan for Franklin County.
- The center serves as the National stockpile Chem-pack activation communication point.
- The center hosts the Regional Board of Health notification system.

The dispatch center has an oversight committee consisting of police, fire, emergency medical services, select board, and state police representatives. The dispatch center has won many awards including two (2) Jeff Grossman 911 Awards for outstanding dispatch services and the State Police also provided that they have continued to receive recognition for superior service and continually make strides for the highest levels of excellence for public safety and the Department of State Police.

The State Police provide broad administrative and technical support to the center. There are core leaders at the Director level that have great expertise in communication systems as well as providing dispatch services and understanding where the technology and direction of future emergency communications services are going. They are active participants in state, regional and national professional emergency dispatch organizations for these services. The current MSP Shelburne Regional Dispatch Supervisor has been the lead at this center as it went through the development stages from 1994 on. The dispatch center has access to the State Police Communications Section radio engineers as well Human Resources, Financial Services, Facility Maintenance Services, as well as other administrative functions from the larger Department of State Police. Policy and Procedures are well documented and in the CAD computer system for easy reference by the dispatchers. Although standardized, the unique requirements of each community are established in the Procedures.

Dispatch Area

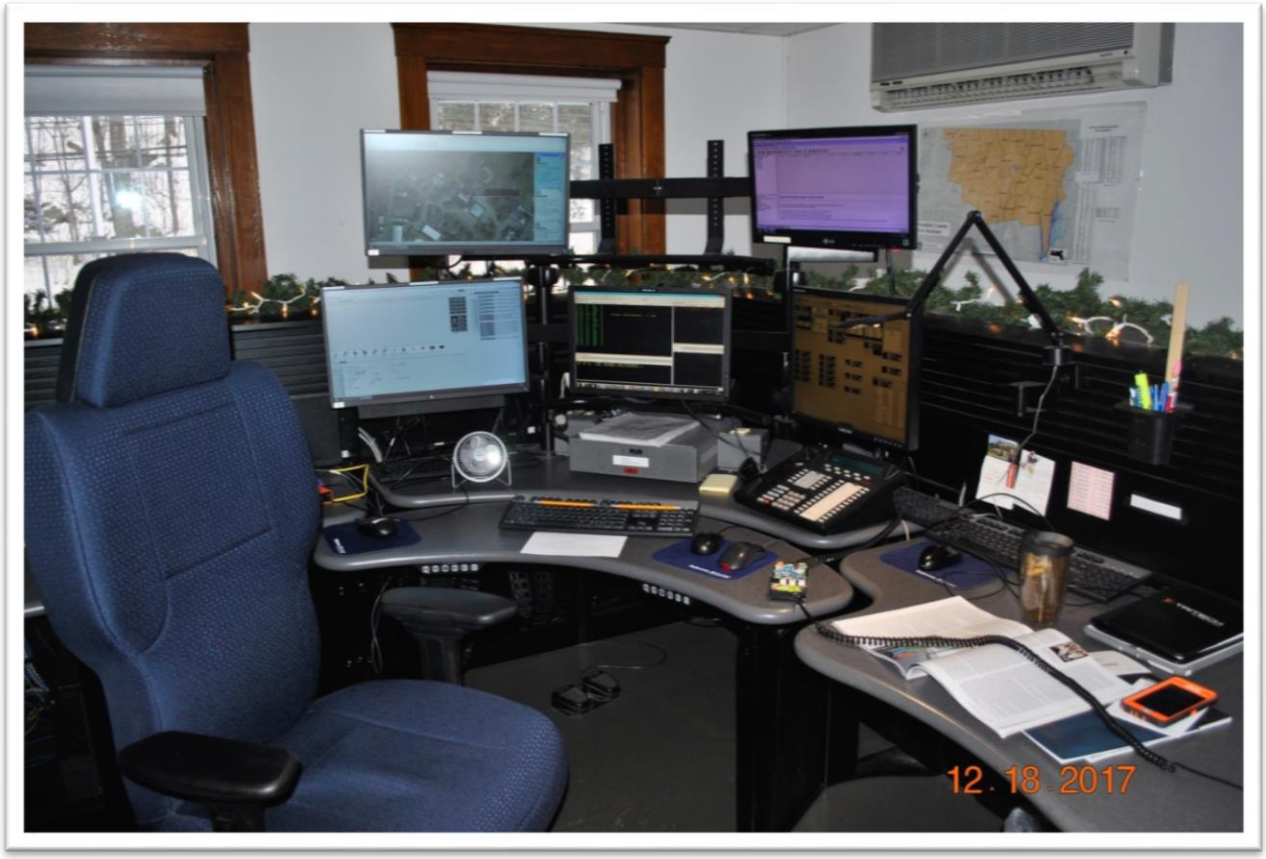


Figure 1 - Typical Shelburne Control Dispatch Position (1 of 4)

The MSP-FCRECC PSAP utilizes a 3-Position Motorola Centracom Gold Elite console system in the main dispatch room and a 4th position in the dispatch supervisor's room. The Centracom "Console Electronics Banks" (CEBs) are located in an adjacent structure connected to dispatch by fiber optic cable. The State Police plan on replacing the existing consoles with the Motorola Gold Elite Consoles by the end of 2018.

Radio Channels and Redundancy

MSP-FCRECC's console is provisioned to operate 49 communications resources, with dispatch center redundancy. Unlike basic dispatch console systems that simply connect all remotely located radio resources directly to the dispatch center console the MSP system first connects all radio resources to a switch located at MSP-GHQ in Framingham, Mass. Then, during normal operations communications circuits are provisioned (most over the State Microwave Radio Backbone) to forward these radio resource circuits onto Shelburne Control. Other MSP dispatch centers, e.g. Northampton Control, New Braintree Control, etc. also feed through the MSP-GHQ switch. With this configuration any PSAP interconnected through the MSP-GHQ switch can assume control of the others radio resources and effectively backup a facility in the event of an emergency at a PSAP.

Shelburne Control Radio Room

Figure 2 - Radio Room and Standby Generator Shelter

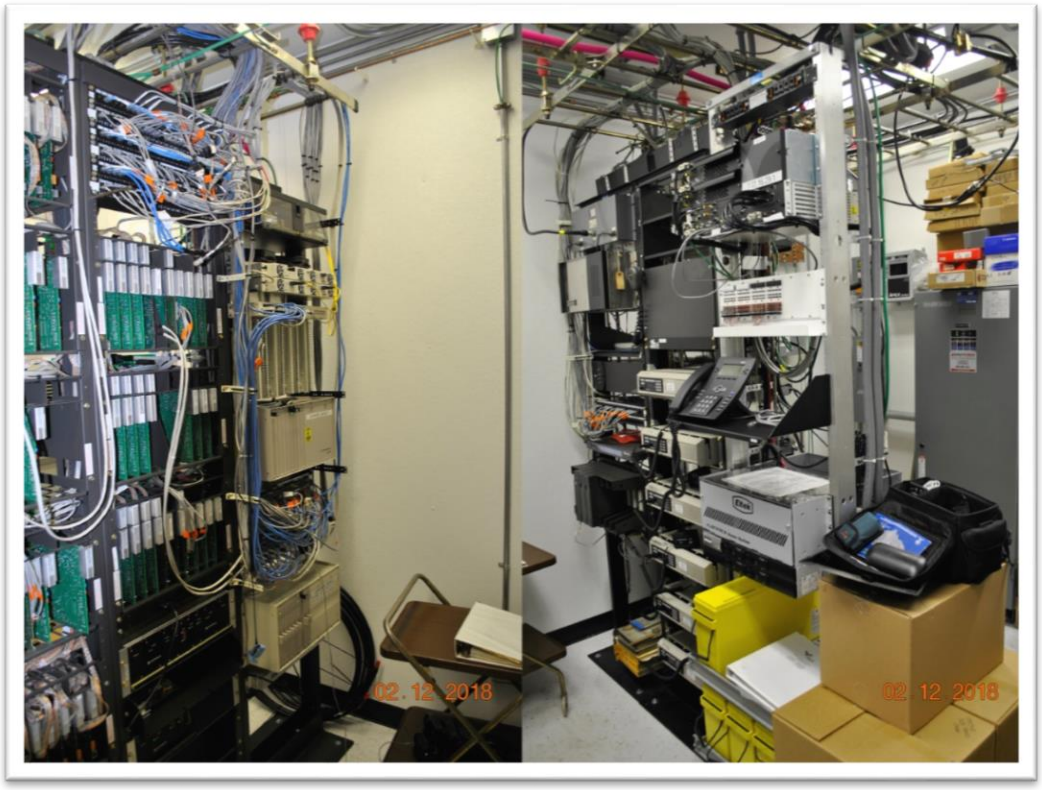


Figure 3 - Inside the MSP Radio Room Shelter

3. Greenfield Public Safety Answering Point/Dispatch

The Greenfield Police Department operates the emergency communications services for the City of Greenfield at the Greenfield Police Department, 321 High Street, Greenfield. The current facility was not initially built as a police facility rather it was a commercial building that was converted into the police station. The initial dispatch area was expanded when the City consolidated the emergency dispatch services of the police and fire departments. There is no expansion capability at the current facility.

The City of Greenfield is in the process of developing a new Greenfield Public Safety Facility that will house the Police and Fire Departments as well as a Regional Emergency Communications Center. They have committed to use this new space for the MSP Franklin County Regional Emergency Communications Center (MSP-FCRECC) at no cost in lieu of the cost of operating their own PSAP.

The PSAP provides all call taking and dispatch services to the public safety agencies of Greenfield with the exception of the EMD protocols which are outsourced to a private organization. The center is in the process of developing written policy and procedures for these dispatch services.

The Greenfield PSAP dispatches for the following town departments:

- Greenfield Fire/EMS
- Greenfield PD
- Greenfield DPW

The City of Greenfield PSAP utilizes a 3-Position Motorola Centracom Gold Elite console system, as shown below.

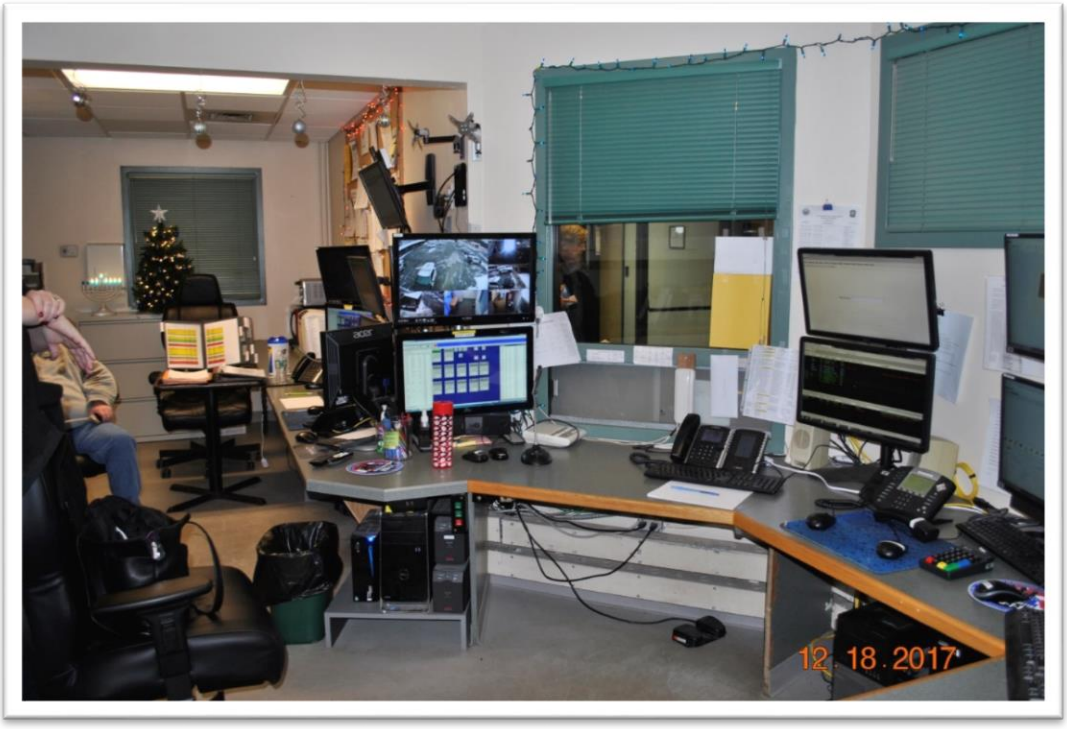


Figure 4 - Greenfield PD 3-Position Dispatch

The City of Greenfield also maintains an Emergency Operations Center (EOC) at the Greenfield Fire Department facility.

Figure 5 - Greenfield EOC (Left-Upper and Right-Lower Views)

4. Montague Dispatch

The Montague Police Department provides all emergency call taking and dispatch services with the exception of EMD to the five villages of Montague. The Police Department is located in the Montague Public Safety Complex located at 180 Turnpike Road in Turners Falls, MA. The Police Department has the responsibility for maintaining a 24hr 7 day a week 911 Police Dispatch Center with continuous NCIC/CHSB interface with criminal justice agencies across the state and nation.

The center is in the center of the Montague Public Safety Facility where the public has direct access to the Turner Falls Fire Department and the Montague Police Department through a foyer area.

The Town of Montague PSAP dispatches for the following town/village departments:

- Montague PD
- Montague DPW
- Turners Falls Fire & Water District

The Town of Montague PSAP utilizes a 2-Position Motorola MCC-5500 series console system, as shown below.

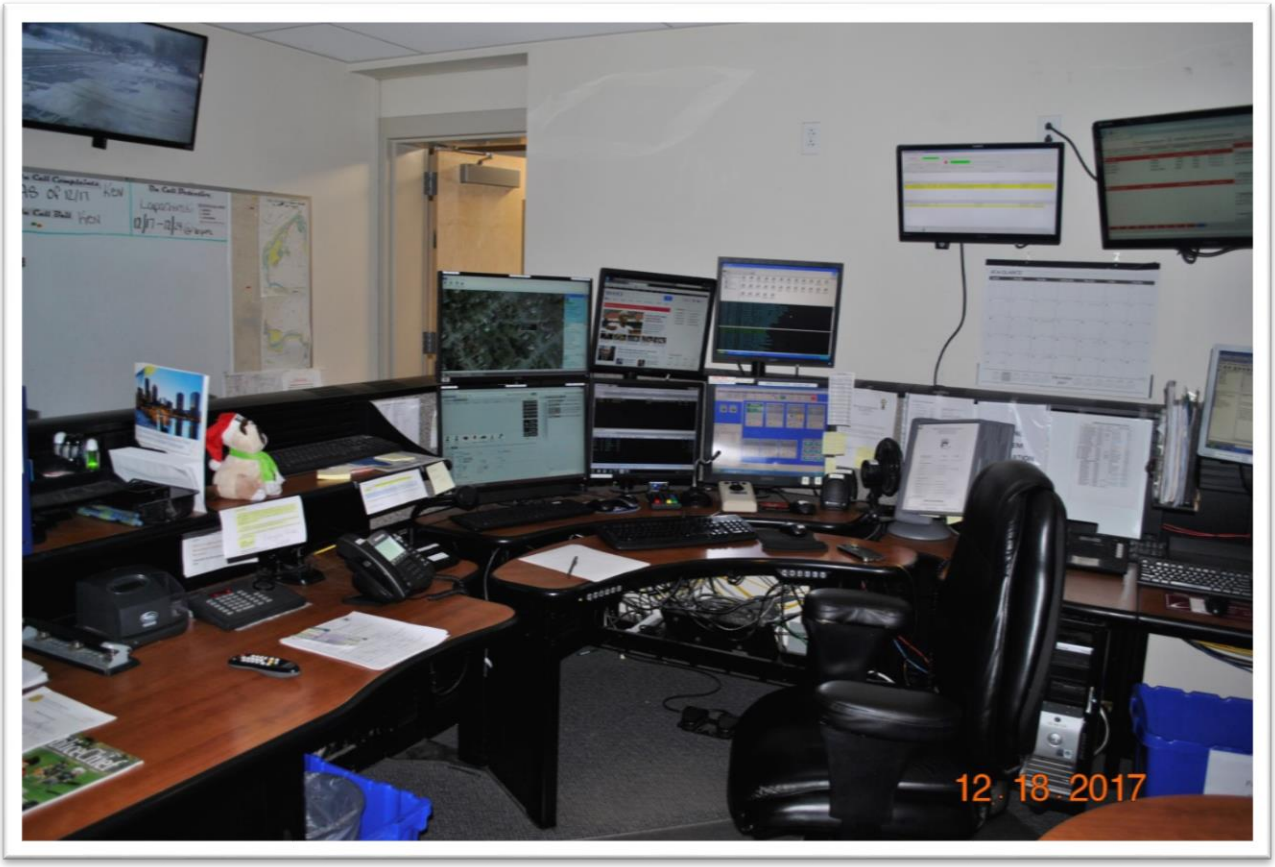


Figure 6 - Montague Typical Dispatch Position

The Montague, Village of Turners Falls Fire Department is dispatched by the Montague PSAP. However, the other Fire Districts, e.g. Montague Center FD, are dispatched by MSP-FCRECC. The Town of Montague PSAP facility also houses the Emergency Operations Center (EOC) as show in the next picture.

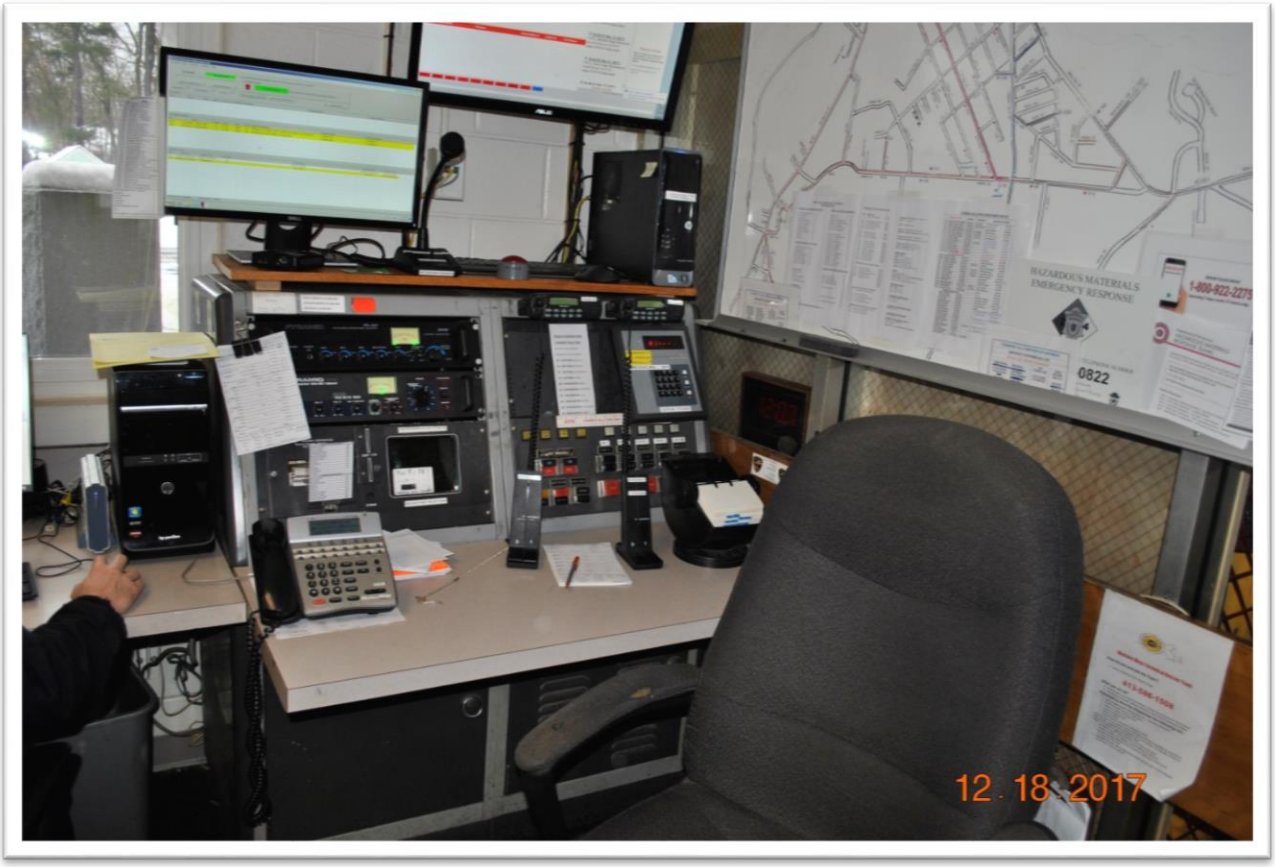


Figure 7 - Montague EOC

C. Technology Systems

Radio Systems

The Franklin County Emergency Communication System (FECS) is the critical radio infrastructure that first responders rely on to perform their work. It is built on thirteen towers across the county and transmits on the 450MHz band using simulcast format. The system was funded by the Homeland Security grants. A recent situation report developed in January 2018 identified a low cost tower located in less than ideal land that was not ideally situated for the simulcast system that is in place. The system has now exceeded its planned life cycle and is in need for replacement. The FECS Oversight Committee has recommended that the county migrate to the Commonwealth 800 MHz system that is being developed from the backbone of the State Police Radio System. The State Police Radio System has been identified as being in excellent condition. The system uses an 800 MHz digital platform with thirty (30) microwave sites in B Troop from the Connecticut River west. See Appendix C for FECS Situation Report, January 2018.

Information Technology

Currently MSP Shelburne Falls/Shelburne Control, Greenfield and Montague utilize Tritech/IMC Computer Aided Dispatch (CAD). Greenfield and Montague have the same Records Management Software (RMS) installed. During this spring the MSP-FCRECC will install the same system.

The ZurercherTech/IMC system provide for:

1. Records Management System (RMS) - information to be taken from the CAD system and then utilized for crime analysis and deployment of personnel. The patrol officers complete their reports regarding the response and investigation to criminal incidents and traffic crashes in the station or cruisers using laptop computers. Follow-up investigations are completed by detectives and their information is filed in the RMS. City, state and federal reports are generated from this system. Separate modules are used by the Fire Departments for their investigative reports and fire reporting systems.
2. Computer Aided Dispatch (CAD) software that allows 911 calls to be categorized, tracked and then inserted into reports.

Future Trends in 911 Emergency Communications Systems

The primary goal of all of the leaders of the agencies that were interviewed was to increase the level of communication services to their communities and to their departments. A number of the interviewees recommended that a strength of an RECC is the development of long term professional dispatch services. Professionalism is a determination of specific practitioners, methods, and performance criteria for a particular profession. The current trend of the 911 communication discipline is strongly focused on standards, best practices, personnel selection, training requirements and utilization of technology. To enhance professionalism of communications centers requires a better understanding of the current plans to modernize our nation's emergency communications services. The trends are focused on:

- Increase the capability to handle data, voice and video.
- Inter-connect with other communications centers such as traffic management centers to coordinate movement of resources, personnel, equipment and supplies.
- Enhance the cost effectiveness of human and technical resources.
- The integration of text messaging into our PSAP center operations and personnel training to meet the trends in society.
- Challenges of dealing with multiple calls for service to the same events from the transition from wire to wireless communication devices.
- Video is now second nature to our younger generation.

Geographic Information Systems (GIS)

- Nothing is more important to dispatching a call for service than location. The old adage of "Location, Location, and Location" cannot be truer than in responding to a Call for Service (CFS).
- More and more dispatching centers are adding layers of geographic information for not only home and business, but also fire hydrant, hazmat and highly critical infrastructures.
- Provides for better routing of resources.
- GIS systems are included in the NG911 system that has been installed in the RECCs and PSAPs in Massachusetts.

Technology is making the combining of PSAP 9-1-1 Centers more cost effective through:

- More robust communications systems.
- Economy of scale in purchasing.
- Establishment of dispatching and resource tracking standards.
- Increased employee morale through professionalism.
- Better dispatching systems in the marketplace allow pass off of resource control to Police, Fire, and EMS.

Improved capabilities through:

- Telecommunications devices for the hearing impaired.
- Interpreting services for foreign languages.
- Texting for the speaking impaired.
- Coordinating with local, country, state, federal planning organizations for standards in address assignments.

Working toward planning a better tomorrow for our communications infrastructures and standards development are:

- Massachusetts State 911 Department.
- APCO - Association of Public-Safety Communications Officials.
- NENA – National Emergency Number Association.
- USDOT – U.S. Department of Transportation.
- IETF – Internet Engineering Task Force.
- TIA – Telecommunications Industry Association.

Personnel Selection and Training Standards – The Massachusetts Communications Supervisors Association (MCSA) provides recommendations for minimum basic training standards for full and part-time public safety tele communicators or dispatchers in Massachusetts. Those standards include the following elements:

- Standards for tele communicators for taking 911 calls and dispatching police, fire and medical services.
- In-service and continuing education standards.
- Supervisor and center management standards.

First Net

In response to the identified problems with the associated problems from the lack of radio interoperability for first responders to the tragic events of September 11, 2001 FirstNet was created by congressional action and is being planned and implemented throughout the country. Massachusetts is in the second year of planning this effort. FirstNet is establishing a nationwide, interoperable public safety broadband network dedicated for first responders. In establishing this network, FirstNet is guided by these ten important principles:

1. FirstNet will be a public safety-grade network built to meet the needs of our nation’s first responders
2. FirstNet will provide public safety users with true priority access to the network
3. FirstNet will harden the network to assist with resiliency during natural disasters, incidents and man-made threats

4. FirstNet will enhance public safety communications by delivering mission-critical data and applications that augment the voice capabilities of today's land mobile radio (LMR) networks
5. FirstNet will enable local communications management and keep incident commanders in control
6. FirstNet will be judicious with taxpayer dollars while remaining focused on offering its services to public safety at a compelling cost
7. FirstNet will have effective security controls that protect data and defend against Cyber Threats

Governor Baker has agreed to "opt in" to the State Plan prepared by the First Responder Network Authority (First Net) and its national vender, AT&T, for public safety wireless data services here in Massachusetts.

Next Generation 911

Although the 9-1-1 system has been an unqualified success story for more than 30 years, changes in the public's use of technology, the saturation of the mobile market, and the spread of Voice over Internet Protocol (VoIP) telephony over broadband are contributing to greater expectations that the current system will need to address. Because text, data, images, and video are increasingly common in personal communications and are critical to future transportation safety, the 9-1-1 system will be expected to accommodate highly mobile, dynamic communications modes. The architecture of these communication nodes directly counters the fundamental structure of the current 9-1-1 system. To guide and foster a nationwide vision of a 9-1-1 system for the 21st century, the U.S. Department of Transportation (USDOT) is taking a lead role in the research and development needed to bring about a more capable Next Generation 9-1-1 (NG 9-1-1) system that supports emergency call delivery and a response-based system that maximizes impact across a diverse stakeholder community. Requirements for the technology have been assessed to allow the systems to be developed and implemented nationwide. Each state is currently assessing those requirements and the cost associated with NG 911. A recent update on that progress revealed that the Federal Communications Commission (FCC) announced that the nation's four largest wireless carriers have agreed to relay text messages to text-enabled 911 centers by May 2014. Under the agreement announced on December 6th, texters will get an answer, whether their call center is able to receive texts or not. If they can't they'll get an automated response, telling them to call instead. The FCC advised that people should always call during an emergency if they can. Costs are being analyzed for line and systems upgrades, dispatch center systems, increased call taking/dispatcher time and training. Massachusetts has awarded a contract to General Dynamics Information Technology to develop the Next Generation 911 for Massachusetts to allow 911 call information to be received from mobile texting, video and web-based information platforms. Each of the dispatch centers involved in this study is utilizing NG911 equipment and systems provided by the State 911 Department.

ANALYSIS

A. Proposed Facility

The analysis identified a need for a total of twenty four (24) dispatchers and supervisors and nine (9) dispatch positions. Basis building components and layout recommendations were provided along with characteristics of new 911 centers. Recommendations were provided for consoles and chair ergonomics, lighting in the dispatch area, air conditioning and sound control. Within the RECC, areas were identified by functional needs, their purpose and estimated number of rooms and square footage.

1. Facility Requirements:

The proposed facility would need to include the following design characteristics:

- Number of employees – 24
- Functional:
  - Dispatch area for nine workstations/ positions
  - Utility/phone systems
  - IT/Radio Room
  - Office Space
  - Employee area
  - Conference/meeting space
  - Foyer area and hallway
  - Storage Room

2. Basic Building Components:

The architectural design must accommodate the following spaces and equipment:

- Regional Emergency Communication Center - Dispatch Room
  - Workstations for nine (9) dispatch positions that include five dispatcher radio/911 positions, three 911 call taking positions and one supervisor
  - ADA compliance to facility/RECC
  - NFPA 1221 Chapter 4 for Communications Center compliance.
  - 1998 OSH and ADA console design
    - 1990 ADA ACT
      - Governs access
      - Reach Distances
      - Reach Angles
    - 1998 OSHA
      - Minimize workplace injuries
    - Both regulations have resulted in boomerang shaped consoles
- System Equipment Room
  - Power, fiber, 911 lines and system, administrative phones system, security, IT servers and radio systems
- Employee Area
  - Kitchen
  - Locker Rooms (M&F)
  - Bathroom/shower areas (M&F)
  - Bunk/Rest Rooms (M&F)
  - Two bunk rooms (M&F)

- Office Space – two (2) rooms for the Administrator and Supervisors
- Conference room
- Foyer area and hallway
- Storage Room

3. Building Layout Recommendations:

The design should consider the following layout recommendations:

- Must contain the following areas: two (2) administrative offices, male and female locker rooms, bunk rooms, bathrooms and shower areas, kitchen and break room, conference/meeting room, dispatch area, storage room, utility/phone room IT/Radio room.
- Dispatching area, supervisors' office should be arranged so they are as close as possible to the computer room, so that cabling runs are minimized.
- The bathrooms, break and other areas that have plumbing should be arranged so there is no possibility that spills, leaks or other water problems could flood or damage the dispatching area or computer room, including floor drains, scuppers or other features.
- Consideration should be given to the placement of the dispatch area, computer room and electrical service to minimize the routing of cables and power lines.
- Consideration should also be given to how cables and wires should be routed into the dispatch area: via a raised floor, raceways or overhead.

4. Characteristics of New 911 Centers

New 911 centers are becoming information centers of the future, and the following trends should be factored into the design:

- The need for additional computers
- The need for additional large wall monitors
- The desire to create a comfortable and pleasant environment
- Technology-driven infrastructure needs
- Self-contained HVAC systems
- Grounding and lighting systems crafted to the latest industry standards – not just to code
- Stress reduction design elements
    - Bright accent colors, prints, windows and lighting control options

Consoles and Chairs Ergonomics

The consoles, chairs and other furniture shall be ergonomically designed, to lessen the chance of repetitive stress injuries. This should include chairs that are fully adjustable for height, back angle and height, and armrest height; consoles adjustable for height (from sitting down to standing up); keyboard rests adjustable for height, angle and distance from the console.

The consoles should be designed to allow easy access to all controls without reaching beyond an average arm's length. Terminals and other video displays should be placed an equal distance from the focal point of the console, and that distance should be according to any national standards or available studies. The video terminals should be arranged to allow their horizontal adjustment closer and further away from the dispatcher.

Lighting

Center lighting circuitry should be arranged to prevent a lighting failure to any large area of the building. Lighting in all areas of the building shall conform to any national standard levels for office areas.

There should be overall and individual console lighting in the dispatching area. The console lighting should individually controllable at each console. Consideration should be given to incandescent lighting for the console areas. Overall lighting should be arranged to minimize glare on video display terminals.

Consideration should be given to the placement of terminals and windows to reduce the amount of glare on the video terminals, or bright window light directly behind the video terminals.

Air Conditioning

The building air conditioning system should be arranged to provide a sufficient flow of fresh--not recirculated--air to the dispatch area, to filter the air to remove possible contaminants including pollen, mold, dust and mildew, and to reduce drafts on employees. Temperature control should be available to authorized personnel, but the range should be limited so it always provides sufficient cooling for electronic equipment in the building.

Consideration should be given to installing an electronic filtering system for that portion of the air conditioning system that serves the dispatch area, in order to further filter contaminants from the air. Consideration should be given to a positive pressure air system that keeps outside contaminants out.

Sound Control

The dispatch area should have some method of sound control for reducing the volume of noise, echoes and other unwanted artifacts. Methods include acoustic tiles, carpets, wall curtains or other coverings.

Space Requirements

Functional Area	Purpose	Estimate size recommendation	Estimated Square Footage
Dispatch Area	To provide space for nine positions for six dispatchers, one supervisor and two spares	1 room Approximately 48X32	1,536
Utility/phone Room	Space for power, fiber, phone systems, 911 Department equipment	1 room 16X24	384
IT/Radio Room	Security systems, IT servers and radio systems	1 room 16X24	384
Office Space	Administrator and Supervisor room	2 rooms 12X16 each	384
Employee Area	Kitchen area	1 room 12X24	288

Functional Area	Purpose	Estimate size recommendation	Estimated Square Footage
	Locker rooms/changing area, male and female	2 rooms 12X20 each	480
	Bathrooms and shower areas, male and female	2 rooms 12X24 each	576
	Bunk rooms for extended tour of duties due to weather and major incidents	2 rooms 12X16 each	384
Conference/meeting room	Meeting room for RECC Advisory Committee and other RECC meeting needs	40X20	336
Foyer area and hallway	Visitor waiting area Hallway	10X12 8X48	504
Storage Room	Supplies and equipment	12X16	192
Total area			**5,448**

B. Cost Analysis

The current staffing and budget information was gathered from FY18 budget documents and interviews. Analysis was conducted for the most viable option, an MSP operated Franklin County Regional Emergency Communications Center (MSP-FCRECC). The budget provides for twenty-four personnel who would provide for four dispatchers per shift in addition to one supervisor and one supervisor/manager. The State 911 Department would provide for $911,687.00 in support and incentive funds on an annual basis. The State Police through the Executive Office of Public Safety and Security and the State 911 Department will work together to provide the remainder of the funds as they do not have the ability to assess an annual fee. This practice has been in place since 1994. As such, Greenfield and Montague would save a total of $74,148.16 on an annual basis in recurring costs.

Staffing Requirements

Currently the three separate PSAPs/RECC staff their centers combined with five (5) dispatchers and one (1) supervisor per shift. CTC used their analytical tools as a basis for the staffing and budgetary expense projections. The key document that we used to develop the staffing model was the APCO Project RETAINS Research Report, August, 2005, University of Denver Research Institute, and Denver, Colorado.

From the data collected in the report, you will find below staffing and call volume data from one hundred fifty-three (153) 911 PSAP centers, which is then compared to what is proposed for the MSP-FCRECC.

MSP-FCRECC comparison with Project RETAINs data

Center Category	Average	Median	MSP-FCRECC
# of Personnel	18	12	24
# of Agencies	12	6	84
Call Volume	238,000	82,000	77,488
Population	79,000	35,000	70,382

The average for the RECC, based upon 2017 call volume, would be 3,228 calls per employee in the staffing model for the MSP-FCRECC. CTC does not recommend increasing this call volume level, rather in this decision time for the RECC and the transition, we recommend the shift staffing of five dispatchers for the day and evening shifts and four on the mid-night shifts. When significant incidents occur, or planned events will result in increased surge of calls, we would expect that additional dispatchers will be recalled for duty. This staffing model would provide a strong level of service to the community citizens as well as to more effectively manage the EMD calls. It is also anticipated that 911 wireless calls will be directly received at the center through the State 911 Wireless Direct program that will increase call volume to the center. This increase in call volume was anticipated in the analysis for the needed staffing. A working supervisor would be assigned to each shift. The shift supervisors would also assist the lead supervisor with such responsibilities for the technical, training and quality assurance functions.

As the project moves further towards implementation, greater analysis of call volumes by shift should be conducted to ensure that all shifts are being covered properly. To support the staffing requirement, it is recommended that an operational policy be developed for a contingency plan for staffing during a major event or when numerous EMD calls are being managed. The existing structure of the MSP Communications Section will provide for a forward vision of the center for the future years. Our recommendations consider the historical commitment for dispatch and other ancillary services in each center, while, at the same time, recognize the economy of scale that the RECC would provide.

The data and analysis for these Tasks are as follows:

Existing Costs

FY18 Cost Category	MSP-FCRECC	Greenfield	Montague
Dispatch Personnel	15	10	5
Personnel Expenses	971,449.56	548,861	277,358
Fringe/payroll taxes	331,535.71	146,980	63,487.36
Operating Expenses	18,093.30	3,960	9,000
Total Budget	1,321,078.27	699,801.80	349,845.36
State 911 Support and Incentive Grants	691,454	54,607	21,792
Budget minus Grant funds	$629,624.27	$645,194.80	$328,953.36
Note: State Police receive a charge for indirect costs of 33.8% from grants by the State A&F.			

Draft MSP FCRECC Budget

The following budget was developed for the FCREC operated by the Massachusetts State Police using their current labor rates and other projected operating costs.

	YEAR 1	
Regional Emergency Communications Center (RECC) Budget	2019 Draft Budget	% of Budget
Personnel		
Director Salary	$70,915.00	
Supervisors Salaries	$384,822.36	
Dispatcher Salaries	$991,881.46	
Overtime Allowance	$75,000.00	
Shift Diff./Holiday/stipends	$28,000.00	
Fringe Benefits/Payroll Tax - 35%	$506,666.59	
Total for Personnel	$2,057,285.40	**97.24%**
Operating expenses		
Training and Travel	$11,500.00	
Equipment Maintenance Costs	$12,000.00	
Software License Fees	$25,431.00	
Misc. Expenses	$9,500.00	
Total for Infrastructure	$58,431.00	**2.76%**
Total for Dispatch Services	$2,115,716.40	**100.00%**
State 911 Reimbursement	$911,687.00	**43.09%**
RECC Budget minus State 911 Funds	$1,204,029.40	**56.91%**

Under an MSP operated FCRECC, Greenfield would save $645, 194 of recurring costs annually and Montague would save $328,953.

Capital Equipment Expenses

There will be substantial equipment needed to establish the MSP-FCRECC at the Greenfield Public Safety Facility. The list includes the equipment and furniture for nine (9) dispatch positions/consoles to ensure a minimum of four (4) dispatcher positions and one (1) supervisor position, as well as to ensure coverage during times of large incidents that would require four additional consoles. There are also equipment and technology needs that will provide connectivity and redundancy between the Greenfield site and the State Police Communications Core. See Appendix D Connectivity and Redundancy for the analysis. The State Police Communications Section operational personnel and engineers will assess the equipment needs for the MSP-FCRECC to be consistent with the operational practices of their regional dispatch centers. The Commonwealth has indicated through their State 911 Regional Development Grant Program that they would be eligible for funding for the capital costs incurred in this effort. The State 911

Department has provided guidance through a Regional emergency Communications Center Development Grant program through an annual competitive process.

State 911 Department Grant Funds

The State 911 Department provides funds for recurring cost for Regional Emergency Communication Centers that stand alone Public Safety Answering Points do not receive. All PSAP receive Support Grant funds. RECCs receive Support and Incentive funds according to a formula approved by the State 911 Advisory Board each year. The formula includes current population, 911 call volume and the number of communities in the RECC. The Grant language provides for the following guidance:

"In addition to amounts allocated as part of the support grant, existing regional PSAPs and RECCs are eligible to receive additional incentive grant funding through the Program based on the following allocation formula:

- ***i) Regional PSAPs serving 2 municipalities, ½ of 1 percent of the total surcharge revenues of the previous fiscal year;***
- ***ii) Regional PSAPs serving 3 to 9 municipalities, 1 percent of the total surcharge revenues of the previous fiscal year;***
- ***iii) Regional PSAPs serving 10 or more municipalities, 1½ percent of the total surcharge revenues of the previous fiscal year; and***
- ***iv) Regional emergency communication centers, up to 4 per cent of the total surcharge revenues of the previous fiscal year.***

Funds shall be disbursed according to a formula that weighs both 911 call volume and population served.[1]"

Based upon the projected budget, the State 911 Department has provided the following amounts of grant funding.

FY2019- Greenfield/Montague/Shelburne Falls - February 8, 2018

Entity	Support	RECC	Total Grant Funding
Greenfield/Montague/Shelburne Falls RECC	$ 323,094	$ 588,593	$ 911,687

Calculations included additional funding for acceptance of wireless direct calls
Calculations assume configurations are as noted. Changes to the communities included/excluded will impact funding levels. All estimates are subject to funding availability.

Above RECC projections are calculated based upon anticipated regional PSAP and RECC configurations for FY 2019. Timelines impacting current project(s) may impact these projections. Allocation amounts are further subject to change in compliance with the following excerpt from the S&I grant guidelines "The percentages in clauses i to iv, inclusive, and the percentages of the total amounts allocated to each grantee eligible within such clauses i through iv may be adjusted by the State 911 Commission to ensure a proper allocation of incentive funds as more regional PSAPs and regional emergency communication centers are added. The amount allocated to a grantee may be adjusted or capped."

Regional Development Grant Program

Non-Recurring costs: Equipment

Of great importance to this project is the opportunity that a RECC has the ability to apply for start-up and replacement equipment expenses considering the current state of the MSP-FCRECC that has been identified as having been in existence beyond the life cycle of the radio system. There is no guarantee that this funding would be awarded as this is a competitive process. Because of the large number of requests for grant funding, the RECCs will often phase in their requests over several years. The guiding language is as follows for FY18 RECC Development Grants.

"Existing and proposed regional PSAPs, regional secondary PSAPs, and RECCs, and the Middleborough and Northampton wireless state police PSAPs, are eligible to apply for funds for equipment associated with the provision of enhanced 9-1-1 service and that is not directly provided by the State 911 Department and/or equipment to be used to foster the development and startup of regional PSAPs, regional secondary PSAPs, and RECCs or the expansion or upgrade of existing regional PSAPs and/or regional secondary PSAPs.

Allowable items to be funded through this grant include, but are not limited to:

- Radio systems;
- Radio consoles;
- CAD;
- Records management systems;
- Fire alarm receiving and alerting equipment; and
- Consultant services in support of equipment.

All radio systems shall comply with EOPSS Statewide Inter-Operability Emergency Communications ("SIEC") special conditions, as may be amended from time to time. The State 911 Department will submit requests for such funding to the SIEC and/or the Statewide Interoperability Coordinator ("SWIC") for review and confirmation that the requested item(s) comply with the SIEC special conditions. The SIEC special conditions are available at: http://www.mass.gov/eopss/docs/ogr/homesec/sdsiecspecialconditionsradiofrequenciesdec09.pdf. Questions relating to the SIEC special conditions should be directed to the SWIC.

Funds for radio systems may be used to defray the costs associated with the acquisition of radio systems used for police, fire, emergency medical services, and/or emergency management communications.

If detailed quotes for any equipment item are not provided at the time of application, detailed quotes shall be submitted for review and approval prior to ordering equipment."

Capital Savings/Anticipated replacement cost of existing dispatch equipment

The equipment used on a 24/7 basis is critical to the efficiency of the call taking and dispatching functions of all 911 Public Safety Answering Points (PSAP). It is the second largest cost center for a PSAP and is often difficult to fund in annual budgets as a recurring cost. The reality is that the life cycle of dispatch equipment is often short lived and is estimated as follows:

- PC's and laptops – 3 year cycle
- Servers and routers – 5 year cycle
- Software upgrades – 7 year cycle
- Radio console – 7 year cycle
- Dispatch Furniture – 10 year cycle

All communities involved in this planning process will be faced with replacement of their dispatch equipment over the next five years.

Equipment is an allowable expense for all PSAPs and RECC's. RECC's are also eligible for equipment purchases of Public Safety Radio Systems which PSAPs under the Support Program are not. Under an MSP-FCRECC, the cost of future replacement of communication equipment would be borne by the State 911 Department Development, as well as the Support and Incentive Grant Programs that would provide substantial savings to Greenfield and Montague that are currently supporting their PSAPs.

C. Decision Matrix

A matrix was developed to assist in making a decision regarding the recommendation for which choice makes the best operational and financial decision for the Franklin County wide RECC. There were eight important categories that were considered factors to this decision-making process. Each category was assessed a value of one to five with one being the least desirable and five the most desirable. The MSP operated Shelburne Control/Regional Dispatch at the new Greenfield Public Safety Facility was rated the best option for the RECC.

Category	Greenfield RECC		MSP-Shelburne Regional Dispatch		Stay the same	
Governance	**Requires development of agreement**	**2**	**Model allows of community input through Board of Overseers. Funding currently provided by State 911 and MSP**	**3**	**N/A**	**1**
Operations Input	**Informal**	**2**	**Administrative Board**	**5**	**Informal**	**2**
Agency Administrative Support	**City Support Functions**	**2**	**Separate Communication Functions within MSP**	**5**	**Informal through PDs**	**1**

Category	Greenfield RECC		MSP-Shelburne Regional Dispatch		Stay the same	
Engineering and Technical Support for the Dispatch Center	Outsourced	2	Department functions – 24X7 support	3	Outsourced	2
Enhanced Technology – Current practices seems to Require 3 communities to be eligible for Development Grants	Dependent upon city/town funding	2	Provided by State 911 Department through competitive Regional Development grants	5	Dependent upon city/town funding	2
Experience and expertise in operating a RECC	Would require separate department within city government	1	Excellent performance in operating the Shelburne Dispatch for 24 years.	5	No expertise in RECC operations	1
Robust Operation- Ability to operate during a large incident	Limited dispatchers on duty	2	Multiple dispatchers on duty for surge of calls	5	Limited dispatchers on duty	1
Funding	Marginal economy of scale	3	Currently funded by State 911 and State Police Funding	5	Limited community funding	1
Personnel - Bargaining unit and Labor	Two separate unions	2	A third and separate union. Unclear re: continued employment and walk-in staffing	2	No change in unions	5
Fire CAD – Records Migration	At least two separate CAD for Fire	3	Migration and integration complexity	2	No change in CAD as it exists	5
Rating Total*	21		40		21	

**Rating scale estimates each category into a scale of (1) to (5) with one being the least desirable and five most desirable.*

RECOMMENDATIONS:

1. Consolidate Greenfield and Montague and the MSP-FCRECC. This further regionalization effort will provide excellent opportunities for both communities. A rating scale was used to assess the three options based upon eight variables that would be of great importance to make the decision to transition to MSP-FCRECC, a Greenfield RECC or to remain as independent PSAPs. The MSP-FCRECC at the site of the newly planned Greenfield Pubic Safety Facility was rated the highest.

The primary reasons for the MSP-FCRECC high rating include the following:

   a. MSP-FCRECC—as we know it today—has developed operational expertise in providing regional emergency communications call taking and dispatching services through a wide geographical area for twenty-six communities. The center has had strong support from the communities along with dispatch personnel having received awards for these vital services provided. The Shelburne Falls Barracks is very functional but leaves little room for expansion and is not ADA compliant.
   b. Greenfield will provide space in the new Greenfield Public Safety Facility at no-cost in lieu of an annual fee for receiving the emergency call taking and dispatching services.

The purpose of doing such a move would be to:

   a. Enhance the emergency communication services.
   b. Provide for a more robust emergency communication capability.
   c. Provide for cost savings to all communities through greater economy of scale.
   d. Reduce the cost of future replacement of communication equipment.
   e. Provide for greater information sharing between communities regarding crime patterns and suspects through the Computer Aided Dispatch (CAD) and Records Management Software (RMS).

2. Leverage the capability of the MSPFCRECC to provide for a more robust dispatching capability to handle a surge of calls due to major incidents by providing greater shift dispatcher staffing and uniform dispatching protocols.

3. Develop an outreach program to all of the communities to inform the citizens and the public safety personnel of timelines of the potential changes, the rationale for the change and the benefits to them in the form of enhanced services

4. Develop a plan to provide the administrative support that the dispatchers have been providing and to allow community members to interact with the Police and Fire Departments for administrative matters. There issues are of great importance to Montague and to a lesser degree to Greenfield. Strategies should include:
   a. Provide administrative support during certain hours of the day during the week to support this effort with either full-time or part-time employees such as considering putting their records function and storage in the current dispatch area and using a records clerk to work on that function as well as other community business with the police department such as records requests
   b. Schedule hours for those administrative functions and inform the public
   c. Review the administrative functions that could be put online through the internet such as the Burn Permit system that MSP-FCRECC has at this time. The online burn permit system allows community members to apply online. The system is managed by the community fire departments and provides notice to applicant when it is an appropriate day to burn. The data base is a very useful tool for both the community fire department and the dispatch center.

5. Utilize the established operational policies and procedures of the MSPFCRECC as a base of protocols to initiate a review process with Greenfield and Montague Public Safety agencies to meet the unique needs of the disciplines of the emergency response agencies to ensure the appropriate resources are provided at the time they are needed.

6. Assist MSP-FCRECC to seek State 911 RECC Developmental Funding to implement the needed changes necessary to connect to the Regional Emergency Communications Center. Those elements include the cost of:
    a. Build out of the space at the Greenfield Public Safety Facility for the MSPFCRECC.
    b. Radio communications system connectivity between the MSPFCRECC and Greenfield and Montague.
    c. Enhanced security for the Montague Public Safety Facility during the times when the facility may not be staffed.
    d. A regional software system for Computer Aided Dispatch (CAD) and Records Management Systems (RMS)
    e. Project Management.
    f. Transitional Training.

7. Develop a transition plan that will prioritize existing Greenfield and Montague dispatchers into the vacancies and new positions at the MSP- FCRECC. The Department of State Police has an existing hiring process that has been well documented and is line with existing law and the Commonwealth's HR practices. The MSP Administrative Services Director and their Human Resources Director will work with their counterparts in Greenfield and Montague will develop the plan in consultation with each other and their public safety leaders.

Appendix A

Montague Police Department
Position – Communications Officer

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

Essential Functions

1. Answer E-911 and non-emergency telephone calls, dispatching emergency services via radio, or other means.

2. Maintain an accurate and complete police dispatch log of all incidents, arrests, requests for service, and officers-initiated events, as established by Department policy.

3. Monitor other Agency radio frequencies (GPD, TF Fire, and Shelburne Control) and forward all necessary information to Montague Police Officers or the appropriate agency.

4. Monitor Fire/trouble alarms on WARN system

5. Forward other telephone calls to appropriate parties, greet, and assist members of the public entering the station. (For Montague Pd and TF Fire)

6. Monitor, via cameras; prisoners in cells while in custody of the MPD and maintain an accurate prisoner lock up log. (Includes suicide watch)

7. Maintain parking ticket records, including the collection agency referrals for overdue parking tickets

8. Maintain business information/contact info

9. Print/redact/maintain media logs

10. Print Warrant lists

11. Contact RMV and other agencies for certified documents for court cases

12. Monitor CJIC (Criminal Justice Information System), nationwide computer system for updates, BOLO's, warrant information, etc. Accurately and promptly enter missing persons, stolen vehicles, stolen guns, stolen articles, and other items into the CJIC system.

13. Query CJIC computer system for information requested by officers.

14. Enter and maintain accurate records for restraining orders, harassment prevention orders, and trespass orders.

15. Assist Officers with paperwork and research relating to investigations, including arrest packets for court.

16. Assist Fire Arms Sergeant and Sex Offender Registration Sergeant with completing all necessary paperwork needed for scheduling appointments and registrations.

17. Testify in court when summoned for Montague PD arrest cases.

18. Maintain citations for Town by Law - Alarm violations

19. Disseminating information to the media and fulfilling requests for information/reports from the public. Primary contact for media and public relations.

20. Required to view confidential records and maintain the same in compliance with State and Federal laws.

21. Required to train new employees while following Montague PD's Policy and Procedures. Must be in compliance with State and Federal laws at all times.

22. Monitor building surveillance including, but not limited to exterior/perimeter/parking Lots, and detention area.

23. Senior Dispatcher handles record requests and assists with a variety of administrative

24. Tasks in the absence of the Dispatch Manager/Office Administrator.

Dispatch runs 24-7,365 days a year, including Holidays and extreme weather conditions. Dispatchers are subject to emergency recall without notice for major events or during periods of high call volume. Dispatchers are also subject to forced hours with no notice.

Appendix B

AGREEMENT
BETWEEN
THE DEPARTMENT OF STATE POLICE
AND
THE TOWN OF COUNTY

AGREEMENT entered into this '. .Day of 2009 by and between the Department of State Police (the Department) and the Town (or Fire District) of. Hereinafter the "Town").

WITNESSETH,

Whereas,

A. The Department of State Police is a department within the Executive Office of Public Safety, pursuant to Section 18 of Chapter 6A of the Massachusetts General Laws as most recently amended by Section 4 of Chapter 412 of the Acts of 1991, herein after the "Department".

B. the Town of __is municipality within the Commonwealth of Massachusetts, herein after the "Town".

C. The emergency public safety needs of the Town and the Department will be met through a shared Dispatch E911 Public Safety Answering Point (PSAP).

D. Participating in a common communications network will improve public safety operations and further ensure the safety of public officials and the citizens of the Commonwealth. . .

NOW THEREFORE, The Department and the town in consideration of mutual covenants and agreements herein contained do mutually agree as follows:

1. The Department agrees to provide the Town with necessary dispatch center capabilities by providing non-emergency and emergency voice communication for the police, fire, EMS and related emergency services where specifically and mutually agreed upon by all parties. These services, excluding radio equipment and related infrastructure support, will be provided at no cost to the Town for a period of five years commencing on the date this agreement has been executed by the authorized parties.

2. The Department agrees to staff the Dispatch/PSAP with trained State Police Dispatchers.

3. In accordance with Chapter 291 of the Acts of 1990, the Town will provide a letter of continued intent to , the State 911 Department indicating that they have designated the Department of State Police as their Town's Public Safety Answering Point as a result of this agreement.

4. The Town agrees to designate a liaison, and agrees to work within the governance structure of the regional oversight committee, for coordination with the Department on all issues regarding daily operations by the Town or its agents. It is understood that the Department maintains operational control of the dispatch center. The issues that the liaison will participate in include, but are not limited to the following:

A, Manage and administer the E-9-1-1 database including the disability database and updating the databases.

b. Assist the Department in performance reviews of the Dispatch Center services offered to the Town by the Department.

c. Assist the Department in reviewing any system upgrades of the E-9-1-1 PSAP.

d. Work with the Department to update Standard Operating Procedures (SOP) for the Town's public safety agencies to be implemented by the Dispatch Center. These procedures should be consistent for all Departments served by the Dispatch Center. .

5. The Town agrees to work with the Department on radio frequency consolidation (where applicable), in order to foster improved interoperability. Neither the Town nor the Department is specifically obligated to fund any change, but will work together to seek funding for the common good of the dispatch center.

6. The Town agrees that the costs associated with any decision by the Town to change the Town's radio system (excluding a plan for interoperability), including the addition of radio base stations, receiver sites, or new telecommunications infrastructure, will be paid for by the Town. Proposed changes to the Town's radio system must be approved by the Department prior to the implementation of said changes.

7. The Town agrees to obtain and keep current all matters relating to its frequencies granted by the Federal Communications Commission (FCC) under Part 90 of the FCC rules and regulations. The Department agrees to obtain and keep current all matters relating to its frequencies granted by the Federal Communications Commission under Part 90 of the FCC rules and regulations. The Town shall notify the Department at least 90 days prior to filing any application with the FCC to modify any component of the Town's FCC license to operate the radio systems

8. The processing of formal complaints regarding state police employees shall be handled in accordance with Department General Order ADM-14, Complaints regarding local public safety personnel will be. Referred to the appointing authority in each jurisdiction

9. The Town and the Department mutually agree to operate the radio system in accordance with Part 90 of the FCC rules and regulations.

10. The Department and the Town mutually agree that the highest priority of communications is one that involves a life-threatening incident. In the event of a system failure of the communications network or the E-9-1-1 PSAP, the Department or its designee shall have the authority to implement emergency procedures to manage the event. All parties shall agree upon the emergency policy and procedures as
Part of the municipal plan submitted to the Statewide Emergency Telecommunications Board and said plan may be reviewed on an annual basis.

11, all disputes relating to any interpretation of this agreement shall be submitted to the Colonel of the Department of State Police and Chairman of the Board of Selectman for the Town or their designee for review, finding and recommendation,

12. If, after a period of forty five (45) days has elapsed from the date of review and no resolution of the dispute having been agreed to by both parties, the dispute shall be submitted to a third party mediator mutually agreed upon by the Town and the Department. The costs of said mediator shall be equally shared by the Town and by the Department. 13. Media inquiries regarding the operation of the Dispatch Center/E-9-t-1 PSAP or State Police personnel will be directed to the State Police Office of Public Affairs. Media inquiries regarding the Town of ....or the Town's personnel will be directed to the Chairman of the Board of Selectman

for the Town or his or her designee. Media inquiries concerning specific incidents under the jurisdiction of the Fire Department, Police Department or EMS provider will be directed to the appropriate department pursuant to current policy and procedure for each department.

14. This agreement may only be amended by a written document signed by all parties to this agreement.

TERMINATION CLAUSE

1. In the event there is a desire by either party to terminate this agreement, a prior notice of eighteen months will be required. The termination notice must be in the form of a written document with the signatures of the original approving offices (Colonel, Chairman of the Board of Selectman) on said document. In the event that the termination clause is exercised in accordance with this MOU, the Town of Ash field will immediately undertake efforts, and perform due diligence, to secure a suitable Primary PSAP and dispatch configuration.

2. The execution of this agreement shall nullify and supersede any and all provisions and any and all previous agreements.

In Witness Whereof, the parties have hereto set their duly authorized bonds and seals on the date subscribed.

DEPARTMENT OF STATE POLICE **TOWN OF ____**

By:

Superintendent

Date.....

Appendix C

Franklin County Emergency Communication System: Situation Report for January 2018

What is the FCECS?

The Franklin County Emergency Communication System (FCECS) is the critical infrastructure first responders rely on to perform their work.

It is built on thirteen towers across the county and transmits on the 450MHz band using simulcast format. It was funded primarily from Homeland Security funds.

In typical Yankee fashion, a decision was made to find low-cost towers that would meet the needs of the system. Unfortunately, the location of the towers has been found to not be ideally situated for the simulcast system we currently have.

Who Owns the FCECS?

The Franklin County Emergency Communication System (FCECS) is owned and maintained by the Trogon behalf of the towns of Franklin County and the public safety professionals who use and rely on this system every day.

A condition of the FRCOG agreement for ownership was the creation of an oversight committee comprised of the users of the system. The mandate of the committee is to oversee and manage the system.

FCECS Oversight Committee Membership

Joseph Camden, Franklin County Sheriff's Office; Joe Cuneo, Tri-State Fire Mutual Aid; Butch Garret, Shelburne Control; Dana Johnson, Franklin County EMS Committee; John Paciorek, Franklin County Police Chiefs Assn.; Bill Perlman, FRCOG Executive Committee; Kurt Seaman, Greenfield FD; Walter Tibbetts, Franklin County Fire Chiefs Assn.

System Update and Issues

SYSTEM AGE:

Radio system experts tell us the life expectancy for the components in our system is 7 to 10 years. The average age for our system's components is 12 years old.

REPAIRS AND MAINTENANCE:

Currently, the FCECS Oversight Committee is getting one to two trouble tickets a week from users. In addition to the known issues, we hear from users that they are complacent about the quality of the audio and do not submit trouble tickets.

These issues can take anywhere from one hour of our Radio System Manager's time up to multi-day events that can cost into the thousands to repair.

SYSTEM DESIGN:

The Committee has been told by multiple engineers the design of our system is at fault for many of our current reception issues. Even if the parts and pieces were new there would still be issues.

- The antennas are not correct in terms of type, bearing, and power.
- The tower locations are too close to each other, causing interference.

Harris MASTR III Repeater: Critical Link

THE MAIN PROBLEM:

The Harris Corporation has issued art end of life notice for the MASTR III units the Censuses as repeaters at most tower locations. In addition, due to the vintage of the Harris MASTR III units, we are unable to find suitable parts for repair. The search for parts has included Craigslist, EBay, and third-party resellers.

WHAT IS A MASTR III?

The MASTRIII is a repeater that enables radio communication over varied terrain and long distances. Radio waves do not like to travel over hills and into valleys. A repeater makes this scenario possible by retransmitting communication so that it can reach its intended recipient.

IMPLICATIONS:

If a repeater were to fail, someone using that tower to contact dispatch or another first responder would not be able to do so. In short, the tower would be shut down along with its coverage area. Repairing the unit is nearly impossible.

CONTINUITY OF OPERATIONS PLAN:

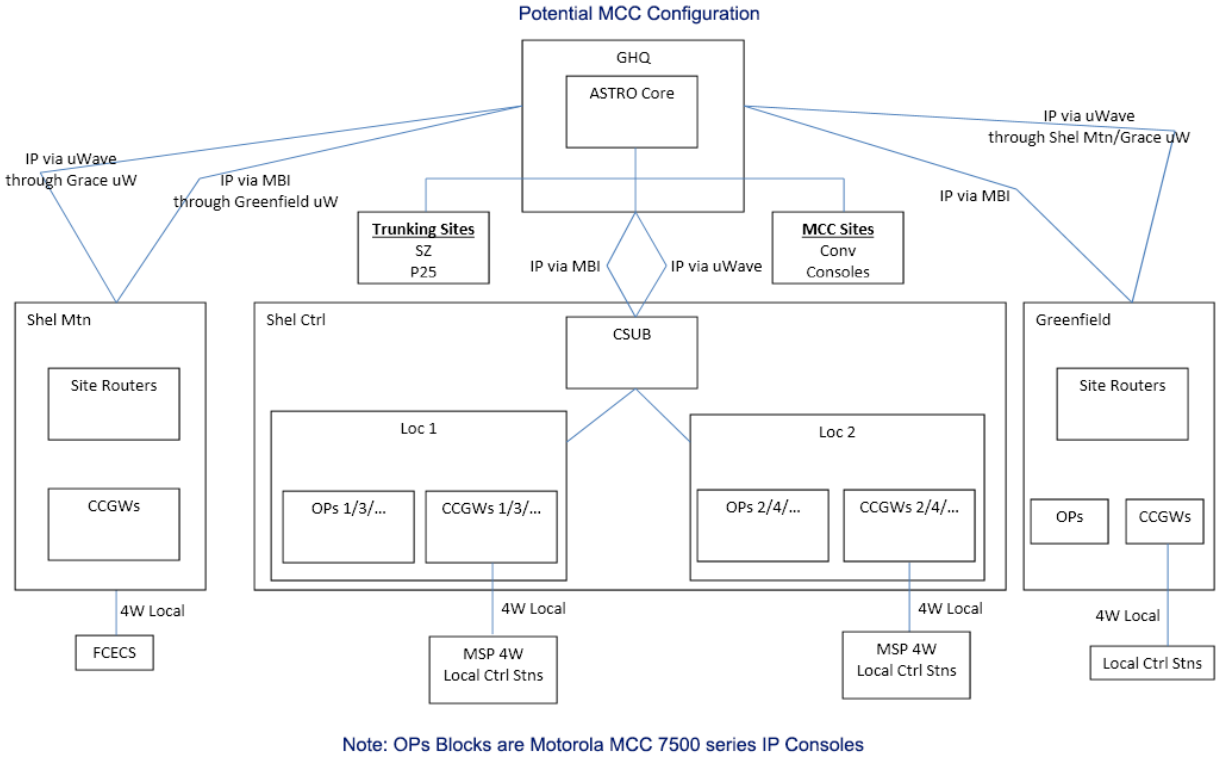
If a MASTR III fails the FCECS System Manager has devised a site hierarchy list. This list outlines which sites are the most and least important to all system users. In the case that an important location loses a MASTR III, the System Manager will take parts from a low ranking site, thereby making that site inoperable but the more critical site functional.

Appendix D

Connectivity and Redundancy

MSP Shelburne Control's console is provisioned to operate 49 communications resources, with dispatch center redundancy. Unlike basic dispatch console systems that simply connect all remotely located radio resources directly to the dispatch center console the MSP system first connects all radio resources to a switch located at MSP-GHQ in Framingham, Mass. Then, during normal operations communications circuits are provisioned (most over the State Microwave Radio Backbone) to forward these radio resource circuits onto Shelburne Control. Other MSP dispatch centers, e.g. Northampton Control, New Braintree Control, etc. also feed through the MSP-GHQ switch. With this configuration any PSAP interconnected through the MSP-GHQ switch can assume control of the others radio resources and effectively backup a facility in the event of an emergency at a PSAP.

Consistent with the above dispatch center redundancy policy the addition of a Greenfield RECC to the MSP system must be accomplished by a redundant connection directly to the State Core.



Note: OPs Blocks are Motorola MCC 7500 series IP Consoles

The creation of the Greenfield RECC actually required two (2) physically separate resource centers to be connected to the State's Astro Core, and they are (a) the Shelburne Mountain radio resources of the Franklin Regional Council of Governments

(FRCOG) radio system (left in picture); and (b) the actual RECC in Greenfield (right side of picture).

The Shelburne Mountain radio resources are connected to the Astro Core by: (a) an existing MSP microwave link from Shelburne Mountain into the MSP microwave backbone through Mt Grace; and (b) backup redundant connectivity via Mass

Broadband Institute (MBI) fiber optics. The Greenfield RECC console resources are connected to the Astro Core by a similar method, EXCEPT a new microwave link needs to be constructed between the Greenfield RECC and Shelburne Mountain. As with the Shelburne Mountain connection to the Astro Core the Greenfield RECC connection will also require a backup MBI fiber optic circuit.

As part of this Study CTC has confirmed that a Line-of-Sight (LOS) microwave path does exist between the proposed Greenfield RECC, located on Main Street, and Shelburne Mountain. The following plot shows the path details.