

**EVALUATION OF THE
HANOVER EMERGENCY
COMMUNICATIONS CENTER &
REGIONALIZATION OPTIONS**

**TOWN OF HANOVER,
MASSACHUSETTS**

MARCH 12, 2020

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Executive Summary

The Town of Hanover contracted with the Edward J. Collins, Jr. Center for Public Management in order to conduct an evaluation of the Hanover Emergency Communication Center (HECC), with a particular focus on current management/organization, the current infrastructure/technology needs, and the feasibility of starting or joining a Regional Emergency Communication Center (RECC).

The study included investigating the technical, operational, and cost requirements for each of the possible options. This includes, but is not limited to, the cost of set up, technology necessities, cost of operation, response time, and adherence to the State and National Standards for Dispatch Centers. The four regional options investigated were:

1. Holbrook Regional Emergency Communications Center (**HRECC**)
2. Regional Old Colony Communications Center (**ROCCC**).
3. Southeastern Massachusetts Regional Emergency Communications Center (**SEMRECC**); and
4. South Shore Regional Emergency Communications Center (**SSRECC**).

The study, through assessment and analysis, identified comparative elements of each option and provides a recommendation for the Town based upon the capabilities and practices of each RECC. The Center's methodology included interviews, site surveys, and document research.

The **Holbrook Regional Emergency Communications Center (HRECC)** is located at 300 South Franklin Street in Holbrook, Massachusetts. The HRECC is located in the Holbrook Public Facility, which no longer has sufficient space to add communities. In 2018, the HRECC sought and received grant funds from the State 911 Department to pay for the design and to begin the process of constructing a new building for the communications center adjacent to the public safety facility, as well as to purchase the new equipment to add Rockland. The new facility will encompass 6,000 SF of space for an initial number of 6 dispatch positions, with plans to grow to 12 positions. The new facility will also include the needed administrative offices for the HRECC staff and space of the needed technology systems. Also included in the new facility will be new IT infrastructure (servers, workstations, firewalls, and switch gear), upgraded radio systems, and software. The expected completion date for the facility is October 2020.

The **Regional Old Colony Communications Center (ROCCC)** is located at 668 Tremont Street in Duxbury, Massachusetts. The ROCCC is co-located with the Duxbury Fire Station. This space no longer has sufficient space to add communities. Supported by State 911 Department Development Grant funds, Duxbury is in the process of constructing an addition to the existing facility for a new ROCCC facility. The completion date of the new facility is May 1, 2020. The new facility is being developed on the footprint of the current building.

The **Southeast Massachusetts Regional Emergency Communications Center (SEMRECC)** will be located in a former AT&T Building at 100 High Rock Road in Foxborough, Massachusetts by Fall 2020. AT&T sold the building to the District for a nominal fee of \$10.00. This 32,000 SF building with 208-foot radio tower on-site is a hardened facility, designed to be resistant to a nuclear attack. The first floor is 18,000 SF and will have a 10,000 SF portion outfitted as the dispatch center, which will include 10 dispatch positions and space for 26 positions. The construction is expected to be completed by September 2020. Currently, the SEMRECC is in the Foxborough Public Safety Facility providing call-taking and dispatching services for Foxborough and Mansfield.

The **South Shore Regional Emergency Communication Center (SSRECC)** is located in Hingham Town Hall at 210 Central Street in Hingham, Massachusetts. The Center was created on September 6, 2011 when Cohasset, Hingham, Hull, and Norwell signed an Inter-Municipal Agreement (IMA) to join together and provide for the operation and maintenance of a consolidated communication system. The IMA is very similar to the description of the District Regional 911 Emergency District legislation that describes the functional elements and responsibilities of the towns and the District.

Interviews

The interviews revealed that there was a desire among Hanover public safety leaders to achieve more effective 911 dispatch services. They felt achievable key outcomes of regionalization included:

1. Enhanced capacity to manage large critical incidents;
2. Enhanced technology/communication equipment;
3. Recruitment and retention of quality dispatchers; and
4. Cost savings.

Recommendations

Based upon the data collected and the analysis conducted for the RECC options, the following Recommendations are made:

[recs intro sentence here]

1. Consolidate Hanover into the ROCCC;
2. Develop an outreach program for Hanover residents and businesses regarding the upcoming planned consolidation;
3. Develop a plan to implement administrative capacity and encourage community involvement;
4. Utilize established operational policies of the ROCCC to ensure appropriate resources are provided in a timely manner; and
5. Assist the ROCCC in seeking State 911 RECC Developmental Funding to aid integration.

Benefits of Regionalization with the ROCCC

1. Leverage the capabilities of ROCCC to enhance dispatching services and surge capacity during critical incidents;
2. Enhance emergency communications through more robust capabilities, reduced operational costs, and reduced future capital expenditures;

Introduction

The Town of Hanover contracted with the Edward J. Collins, Jr. Center for Public Management conduct an evaluation of the Hanover Emergency Communication Center, with a particular focus on management and organization of the HECC, infrastructure and technology needs, and an assessment of the feasibility of starting or joining a Regional Emergency Communication Center (RECC).

The Collins Center was established in 2008 in the McCormack Graduate School of Policy and Global Studies to further the public service mission of the University of Massachusetts Boston and assist municipalities in implementing best practices, often through the use of data analytics. The Center provides technical assistance to municipalities and state agencies on all aspects of public management.

Methodology

The Collins Center adhered to the following methodology in collecting and analyzing data and information from the existing 911 PSAP services in Hanover in order to assess the feasibility of developing a RECC or joining an existing operation. Four available RECC options for Hanover to join include the following:

1. Holbrook Regional Public Safety Answering Point (HPSAP)
2. Regional Old Colony Communications Center (ROCCC)
3. Southeastern Massachusetts Regional Emergency Communications Center (SEMRECC)
4. South Shore Regional Emergency Communications Center (SSRECC)

Methods for collecting information relied on interviews, on-site assessments, and document review. The process was as follows:

- Kick-Off meeting with the principals from Hanover
- On-site visits which included interviews with site chiefs and managers
- Collection of relevant data from each site, including:
 - Equipment used
 - Staffing levels and training
 - Capacity/ability to accommodate Hanover
 - Research/planning
 - Hanover's proposed financial contribution
 - Call volume
 - Additional administrative benefits
- Analysis and preparation of the report
- Review of draft report with Hanover Communications Team
- Completion of final report

Current Dispatch Environment

Town of Hanover, Massachusetts

The Hanover Emergency Communications Center (HECC) is located at and overseen by the Hanover Police Dispatch Center, located at 129 Rockland Street in Hanover, Massachusetts. The HECC functions as the primary public safety answering point for the town and provides call-taking and dispatch services for the Police and Fire Departments, and additionally provides call-taking services during non-business hours for other departments. It also dispatches the Oxford Fire Department for fire, rescue, and medical emergency calls, as well as emergency medical dispatch (EMS) services in accordance with State 911 Department guidelines.

The Police Dispatch Center is equipped with three console positions, two of which are 911-capable. The Center is staffed by six (6) full-time dispatchers, three (3) part-time dispatchers, and two (2) supervisors. Hanover also utilizes four (4) substitute dispatchers when they are needed. Two dispatchers are on duty on each shift. Dispatch policies and procedures are modeled after those developed by the Massachusetts Municipal Police Institute (MPI) for the Police Department and uses procedures that the Fire Department has provided. The Department has developed dispatcher training through an on-the-job program that documents the training and experience provided. There is very little 911 call surge capacity at this site.

The Hanover Emergency Communications Center Budget for FY2020 is \$708,353.05. This does not include the cost of retirements, medical insurance, and other insurance related expenses that are budgeted by Town Administrative Accounts that range from an additional cost of 32-35% of personnel costs in the Center budget.

Activity	Year	#
Total 911 Call Volume	2018	3,144
Total Calls for Service	2019	14,072

Interviews

Interviews were conducted with the Hanover Police and Fire Chiefs as well as a number of their leadership team. The interviews provided detailed information regarding their insight of their communication center as well as regional dispatch centers in general as well as provided recommendations to include in an effective transition process should Hanover choose to join a regional emergency communications center. Both chiefs have a strong focus on the communities that they serve, as well as a desire to provide high-quality emergency communication services to the residents of Hanover. Both were very knowledgeable of the needs of Hanover and the history of emergency dispatch services provided by the Town. Both chiefs expressed a strong desire to ensure a smooth transition into a RECC should Hanover make the decision to join an existing site. Their desire was focused on enhanced emergency communications services for residents and public safety personnel for Hanover.

A summary of the **strengths or potential benefits** of regionalization of emergency call-taking and dispatching services include:

- Cost savings.

- Prioritization of limited resources.
- Implementing new technologies/equipment.
- Enhanced surge capacity.
- Updated dispatch protocols.
- Greater supervision.
- Enhanced dispatcher training.
- Attract/retain strong dispatch personnel; and
- Opportunities to update infrastructure/technology.

The **weaknesses or concerns** of regionalization include:

- Lack of Hanover-specific community knowledge.
- Safety concerns over prisoner processing/station presence.
- Loss of current dispatch personnel; and
- Conformance to Regional Emergency Communications Center (RECC) protocols.

Interviewees identified certain areas and made **recommendations important for successful integration** of Hanover into any of the regional centers. They are:

- Clear understanding of RECC requirements.
- Training for public safety personnel in RECC systems; and
- Prioritization of Hanover dispatchers in the RECC hiring process.

Leadership

Leadership is a critical factor in the successful consolidation or outsourcing of any services important to the mission of public safety agencies. This requires the skills to work with their staff and the community to manage the change process. In the course of the interviews, the Collins Center team found the public safety chiefs have the necessary leadership skills and a strong willingness to successfully undertake this transition. They have recognized the benefits of such a transition and have offered recommendations to improve the prospects of the consolidation process. Their key focus was always on the mission of their departments and their community.

Technology Assessment

Information Technology

Currently, the Hanover Police Department utilizes outdated Microsystems Computer Aided Dispatch (CAD)¹ and Records Management Software (RMS).² The Fire Department use Alpine Redi Max for their Records Management System.

¹Computer Aided Dispatch (CAD) software allows 911 calls to be categorized, tracked, and then inserted into reports.

²Records Management Systems (RMS) allow information to be taken from CAD systems to be utilized for crime analysis and deployment of personnel. Patrol officers complete their reports regarding response to and investigation of criminal incidents and traffic crashes in the station, or cruisers using laptop computers. Follow-up investigations

Dispatch Center Technology/Radio Systems

The Police and Fire Chiefs discussed the need to update the HECC, as the equipment was outdated and in need of replacement. Both chiefs identified dead spots for their radio communications with their mobile units. The Center project team reached out to Industrial Communications, Inc. (the Hanover radio systems vendor) for an assessment of the technology systems currently used by the Hanover Police and Fire Departments, including the Communications Center.

The summary of the assessment provided for the following:

“In summary, there is a risk of a complete or partial failure of the existing radio communications due to radio console system issues and lack of connectivity to the RF shelter at the base of Site 2 (Police Station Monopole). Additionally, the antenna feedline at Site1 (Water Tank) is at risk of lightning, severe winds, snow or ice.”³

The Police Chief identified the need to replace the dispatch consoles (over 10 years old and beyond the life cycle of a console), the need to implement a digital radio system, and the need to replace the repeaters at the tower sites. The Fire Chief identified the need for two (2) additional transmit sites, fiber to connect the tower sites, and the need to replace all mobile and portable radios. It is worth noting that during the time of this study, there was a partial failure in the dispatch center due to a technical issue with a console.

Provision of Dispatch Services

Dispatchers in Hanover perform many functions that support the public safety departments within their communities and also perform a front-facing function upon entry to the Hanover Police Station. They provide a physical presence for the security of the facilities and are able to monitor prisoners during intake, processing, and holding in the station cell blocks. Over the years, these duties have evolved and go far beyond the initial duties of public safety dispatchers. In today's environment, a dispatcher is required to have the skills to properly use advanced technology for computer and radio systems, and incident command systems, as well as knowledge of EMS protocols.

are completed by detectives and their information is filed into the RMS. City, state, and federal reports are generated from this system. Separate systems or modules are used by the Fire Departments for their investigative reports, ambulance insurance billing, and fire reporting systems.

³See **Appendix A** for the Industrial Communications Assessment Report.

RECC Site Assessments

Community/RECC Profiles		
Sites	Population (2010)	911 Call Volume in 2018
HECC (Hanover)	13,879	3,144
HRECC (Holbrook)	99,555	14,096
ROCCC (Duxbury)	30,629	10,330
SEMRECC (Foxborough)	82,846	14,762
SSRECC (Hingham)	51,604	12,384

Holbrook Regional Emergency Communication Center (HRECC)

The HRECC is located at 300 South Franklin Street in Holbrook, Massachusetts. The HRECC is located in the Holbrook Public Facility, which no longer has sufficient space to add communities. In 2018, the HRECC sought and received grant funds from the State 911 Department to pay for the design and partial construction of a new building for the communications center adjacent to the public safety facility, as well as to purchase new equipment to add Rockland. The new facility will encompass 6,000 SF of space for an initial number of six (6) dispatch positions with the space to grow to twelve (12) positions. The new facility will also include space for needed administrative offices and technology systems. Also included in the new facility will be new IT infrastructure (servers, workstations, firewalls, and switch gear), upgraded radio systems, and software. The expected completion date for the facility is October 2020.

Currently, there are sixteen (16) full-time dispatchers, six (6) part-time dispatchers, four (4) supervisors, one (1) IT professional, one (1) Director, and one (1) Deputy Director. The total FY2021 budget will be \$1,759,199.00.

In 2009, Holbrook began regionalization, with Sharon joining the communication center for fire services. In 2012, Abington and Whitman joined for fire services. Canton joined the regionalization effort in 2017, and Rockland joined the HRECC in 2018. The HRECC provides call-taking and dispatch services to approximately 95,000 people for the following Departments:

- Abington Fire Department
- Canton Fire Department
- Holbrook Police and Fire Departments
- Rockland Police and Fire Departments
- Sharon Fire Department
- Whitman Fire Department (also acts as their primary PSAP)
- Norfolk County Control Point for Fire District 4 and Hazmat East Control Point

The HRECC governance model used the Town of Holbrook as a host to provide regional 911 call-taking and dispatch services. The Administrative support functions for the HRECC are provided by the participating Holbrook public safety departments. The cost sharing ratio for each community is based upon call volume per community.

The HRECC conducts quarterly meetings with an Administrative Committee, made up of member community police and fire chiefs or their designees. Much of the focus of the Committee is on standards and operations. The HRECC mission is to provide regional emergency communications services for the member communities through call-taking and dispatch services – it does not provide walk-in services. There is a strong focus on continuous improvement in the delivery of core services. The HRECC provided the following Mission Statement:

“The Holbrook Regional Emergency Communications Center is the first of the first responders. We are committed to answering all 911 calls with professionalism, integrity and compassion while efficiently dispatching police, fire and emergency medical services. Customer service is essential to our success, so we treat each caller with empathy and respect. Our dedicated and highly trained professionals routinely offer lifesaving medical instructions in addition to providing accurate public safety information.”

Benefits provided for the participating communities:

- Team of professional Certified Emergency Telecommunicators (CETs).
- Certified EMD Resource with robust QA/Q1 program.
- Systems in place for accountability, positive reinforcement, employee engagement, and employee retention.
- State-of-the-art technology and infrastructure, including the HRECC Microwave Network.
- Extensive network connectivity.
- Technology monitored 24/7 with redundant systems in place; and
- Four (4) COMLs on staff to respond to incidents as requested or required to provide communications support and resource management.

Value added to communities:

- Provision of COMLs to assist with on-scene communications at critical incidents.
- Provide 20 radio sites with full microwave coverage supported by fiber network between tower sites for additional redundancy and coverage: and
- The HRECC assists communities with a Radio Technician on-staff.

The HRECC has the interest and the capacity to add a number of communities to the center, as they will only be using 50% of their new capacity.

Implementation Steps to Join HRECC:

- Hanover submits a letter of intent to the Director of the HRECC expressing a desire to join.
- Hanover submits call volume to the HRECC.
- HRECC Director would meet with Hanover representative(s) to assess Hanover’s radio systems.
- Hanover submits the existing staffing of the current communications center.
- Hanover provides the HRECC their expectations for 911 call-taking and dispatch services.
- Hanover assists in providing necessary information for HRECC to make a submission to the State 911 Department Development Grant Program: and
- Hanover submits a signed Inter-Municipal Agreement to the HRECC and the State 911 Department.

Regional Old Colony Communications Center (ROCCC)

The ROCCC is located at 668 Tremont Street in Duxbury, Massachusetts, and is co-located with the Duxbury Fire Station. The ROCCC currently no longer has sufficient space to add communities. Supported by State 911 Department Development Grant funds, Duxbury is in the process of constructing an addition to the existing facility for a new ROCCC facility. The completion date of the new facility is May 1, 2020. The new facility is being developed on the footprint of the current building. The new facility will provide:

- An increase from five (5) to eleven (11) consoles/dispatch positions and space to allow the ROCCC to increase to a total of fifteen (15) dispatch consoles.
- Addition of new IT infrastructure (servers, workstations, firewalls, and switchgear).
- Upgraded radio systems and software.
- Office space for the Director and Administrative Assistant; and
- Kitchen, locker rooms, restrooms, and other facilities for the staff.

Currently, there are ten (10) full-time dispatchers, six (6) part-time dispatchers, four (4) supervisors, and one (1) Director. With Hanson joining the ROCCC later this year, there will be an increase of four (4) dispatchers, one (1) supervisor, and one (1) administrative assistant. The total FY2020 Budget was \$1,190,037.83.

Established in 2013 as the Duxbury Regional Emergency Communications Center (DRECC) when Duxbury became the Public Safety Answering Point (PSAP) for the Town of Plympton, the name was changed to the Regional Old Colony Communications Center (ROCCC) in 2017 and now serves Duxbury, Plympton, Rochester, and Halifax for E911 call-taking and dispatch services for police, fire, and EMS calls for service. The ROCCC also provides communications with Animal Control, DPW, and other community services. The population of the member communities is approximately 30,629. In 2020, Hanson will join the ROCCC bringing the total population to over 35,000 people. The ultimate goal of the ROCCC is to be the emergency communication center for a total of 100,000 people.

The ROCCC governance model uses the Town of Duxbury as a host to provide regional 911 call-taking and dispatch services. The administrative support functions for the ROCCC are provided by the relevant Duxbury public safety departments. The cost sharing formula is based on call volume and population proportional to each town.

Operational input is an informal process that includes designating a supervisor for each community for feedback on operations and a regular meeting of police and fire chiefs. The ROCCC is currently an organizational entity within the Duxbury Fire Department. Duxbury is in the process of establishing the ROCCC as a separate department including an operations committee.

Benefits provided to the participating communities:

- Robust staffing levels, with Hanson utilizing four (4) dispatchers per shift, with an additional dispatcher for a 12pm-8pm impact shift of five (5) dispatchers.
- Efficiency gains in information gathering, provision of instruction to callers, and handling radio traffic.
- Certified EMD dispatchers.
- Strong call-to-dispatch times (average of approx. 10 seconds).
- State-of-the-art technology; and

- Reduced costs to the community.

Value added to communities:

- Mobile Data Terminals (MDTs) provided to all Departments.
- Developing an online burn permit process.
- Provide a Communication System Coordinator when the Southeast Technical Rescue and Dive Teams are deployed.
- Provide communications for Fire, Police and EMS mutual aid; and
- Capable to handle dark station security services.

The ROCCC is interested in adding communities, and they plan to increase from five (5) to eleven (11) consoles at the time of ribbon cutting and eventually increase to fifteen (15) dispatch consoles.

Implementation Steps to Join ROCCC:

- Hanover submits a letter of intent to the Director of the ROCCC expressing a desire to join.
- Hanover submits call volume to the ROCCC.
- The Director of the ROCCC then
 - Meets with Hanover representative(s) to identify their dispatching needs.
 - Calculate the needed staff for the ROCCC including Hanover.
 - Develop an overall budget for the ROCCC.
 - Identify the Hanover cost.
 - Assess the technology needs for Hanover to join the ROCCC.
 - Prepare a State 911 Development Grant to seek the funds to transition into the ROCCC: and
 - Sign an IMA between the ROCCC and Hanover.

Southeastern Massachusetts Regional Dispatch District – Southeastern Massachusetts Regional Emergency Communications Center (SEMRECC)

SEMRECC will be located in a former AT&T Building at 100 High Rock Road in Foxborough, Massachusetts by Fall 2020. AT&T sold the building to the District for a nominal fee of \$10.00. This 32,000 SF building and a 208-foot radio tower on-site was designed to be resistant to a nuclear attack. There is 18,000 SF on the first floor that will have a 10,000 SF portion of the floor outfitted as the footprint of the dispatch center that will include ten (10) dispatch positions and space for twenty-six (26) positions. The construction is expected to be completed by September 2020.

Currently there are eight (8) full-time dispatchers, four (4) supervisors, and one (1) Director. The total FY2020 Budget was \$1,925,932.41.

The Southeastern Massachusetts Regional 911 District was established in 2017 by Foxborough, Mansfield, Easton, and Norton. The District, also known as the Southeastern Massachusetts Regional Emergency Communications Center (SEMRECC), initiated its operations in the Foxborough Public Safety Facility, providing call-taking and dispatch services for Foxborough and Mansfield in 2018. In 2020, Easton and Norton will join the SEMRECC when it moves into a new facility at the former AT&T building in Foxborough. The population of the member communities is approximately 84,863. The cost sharing formula is based upon an equal sharing of the cost of the District by community. The current costs per community range

from \$51,000.00 to \$507,629.55. The District is established according to the Regional 911 District legislation.

SEMRECC has an Administrative Board, a Finance Committee, and a working group made up of public safety chiefs. Currently, there is also an Interoperability Group and a Public Information Committee.

Benefits provided for the participating communities:

- Robust staffing, which includes three (3) dispatchers and supervisors on each shift.
- Certified EMD Dispatchers; and
- Regional approach to radio system planning.

Value added to communities:

- Communication planning services.
- Planned increase in data usage for public safety tactical operations; and
- Provision of emergency management dispatchers who have completed Technical Emergency Response Training.

SEMRECC is interested in adding communities to the center.

Implementation Steps to Join SEMRECC:

- Hanover submits a letter of intent to the Director of the SEMRECC expressing a desire to join.
- Hanover submits call volume to the SEMRECC.
- The SEMRECC Board approves the inclusion of Hanover in the Dispatch District.
- The Director of the SEMRECC then
 - Meets with Hanover representative(s) to identify their dispatching needs.
 - Calculate the needed staff for the SEMRECC including Hanover.
 - Develop an overall budget for the SEMRECC.
 - Identify the Hanover cost.
 - Assess the technology needs for Hanover to join the SEMRECC.
 - Prepare a State 911 Development Grant to seek the funds to transition into the SEMRECC: and
 - Sign an IMA between the SEMRECC and Hanover.

South Shore Regional Emergency Communication Center (SSRECC)

The South Shore Regional Emergency Communication Center (SSRECC) is located in the Hingham Town Hall at 210 Central Street in Hingham, Massachusetts. The SSRECC was created on September 6, 2011 when Cohasset, Hingham, Hull, and Norwell signed an Inter-Municipal Agreement (IMA) to join together and provide for the operation and maintenance of a consolidated communication system. The IMA is very similar to the description of the District Regional 911 Emergency District legislation that describes the functional elements and the responsibilities of the towns and the District.

There is an Administrative Board that is made up of the town managers from each municipality. There is also an Operations Committee made up of public safety chiefs, a Technology Committee to provide oversight of the future needs of the SSRECC, and a Personnel Committee to assist with hiring/onboarding

personnel. The Center operates on a 24/7 basis and serves a population of approximately 52,000 people. There are eight (8) dispatch consoles, with five (5) of them 911 consoles.

Currently there are 17 full-time dispatchers, four supervisors and one Director. The total FY2021 Budget will be \$3,355,242.00.

The current cost for participating communities is based on a formula determined by a ratio of 50% for population and 50% on calls for service (CFS).

Benefits Services provided for the participating communities:

- Improved radio system infrastructure.
- Certified EMD Dispatchers; and
- Ownership and maintenance of a 25-mile healing fiber loop, currently connecting all public safety stations in all participating municipalities.

Value added to communities:

- Municipal Police Institute (dispatcher online training program).
- Fire Dispatch to State Park; and
- Critical Incident Standard Operating Procedures.

SEMRECC is interested in adding communities.

Implementation Steps to Join SSRECC:

- Hanover submits a letter of intent to the Director of the SSRECC expressing a desire to join.
- Hanover submits the call volume to the SSRECC.
- The SSRECC staff then
 - Meet with the Hanover public safety chiefs to discuss their departments and how workflow is managed within the communications center facility and systems.
 - Gain understanding of routine interactions (call transfers, automatic or mutual aid, etc.) that Hanover may have with surrounding jurisdictions not dispatched from the Hanover Communications Center; and
 - Sign an IMA with Hanover.

Site Analysis

Category	Holbrook Regional PSAP		Old Colony RECC Duxbury		Southeastern MA RECC Foxborough		South Shore RECC Hingham	
Governance Model	Hosted site by the Town of Holbrook.	4	Hosted site by the Town of Duxbury.	4	Model follows state legislation for RDD.	4	Model follows state legislation for RDD.	4
Administrative Input	Quarterly meetings	4	Informal but regular meetings with chiefs.	4	Administrative Board and Finance Board.	4	Board of Directors-town managers or reps.	4
Operations Input	Standards and operations committee.	4	Designated dispatch supervisor coordination with towns. Future operations committee.	4	Working Group with chiefs from their member towns.	4	Technology Committee Personnel Committee	4
Expansion Capability	Very good: from 5 positions to 12 positions.	4	Very good: from 5 positions to 15 positions.	4	Excellent: planned from 10 to 26 positions and additional usable space.	5	Limited: Currently 8 positions with 5 of them 911 positions.	3
Leadership	Positive, forward thinking.	4	Excellent dispatch knowledge and challenges of transitioning communities.	4	Excellent leadership with strategic view of RECC.	4	Excellent dispatch and supervision knowledge and experience.	3
Technology Practices	Community owned radio systems tied together by HRECC microwave & fiber system. IMC-CAD/RMS.	5	Community owned radio systems tied together by ROCCC microwave & fiber system. IMC-CAD/RMS.	5	Regional radio system planning, community owned. IMC CAD/RMS and Red Alert RMS.	5	Recently updated radio system infrastructure . Fiber optic system with self-healing network.	5
Cost Distribution Formula	By Call Volume proportional to each town.	4	Call volume and population proportional to each town.	4	Split evenly by community.	4	Ratio of 50% of calls for service and 50% on population per community.	4
Recurring Costs for Hanover	\$150,000	5	\$469,667.39	4	\$475,000-500,000	4	\$671,042	3

Category	Holbrook Regional PSAP		Old Colony RECC Duxbury		Southeastern MA RECC Foxborough		South Shore RECC Hingham	
Provide other administrative functions	None	3	Yes, with DPW and Water Dept.	5	None	3	None. Do answer business phone lines.	3
Utilize Standardized Dispatch Protocols	Yes	5	Yes	5	Yes	5	Yes	5
Robust Operation (dispatchers, supervisors and consoles).	Yes. Currently 1/supervisor & 4/dispatchers – day and eve. Mid shift with 1 & 3.	4	Yes. Currently 3/ dispatchers – all shifts. Planned 4/dispatchers and 1 impact shift.	4	Yes. Currently 3/ dispatchers – all shifts. As communities join dispatchers will be hired.	4	Yes. Currently 5 dispatchers – Days, 4 on Eves., 3 on Eves.	4
Dispatch personnel hiring process	Interview process and background check.	4	Interview process and background check.	4	Interview process and background check.	4	Interview process and background check.	4
Value Added Services	COMLs at critical incidents. 20 radio sites system w/ microwave and redundant fiber network. Radio Technician on staff.	5	Mobile Data Terminal in all cruisers. Excellent trained dispatchers. Communication system coordinator-critical incidents	5	Communication planning services. Emergency planning. ICS training provided to dispatchers. Utilization of RMS data for tactical planning	5	MPI dispatcher training, direct fire dispatch to state parks, utilize critical incident SOP.	3
Hanover site visits to RECCs	Police and Fire Chiefs and staff as well as town officials	3.7	Police and Fire Chiefs and staff as well as town officials	5	Police and Fire Chiefs and staff as well as town officials	4.4	Police and Fire Chiefs and staff as well as town officials	2
Rating Total*		4.18		4.33		4.23		3.6

*Rating scale estimates each category into a scale of (1) to (5) with one being the least desirable and five most desirable. The consultant provided the rating for each category with the exception of the Hanover site visits to the RECCs. In that case the ratings were provided by the Hanover team that visited each site.

Note: The cost estimate for the recurring costs for Hanover to join each of the RECC were provided by the RECC Director. These estimates included the amount of increase to be provided by the State 911 Department for the Support and Incentive Grant for FY21 and beyond. Holbrook provided this entire amount to Hanover while the other three spread this amount to their member communities according to their cost sharing formula.

Cost Analysis

This analysis covers the current personnel expenses, supplies, and services of the Hanover Emergency Communications Center (HECC) comparable to services that would be transferred to any of the RECC options. It uses an estimate 32% for other benefit expenses including retirement, medical, Medicare, and payroll tax/unemployment benefit expenses. A breakdown of the FY2020 budgetary expenses for the HECC include the following:

Hanover Emergency Communications Center FY2020 Expenses	
Salary & Wages Permanent (Full Time)	\$435,040.80
Salary & Wages Permanent (Part Time)	\$45,897.21
Overtime	\$115,596.92
Shift Differentials	\$40,918.12
Other Benefit Expenses (32%)	\$139,213.06
Office Equipment/Rental, Lease	\$13,400.00
Equipment Maintenance	\$41,710.00
Employee Training	\$2,000.00
Postage & Mail Permits	\$100.00
Office Supplies	\$5,200.00
Uniforms	\$2,000.00
Mileage Reimbursement	\$200.00
Equipment Purchase	\$3,000.00
Total	\$844,276.11

Hanover is currently responsible for financing, planning, and meeting a replacement schedule for their equipment, which can come at a substantial cost. Operating on a 24/7 schedule places significant demands on emergency communications center equipment. The life cycle of dispatch equipment is as follows:

Equipment	Life Cycle
PCs & Laptops	3 years
Servers & Routers	5 years
Software Upgrades	7 years
Radio Console	7 years
Dispatch Furniture	10 years

The Hanover Emergency Communications Center needs a new radio and console improvements, with associated costs in excess of \$1 million. The detailed assessment of the Communication Center and the Radio System provides for a required investment in those systems and equipment to be not in a position of risk if there is a failure of the systems.

Role of State 911 Department

The State 911 Department is charged with coordinating and effecting the implementation of enhanced 911 service and administering such service in the Commonwealth. In fulfilling this responsibility, the State 911 Department provides the public safety answering points (PSAP) in Massachusetts that serve as the first point of reception of a 911 call with call processing equipment, database, network, and technical support services, training for personnel handling the calls at the PSAPs, and with funding to support the operation of the PSAPs through the administration of an extensive grant program.

The State 911 Department has been committed to a more effective and economical 911 system through regionalization of those services. The Massachusetts State 911 Department provides a specific grant program to develop and operate Regional Emergency Communications Centers (RECC). The State 911 website provides guidelines for the application process for these grant programs. Below is a listing of the relevant information for these grants.

Support Grants

Primary PSAPs, regional PSAPs, regional secondary PSAPs, and RECCs are eligible to participate in the Program and are eligible to receive support grant funding. For Fiscal Year 2020, \$23,464,196.00 of the total surcharge revenues of the previous fiscal year shall be allocated to support grant awards and are disbursed according to a formula weighing both 911 call volume and population served.

Incentive Grants

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

- For regional PSAPs serving 2 municipalities:
.75 of one percent (1%) of the total surcharge revenues of the previous fiscal year.
- For regional PSAPs serving 3 to 9 municipalities:
a minimum of 1½ percent (1.5%) of the total surcharge revenues of the previous fiscal year.
- For regional PSAPs serving 10 or more municipalities:
1½ percent (1.5%) of the total surcharge revenues of the previous fiscal year.
- For regional emergency communication centers:
ten percent (10%) of the total surcharge revenues of the previous fiscal year.

Regional Development Grants

Grant funds may be used by grantees only for the permissible categories of use listed within the specific categories set forth below:

- Associated with the provision of enhanced 911 service: and
- Approved by the State 911 Department.

Funds may be used for clerical, administrative, or other costs associated with administration of the Program, provided that funds may not exceed one percent (1%) of the total amount awarded to the

Grantee. The services shall be specifically identified with the project, and the Grantee shall provide detailed documentation, to the satisfaction of the State 911 Department, supporting the services (including, without limitation, the time and dollar amount of the services).

The State 911 Department will allow funding for the purchase or lease of equipment, allowable construction items, and allowable structural improvement items and for debt service on equipment, allowable construction items, and allowable structural improvement items, including without limitation, principal and interest payments on loans, notes, and bonds. The State 911 Department will allow grantees to assign lease, debt service, and/or or incremental purchase costs to this grant. However, any and all funding requested under this grant program shall be for goods and/or services received. Funding will not be disbursed for obligations made without receipt of goods/services. The State 911 Department makes no guarantee of funding from year to year and does not assume any obligation, as guarantor or otherwise, under any purchase, lease, or debt instrument.

All technology or telecommunications related goods or services must be compliant with applicable laws, rules, regulations, and standards.⁴

Security Measures Grants

Existing and proposed regional PSAPs and RECCs are eligible to apply for funds for the following allowable items within the transition expenses category:

- Security measures (such as remote cameras, remote printers, and security doors); and
- One-time costs associated with the installation of such security measures.

Equipment Grants

Existing and proposed regional PSAPs, regional secondary PSAPs, RECCs, and the Northampton wireless state police PSAP are eligible to apply for funds for equipment associated with the provision of enhanced 911 service 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 and consoles.
- Computer-aided dispatch.
- 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

⁴ Grantees shall specify that they have referenced www.mass.gov/accessibility, www.access-board.gov, www.ada.gov, the Massachusetts Architectural Access Board regulations at www.mass.gov/aab, and the Massachusetts Office on Disability standards and best practices at www.mass.gov/mod to determine what laws, rules, and standards apply and what efforts they have made to ensure specific compliance therewith. Failure to adequately ascertain compliance will result in denial of funding for the requested goods or services.

confirmation that the requested item(s) comply with the SIEC special conditions.⁵

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.

The newly approved criteria for the Transition Award are as follows:

State 911 Department – Development Grant Program FY21
Transition Award
<p>Transition award, payable to the entity that operates a regional PSAP or RECC on behalf of the participants, for each PSAP that is decommissioned on or after July 1, 2018, and becomes operational as a participant in such regional PSAP or RECC, in the amount that represents the <i>greater of</i>:</p> <ul style="list-style-type: none">a) the last allocation for the decommissioned PSAP under the State 911 Department Support Grant; orb) the amount of the assessment or charge allocated to such PSAP for the current fiscal year under the terms of the signed inter-municipal agreement or other equivalent agreement governing the operations of the regional PSAP or RECC. <p>Such transition award(s) shall be credited against the obligation of the decommissioned PSAP(s) by the grantee. A decommissioned PSAP may be provided with the credit three (3) times to be applied for in three (3) different grant cycles, or two (2) times to be applied for in two (2) different grant cycles if a transition award was already applied for and awarded in the FY 2020 grant cycle pursuant to grant guidelines in effect at that time.</p> <p>After applying for and being awarded a transition award a total of three (3) times, a decommissioned PSAP may be provided with a credit an additional two (2) times to be applied for in two (2) different grant cycles, but the award will be limited the first time to fifty percent (50%) of the <i>greater of</i>:</p> <ul style="list-style-type: none">a) the last allocation for the decommissioned PSAP under the State 911 Department Support Grant; orb) the amount of the assessment or charge allocated to such PSAP for the current fiscal year under the terms of the signed inter-municipal agreement or other equivalent agreement governing the operations of the regional PSAP or RECC, and limited for the <i>second time to 25% of the greater of</i><ul style="list-style-type: none">i) the last allocation for the decommissioned PSAP under the State 911 Department Support Grant; orii) the amount of the assessment or charge allocated to such PSAP for the current fiscal year under the terms of the signed inter-municipal agreement or other equivalent agreement governing the operations of the regional PSAP or RECC. <p>Documentation that such credit has been granted in the form of a written acknowledgment from the decommissioned PSAP shall be required prior to reimbursement.</p>

⁵The SIEC special conditions are available at: <http://www.mass.gov/eopss/docs/ogr/homesec/sd-siec-specialconditionsradiofrequenciesdec09.pdf>. Questions relating to the SIEC special conditions should be directed to the SWIC.

Example of Transition Award Below: Hanover joining the any of the four RECC options during FY21. In the second and the following two years the transition award will equal the ROCCC assessment. It is assumed that labor and other costs of the ROCCC will increase annually.

FY20 Support Award	Amount of FY21 Assessment - ROCCC	Transition Award FY21-FY23 Each Year	Transition Award FY24 50%	Transition Award FY25 25%
\$37,160	\$469,667.39	\$469,667.39	\$234,833.70	\$117,416.85

The Hanover Emergency Communications Center is faced with substantial investments in their radio and Communication Center consoles. These transition equipment costs, as well as the needed radio system improvements, would be sought by the RECC in a grant request after Hanover has approved a transfer of services to the ROCCC and has submitted a signed Inter-Municipal Agreement (IMA) that requests Hanover wants to be a participant in the ROCCC. Transition expenses include the needed improvements to the radio system to allow Hanover to overcome the deficiencies of the system and to allow regional interoperability with the RECC.

Currently Hanover expends \$844,276.11 a year on emergency communication services. By joining the ROCC, Hanover would be eligible for a Transition Award to pay for these services for three years, 50% of the cost in the fourth year and be assessed 75% of the cost in the fifth year. For an example a FY21 cost estimate for Hanover to join the ROCCC would be \$469,667.39.

Research & Planning

Professionalism of Communications Centers & Emerging Trends

The primary goal of agency leaders 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 emergency communications services nationwide. The trends are focused on:

- Increased 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 societal trends.
- Challenges of dealing with multiple calls for service to the same events from the transition from wire to wireless communication devices; and
- The increased prevalence of video recording among younger generations.

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 truer than in responding to a Call for Service (CFS). An increasing number of dispatch centers are adding layers of geographic information fire hydrant, hazmat, and highly critical infrastructures in addition to homes and businesses. It also provides for better routing of resources.

Enhanced Technology

Technology is making the combining of PSAP 911 Centers more cost effective through more robust communications systems, economy of scale in purchasing, establishment of dispatching and resource tracking standards, and increased employee morale through professionalism. Better dispatch systems in the marketplace allow greater ease of pass-off of resource control to Police, Fire, and EMS.

Additionally, strides are being made in the improved ability to work with the disabled through telecommunications devices for the hearing impaired, interpreting services for foreign languages, texting for the speaking impaired, and coordinating with local, country, state, and federal planning organizations for standards in address assignments.

Organizations actively improving communications infrastructures and standards development are:

- Massachusetts State 911 Department.
- APCO (Association of Public-Safety Communications Officials).
- NENA (National Emergency Number Association).

- USDOT (US Department of Transportation).
- IETF (Internet Engineering Task Force); and
- 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:

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

FirstNet

In response to the identified problems with the lack of radio interoperability for first responders to the September 11 attacks, the First Responder Network Authority (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 to first responders. In establishing this network, FirstNet is guided by these important principles:

- A public safety-grade network built to meet the needs of our nation's first responders.
- Provide public safety users with true priority access to the network.
- Will harden the network to assist with resiliency during natural disasters, incidents and man-made threats.
- 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.
- Enable local communications management and keep incident commanders in control.
- Be judicious with taxpayer dollars while remaining focused on offering its services to public safety at a compelling cost; and
- Will have effective security controls that protect data and defend against Cyber Threats.

Next Generation 911

Although the 911 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 911 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 911 system. To guide and foster a nationwide vision of a 911 system for the 21st Century, the US Department of Transportation (USDOT) is taking a lead role in the research and development needed to

bring about a more capable Next Generation 911 (NG 911) 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 developed the foundation of the NG-911 system for Massachusetts and is in the process of testing new enhancements for texting 911. The MA Wireless Direct program has been implemented. The NG-911 system will allow 911 call information to be received from mobile texting, video, and web-based information platforms.

Prior 911 Center Consolidation Research

The prior research results on this topic include studies across the nation on this topic. They are summarized most succinctly in an overarching study that was conducted by the John J. Heldrich Center for Workforce Development in New Jersey from 2005-2006. 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:

- **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.
- **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.
- **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.
- **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 consolidated.

Recommendations

1. Consolidate Hanover into the Regional Old Colony Communication Center (ROCCC)

All four RECCS represent good opportunities for Hanover to join a regional agreement and improve call-taking and dispatch service operations. The rating scale that was used to assess these options was based on fifteen (15) variables related to Hanover call-taking and dispatch service needs, as well as cost factors and other significant operational considerations. Ultimately, the ROCCC scored the highest and represents the best opportunity for Hanover. This will allow for Hanover to:

2. Develop an outreach program for Hanover residents and businesses regarding the upcoming planned consolidation

Through a well-planned outreach effort, Hanover can keep residents up-to-date and fully informed of the timeline for integration into the ROCCC, the rationale for change, and the benefits to them in the form of enhanced services.

3. Develop a plan to implement administrative capacity and encourage community involvement

Provision of administrative support and the involvement of key stakeholders in the community will be key to success. Strategies for this could include:

- providing administrative support for integration, with either full-time or part-time employees assisting in putting records function/storage in the current dispatch area, as well as other community business with the police including records requests;
- Scheduling hours for those administrative functions and inform the public; and
- Reviewing the administrative functions that could be put online, like the Burn Permit system.

4. Utilize established operational policies of the ROCCC to ensure appropriate resources are provided in a timely manner

Hanover's successful integration into the ROCCC is contingent on embracing established operating policies and procedures that meet unique needs of the emergency response and public safety agencies in the District, ensuring that the appropriate resources are provided at the time they are needed.

5. Assist the ROCCC in seeking State 911 RECC Developmental Funding to aid integration

Developmental funding is necessary to help implement the changes necessary to connect Hanover to the ROCCC in a meaningful way. Those elements include the cost of:

- Radio communications interoperability between the RECC and public safety departments;
- Regional software system for Computer Aided Dispatch (CAD) and Records Management Systems (RMS) currently being used by the RECC;
- Project management; and
- Transitional training.

Appendix A: Radio System Assessment in Hanover, MA

Radio System Assessment Town of Hanover, Massachusetts

January 27, 2020

Industrial Communications & Electronics, Inc. ("Industrial") is pleased to provide the town of Hanover Massachusetts with the following assessment of the town's existing radio system.

The Town of Hanover ("Hanover ") operates a three (3) channel UHF T-BAND radio system for Police, Fire/EMS, and DPW communications. A total of three (3) Radio Frequency (RF) sites exist within town. Each site is connected by Ethernet Microwave. The Police & Fire Department RF equipment (including combiner, RX Multi-coupler, and Repeaters) are approximately six (6) years old. The DPW equipment is older and the exact age is unknown. See below for a site-by-site breakdown and assessment.

Site 1: Hanover Town Water Tank. Hanover Police, Fire & DPW all transmit from this site. The antenna is an RFI BA8080-67-DIN and is approximately 6 years old. industrial's tower crew had a difficult time securing this antenna to the water tank as this tank was not designed to have antennas on it, and no quality antenna mounts exist on the site. Police and Fire have Motorola GTR8000 GEN2 Repeaters with 7.16 firmware. This is the only transmit site of a three-site voted system. Voting is accomplished with Motorola MLC8000 Comparators located at the Police Station (Site 2). Wireline control of the repeaters is provided to the Telex Console System. The DPW has a single site, non-voted, Motorola MTR2000 repeater at this site. No wireline control is in place for the DPW repeater.

The antenna at the top of the tank is connected to the radio shelter via 7/8 hardline. This site has no ice bridge and is not R56 compliant. The antenna feedline is connected via an overhead ¼' messenger cable. The RF cable is at a high risk of damage due to ice, vandalism, high vehicle accidents, and lighting.

Site 2: Police Station Monopole. The police station monopole is a 160-foot tower with an RFI BA80-67-DIN antenna fed to a multi-coupler. This site also has comparators for both Police and Fire. Two microwave shots are at this site; one links to the Site 1 and the other to Site 3. This site lacks Ethernet connectivity from the RF outbuilding to the Police Station. CAT-3 25- pair cable connects the outbuilding to the Police Station via underground conduits. The total length of the cable is approximately 450 feet, which is too far for copper-ethernet connectivity. Wireline control of repeaters and radios in the outbuilding consist of Tone Remote Control over the copper CAT-3 25-pair cable. Many unusable pairs are in the cable as a result of past lightning damage. IP control, IP wireline, and supervision are not possible without Ethernet connectivity.

Site 3: American Tower Site. This site is a later installation and is owned and maintained by American Tower. This is a 140-foot monopole. The Antenna, Feedlines & Microwave systems are R56. The tower is connected to the radio shelter via an ice bridge. All proper grounding is available and installed. The radio shelter is a tool shed and not designed to be an RF Shelter but at the present time it is in good shape. This site is connected to Sites 1 and 2 via a microwave link to the Police Station. The site has a receiver multi-coupler, GPW8000 dual channel receiver, and an MLC8000 AGU.

Police Station Console. The PSAP for the town is located at the Police Station (Site 1). This three (3) position TELEX radio console system is how calls get dispatched once received from 911. These console positions are very old and many years past serviceable condition. Parts are no longer available for most of the system. The installation of the system is somewhat sub- standard. Ethernet

switches are residential grade and are HUB type. The TELEX system uses multicast endpoints. No multicast IGMP or PIM is available on the HUB switches. The connection to the primary repeaters is connected via CAT3 25-Pair cable that is in poor condition.

Most of the surrounding towns to Hanover have switched to Digital P25 technology. The current console system is not capable of supporting P25 Voice & Signaling, making interoperability very limited at the police station, leading to a lack of situational awareness and less options for calling in other towns during emergencies. Communication to surrounding towns can only be done with BAPERN Analog channels or relayed via a patrol car with P25 radios. Dispatchers cannot access any BAPERN digital interop channels with the current TELEX system. A complete three (3) position console system should be installed immediately if this location is to remain a PSAP. A partial or complete failure of the radio console system may be imminent.

Fire Station Site. The Fire Station is not a PSAP site. The watch office at the Fire Department has a legacy Zetron console system with access to some interop resources. This system is also obsolete and spare parts are no longer available.

Summary. In summary, there is a risk of a complete or partial failure of the existing radio communications system due to radio console system issues and lack of connectivity to the RF Shelter at the base of Site 2 (Police Station Monopole). Additionally, the antenna feedline at Site 1 (Water Tank) is at risk of lightning, severe winds, snow or ice.

Appendix B: Difference between a Hosted Regional Emergency Communication Center and a Regional Emergency Communication District

Regional Emergency Communication Districts and hosted Regional Emergency Communication Centers (RECCs) different in their organizational structure but similar in their service provided. The Districts are regional government entities as established by Massachusetts legislation. The personnel are employees of the District. The hosted RECCs are entities within a community's municipal government structure, i.e., Police or Fire Departments or a separate Emergency Communications Department. Both are governed by an Inter-Municipal Agreement (IMA). The personnel are employees of the municipality.

A significant difference between the two is how their Administrative Support Functions are provided. Those functions include payroll, financial management, procurement, human resources including collective bargaining, medical insurance, retirement and other personnel related insurance and taxes.

A District provides those services through contractual relationships. All of these expenses are borne by the community members of the District. A hosted RECC is provided those services through the municipal government departments and contracted services. The cost of these services is not generally passed on to the community members of the RECCs. See the summary of the enabling legislation for Regional 911 Emergency Communication Districts.

SUMMARY OF SENATE 1199, AN ACT RELATIVE TO REGIONAL 911 EMERGENCY COMMUNICATION DISTRICTS

The purpose of the legislation is to authorize two or more municipalities to enter into an agreement for the purpose of establishing, maintaining, and operating a regional 911 emergency communications center district ("District"). The legislation provides a governance structure that authorizes the formation of the District and that sets forth the manner in which the members may provide for the management of the District, financial terms and conditions of membership, the addition of new member municipalities, and other financial and operational matters.

The legislation provides that, in order to form a District, two or more municipalities may create a District planning committee to study the feasibility of establishing a District. If the planning committee recommends the establishment of a District, it shall propose a written agreement to establish, construct, equip, operate, and maintain the District and shall forward the findings and proposed agreement to the city council and board of selectmen or town council of the participating municipalities for a vote. If a majority of the members of each city council, board of selectmen or town councils vote in the affirmative, the District shall be established in accordance with the proposed agreement.

The legislation provides that the District would be overseen by a Board, and the District agreement shall provide for the terms and conditions of Board membership. The legislation provides that the District shall have a finance advisory subcommittee to approve certain fiscal matters. The District shall be a public employer and a body politic with powers to construct and equip a regional 911 center, purchase land, employ personnel, incur debt, issue bonds, and take other action as set forth in the legislation. The legislation provides for fiscal oversight of the District, including audit and reporting requirements.

The establishment of the District is expected to allow for lower operating and capital costs for the member municipalities. The legislation supports the State 911 Department's goals of fostering and facilitating 911 regionalization efforts.