

***Feasibility Study for
Developing Regional E911
Communications Services***

For

***Gardner and Athol
Massachusetts***

Final Report

Submitted to:

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EXECUTIVE SUMMARY

This study was conducted to explore the feasibility of creating a Regional Emergency Communications Center (RECC) for the City of Gardner and the Town of Athol. CTC, Inc., a Massachusetts based private non-profit 501c3 company that 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, was awarded a contract to conduct this study.

The Methodology utilized interviews, site surveys and document research.

Currently Gardner and Athol support four emergency communications dispatch functions between the two communities. The Gardner Police Department provides the 911 call taking, Emergency Medical Dispatch (EMD) services for the City of Gardner and dispatching for the Police Department. The Fire Department provides dispatching services for Fire Department and Emergency Medical Service calls. The Athol Police Department provides 911 call taking and EMD services for the Town of Athol. The Gardner Police Department is located at 31 City Hall Avenue, Gardner in a building that has been determined to be inadequate for the Police Department and is in the process of building a new Police Department facility at 200 Main Street in Gardner, with an expected completion date of the first quarter of 2015. The Athol Police Department is located at 280 Exchange Street, Athol. Both 911 Public Safety Answering Point (PSAP) emergency communication centers are well established and provide call taking and dispatching services for public safety resources to critical incidents and citizen complaints in their respective communities.

The Findings were as follows:

Both communities would benefit from a consolidated Emergency Communications Center. This is combining four dispatch centers into one that is focused on emergency call taking and dispatching for public safety services.

The interviews revealed that there was a willingness of the public safety leaders to regionalize their dispatch services to provide for more effective 911 dispatch services. Interviewees felt that the key outcomes of regionalization would provide for:

1. A more robust 911 dispatch center that will have:
 - a) Greater capability for EMD calls
 - b) Greater economy of scale to manage large events
 - c) Ability to take advantage of new technology
 - d) Development of dispatcher proficiency
2. Long term cost savings

The equipment needed to allow for this transition is an allowable cost item under the State 911 Department Regional Developmental Grant Program. Those items include radio equipment to allow for interoperability between Gardner and Athol and to allow for dispatching from Gardner to mobile units in Athol, security systems for the Athol Police Facility and the Gardner and Athol Fire Stations and software for the Computer Aided Dispatch (CAD) and Records Management System.

Recommendations:

1. It is feasible to consolidate Gardner and Athol into a single Regional Emergency Communication Center (RECC). The purpose of doing such a move would be to:
 - a. Maintain and Increase the level **professionalism** of the 911/communication services to their communities and departments
 - b. Increase the capability for the communities to provide Emergency Dispatch Services to their citizens
 - c. Provide for cost savings to all communities through greater economy of scale and to reduce the future duplication of dispatch communication equipment
 - d. Provide for increased information sharing of criminal activity between Athol and Gardner through the regional CAD/RMS system
 - e. Provide an increase of fire personnel through re-tasking from dispatching duties to EMS/Ambulance response for both communities
2. Leverage the commitment and resources of Gardner at the state of the art Police Department facility as the core infrastructure of the RECC.
3. Consolidate all 911 call taking and dispatching for both Athol and Gardner into the RECC.
4. Establish within the government of Gardner a separate department for Emergency Communications with a Director to plan and manage the RECC and to provide leadership for these functions and personnel.
5. Develop an outreach program to all of the communities to inform them of the enhanced capability of the RECC.
6. Develop and enact an acceptable Governance Agreement as soon as possible.
7. Develop uniform operational call taking and dispatching procedures for the RECC.
8. Seek State 911 RECC Developmental Funding to assist in the process of transitioning Athol and Gardner into the new RECC.
9. Standards, as well as the new technology systems that will be incorporated into the RECC Consolidate the Information Technology systems for Computer Aided Dispatch (CAD) and Records Management Systems (RMS) using the IMC/Tritech platform.
10. Develop a Training Plan to incorporate all elements of required dispatch training as required by State 911 and EMD and community knowledge.
11. Utilize the insight of the dispatchers and public safety personnel to develop excellence in operational guidelines/practices for the citizens of both communities and their public safety services.
12. Leverage the development of high speed access to the region by the Massachusetts Broadband Institute (MBI) and the Massachusetts Department of Criminal Justice Information Services to provide this fiber optic network to allow the connection between Athol and Gardner for the transmission of CAD/RMS data, images from the security system and for radio system transmissions.

INTRODUCTION

The Commonwealth of Massachusetts and its 911 Department allocated funds for the development of Regional Public Safety Answering Points (PSAP) and Regional Emergency Communications Center (RECC) Development Grants. The Gardner Police Department applied for and received funding to conduct a feasibility study for the City of Gardner and the Town of Athol. CTC, Inc. was awarded a contract to conduct this study to explore the feasibility of creating a Regional Emergency Communications Center (RECC).

CTC Inc. is a non-profit 501c3 organization, whose mission is to facilitate public safety solutions, is located in Westborough, Massachusetts, that has been qualified by the Massachusetts State 911 Department to provide technical, operational and governance feasibility consulting services.

The CTC team, led by its Chief Executive Officer (CEO) and former Massachusetts State Police Lt. Colonel/Deputy Superintendent (ret.) Thomas J. Kennedy, included Gary Cromack, Cromack Industries Inc., who has provided radio systems and interoperability analysis from the information gathered for the final report. 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; lease management, interference analysis, FCC and FAA filings. Mr. Cromack is currently supporting the Western Homeland Security Region with interoperability system guidance and has contributed to the Massachusetts Interoperability Plan.

CTC conducted this study in the methodology described below and found that it is feasible to develop a Regional Emergency Communication Center for the City of Gardner and the Town of Athol that will achieve the following:

- a. Maintain and Increase the level **professionalism** of the 911/communication services to their communities and departments
- b. Increase the capability for the communities to provide Emergency Dispatch Services to their citizens
- c. Provide for cost savings to all communities through greater economy of scale and to reduce the future duplication of dispatch communication equipment
- d. Provide for increased information sharing of criminal activity between Athol and Gardner through the regional CAD/RMS system
- e. Provide an increase of fire personnel through re-tasking from dispatching duties to EMS/Ambulance response for both communities

METHODOLOGY

CTC adhered to the following methodology in collecting and assessing the data elements and information from the existing 911 PSAP services in Gardner and Athol to assess the feasibility of developing a RECC. Within both communities the Fire Departments also provide dispatching services for their response to fire and emergency medical calls. Methods for collecting information relied on interviews, on-site assessments and document review. The process included the following:

- Met with the principals of project.
- Visited each PSAP/dispatch site.
- Interviewed the Chiefs of the Police and Fire Departments of each community to seek their insight and recommendations regarding the possibility of regionalizing their 911 call taking and dispatching services.
- Visually assessed all communications and information technology systems.
- Gathered all documentation for all systems, which included the following:
 - Inventory of radios for each agency including make(s), model(s), radio infrastructure and approximate age of equipment.
 - Inventory of communications-related equipment including computer equipment for each agency.
 - IT infrastructure and software used.
 - Municipal fire alarms system.
 - Internal communications protocols with non-emergency departments within the communities.
- Gathered documentation on dispatch services policies and operational procedures.
- Gathered information on current emergency communications staffing levels.
- Collected the following information:
 - Current operating budgets of communications centers.
 - Call volume for each 911 center.
 - Radio frequencies in use by each agency.
 - Additional administrative tasking performed by the dispatch staff.
 - Existing labor contracts.
- Conducted interviews with public safety personnel from both communities to gather their insight into the strengths and weaknesses of regionalizing their emergency communication services as well as to seek their recommendations if both communities decide to move forward with this process. The interviews included the following:
 - 25 conducted
 - 11 Gardner
 - 14 Athol
 - Disciplines
 - 8 Police
 - 9 Fire
 - 6 Dispatchers
 - 2 Administrators

SITE ASSESSMENTS AND FINDINGS

Community Profile

| | Population | Square Miles | 2013 – 911 Call Volume | 2014 Calls for Service |
|--------------|---------------|--------------|------------------------|------------------------|
| Gardner | 20,228 | 23.0 | 5,003 | 27,141 |
| Athol | 11,584 | 33.8 | 1,918 | 12,279 |
| Total | 31,812 | 56.8 | 2,414 | 39,420 |

Existing systems, methods and administrative practices:

In the Athol, the 911 Dispatch Center emergency communications/dispatch center is managed by the Athol Police Department centrally for all 911 call taking services. Dispatch services are provided for police personnel. The Fire Department provides dispatch services for all fire and EMS calls. Other town departments are communicated with through the Athol 911 Dispatch Center. Gardner Police Department manages 911 emergency communications center PSAP that provides all 911 call taking services, dispatch functions for the police department and coordinates with the Fire Department for dispatching for fire and EMS incidents. During this coordination of fire or EMS type call, the call is transferred to the Gardner Fire Department for dispatch services. The Gardner Police Department 911 Emergency Communications Center provides Emergency Medical Dispatch services to the caller. Both centers are staffed twenty-four (24) hours a day by trained communications personnel. In Gardner the emergency communications center is supervised by non-sworn personnel/civilian, and in Athol by sworn law enforcement supervisors. The centers receive calls from E911, TTY, telephone wire-line, cell phone wireless, email and walk-ins from city/town residents, as well as provide dispatching services to other community departments such as their highway departments. The current 911 PSAP/Communications Center facility locations and profile for both communities are as follows:

- Gardner – 911 Dispatch Center
 - 31 City Hall Avenue, Gardner, MA 01440.
 - The 911 Dispatch Center is an entity within the Gardner Police Department.
 - Systems Manager and Dispatch Supervisor Laurie Lyons.
 - Staffing: 1 Supervisor, and 12 Dispatchers – 8 full-time and 4 part-time.
 - Mission: Dispatchers receive, evaluate and refer all calls coming into the Emergency-911 lines. They work closely with Police, Fire and Ambulance service providers to ensure rapid response to emergencies in the City.
 - The 911 Dispatch Center receives and manages all 911 calls for Emergency Medical Response and Fire related incidents and provides for a transfer of the call to the Gardner Fire Department for dispatching.
 - The dispatcher also provides inquiry services to the Criminal Justice Information Services (CJIS) that is managed by Massachusetts as a node of national criminal justice information system. The dispatcher also provides services to citizens who walk into the new Police Department and provides facility security and monitors prisoners in the department lock up/cellblock.
 - The dispatchers have responsibilities that extend beyond call taking and dispatching services to the Police and Fire Departments, i.e., Department of Public

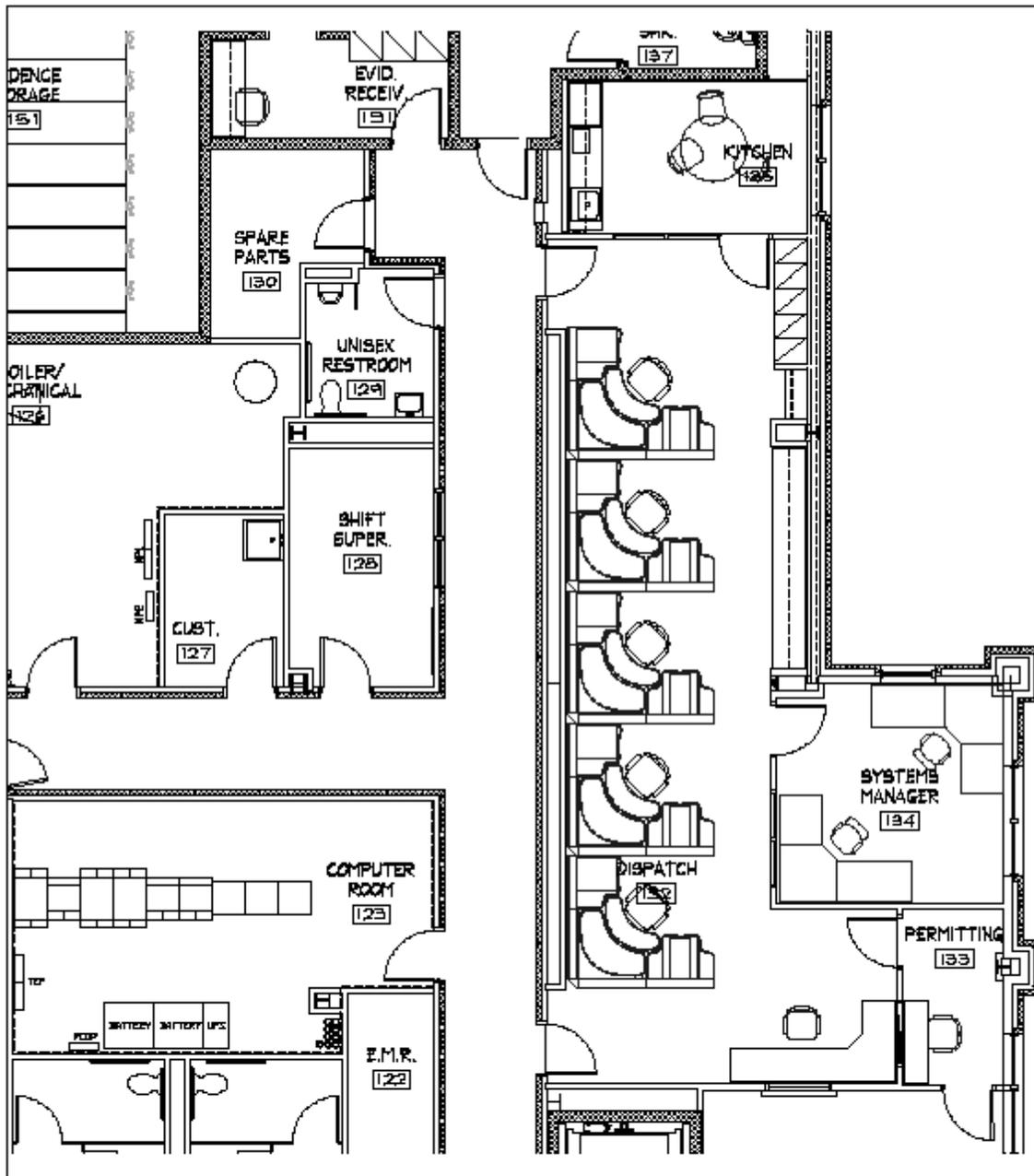
Works during non-administrative hours. See Appendix A for a listing of the wide range of duties that the Gardner dispatcher provides.

- Total Budget FY 15: \$453,593

3. Athol 911 Dispatch Center

- 584 Main Street, Athol, MA 01468
- The 911 Dispatch Center is an entity within the Athol Police Department and is located at their station.
- Staffing: 4 full time and 5 part-time dispatchers.
- Mission: Dispatchers provide routine clerical, administrative and technical work in receiving and dispatching routine and emergency information; keeping official records; and assisting in the administration of the standard operating procedures of the dispatch center providing service for the police, fire and emergency medical services.
- The duties of the dispatcher extend beyond the traditional call taking and dispatching functions that many would associate with a 911 PSAP providing many of the administrative functions of the Police Department and very similar to those functions provided by the Gardner Emergency Communications Center. See Appendix B for a listing of the wide range of duties that the Athol dispatcher provides.
- Athol dispatchers conduct inquiries into the Massachusetts and national Criminal Justice Information System (CJIS) for the Police Departments and meet all of their requirements.
- Total Budget FY15: \$232, 505.36.

4. The City of Gardner is currently in the process of building a new Police Station at 200 Main Street, just off of Rte 2 at Rte 68. This 33,050 square foot facility has incorporated a five (5) position dispatch center in 783 square feet of space. Off of this space is a Dispatch Director/System Manager's Office and a kitchen. There is planned space for a computer room, a training/community meeting room, an electrical/mechanical room for those systems in the building with substantial space to grow in the future. On the same floor there is planned space for fourteen (14) cell blocks and booking space. In Figure 3 you will find the plan for the dispatch center:



| | | | | | | | | | |
|---|---|--|--|--------------------|----------------------------|-----------------------|--|-----------------------|--|
| <p>JH JACUNSKI HUMER ARCHITECTS, T.A.C.</p> <p>300 MAIN STREET GARDNER, MASSACHUSETTS</p> | <p>A NEW POLICE FACILITY FOR THE CITY OF GARDNER</p> <p>300 MAIN STREET GARDNER, MASSACHUSETTS</p> | | <p>DISPATCH FURNITURE LAYOUT</p> <table border="1"> <tr> <td>PROJ. NO. JH004</td> <td>DRAWING NO. DL-1</td> </tr> <tr> <td>SCALE 1/4" = 1'-0"</td> <td></td> </tr> <tr> <td>DATE FEB. 11, 2013</td> <td></td> </tr> </table> | PROJ. NO. JH004 | DRAWING NO. DL-1 | SCALE 1/4" = 1'-0" | | DATE FEB. 11, 2013 | |
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| SCALE 1/4" = 1'-0" | | | | | | | | | |
| DATE FEB. 11, 2013 | | | | | | | | | |

Figure 3 New Gardner 911 Dispatch Center

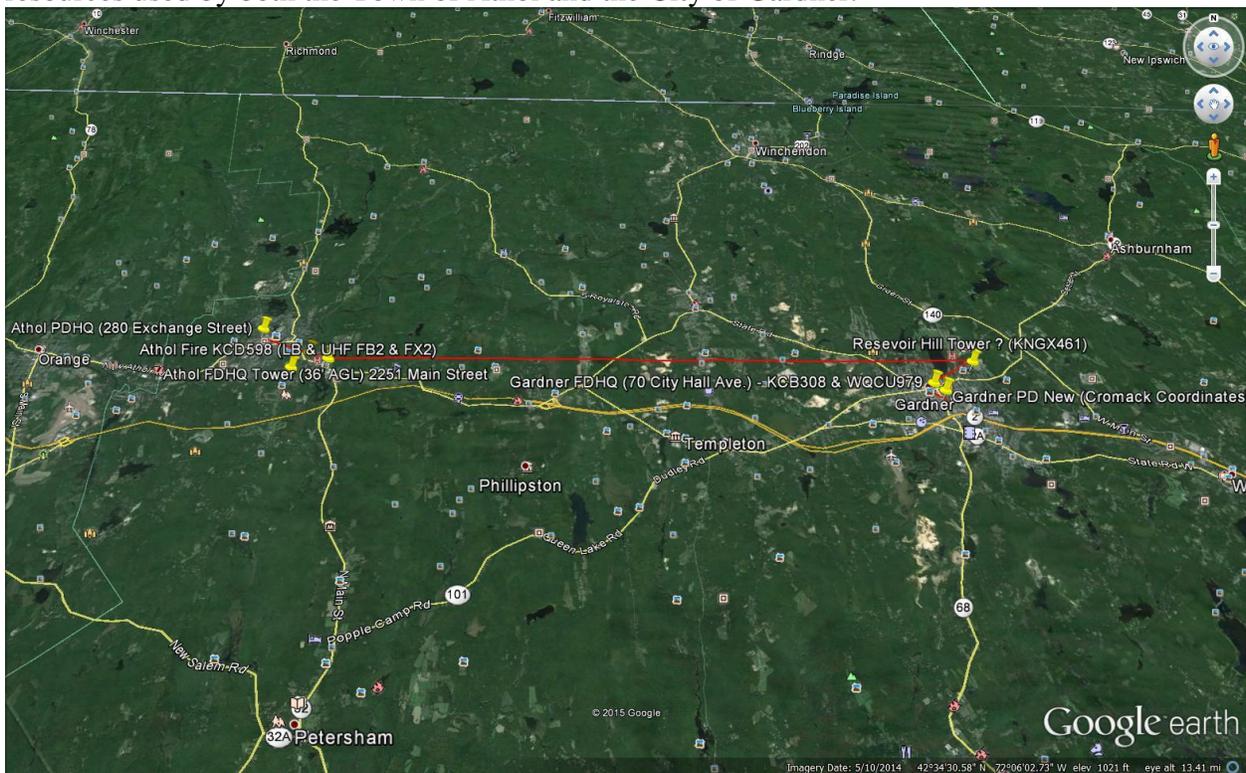
Analysis

Radio Systems

Gary Cromack who is part of the CTC team conducting the Feasibility Study participated in the site assessments and conducted the analysis of the radio systems and developed a strategy to connect the both systems to allow dispatch services to be provided from the new Gardner Police Station to the police and fire personnel and mobile units in Athol.

As part of the analysis we used the following information:

The following Google Earth image shows the relative locations of the various infrastructure resources used by both the Town of Athol and the City of Gardner.



The figure shows that four (4) microwave hops would be required to connect the Athol dispatch to the Gardner dispatch centers. Because of the lack of sufficient infrastructure resources at mountain top sites (generator backup and tower structural issues), a fiber-optic connection approach is recommended between the two centers.

Radio Resources

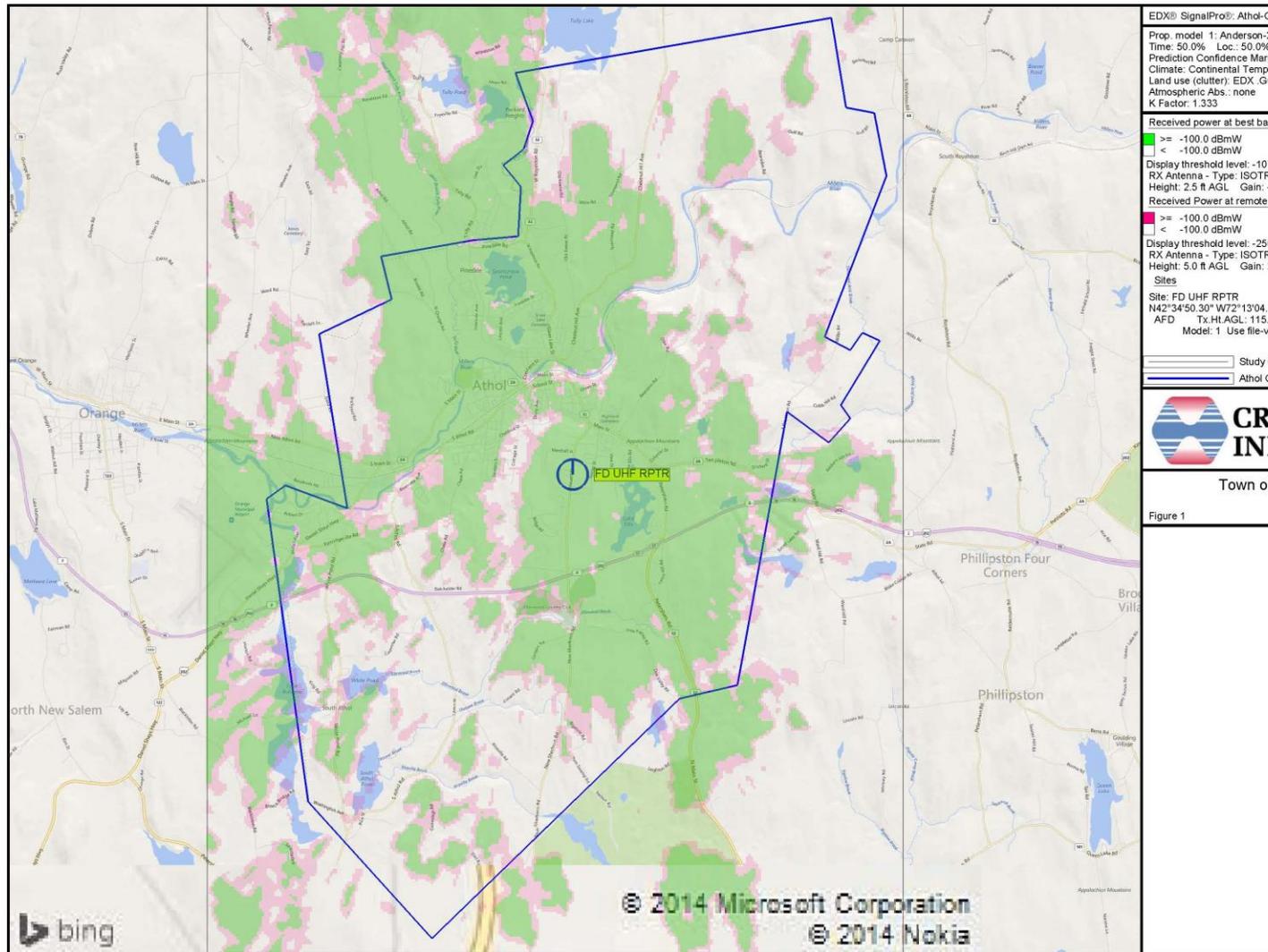
The following figure details the various radio channel resources in use at Athol and Gardner.

| Gardner Dispatch | | | | | | | |
|--|--------------------|-------------------|------------------|--------------------------|--------------|---------------|-----------------|
| Channel Name | DL TX Freq. | UP-RX Freq | Call Sign | Repeater Location | N Lat | W Long | Elev (m) |
| Gardner FD | | | | | | | |
| FD #1 (Simplex) | 154.1300 | same | KCB308 | 70 City Hall Ave | 42-34-28.0 | 71-59-50.5 | 325.8 |
| FD #2 (Duplex) | 453.1250 | 458.1250 | KCB308 | 70 City Hall Ave | " | " | " |
| FD #3 (Simplex) FG | 155.3550 | 155.3550 | KCB308 | 58 Elm St | | | |
| Mutual Aid | 33.7000 | 33.7000 | KCB308 | 70 City Hall Ave | | | |
| Alarm | 75.6000 | 75.6000 | WQCU979 | 70 City Hall Ave | | | |
| Gardner PD | | | | | | | |
| PD #1 (Duplex) | 155.7300 | 151.2200 | KNGX461 | 104 Church St | 42-34-27.4 | 72-00-11.2 | 309.0 |
| PD #2 (Simplex) | 155.7300 | same | KNGX461 | | | | |
| Woods Ambulance | | | | | | | |
| | 155.2950 | 155.2950 | WPWJ581 | Reservoir Hill | 42-34-48.3 | 71-58-56.3 | 395.0 |
| DPW | | | | | | | |
| DPW (Simplex) | 156.1650 | 156.1650 | WPEX802 | Reservoir Hill | 42-34-48.3 | 71-58-56.3 | 395.0 |
| City Unknown | | | | | | | |
| PD #3 (Simplex) | 154.0550 | 154.0550 | WZU918 | 116 Church St | 42-34-27.3 | 72-00-09.3 | 308.0 |
| Downlink (DL) is repeater output frequency | | | | | | | |
| Uplink (UL) is the mobile transmit frequency "into" the repeater | | | | | | | |
| Athol Dispatch | | | | | | | |
| Athol FD | | | | | | | |
| FD UHF Repeater | 453.1750 | 458.1750 | KCD598 | 538 Pleasant St | 42-34-50.3 | 72-13-04.3 | 283.0 |
| FD Simplex-1 | 33.7000 | same | KCD598 | HQ 206 Exchange | | | |
| FD Simplex-2 | 33.9200 | same | KCD598 | HQ 206 Exchange | | | |
| FD Simplex-3 | 33.5400 | same | KCD598 | HQ 206 Exchange | | | |
| FD Simplex-4 | 33.4800 | same | KCD598 | HQ 206 Exchange | 42-36-00.3 | 72-14-58.3 | 162.0 |
| Athol PD | | | | | | | |
| PD UHF Repeater | 453.2250 | 458.2250 | WNQM911 | 7 Pleasant St | 42-35-10.3 | 72-12-47.3 | 238.0 |
| Simplex Low-Band | 39.2200 | | KCA682 | " | : | " | " |

Radio Channel Usage

For the City of Gardner no new radio systems are needed. There is a need to incorporate the Athol radio systems/resources into the planned consoles of the Gardner 911 dispatch center. In addition, to incorporate the Athol radio resources into the Gardner dispatch center, we note that Athol UHF systems have only about 45% coverage of the town boundary. The following coverage plots detail both the Fire (FD) and Police (PD) UHF radio coverage. We also note that the use of Low-Band does provide near 100% Athol town boundary coverage. Therefore, those Low-Band radio resources need to be provided to allow connectivity to the Gardner dispatch via the fiber optic link. The plots shown below show both the repeater talk-out (Red) and the corresponding Portable radio talk-back coverage (Green). We note that talk-out is only slightly better than talk-back. Therefore, only employing extra receivers for talk-back voting will not significantly improve UHF radio coverage. The solution is to: (a) use a higher elevation site (if one exists); or (b) employ a multi-site simulcast transmit/voted receive solution.

Figure 1 - Fire UHF Coverage



From this analysis Gary Cromack presented his findings to Motorola Solutions, the current vendor of the equipment for the Gardner Police Department and a vendor on the Massachusetts contract list. They provided the following solution regarding the needed equipment to make the Gardner RECC interoperable with the Athol Police and Fire Departments. Their proposed solution is summarized below:

Motorola Solutions would provide an MCC 7500 & MCC 7100 Console-based dispatch solution with a K2 (redundant) conventional core. Motorola Solutions has given careful consideration to the City of Gardner's identified immediate and long term needs in determining the specific components for this upgrade.

Broadband/Fiber Optic Connectivity

CTC was able to find that high speed internet access has been developed in the Athol/Gardner region that would provide a connectivity solution between the Athol Police Station and the new Gardner Police Station where the RECC will be located. The network was developed by the Massachusetts Broadband Institute (MBI) and is managed by a private company, Axia Mass. Broadband 123 Network. MBI has also partnered with the Massachusetts Executive Office of Public Safety to provide high speed access to public safety that is described below:

The Department of Criminal Justice Information Services (DCJIS, formerly Criminal History Systems Board) and the Executive Office of Public Safety and Security's (EOPSS) Office of Technology and Information Services (EOPSS-OTIS) is pleased to announce the INET Project that will provide departments the ability to leverage higher speed, lower cost Internet connections to access Massachusetts Public Safety Systems including the Criminal Justice Information System. This additional high-speed connection also provides much needed resiliency due to the diversity of physical paths and provides a more robust public safety network to better deliver applications.

By leveraging a department's existing Internet connection in combination with utilizing the CJIS router, an encrypted VPN tunnel can be established from the remote site to the Public Safety Data Center to provide a cost-effective and secure solution. The aforementioned Internet connection can be either a broadband Internet Service Provider (ISP) such as Comcast or a municipal network such as a city or school network to the Internet.

CTC communicated with a vendor on the list of service providers given to CTC by EOPSS, Crocker Communications. Crocker, currently on the Network Services Statewide Contract (ITT 46) provided an estimate of \$8,800 per year with a one-time connection cost of \$100.00 per site.

Based upon this strategy CTC met with Motorola Solutions and requested a **radio communications** interoperability solution between Gardner and Athol. On January 31, 2015 Motorola provided a budgetary proposal that would provide the consoles and other radio equipment that would allow for the interoperability to be most effective. The price proposal is \$699,396. A copy of the full proposal is to be provided to both Gardner and Athol in a separate package.

Information Technology

The current 911/PSAP centers utilize Tritech/IMC Computer Aided Dispatch (CAD) and Records Management Software (RMS) and Mobile systems. Those systems 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.

1. In both communities, the Police and Fire Departments utilize this common information technology system and records system.

Tritech/IMC was contacted and provided a solution and price to consolidate the systems with a common CAD system and separate RMS for each community. There is strong familiarity at both centers with these systems and it is advantageous from operational considerations to continue with this software vendor. The preliminary quote of the cost of a new consolidated system is \$ 214,727.00 that includes the conversion of the data from the prior agencies to the RECC server.

Security Assessment

CTC conducted a security assessment with Lan-Tel Communications, a contractor on the State bid list as well as chief of the department that was reviewed. Those departments included the following:

- Athol Police Department
- Athol Fire Department
- Gardner Fire Department

Security of all three facilities were reviewed during a walk through as well as a discussion of the chiefs security needs and functionality if the station was unattended during certain hours of the day. Lan-Tel subsequently provided a plan and a quote that would allow for the installation of an integrated security system that would be monitored at the RECC. The system would provide for access control and surveillance system, connection for overhead door closures and an emergency phone installation at the main entry of the building. The preliminary quote for the systems at each of the three facilities and the ability to monitor and control at the RECC was \$192,867.82. The proposal will be submitted to Athol and Gardner in a separate package.

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 I have found the chiefs of the police and fire departments as well as the Dispatch Director in Gardner have excellent leadership skills and a willingness successful to undertake this transition. They have recognized the benefits of such a transition and have offered strong recommendations to make this a successful consolidation. Their key focus was always of the mission of their agencies and their communities.

Interviews

The Police and Fire Chiefs/Deputy Chiefs, Dispatch Center Director/supervisors in both communities had a strong focus on the communities that they serve as well as a desire to provide very professional public safety services to their citizens. All were very knowledgeable in their professional services and of their community. All expressed that if their community desired to develop these regional services they would develop them with the best of their ability. Their desire was focused on enhanced emergency communications services for citizens and public safety personnel for Gardner and Athol. They all understood that this was the first step in a process that

ultimately needed a consensus within both communities to develop an effective RECC. All expressed a strong desire to make this work for their communities. A summary of the results of the interviews with the chiefs and their staff is as follows:

- a) A summary of the **strengths or potential benefits** of regionalization of 911/PSAP services were identified by Police, Fire and Dispatch Center personnel is as follows:
 - Provide for a more robust center
 - May provide a better level of service
 - Development of long term professional dispatch services
 - Building of partnership to share needed resources
 - Relationship building
 - Greater efficiency/cost savings
 - Dedicated dispatch expertise and skills
 - Ability to free up one FF dispatcher to respond to calls
 - Enhance Fire Service dispatch
 - Provide for greater EMD capability
 - Better communications with towns in the area
 - Improved radio communications
 - Reduce redundancy
 - Greater ability to pool/share information with other communities
 - Increased capability for managing increased surge of calls/major events by having multiple dispatchers on each shift
 - Greater ability to retain trained dispatchers
 - Stronger support with better ratio of supervisors to dispatchers
 - Combine skills and strengths of employees for a stronger team

- b) The **weaknesses or concerns** of regionalization were also identified by the Chiefs and department personnel as:
 - Concern for walk in services and certain administrative functions
 - Community communications
 - Community knowledge
 - Perception of loss to the community
 - Human resource issues, such as pay-scale differences, benefits and seniority
 - Ability to retain dispatch personnel
 - Greater call volume in RECC – demands and stress on dispatchers
 - Loss of trained fire dispatchers
 - Different procedures used in both communities
 - People changes/fear of change
 - Current dispatch operation very busy
 - Fire taking a lower priority in dispatch center
 - Concern for staffing during working fire
 - Call overload
 - Loss of personalized service for administrative functions
 - Empty station
 - Hiring of Athol dispatchers at Gardner
 - Delay in information response for police officers

- c) **Recommendations for a successful integration** of both communities into a single emergency communication center
 - Requires State 911 funding

- Plan for a pace that the employees can work at in the transition
- Requires those being held responsible have greater ability to make decisions to be successful
- Communications a key: solicit input/ideas
- Leadership and staff involvement to solve problems
- Monthly stakeholder meetings
- Needs accurate budget
- Keep the future in mind
- Requires thorough testing of systems
- Independent 911 center/city department
- Adequate staffing
- Uniform operational procedures
- Maintain an accurate contact directory
- Keep all parties involved
- Identify orientation for Athol dispatchers including current benefits
- Leadership/key players working together
- Transition Training
 - Ride along program
 - FD orientation
 - EMD Training
 - State 911 requirements
 - Community knowledge
- Implementation sooner rather than later – impact on retention

Staffing Requirements

Three key documents were utilized for guidance in developing staffing recommendations for the development of a RECC for the City of Gardner and the Town of Athol. A Summary of each of the relevant documents that were utilized to develop the staffing recommendations for the Regional Emergency Communications Center is as follows:

APCO Project RETAINS Research Report, August, 2005, University of Denver Research Institute, Denver, Colorado.

This study was conceived and conducted in response to concerns that were brought forth to the Association of Public Safety Communications Officials, International (APCO). Communications center manager and staff expressed concerns about the appropriate number of staff needed to serve the public's needs and expectations for emergency services and they wanted information about practices they could use to increase employee retention. Although such centers are often equated with 9-1-1 emergency call request and services, 9-1-1 emergency calls are often only a portion of the workload. This study looked at all aspects of staffing and retention in public safety communications centers, not just the 9-1-1 service aspects in those centers. This study was completed in two phases (Study I and Study II).

Question: What factors do centers use to determine appropriate staffing levels?

The data indicate the processes public safety communications center have used for determining staffing levels have been primarily reactive rather than proactive. There was no process for

determining appropriate staffing levels in public safety communications centers that was widely used or accepted.

The data also indicate staffing decisions are often based on considerations other than need, as defined by the safety or personnel that are dispatched, or specific measures related to coverage, workload, or service quality indicators. Two-thirds of the managers in Study I indicated staffing allocations were based on budget and 44% indicated the number of consoles in the center determined their staffing levels. When the questions was reframed in Study II to ask managers specifically about formulas they used, 81% indicated they used a formula but only 38 percent of them indicated they made an adjustment for employee availability. Although Erlang calculations are often referred to as the most useful formula for determining appropriate staffing levels, only 15 percent of the large centers reported using it.

In **NFPA 1221: Standard for Installation, Maintenance, Use of Emergency Services Communications Services** states in 7.3.2, "Communications centers that provide emergency dispatching protocols shall have at least two telecommunicators on duty at all times." In addition, NFPA also provides guidance on Emergency Medical Dispatch (EMD) functions that will also be governed by the State 911 Department standards in 2011. Regulation 560 CMR 5.00 establishes certification requirements for Enhanced 911 tele-communicators governing Emergency Medical Dispatch and Establishes 911 call Handling Procedures.

Staffing by only one dispatcher creates a number of significant operational concerns in addition to those cited above regarding NFPA 1221 and to some degree the new EMD requirements. Those concerns are relative to a single dispatcher's ability to provide pre-arrival instructions and service to responders working in the field and, at the same time, receiving other 911 and other administrative calls during this important period of time. A multiple dispatcher RECC does provide for a greater capability for handling large-scale critical incidents at the same time provide an economy of scale.

NFPA Standard 1221 Section 6.4.2 specifies that "Ninety-five percent of alarms shall be answered within 15 seconds, and 99 percent of alarms shall be answered within 40 seconds." Section 6.4.3 specifies that, "Ninety-five percent of emergency dispatching shall be completed within 60 seconds." A Gardner RECC would have greater capacity to manage incident surge as well as the unique requirements of EMD. Dispatcher time performing administrative tasking, such as processing permits and receiving requests for reports, are all times away from providing the ability to quickly and efficiently respond with the needed resources at a critical incident. Finally and very importantly, for the single dispatcher there is no immediate back up in the event of his/her own illness, injury or distress.

Massachusetts Regulations through 560 CMR 5.0 provides the following Emergency Medical Dispatch Requirements:

- By 7-1-2012 PSAPs and RECCs must provide EMD either through certified EMD dispatchers at the PSAP/RECC or through a certified EMD resource
- The PSAP/RECC or certified EMD resource must use a single EMD Protocol Reference system (EMDPRS) on every request for medical assistance; have policies and procedures for use of EMDPRS, and establish a continuous quality assurance (QA) program.
- In order to act as a certified EMD dispatcher for a PSAP/RECC- (the dispatcher) must be a certified E911 telecommunicator, obtain and maintain CPR certification, and obtain and maintain EMD certification.

- The regulations also provide direction for:
 - Certified EMD resource
 - Call Handling Procedures
 - Recordkeeping

EMS and Fire Dispatching within the Gardner and Athol

In reviewing the process for call taking and dispatching of 911 emergency calls for fire incidents and emergency medical response we also reviewed the current practices against the requirements of 560 CMR 5.00: Regulations Establishing Certification Requirements for Enhanced 911 Tele-communicators, Governing Emergency Medical Dispatch, and Establishing 911 Call Handling Procedures

Currently Gardner and Athol Police Dispatch receives the 911 calls for Emergency Medical Services. Gardner Police Tele-communicators are trained in EMD and have the equipment as required under 560 CMR 5.00. Calls for emergency medical services' response is the primary mission of the Fire Department personnel and their assigned ambulances. Currently the EMS calls are received by Police Department tele-communicators and they follow the specific training regimen, and EMS protocol cards which were/are the basis for their training and certification. Training is provided by Powerphone located in Madison, Connecticut.

Within both the Gardner and Athol Fire Departments, a fire fighter is assigned to provide dispatching services for the EMS and fire fighter incidents. The fire fighter is not available for call response but is required to be in the station coordinating response with personnel responding to the incident and the Police Department 911 Dispatch Center. In conducting interviews with Fire Department personnel, there was a recommendation that these fire fighters doing dispatch duties would provide a more efficient response if there were assigned to their primary mission of firefighting and emergency medical response. Their primary concern was to not lose the dispatcher but to reassign that person. We agree with this recommendation. There is duplication of dispatch duties and not enough personnel for the fire fighters primary mission. In Gardner the Fire Department is in the process of transitioning to be the primary response agency for emergency medical calls. The dispatcher fire fighter increases the response capability. In Athol, where they provide this response activity they are shorthanded when a second EMS or fire call comes in. In 2014 Athol responded to 883 medical related calls and Gardner responded to 1,848.

Staffing Analysis and Recommendations:

The Project RETAINS Research Report provided common practices across the country that is useful to consider for the staffing levels for the Gardner Regional Emergency Communications Center (RECC). Below you will find data from one hundred fifty-three (153) 911 PSAP centers relative to staffing and call volume. This data is then compared to what is proposed in the proposed Gardner RECC.

| Center Category | Average | Median | Gardner RECC |
|-----------------------|----------------|---------------|---------------|
| # of Personnel | 18 | 12 | 12 |
| # of Agencies | 12 | 6 | 4 |
| Sq. Miles | 770 | 125 | 56.8 |
| Population | 79,000 | 35,000 | 31,812 |
| Call Volume | 238,000 | 82,000 | 39,420 |

The RETAINS Report also provided that seventy-five percent (75%) of the centers surveyed handled fewer than 10,000 call per employee, with an average of 6,500 calls per employee. The Report also provided that as call volume per employee increased so did employee turnover. They further looked at the relationship between annual call volume per employee and the staffing situation reported by manager. On average, employees handled just over 5,200 calls per year in centers where managers indicated their center was fully staffed at this time (all authorized positions were filled). Employees in centers that were described by managers as chronically understaffed handled about twice as many calls at 11,200 per year. The average for this RECC would be based upon 2014 call volume would be 3,584 calls per employee. We do not recommend decreasing this level, rather in this decision time for the RECC and the transition, we recommend the shift staffing of two dispatchers and one working supervisor for each shift to keep a strong level of service to their citizens and to more effectively the EMD calls. In discussions with personnel representing both centers it was recognized that the significant requirements for emergency medical dispatch at the same time handling routine calls for service it places too much of a demand and stress on the dispatchers for only one dispatcher on duty to handle. We recommend the RECC staff two dispatchers and one working supervisor on duty for each shift. The working supervisor will also provide oversight, guidance and support for those times when a surge of calls impact the center. 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. We recommend a position of Director for the functions of providing organizational leadership, continuation of the development of the RECC and for outreach to the communities and the public safety agencies. 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.

Governance

This is one of the most important documents for the communities to develop prior to implementing an RECC. The document will identify who is going to operate the RECC and under what conditions. The role of the community will be identified for oversight, monitoring of performance, administrative terms of the agreement, as well as, the method of cost assessment.

See Appendix C for Guidance for Inter-Municipal Agreements from the Department of Revenue, Division of Local Services, Technical Assistance Section.

See Appendix D for a Draft Governance Agreement that reflects a strong legal option to consider for Gardner and Athol.

Professionalism of Communications Centers/Future Trends

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, Location" cannot be more true 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.

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, EMS.

Improved ability to work with the disabled 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 telecommunicators or dispatchers in Massachusetts. Those standards include the following elements:

1. Standards for telecommunicators for taking 911 calls and dispatching police, fire and medical services.
2. In-service and continuing education standards.
3. Supervisor and center management standards.

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 911centers 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 and has an expected completion date at the end of 2015.

Prior 911 Center Consolidation Research

The prior research results on this topic that we have reviewed from studies across the nation are summarized most succinctly in an overarching study that was conducted by the John J. Heldrich Center for Workforce Development in 2005-2006 in New Jersey. This report provided an analysis of that state's E911 system along with information from the experience of other states with consolidation of 911 operations. Key findings from that study were as follows:

- a. Local officials in New Jersey and 911 officials from other states cite improved service and public safety as potential benefits of consolidation.
 - Consolidated call centers are likely to have more qualified, trained staff on duty and to provide more training opportunities for staff. Large operations will likely benefit from efficiencies in the long term because local jurisdictions can share operating and capital costs.
- b. There are clear economies of scale in the cost of handling 911 calls.
 - An analysis of the costs of handling 911 calls demonstrates the potential for achieving efficiencies from consolidating small communication centers. Costs per call drop dramatically as call volume increases.
- c. There is potential for improved efficiency through consolidation of PSAPs (Public Safety Answering Points) and PSDPs (Public Safety Dispatch Points) that have a low workload or call volume.
 - Centers that receive a relatively low number of incoming calls and tend to have one person on duty at any time have substantially higher costs per call, compared to larger centers.
- d. Reducing the number of PSAPs and PSDPs has the potential to generate cost savings for state and local government.
 - While it is difficult to quantify local cost savings resulting from 911 consolidation, local and out-of-state officials indicate that cost savings can be realized when 911 services are consolidate.

Cost Analysis

The following is provided for analysis of the current communication centers costs measured against the cost of the RECC. This analysis covers the cost of wages/labor, supplies and services that are the same elements in the budgets provided to CTC by each of the existing centers for Fiscal Year 2015. It does estimate a fringe rate of 35% for benefits, medical and retirement expenses. The key to this budget is the staffing analysis that was provided above. It also does not include capital costs for new facilities, radio and information technology equipment and software. These detailed equipment and facility costs would be developed and analyzed during an implementation planning process after the communities decide to move forward with the governance agreement for the RECC. Generally these costs are absorbed by the State 911 Department through their Developmental Grant process. Radio costs to achieve regional interoperability for the RECC is a significant cost category of the Developmental Grant program. The 911 call taking telephone system costs are provided by the State 911 Department. If the communities in this study elect to consolidate these 911 dispatching services, in the follow up implementation phase specific costs should be developed after a requirements development process for procurement. The costs for this phase are borne by the State 911 Department and their Developmental Grants for RECCs. Needed Items that will be included in this request:

- Project Management
- Unified document for RECC operational policy and procedures
- Consolidated CAD/RMS

- Dispatch furniture, radio consoles and radio system connectivity equipment
- Microwave system to connect the Athol Fire Headquarters to the Athol Police Station and the Gardner Fire Station to the new Gardner Police Station for the transmission of images from the security system.
- Security system for Athol Police and Fire and the Gardner Fire Department facilities
- Broadband/fiber optic connection between Athol and Gardner.

Four Year Budget

| | 1 | | 2 | | 3 | | 4 | |
|--|---------------------|----------------|---------------------|----------------|---------------------|----------------|---------------------|----------------|
| Regional Emergency Communications Center (RECC) Budget | 2017 Budget | % of Budget | 2018 PRELIM Budget | % of Budget | 2019 PRELIM Budget | % of Budget | 2020 PRELIM Budget | % of Budget |
| Personnel | | | | | | | | |
| Director Salary | \$71,500.00 | | \$74,360.00 | | \$77,334.40 | | \$80,427.78 | |
| Supervisors Salaries | \$144,000.00 | | \$149,760.00 | | \$155,750.40 | | \$161,980.42 | |
| Dispatcher Salaries | \$309,028.51 | | \$321,389.65 | | \$334,245.24 | | \$347,615.05 | |
| Overtime Allowance | \$72,000.00 | | \$76,000.00 | | \$82,000.00 | | \$88,000.00 | |
| Training | \$4,500.00 | | \$4,800.00 | | \$5,200.00 | | \$6,000.00 | |
| Fringe Benefits/Payroll Tax - 32% | \$167,849.12 | | \$174,563.09 | | \$181,545.61 | | \$188,807.44 | |
| Uniforms | \$7,105.00 | | \$7,200.00 | | \$7,400.00 | | \$7,600.00 | |
| Total for Personnel | \$775,982.64 | 94.47% | \$808,072.74 | 94.42% | \$843,475.65 | 94.41% | \$880,430.68 | 94.41% |
| Infrastructure | | | | | | | | |
| 911 Infrastructure/Maintenance Costs | \$12,000.00 | | \$14,000.00 | | \$16,000.00 | | \$18,000.00 | |
| Administrative Supplies | \$6,500.00 | | \$6,800.00 | | \$7,000.00 | | \$7,200.00 | |
| CAD/RMS License Fees | \$24,540.00 | | \$24,540.00 | | \$24,540.00 | | \$24,540.00 | |
| Phone Line costs | \$2,400.00 | | \$2,400.00 | | \$2,400.00 | | \$2,400.00 | |
| Total for Infrastructure | \$45,440.00 | 5.53% | \$47,740.00 | 5.58% | \$49,940.00 | 5.59% | \$52,140.00 | 5.59% |
| Total for Dispatch Services | \$821,422.64 | 100.00% | \$855,812.74 | 100.00% | \$893,415.65 | 100.00% | \$932,570.68 | 100.00% |
| State 911 Reimbursement | \$176,734.00 | 21.52% | \$176,734.00 | 20.65% | \$176,734.00 | 19.78% | \$176,734.00 | 18.95% |
| RECC minus State 911 Funds | \$644,688.64 | 78.48% | \$679,078.74 | 79.35% | \$716,681.65 | 80.22% | \$755,836.68 | 81.05% |
| Athol - 32.05% | \$206,622.71 | | \$217,644.74 | | \$229,696.47 | | \$242,245.65 | |
| Gardner - 67.95% | \$438,065.93 | | \$461,434.00 | | \$486,985.18 | | \$513,591.02 | |
| Current Costs | | | | | | | | |
| Athol | \$298,940.06 | | | | | | | |
| Gardner | \$460,593.00 | | | | | | | |
| Current Total Cost | \$759,533.06 | | | | | | | |
| Cost Savings per community | | | | | | | | |
| Athol | \$ 92,317.35 | | | | | | | |
| Gardner | \$ 22,527.07 | | | | | | | |
| Total Savings | \$114,844.42 | | | | | | | |
| Note: Savings do not reflect the cost of the fire department dispatch expenses | | | | | | | | |

In the chart above we have presented the cost of a Gardner/Athol RECC as a stand-alone entity within the City of Gardner. Just over ninety four percent (94.47%) of the costs are for personnel expenses. The staffing level is built upon the criteria of using two dispatches per shift to meet EMD functional requirements and a working supervisor assigned to each shift. This amount is then compared to the current costs that include fringe benefits including retirement, taxes and Medicare expenses that have been estimated at 32%. We have estimated that there will be savings for both Athol and Gardner in this scenario at \$92,252.88 and \$22,591.54 respectively.

There is an additional savings to both communities by re-deploying/re-tasking fire fighters from dispatch duties that use one firefighter per shift in each community seven days a week to EMS/ambulance duties. This re-deployment will provide for greater capability by increasing direct fire fighter/EMT services.

The State 911 Department has determined for 2015 that the Gardner RECC would receive \$176,734.

| Support | RECC | Total Grant |
|----------|-----------|-------------|
| \$66,722 | \$110,012 | \$176,734 |

They also advise that the amount of the Grant funding that was provided is a projection only and does not guarantee any level of funding. In FY 2015 the Department has committed \$8 million dollars in developmental grants toward regionalization efforts for emergency communications centers.

Cost Distribution

A single factor is recommended to be used for cost distribution. That factor is population which is also major contributor to the demand for dispatch services. This data element is not subjective, but rather is a factor that is determined by outside sources by the community census under guidelines established by the Federal Census Bureau with input from each community regarding the size of their population and the State 911 Department regarding the electronic counting of 911 calls. Below you will find this assessment method as distributed by population:

| Category | Gardner | Athol | Total |
|-----------------|---------|--------|--------|
| Population | 20,228 | 11,584 | 31,812 |
| 911 Call Volume | 5,003 | 1,918 | 6,921 |
| 50/50 Ratio | 67.95% | 32.05% | 100% |

RECOMMENDATIONS:

1. It is feasible to consolidate Gardner and Athol into a single RECC. This consolidates the current four dispatch centers (two 911 centers housed in each police department and two dispatch center in each fire department) into one Regional Emergency Communication Center. The purpose of doing such a move would be to:
 - a. Maintain and Increase the level **professionalism** of the 911/communication services to their communities and departments
 - b. Increase the capability for the communities to provide Emergency Dispatch Services to their citizens
 - c. Provide for cost savings to all communities through greater economy of scale and to reduce the future duplication of dispatch communication equipment
 - d. Provide for increased information sharing of criminal activity between Athol and Gardner through the regional CAD/RMS system
 - e. Provide an increase of fire personnel through re-tasking from dispatching duties to EMS/Ambulance response for both communities

2. Leverage the capability of the new Gardner Police Station as a potential regional resource for 911 dispatching and prisoner lock-up facilities
3. Develop an outreach program to all of the communities to inform the citizens of the three communities 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. Utilize the attached governance agreement (Appendix D) as a starting point for both communities to carry on discussions regarding how they may come together for the development of the RECC that describes organizational performance, role of an advisory board, cost structure and assessment as well as other elements the community requires.
5. Develop common operational policies and procedures for the RECC that 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. The communications center should be governed by the appropriate rules and regulations to ensure performance standards are being maintained and community needs are being met. State 911 Department Standards, NFPA 1221, APCO and CALEA would provide guidance for the development of those documents. 560 CMR 2.00 requires that under *Operational Standards (d) Call Handling Coordination/Negotiations that Municipalities participating in the implementation of 9-1-1 shall be responsible for coordinating with all public safety providers served by the PSAP. All levels shall be required to negotiate call handling procedures with all public safety agencies to ensure proper handling of emergency calls.*
6. Consolidate all of the dispatching within Gardner and Athol for all call taking and dispatching in the RECC. The result would be stronger adherence to current standards for State 911, NFPA 1221, APCO and Calea. This change would allow the Fire Department to focus on their primary missions and to utilize personnel, who have been primarily trained as firefighters and EMT's, more effectively.
7. Seek State 911 RECC Developmental Funding to implement the needed changes necessary for a Regional Emergency Communications Center. Those elements include the cost of:
 - a. Radio communications interoperability between the RECC and the police and fire departments of both communications
 - b. Broadband fiber optic connectivity between Gardner and Athol to transmit CAD/RMS, radio transmissions, and images from the security system.
 - c. Enhanced security for the Athol Police and Fire Departments, and for the Gardner Fire Department station
 - d. A regional software system for Computer Aided Dispatch (CAD) and Records Management Systems (RMS).
 - e. Project Management
 - f. Transitional Training
8. Involve the dispatchers in the development and planning of a RECC
9. Identify a technology/IT solution for certain administrative functions such as burn permits and other application distribution processes for the communities that other communities have found to be effective and utilize less of the 911 dispatchers time

10. Develop a Training Plan to incorporate all elements of required dispatch requirements including State 911, technology systems and EMD
11. Develop a radio interoperability plan for all the communities for expanded interoperability and greater collaboration
12. Utilize an integrated Computer Aided Dispatch/ Records Management System (CAD/RMS) for all of the communities. Both centers currently utilize IMC Solutions-Tritech Software Systems, a state approved vendor. From a training and transition perspective we recommend that with both the Athol and Gardner Police Departments currently using the system with favorable recommendations that they use this vendor. The cost of the system is \$214,727 for the software and training.

Appendix A

Gardner 911 Dispatch Center Administrative Duties

1. License to carry firearms/FID – accepting applications
2. Accident Reports – processing copy requests
3. Maintaining Master Name Files
4. Citation processing
5. Administrative phone processing
6. In-house camera monitoring
7. Cleaning BASIC
8. Printing logs
9. Police Department receptionist
10. Receiving packages for Department as well as any other town department when they are not available
11. Answer/dispatch for Highway Department during nighttime and weekends
12. Recorder for listening and playback
13. Maintain Cruiser mileage in computer for maintenance records
14. Maintain MSAG & Disability Indicator info (dispatcher and supervisor duties)
15. Maintain site files
16. Process insurance requests for Police Reports at times when Police Department administrator is not available
17. Process court required paperwork for police department
18. Provide investigative information support
19. Restraining order – track all orders through required process
20. Maintain Warrant process
21. Watch prisoners while being processed
22. Prisoner checks – cell block monitoring
23. Locate information on parties involved in Police Investigations
24. Send for certified copies of official documents, i.e., RMV source documents
25. Provide monthly report for Byrne Grants
26. Provide town information to residents via phone or walk-ins
27. All door entry controls
28. Maintain tow logs
29. Maintain logs for CJIS and CORI checks
30. Provide data entry for sex offender re-registration for Sex Offender Registration Board
31. Maintain administrative records
 - a. Attendance and day sheet
 - b. Details and Overtime
 - c. Callouts
32. Contact Utility companies during a storm or other natural disaster
33. Track power outages

Appendix B

Athol 911 Dispatch Center Administrative Duties

1. License to carry firearms/FID – accepting applications
2. Accident Reports – processing copy requests
3. Maintaining Master Name Files
4. Citation processing
5. Administrative phone processing
6. In-house camera monitoring
7. Cleaning BASIC
8. Printing logs
9. Police Department receptionist
10. Receiving packages for Department as well as any other town department when they are not available
11. Answer/dispatch for Highway Department during nighttime and weekends
12. Recorder for listening and playback
13. Maintain site files
14. Maintain Warrants
15. Locate information on parties involved in Police Investigations
16. Send for certified copies of official documents, i.e., RMV source documents
17. Provide town information to residents via phone or walk-ins
18. All door entry controls
19. Maintain tow logs
20. Maintain logs for CJIS and CORI checks
21. Provide data entry for sex offender re-registration for Sex Offender Registration Board
22. Maintain administrative records
 - a. Attendance and day sheet
 - b. Details and Overtime
 - c. Callouts
23. Contact Utility companies during a storm or other natural disaster
24. Track power outages
25. Provide call taking services for numerous Town Departments during after hours
26. Provide investigative information support for detectives and patrol

Appendix C

Inter-Municipal Agreements

DEPARTMENT OF REVENUE DIVISION OF LOCAL SERVICES TECHNICAL ASSISTANCE SECTION
FOR MORE INFORMATION EMAIL: tacontact@dor.state.ma.us
JUNE 2009

INTER-MUNICIPAL AGREEMENTS

As of July 2008, with amendments to M.G.L. c. 40, §4A, inter-municipal agreements between two or more towns can be executed with approval of the board of selectmen only. The subject of the agreement can involve any activities or undertakings that town departments are normally authorized by law to perform. The maximum length of an agreement is 25 years. Once lawfully executed, the agreement is binding on the towns notwithstanding any bylaw or charter provision to the contrary.

The inter-municipal agreements statute also enumerates financial safeguards that contracts must provide for. They relate to payment details, record keeping, audits, responsible parties and financial reporting. Agreements should also address, when warranted, future capital needs, the range of services to be provided, and the basis for compensation, dispute settlement and termination.

As a practical matter, agreements are of three types. Under a *formal contract*, one town agrees to provide a service, typically performed by an individual, to another for an agreed upon price. Under a *joint service agreement*, each town shares the cost to finance and deliver a range of departmental-type services. *Service exchange agreements* involve a commitment by each participating community to provide a defined service, as needed or requested, with no payment for costs.

Although inter-municipal agreements can be executed by a board of selectmen and without town meeting approval, they create financial obligations and can have the force of bylaws. However, unlike the adoption of town bylaws and town charters, the State Attorney General is not required to review and approve inter-municipal agreements. Therefore, each town/city should seek the advice of town/city counsel before formally executing an agreement.

It is also important to know that inter-municipal agreements cannot void or circumvent provisions in collective bargaining agreements. The terms of an agreement can be grieved by a union and its execution can be prevented. This obstacle is addressed in the Governor's second Municipal Relief Package which recommends language to amend M.G.L. c40, §4A stating that "a city or town's decision to enter into an inter-municipal agreement, or to join any regional entity, shall not be subject to collective bargaining under this section." The legislation has not yet been acted upon by the General Court.

Excerpted in part from "Chapter 188 of the Acts of 2008 - Understanding and Applying the New Inter-municipal Agreement Law," by Laura Schumacher, City & Town, Vol. 21, No. 10, pg. 4.

MGL Chapter 40, Section 4A. The chief executive officer of a city or town, or a board, committee or officer authorized by law to execute a contract in the name of a governmental unit may, on behalf of the unit, enter into an agreement with another governmental unit to perform jointly or for that unit's services, activities or undertakings which any of the contracting units is authorized by law to perform, if the agreement is authorized by the parties thereto, in a city by the city council with the approval of the mayor, in a town by the board of selectmen and in a district by the prudential committee; provided, however, that when the agreement involves the expenditure of funds for establishing supplementary education centers and innovative educational programs, the agreement and its termination shall be authorized by the school committee. Any such agreement shall be for such maximum term, not exceeding twenty-five years, and shall establish such maximum financial liability of the parties, as may be specified in the authorizing votes of the parties thereto. A governmental unit, when duly authorized to do so in accordance with the provisions of law applicable to it, may raise money by any lawful means, including the incurring of debt for purposes for which it may legally incur debt, to meet its obligations under such agreement. Notwithstanding any provisions of law or charter to the contrary, no governmental unit shall be exempt from liability for its obligations under an agreement lawfully entered into in accordance with this section. For the purposes of this section, a "governmental unit" shall mean a city, town or a regional school district, a district as defined in section 1A, a regional planning commission, however constituted, a regional transit authority established under chapter 161B, a water and sewer commission established under chapter 40N or by special law, a county, or a state agency as defined in section 1 of chapter 6A.

All agreements put into effect under this section shall provide sufficient financial safeguards for all participants, including, but not limited to: accurate and comprehensive records of services performed, costs incurred, and reimbursements and contributions received; the performance of regular audits of such records; and provisions for officers responsible for the agreement to give appropriate performance bonds. The agreement shall also require that periodic financial statements be issued to all participants. Nothing in this section shall prohibit any agreement entered into between governmental units from containing procedures for withdrawal of a governmental unit from said agreement. A decision to enter into an inter-municipal agreement under this section, or to join a regional entity, shall be solely subject to the approval process of the towns' elected bodies.

All bills and payrolls submitted for work done under any such agreement shall be plainly marked to indicate that the work was done under authority thereof. Any reimbursement for or contribution toward the cost of such work shall be made at such intervals as the agreement provides. The amount of reimbursement received under any such agreement by any governmental unit shall be credited on its books to the account of estimated receipts, but any funds received under the provisions of section fifty-three A of chapter forty-four for contribution toward the cost of such work may be expended in accordance with the said provisions. The equipment and employees of a governmental unit while engaged in performing any such service, activity or undertaking under such an agreement shall be deemed to be engaged in the service and employment of such unit, notwithstanding such service, activity or undertaking is being performed in or for another governmental unit or units.

Appendix D
INTERMUNICIPAL AGREEMENT FOR
EMERGENCY COMMUNICATIONS AND DISPATCH SERVICES

THIS AGREEMENT entered into this ___ day of _____, 2014 by and among the **CITY OF GARDNER**, a Massachusetts municipality acting by a through its City Charter, with a mailing address of 95 Pleasant, Gardner, Massachusetts 01440 ("Gardner"), and the **TOWN OF ATHOL**, a Massachusetts municipality acting by a through its Board of Selectmen, with a mailing address of 584 Main Street, Athol, Massachusetts 01331 ("Athol"). Gardner and Athol shall sometimes be referred to herein as the "City" or the "Town."

WITNESSETH:

WHEREAS, the City and Town are each empowered by law to staff, maintain and operate a public safety communications/dispatch center, which is a proper governmental function and service; and

WHEREAS, Gardner is in the process of establishing an emergency communications center located at the Gardner Police Department at Main and Willow Streets, Gardner (the "North Central Regional Emergency Communications Center"), which is capable, within reasonable limitations, of providing emergency communications and dispatch services for both Gardner and Athol; and

WHEREAS, Gardner and Athol desire to have the North Central Regional Communications Center to serve as a regional emergency communications center providing emergency communications and dispatch services for both communities (the "Regional Emergency Communications Center" or "RECC"); and

WHEREAS, the City and Town may, pursuant to Section 4A of Chapter 40 of the Massachusetts General Laws, enter into an inter-municipal agreement to perform jointly activities or undertakings which either of the Towns is authorized by law to perform; and

WHEREAS, the City and Town intend that this Agreement shall set forth the terms and conditions of performing jointly the provision of emergency communications and dispatch services for both communities, including the maximum financial liability of the City and Town, in accordance with Section 4A of Chapter 40 of the Massachusetts General Laws;

NOW THEREFORE, in consideration of the mutual covenants and agreements set forth herein, the City and Town agree as follows:

1. Approval by State Agencies:

Pursuant to Sections 18B and 18D of Chapter 6A of the Massachusetts General Laws, this Agreement is subject to review and approval by the State 911 Department, within the

Massachusetts Executive Office of Public Safety. After executing this Agreement, the Towns shall forthwith submit an application for a regional Public Safety Answering Point, as that term is defined by Section 18A of Chapter 6A of the Massachusetts General Laws (“PSAP”). As part of the City and Town’s application, Athol shall provide a letter indicating that Athol has designated Gardner as Athol’s PSAP as a result of this Agreement (contingent upon approval). If the required approvals, described in this Section 1, are not obtained on or before _____, this Agreement shall terminate, and all obligations of the City and Town under this Agreement shall cease.

2. Service:

Gardner shall use the RECC to furnish emergency police, fire and emergency medical communication and dispatch services to Athol, said services being substantially the same as those rendered to Gardner. Those services shall include:

- a. Receiving emergency and routine calls for police, fire and emergency medical services, in addition to calls for public works, municipal light, and animal control services;
- b. Directing a response to said calls by either dispatching the appropriate police, fire or medical unit or forwarding of the call to the appropriate department or agency for response;
- c. Providing on-going communication support to emergency personnel in the field;
- d. Maintaining dispatch logs and 911 recordings as required by law;
- e. Providing data and records from/to the Criminal Justice Information Services (CJIS), the Criminal History Systems Board (CHSB) and the National Crime Information Center (NCIC);
- f. Updating, maintaining and managing the radio communications systems, computer systems, support files and resource materials necessary to accomplish the above, excluding radio equipment and infrastructure exclusively utilized by Athol; and
- g. Any other service or duty required by law of a PSAP.

3. Discretion Regarding Manner of Providing Service:

- a. The Director of the North Central Regional Communications Center shall have final decision-making authority with regard to all matters involving the day-to-day operation of the RECC.
- b. The police and fire chiefs of Gardner and Athol, or their designees, shall develop written procedures for the operation of the RECC governing the deployment of emergency services in Athol (the “Athol Procedures”) and Gardner (the “Gardner Procedures”).

- c. The Director shall make reasonable efforts to ensure that the Athol and Gardner Procedures are followed by the RECC.
- d. The Director shall create an Advisory Board of the police and fire chiefs of Athol and Gardner that shall meet monthly to discuss the performance of the RECC, identify needed improvements and discuss future initiatives.
- e. Notwithstanding the foregoing, the City and Town agree that any incident involving a life-threatening situation shall receive the highest priority of communications and dispatch.
- f. In the event of a failure of the RECC communications network or the PSAP, Gardner shall have the authority to implement emergency procedures to manage the event. The City and Town shall agree upon emergency procedures as part of the materials submitted to the State 911 Department. The emergency procedures may be reviewed and updated by the City and Town on an annual basis.

4. Liaison:

Athol shall provide a liaison to Gardner to participate in the following endeavors:

- 1. Developing uniform operational policy and procedures for the RECC.
- 2. Providing information to assist in managing and updating the E-911 database, including the disability database.
- 3. Assisting Gardner in performance reviews of the services provided by Gardner, and making joint recommendations for improved RECC services.
- 4. Assisting in reviewing any system upgrades to the PSAP.
- 5. Assisting in working with Gardner on any radio frequency consolidation, where applicable, or interoperability issues.
- 6. Seeking available funding, including grants, for the common good of the RECC.

5. Radio Systems:

- (a) Athol shall obtain and keep current all licenses relating to its frequencies granted by the Federal Communications Commission (FCC) under Part 90 of the FCC rules and regulations. Athol shall notify Gardner 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. The City and Town shall operate the radio system in accordance with Part 90 of the FCC rules and regulations.

- (b) The costs associated with any decision by Athol to change Athol's radio system, including the addition of base stations, receiver sites, or new telecommunications infrastructure, but excluding a plan for interoperability between the Towns' respective radio systems, shall be paid for by Athol.
- (c) Equipment purchased by Gardner with funds from the State 911 Department or other grant sources that reside within the Town of Athol shall be owned and maintained by the Town of Athol.
- (d) Athol will be responsible for future upgrades and improvements to their radio systems. Gardner will work with Athol to seek State 911 grant funding for this purpose.

6. Adherence to Operational Protocols and Practices:

The Police and Fire Chiefs will coordinate the necessary feedback from their respective agencies in Gardner and Athol regarding the performance of emergency communication services and the RECC.

7. Media Inquiries:

Media Inquiries regarding the operation of the RECC, PSAP or Gardner personnel shall be referred to the Director. Media inquiries regarding Athol or Athol personnel shall be referred to the Board of Selectmen of the Town of Athol or its designee. Media inquiries concerning specific incidents under the jurisdiction of one of the City or Town's respective police, fire or emergency medical services (EMS) provider shall be directed to the appropriate department.

8. Reporting:

Within five (5) business days of Gardner's receipt of the quarterly report issued to PSAPs by the Statewide Emergency Telecommunications Board, a copy of said report shall be provided to Athol.

9. Emergency Communications/Dispatch Fee:

- (a) Athol shall pay to Gardner an Emergency Communications/Dispatch Fee (the "Fee") to Gardner for the services provided under this Agreement. The Fee shall be determined as follows:

A proportional calculation of population and 911 call volume per community.

| Category | Gardner | Athol | Total |
|-----------------|----------------|--------------|--------------|
| Population | 20,228 | 11,584 | 31,812 |
| 911 Call Volume | 5,003 | 1,918 | 6,921 |
| 50/50 Ratio | 67.95% | 32.05% | 100% |

- (b) By no later than _____ of each year after the initial service year of this Agreement, Gardner shall provide Athol with notice of the Fee to be charged for the next fiscal year.
- (c) At the beginning the budget planning cycle for each fiscal year after the initial service year of this Agreement, the variables of Population will be updated according to the most recent records of the Town Clerks' of each town, and the variable of 'Call Volume' will be updated using the most recent statistic of the MA Executive Office of Public Safety. The Fee will then be re-calculated based on the updated variables but according to the above ratio.
- (d) The Fee will be applied to the Annual Budget for the RECC that is developed by the City of Gardner and the RECC Director. This Budget will represent the calculations of the total operating costs for the RECC and will display the amount of reimbursement that the State 911 Department may provide.
- (e) Payment of the Fee will be initiated after Athol becomes operational in the RECC.

10. Payments:

Athol shall make quarterly payments of the Fee to Gardner, payable on the same day that quarterly tax payments are due in Gardner. Quarterly invoices shall be mailed to Athol not later than two months before the due date. If payment is not received by the due date, a second notice shall be sent by certified mail. Gardner may seek any available legal remedy to obtain payment on amounts due.

11. Assignment:

No assignment or other transfer of any right or obligation under this Agreement shall be made by either the City or Town, and any attempt to so assign or transfer such right or obligation shall be a breach of this agreement and the assignment shall be of no effect.

12. Dispute Resolution:

- (a) No suit upon any claim or cause of action upon, or for damages upon, by reason of, or growing out of, this Agreement or its non-performance or faulty performance, shall be filed or maintainable by either the City or Town unless notice of such claim or cause of action be given to the other City or Town at its address, above given, not less than thirty (30) days prior to filing, and in every case a reasonable time under the circumstances from the date upon which limitation would commence to run against such claim or cause of action in behalf of such other City or Town.

- (b) In the event any dispute of any kind should arise between the City or Town concerning the construction of this Agreement or a purported breach thereof, such dispute may be submitted to the police or fire chiefs of Gardner and Athol. The Director shall meet with the appropriate chief within ten (10) business days to discuss a resolution of the dispute. If, after twenty (20) business days, the two chiefs have been unable to resolve the dispute to the mutual satisfaction of the City or Town, then the City or Town may submit the dispute to mutually acceptable arbitrator qualified the American Arbitration Association. The proceedings before said arbitrator shall be governed by the rules and regulations of said Association, and the award and determination of said arbitrator shall be binding and conclusive upon the City or Town, and the City and Town herewith agree to abide by the arbitrator's determination. Any costs associated with arbitration shall be split evenly between the City and Town.
- (c) The City and Town may also mutually agree to use other forms of alternative dispute resolution, including mediation, to address disputes arising under this Agreement.
- (d) The City and Town reserve the right, either in law or equity, by suit, and complaint in the nature of specific performance, or other proceeding, to enforce or compel performance of any or all provisions of this Agreement.

13. Liability:

Pursuant to Section 4A of Chapter 40 of the Massachusetts General Laws, each City and Town shall be liable for the acts and omissions of its own employees and not for the employees of any other agency in the performance of this Agreement to the extent provided by Chapter 258 of the Massachusetts General Laws (the Massachusetts Tort Claims Act). By entering into this Agreement, neither of the communities has waived any governmental immunity or limitation of damages which may be extended to them by operation of law. Notwithstanding the forgoing, Gardner shall not be liable for damages cause by any failure to provide services arising out of an Act of God, loss of power, or any other cause beyond its reasonable control.

14. Amendments:

This Agreement may only be amended by a written document duly executed by both of the City and Town.

15. Termination:

Either City or Town may terminate this Agreement upon giving written notice of eighteen (18) months prior to the date of such termination. Upon such written notice, Athol shall immediately undertake efforts and exercise due diligence, to secure a suitable primary PSAP and dispatch location.

16. Term of Agreement:

This Agreement is intended as a long term obligation of each of the Parties consistent with the time limitation set forth in Section 4A of Chapter 40 of the Massachusetts General Laws. The initial term of this Agreement shall be for five (5) years commencing on July 1, 2013 (the "Commencement Date." Unless earlier terminated as set forth herein, this Agreement shall automatically renew every five (5) years on the anniversary of the Commencement Date for additional terms of five (5) years each, and shall expire twenty-five (25) years from the Commencement Date.

17. Maximum Financial Liability:

The maximum extent of each City and Town's financial liability in connection with any and all contracts, grants, agreements, and/or services, as entered into by the City and Town pursuant to this Agreement, shall not exceed the amount validly appropriated by, or available to, each City and Town for said purpose.

18. Financial Safeguards:

Gardner shall, on an annual basis, provide to Athol (i) a report containing accurate and comprehensive records of the services performed under this Agreement, including the costs incurred and any reimbursements and contributions received for such services, and (ii) financial statements for the RECC.

19. Notices:

All notices required or permitted by this Agreement shall be in writing and shall be sent by certified mail, postage prepaid:

If intended for Gardner:

Chief of Police
Main and Willow Street
Gardner, MA 01440

with a copy to:

City Mayor
95 Pleasant Street
Gardner, MA 01440

If intended for Athol:

Chief of Police
280 Exchange Street
Athol, MA 01331

with a copy to:

Town Manager
584 Main Street
Athol, MA 01331

[SIGNATURES ON NEXT PAGE]

IN WITNESS WHEREOF, the Towns have hereto intending to be legally bound have caused their duly authorized representatives to set their hands and seals on the date first written above.

CITY OF GARDNER

TOWN OF ATHOL

Mayor Mark Hawke

By: _____
Name: _____
Title: _____

Recommended by Gardner Police
Department:

By: _____
Name: _____
Title: _____

Neil Erickson, Chief of Police

By: _____
Name: _____
Title: _____

Approved as to form:

By: _____
Name: _____
Title: City Counsel for Gardner

By: _____
Name: _____
Title: Town Counsel for Athol