



Towns of Boxborough and Littleton, Massachusetts

Feasibility Study for a Regional Emergency Communications Center (RECC)

June 13, 2013

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Appendix A –List of Interviewees by Town

Executive Summary

Boxborough and Littleton together present a nearly ideal environment for implementation of a Regional Emergency Communications Center (RECC).

- A record of success in cooperating in other, significant functions including but not limited to the Littleton Electric Light and Water Department as well as the 495 Regional Technology Center Economic Target Area.
- Strong working relationships among both Towns' Town Administrators, Police Chiefs and Fire Chiefs. In fact, the Police and Fire Chiefs in Boxborough began their respective careers in Littleton.
- Established operational policies and procedures where both Towns support each other. As one example, each Town currently responds to all calls for fire services in the other town.
- The use of the same vendor's software system for Computer-assisted Dispatching (CAD) and Records Management Systems (RMS) in both Towns' Police and Fire Departments.
- The availability of the established dispatching facility at the Littleton Police Department's new building with ample capacity to provide the two positions needed for staffing the dispatch function in the RECC.
- The capability of the Littleton Electric Light and Water Department to support the networking and communications infrastructure required between the two Towns.
- Contiguous borders.
- Similarity in their demographic characteristics.

This Feasibility Study arose from the Towns' recognizing both (1) the presence of these positive elements and (2) the significant, shared benefit to public safety that both thought might be realized.

Boxborough, on behalf of itself and Littleton, applied for financial assistance from the Commonwealth of Massachusetts State 911 Department's Regional Public Safety Answering Point and Regional Secondary Public Safety Answering Point (PSAP) and Regional Emergency Communications Center (RECC) Development Grant program in March, 2012 and received notice of award of a grant of \$28,400 on June 28, 2012. This financial assistance funded 100 per cent of the cost of this Feasibility Study. Webb Consulting Services, LLC of Canton, Massachusetts then was awarded the contract for this Feasibility Study.

This Feasibility Study also examines the possible addition to the RECC of one town in the same population range as Boxborough and Littleton, recognizing the economies of scale and fiscal benefit that might accrue to all three of the participating towns.

The Towns' scope of work for this Feasibility Study focused on seven areas:

1. Identify existing conditions - communications equipment, infrastructure, personnel and space.
2. Evaluate impact of regional approach to 911 dispatch services.
3. Define potential impact in services provided to Police, Fire, and EMS.
4. Summarize potential additional costs and or cost savings.
5. Define a plan to create a regional dispatch system to serve the participating communities as well as future expansion potentials (communities and equipment).
6. Recommend technology plan.
7. Define operational plan for Regional Emergency Communications Center.

It is important to make certain observations about the organization and scope of this Feasibility Study.

- It recognizes the interdependence of the topics with which it is concerned. The major issues of site, staffing, technology and financing are all closely interrelated: all share the same origin in scale.
- It recognizes the nature of the RECC as a start-up enterprise, needing either (1) a new intermunicipal agreement (IMA) between Boxborough and Littleton pursuant to Massachusetts General Laws Chapter 40, Section 4A or (2) new enabling legislation amending the Massachusetts General Laws to become a successful reality.
- It appreciates the critical nature of emergency communications and the professionalism of those dedicated to this service.
- It applies wherever possible the widely recognized principle of *best practice*. This looks at how various aspects of the RECC, from training of its personnel and implementation of standard operating procedures to its deployment of communications and information technology, compares with the state of the art among comparable agencies in the United States. This insight draws upon the combined experience of the consulting team in more than 180 public agencies in Massachusetts and across the United States.
- It applies the concept of *strategic positioning*. This means that the RECC, through its Board of Directors, should be taking actions now in such areas as policy-making and procurement which establish the foundation for the RECC to function both in the short and long terms as a high-performance organization. Strategic positioning for the RECC also considers changes which may occur in its environment such as the impact of growth in its membership, changes in technology, or other statutory, regulatory or judicial factors. Strategic positioning is often

characterized as “buying smart, not cheap.”

This Feasibility Study followed a careful, systematic approach in addressing the full scope of work of this engagement. Key tasks here included:

- Conducting a Project Organizational Conference on the morning of Monday, January 7, 2013 at the Littleton Police Department with a group of about 10 key personnel from Boxborough and Littleton. This meeting was held to establish a common understanding of the specifics of the project plan and assure that all parties had clear agreement on the conduct of the project.
- Reviewing various documents such as: (1) the previous reports related to the feasibility of a RECC by Municipal Resources Inc. and L. R. Kimball; (2) collective-bargaining agreements and job descriptions related to dispatching; (3) the National Fire Protection Association’s (NFPA) 1221, Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems, 2013 Edition; (4) the Association of Public-Safety Communications Officials-International, Inc.’s (APCO) Project 33, Revised Minimum Training Standards for Public Safety Telecommunicators; and (5) APCO Project 40, Responsive Efforts To Address Integral Needs in Staffing (RETAINS).
- Working with the Towns to organize two Subcommittees: (1) Governance, Organization, Staffing and Finance; and (2) Information Technology. The Subcommittees met for the purpose of airing a wide range of ideas regarding the Feasibility Study. These sessions resulted in full and frank discussion which was very helpful in the execution of this engagement. The consensus among the staff of the Towns reached in these meetings and the information elicited were both fundamentally important to the formulation of key findings and recommendations of this Feasibility Study. About 20 individuals participated in meetings of the Subcommittees.
- Interviewing a total of 14 personnel from Boxborough and Littleton, mostly in their respective offices (see Appendix A, List of Interviewees by Town). These interviews were critical to providing the particular perspective of these individuals and agencies which formed a significant part of the informational foundation for this Feasibility Study. Many subsequent visits and conversations took place to address various aspects of this Feasibility Study in greater detail. The consulting team also reached out to current and prospective contractors, often at the suggestion of the Towns’ officials, in order to obtain critical information in such areas as radio and communications infrastructure as well as information technology.
- Meeting with key officials of Boxborough and Littleton on April 4, 2013 to review the draft of the Feasibility Study, discuss its findings and recommendations, and enable the Towns’ personnel

to provide input and comment for incorporation into the final product. In addition, the draft-review meeting elicited feedback from the attendees regarding the completeness and veracity of the information presented by Webb Consulting Services plus comments on how to enhance the quality and value of the Feasibility Study.

- Revising the Feasibility Study as a result of the draft-review meeting and preparing it for final presentation.

This process resulted in full and frank discussion. All aspects of this Feasibility Study have been reviewed and discussed thoroughly with the participants. As well, each of these tasks contributed significantly to the development of the Feasibility Study.

Recommendations for funds are presented on the basis of a five-year lifecycle. This has the advantage of combining all costs into a single framework, based on the Commonwealth of Massachusetts Uniform Massachusetts Accounting System (UMAS) and producing an average annual cost over five years. In this way, the Towns will be able to make well informed decisions regarding the fiscal impact of membership. In addition, these financial requirements are then used to build the billing model included in this Feasibility Study. This billing model, based on percentage distribution of population between Boxborough and Littleton, has been reached by consensus among key staff of both Towns as part of the work of the Governance, Organization, Staffing and Finance Subcommittee.

This Feasibility Study makes specific recommendations for funding. At the same time, one is obliged to be conservative in expectations regarding the availability of funds from the U.S. Government, the Commonwealth or other sources. The Towns and the RECC should make every possible effort to secure intergovernmental and extra-governmental funding while recognizing the well-known fiscal constraints facing the State and Federal governments.

Three main issues face Boxborough and Littleton in the transition to the new RECC.

- In the absence of enabling legislation, no governmental entity currently exists which can receive or expend funds for this purpose. Concurrent with this Feasibility Study, enabling legislation to authorize RECC's State-wide was in its final stages of consideration by the General Court.
- Notwithstanding the absence of enabling legislation, Boxborough and Littleton can proceed to establish the RECC by means of an intermunicipal agreement (IMA), which is a model that has been used to establish RECC's between other municipalities in Massachusetts. Littleton would be the host community for the IMA.

- While this Feasibility Study recommends that all dispatchers in both Boxborough and Littleton be retained in order to have two positions fully operational at all times, there will be transitional issues. These regard such things as establishing an appropriate framework for management and supervision as well as the integration of these personnel into two-person teams where they have been accustomed for many years to operating as single dispatchers.

At the same time, several factors facilitate the launch of the RECC in terms of both lead time and cost.

- The only major, new capital or operating cost is the construction and maintenance of the radio and communications infrastructure.
- No substantial expenditure is required to prepare the dispatch area at the Littleton Police Department, which is in “move in” condition.
- Relatively limited costs are involved in consolidating computer technologies since both Police and Fire in Boxborough and Littleton already use the same computer system from TriTech/Information Management Corporation (IMC) for their Computer-assisted Dispatching (CAD) and Records Management Systems (RMS), including mobile computing.
- Dispatchers in both Boxborough and Littleton have been using the IMC CAD application for many years. Thus, the continued deployment of this same system in the new RECC should be able to be accomplished without significant time or cost for training involved.

This Feasibility Study, then, sees the RECC going into operation about six months from the date of organization of the RECC. This is based mainly on the time required to (1) procure and deploy the radio and communications infrastructure and (2) complete the conversion and consolidation of the Towns’ IMC computer systems onto a single RECC system. Not more than a few months should be required for all other tasks related to the launching of the RECC.

Most important, the participating agencies’ key staff have shown exceptional interest in seeing the RECC materialize and succeed. Their dedication will be as critical as any other factor in having the RECC be as successful as possible and making the effort required to implement change.

KEY FINDINGS AND RECOMMENDATIONS OF THE FEASIBILITY STUDY

The paragraphs which follow in this Executive Summary present key findings and recommendations of this Feasibility Study.

1. The RECC should bring substantially enhanced emergency services for Boxborough and Littleton. This occurs mainly through:

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- Establishing two-deep coverage of dispatching positions at all times where each Town now only has one dispatcher on duty and has difficulty responding appropriately to such occurrences as simultaneous calls for Police, Fire or EMS services, or major incidents.
 - Having a working RECC Manager with overall, direct responsibility for operations, reporting directly to the RECC's Board of Directors.
 - Implementing state-of-the-art information and emergency-communications technology, building on the information systems, fiber-optic networks, radio and communications technologies already in place in each Town, respectively.
2. The RECC would be financially feasible for Boxborough and Littleton only if it should receive full funding of its one-time costs, mainly for \$1,393,469 in emergency-communications infrastructure and \$138,962 in the RECC's computer technology. Otherwise, the cost of the RECC would be much higher than what each Town now pays.
 3. The addition of a third town in the same population range as Boxborough and Littleton is also effectively required for the RECC's fiscal feasibility, significantly reducing the cost that each of the three towns individually would pay otherwise.
 4. The allocation of the RECC's operating and capital costs between Boxborough and Littleton is based on using percentage of population as recommended by both Towns' key staff. This can be changed from year to year by the RECC's Board of Directors.
 5. While the RECC's main purpose is providing emergency-communications services, for Boxborough and Littleton together 76 per cent of all calls now received are non-emergency.
 6. The dispatch area of the Littleton Police Headquarters is in "move in" condition with two, well-equipped dispatching consoles, fully able to handle the RECC's two-deep configuration of dispatchers at all times which this Feasibility Study recommends.
 7. Concurrent with the drafting of this RECC Feasibility Study, legislation was pending to amend the Massachusetts General Laws to enable the organization of this kind of regional emergency communications agency on a State-wide basis.

No such law exists today, leaving the Towns with no statutory basis to provide the two critical elements of its governance: the institutional platform and the organization and functioning of the governing body.

Discussions with key officials of Boxborough and Littleton during the course of this RECC Feasibility Study made clear that, even with the enactment of the new State-wide legislation, the two Towns here would prefer to proceed under an intermunicipal agreement (IMA) to establish the RECC and have it hosted by and function as a department of the Town of Littleton. While Boxborough and Littleton could enter into an IMA for the RECC now, there is an outstanding question regarding whether the Towns could enter into an IMA after enactment of the RECC legislation.

8. The “Go Live” date for the new RECC would be about six months from the execution of the IMA by the Towns. This is a function mainly of the time needed to:
 - Procure and implement the networking, radio and communications infrastructure, which is expected to take about six months;
 - Consolidate the computer systems now used by both Towns. While Boxborough and Littleton both use TriTech/IMC as their vendor for Police and Fire Computer-aided Dispatching (CAD) and Records Management Systems (RMS) as well as mobile computing, various tasks are expected to take six months to complete. Conversion alone will take four months with a fifth month for testing and training.
9. Capital costs which this RECC Feasibility Study identifies amount to \$1,532,431. Of this amount, \$1,393,469 is for networking, radio and communications infrastructure and \$138,962 is for consolidation and enhancement of computer systems. The RECC’s Board of Directors and the Town of Littleton together will need to decide how best to finance these capital costs, also looking to their financial advisor and legal counsel for input in the context of both the new State-wide RECC legislation and the respective terms in years authorized currently for various purposes by the Massachusetts General Laws.
10. The RECC will need to decide on a minimum required term of membership, if any. There are two main reasons for this minimum term.
 - To assure that the capital obligations of the RECC are met.
 - To emphasize the commitment that the towns have to making the RECC work for the longer term.
11. The RECC needs to decide how to address the financial obligations of any additional municipalities which may wish to join the RECC after its initial organization. This would apply to such things as how the new municipality’s assessment would incorporate a fair share of capital costs which may already have been paid by the original members.

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12. The RECC's Board of Directors ought to be representative of its major stakeholders, including three voting members from each Town:
- The Town Administrator.
 - The Police Chief.
 - The Fire Chief.

No designee should be allowed for any member: the presence of the member themselves should be required for a quorum and all votes.

13. The RECC should have as a goal from the outset its achieving and maintaining high performance measured in such ways as accreditation from the Commission on Accreditation for Law Enforcement Agencies (CALEA) or other professional organizations.
14. The RECC should fund membership for itself, its Board of Directors and all staff in the Association of Public-Safety Communications Officials-International, Inc. (APCO), the National Emergency Number Association (NENA) and other professional organizations of specific value to the RECC. Achieving and sustaining high performance requires that the RECC, its leadership and all employees have access to state-of-the-art knowledge about various aspects of emergency communications and other disciplines related to the RECC's policy-making, management and operations.
15. Staffing for the RECC has several key characteristics:
- The nine current dispatchers' positions, five in Littleton and four in Boxborough, will be maintained with compensation for all using Littleton's existing collective-bargaining agreement.
 - Because all of the dispatchers from Boxborough and Littleton already use the IMC computer system for CAD and RMS, no extensive training in this system or transition is required.
 - The RECC will establish two-deep coverage of dispatching positions at all times where each Town now only has one dispatcher on duty. This higher level of staffing will greatly enhance the ability of both Towns to respond appropriately to such occurrences as simultaneous calls for service or major incidents.
 - A new position of working RECC Manager is recommended. This individual will have overall, direct responsibility for operations, reporting directly to the RECC's Board of Directors. This individual will supervise the daytime tour.

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- The current position of Communications Supervisor will be maintained and supervise the early-night tour.
 - The dispatchers' efficiency and effectiveness will be enhanced by the implementation of the state-of-the-art information and emergency-communications technology which this Feasibility Study recommends. This builds on the information systems, fiber-optic networks, radio and communications technologies already in place in each Town, respectively.
 - The Town of Littleton will provide support services for the RECC including such things as financial management and human-resources administration.
 - Support for the combined information-technology (IT) infrastructure will be provided by the staff of Boxborough and Littleton who are currently assigned with additional support from the Littleton Electric Light and Water Department (LELWD).
16. Training on an on-going basis will be critical both to the successful launch of the RECC and to its on-going success.
17. All of the RECC's information and communications systems must meet Commonwealth and U.S. Government standards in such areas as data exchange and interoperability.
18. All frequencies that now appear in each Town's Police or Fire Department need to be carried over to the new RECC in order for it to have complete capability to communicate with all emergency-services agencies and personnel.
19. All present remote radio sites, towers and poles will need to be reused. This is an essential element of connectivity for the new RECC, helping to assure the same coverage for Boxborough and Littleton as they presently have with no need to renegotiate private sites or build duplicate facilities.
20. A future engineering study will be needed to determine a large level of detail which goes far beyond this Feasibility Study. This engineering study will need to address such issues as:
- Microwave sites in each Town and related costs.
 - Line of sight, path and hops.
 - Final costs of fiber optic connectivity including such things as location and amount of splices, route build out, electronics and available dark fiber.

21. The Town of Boxborough dispatch should serve as the backup site for the RECC.
 - It provides appropriate physical separation from the Littleton Police Department's site.
 - It has two console positions now in use and available as needed with the RECC in the future.
 - It can host a mirrored server for the IMC system with regular backup from the identical server in Littleton over the fiber-optic connection between the two Towns.
22. The RECC must be sensitive to the emergency-communications needs of specific populations such as the handicapped, senior citizens and linguistic minorities.
23. The Town of Boxborough will need to make decisions regarding such policies as whether or when it may wish to have its Police building unstaffed. This may involve how to provide such services as responding to walk-in traffic or meeting the provisions of the Commonwealth's Safe Haven Act for protection of newborn infants. This RECC Feasibility Study includes funds for 7/24 video-camera monitoring of the Boxborough Police building from the RECC in Littleton. The close proximity of the Boxborough Fire Department next to the Police Department could also be part of these considerations.
24. This Feasibility Study presents a complete, line-item budget for five years, including the cost of all anticipated operating and capital expenditures, conforming with the Commonwealth's Uniform Massachusetts Accounting System (UMAS). It incorporates expected increases in various costs as a result of inflation, recognizing the inherent uncertainty in this effort,
25. The RECC should pursue all available avenues in seeking financial assistance from the Commonwealth and U.S. Government. The Commonwealth's RECC Development Grant program may be the most promising here.
26. This Feasibility Study presents detailed sets of information on financial management which enable Boxborough and Littleton to evaluate options for services or finances as these may emerge over time. This includes scenarios involving varying levels of grant assistance, the possible participation of a third town and changes in configuration of services.
27. The rollout plan in this Feasibility Study takes a conservative view of the time required for each task in the development and implementation of the RECC. This is appropriate in order to be sure that the launch of the RECC in fully operational status proceeds as well as possible.

Section One

Project Background

This Feasibility Study for a Regional Emergency Communications Center (RECC) arose from the common recognition of the Towns of Boxborough and Littleton that (1) there were many positive elements which could contribute to the success of a RECC and (2) both Towns could gain significant, shared benefit to public safety through this RECC. Among the positive elements were:

- A record of success in cooperating in other, significant functions including but not limited to the Littleton Electric Light and Water Department as well as the 495 Regional Technology Center Economic Target Area.
- Strong working relationships among both Towns' Town Administrators, Police Chiefs and Fire Chiefs. In fact, the Police and Fire Chiefs in Boxborough began their respective careers in Littleton.
- Established operational policies and procedures where both Towns support each other. As one example, each Town currently responds to all calls for fire services in the other town.
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- Contiguous borders.
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6. Recommend technology plan.
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It is important to make certain observations about the organization and scope of this Feasibility Study.

- It recognizes the interdependence of the topics with which it is concerned. The major issues of site, staffing, technology and financing are all closely interrelated: all share the same origin in scale.
- It recognizes the nature of the RECC as a start-up enterprise, needing either (1) a new intermunicipal agreement (IMA) between Boxborough and Littleton pursuant to Massachusetts General Laws Chapter 40, Section 4A or (2) new enabling legislation amending the Massachusetts General laws to become a successful reality.
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- It applies wherever possible the widely recognized principle of *best practice*. This looks at how various aspects of the RECC, from training of its personnel and implementation of standard operating procedures to its deployment of communications and information technology, compares with the state of the art among comparable agencies in the United States. This insight draws upon the combined experience of the consulting team in more than 180 public agencies in Massachusetts and across the United States.
- It applies the concept of *strategic positioning*. This means that the RECC, through its Board of Directors, should be taking actions now in such areas as policy-making and procurement which establish the foundation for the RECC to function both in the short and long terms as a high-performance organization. Strategic positioning for the RECC also considers changes which may occur in its environment such as the impact of growth in its membership, changes in technology, or other statutory, regulatory or judicial factors. Strategic positioning is often characterized as “buying smart, not cheap.”

This Feasibility Study uses several acronyms and short names for purposes of easy reference. These include in alphabetical order:

- APCO - Association of Public-Safety Communications Officials-International, Inc.
- BJA – Bureau of Justice Assistance.

- CAD - Computer-aided Dispatch.
- CALEA - Commission on Accreditation for Law Enforcement Agencies.
- CJIS – Criminal Justice Information System.
- DHS – Department of Homeland Security.
- EMD – Emergency Medical Dispatch.
- EMS - Emergency Medical Services.
- EOPSS - Commonwealth’s Executive Office of Public Safety and Security.
- FBI – Federal Bureau of investigation.
- FTE - Full-Time-Equivalent Personnel.
- FY - Fiscal Year.
- GIS - Geographic Information Systems.
- IMC – TriTech/Information Management Corporation
- IT - Information Technology.
- JRA – Justice Reference Architecture.
- LELWD – Littleton Electric Light and Water Department.
- MGL - Massachusetts General Laws.
- MSP – Massachusetts State Police.
- NENA – National Emergency Number Association.
- NFIRS – National Fire Incident Reporting System.
- NFPA – National Fire Protection Association.
- NIBRS – National incident Based Reporting System.
- PSAP - Public Safety Answering Point.
- PSIC – Public Safety Interoperability Communications.
- RECC - Regional Emergency Communications Center.
- RISS – Regional information Sharing Systems.
- RMS - Record Management Systems.
- SOA – Service Oriented Architecture.
- UMAS - Uniform Massachusetts Accounting System.

Section Two Methodology

This Feasibility Study followed a careful, systematic approach in addressing the full scope of work of this engagement.

A. PROJECT ORGANIZATIONAL CONFERENCE

Webb Consulting Services' Project Team met on the morning of Monday, January 7, 2013 at the Littleton Police Department with a group of about 10 personnel from Boxborough and Littleton. This meeting was held to establish a common understanding of the specifics of the project plan and assure that all parties had clear agreement on the conduct of the project, i.e., what the project-task schedule was, who would participate in different project tasks and activities, what background information would be needed in the course of the project and what the respective responsibilities of the parties would be.

B. REVIEW OF BACKGROUND INFORMATION.

In order to understand the background to this effort, Webb Consulting Services' Project Team reviewed the following types of documents, among others:

- Collective-bargaining agreements and position specifications for dispatchers in Boxborough and Littleton.
- The previous feasibility studies done by Management Resources Inc. and L.R. Kimball.
- NFPA 1221, Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems, 2013 Edition.
- APCO Project 33, Revised Minimum Training Standards for Public Safety Telecommunicators.
- APCO Project 40, Responsive Efforts To Address Integral Needs in Staffing (RETAINS).

These documents provided background which was important throughout this engagement.

C. REQUEST FOR INFORMATION.

A document requesting various information from the Town's vendor of its Police and Fire CAD and RMS systems, IMC, was developed by Webb Consulting Services and reviewed by the Towns' Computer Applications Committee at its meeting on February 5, 2013. Two representatives of IMC then met with the Committee on February 12, 2013 to review the draft of the letter and prepare IMC's response.

This document was intended to obtain both technical and cost information regarding the consolidation of the Towns' current systems to a single system for the RECC. Where computer systems are both mission-critical and relatively expensive, this information was very important to the Feasibility Study. IMC continued to provide important information throughout the course of developing this Feasibility Study.

D. COMMITTEE AND SUBCOMMITTEE MEETINGS

The Webb Consulting Services Project Team and the Towns worked together to organize two Subcommittees including (1) Governance, Organization, Staffing and Finance and (2) Computer Applications. The Steering Committee and subcommittees met on the dates which follow.

Table 1
Committee and Subcommittee Meetings

Date	Committee/Subcommittee
January 7, 2013	Project Organization Conference
February 5, 2013	Computer Applications
February 12, 2013	Computer Applications
February 19, 2013	Governance, Organization, Staffing & Finance
April 4, 2013	Draft Feasibility Study Report Review
June 25, 2013	Final Feasibility Study Report Presentation

These meetings aired a wide range of ideas regarding various aspects of the Feasibility Study, resulting in full and frank discussion which was very helpful to the Webb Consulting Services Project Team in the execution of this engagement and the formulation of findings and recommendations.

E. INTERVIEWS.

The Webb Consulting Services Project Team conducted two sets of interviews.

First, interviews were conducted, mostly in their respective offices, with a total of 14 personnel from the Towns as presented in Appendix A, List of Interviewees by Town. These interviews were critical to providing the particular perspective of these individuals and agencies, forming a significant part of the informational foundation for this Feasibility Study.

Second, the consulting team reached out to current and prospective contractors, often at the suggestion of local officials, to obtain critical information in such areas as radio and communications infrastructure.

F. REVIEW OF THE DRAFT FINAL REPORT.

Upon completion of the draft of the Feasibility Study, the Webb Consulting Services' Project Team met with the Towns on April 4, 2013 to review the document, its findings and its recommendations. This session enabled the Towns' personnel to provide input and comment which was incorporated into the final product.

G. PRESENTATION OF FINAL REPORT.

After the review of the draft report and the incorporation of comments and input from the Towns' personnel, Webb Consulting Services prepared the final version of the Feasibility Study and presented it to a joint meeting of key officials of Boxborough and Littleton on June 25, 2013. This included providing both Towns with the Feasibility Study in both hard copy as well as electronic format.

Section Three Governance

Section Three: Governance Summary of Key Findings and Recommendations	
1.	No enabling legislation for RECC's exists in the Massachusetts General Laws. Legislation was under consideration in the General Court at the time of the drafting of this Feasibility Study.
2.	Boxborough and Littleton could proceed today to establish a RECC by using an intermunicipal agreement (IMA), pursuant to Chapter 40, Section 4A of the General Laws as other municipalities in the Commonwealth have done. This would require the approval of the Massachusetts State 911 Department.
3.	It is not clear whether Boxborough and Littleton would be able to continue to use the IMA to establish the RECC, should the pending legislation be enacted. The Towns should consult counsel on this issue.
4.	The Town Administrators, Police Chiefs and Fire Chiefs of Boxborough and Littleton met with other personnel as the Governance, Organization, Staffing and Finance Committee on February 19, 2013 and came to consensus regarding their recommendations related to issues involving Governance as presented in this Section Three.
5.	The Board of Directors of the RECC should have the Town Administrator, Police Chief and Fire Chief of each town as voting members with one vote each for a total of six votes. This configuration combines the needed managerial skills of the municipal chief executives with the subject-matter knowledge and experience of the Chiefs.
6.	No member of the Board of Directors should be allowed to delegate their voting rights to any other person.
7.	Issues involving governance will need to be addressed in detail either in the IMA or in the RECC's governing documents pursuant to the pending legislation. These include such things as minimum contractual commitment to membership in the RECC, terms and conditions for the addition of other municipalities, and how membership may be terminated.
8.	As a public agency, the RECC should be proactive in making public its conduct of this critical public process through a Web site and by other means.
9.	The Governance, Organization, Staffing and Finance Committee now transitions into the Board of Directors with direct responsibility in these areas and others. The RECC should continue the Computer Applications Committee established as part of the Feasibility Study and add committees or subcommittees as needed.
10.	The RECC should seek recognition from the Commission on Accreditation for Law Enforcement Agencies (CALEA), which has a specific Public Safety Communications Accreditation Program in partnership with APCO, as one means of striving for, achieving and maintaining high performance.
11.	The RECC should fund membership for its Board and staff in leading professional associations such as APCO and NENA.

A. OVERVIEW.

Governance refers to two, critical components of this Feasibility Study:

- Establishing the *institutional platform* for the RECC as a governmental agency with all of the authority, responsibility and accountability needed for its delivery of critical multi-jurisdictional, multi-disciplinary emergency services.
- Establishing the *governing body* of the RECC in such a way that the RECC is highly responsive to Boxborough and Littleton while at the same time providing the independent, broadly capable leadership required both during the launch of the RECC and for the long term.

Until the institutional platform is in place, the RECC can take no formal action such as employing personnel or contracting for goods or services.

B. INSTITUTIONAL PLATFORM.

1. *Boxborough and Littleton can proceed to establish the RECC, using an intermunicipal agreement (IMA) as the platform for this institutional arrangement.*

Massachusetts General Laws Chapter 40, Section 4A authorizes a town to “...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...” In the case of a town, this statute authorizes the board of selectmen to enter into such agreements.

The statute contains specific provisions to assure the integrity and transparency of the services provided under the IMA. For example, the beginning of the second paragraph reads as follows:

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.

As well, Chapter 40 Section 4A limits the term of an IMA to twenty-five years; there is no prohibition to renewing or extending this term.

The RECC involving the City of Lynn and Town of Swampscott has used the IMA as its institutional platform.

No enabling legislation exists today, authorizing the formation of a RECC. In one case involving four towns on the South Shore, the RECC was authorized by special act.

At the time of this Feasibility Study, the General Court was considering enabling legislation for RECC's. However, this bill had not been enacted by the time of final drafting of this Feasibility Study.

A key question for Boxborough and Littleton is whether these two Towns could proceed to use the IMA even after enactment of the RECC enabling legislation. Key staff of the Towns has expressed their preference for using the IMA since this would enable them to control their own process for governance of the RECC rather than coming under the purview of the new legislation.

The State 911 Department maintains specific authority for oversight as well as specific operational and policy decisions regarding the RECC, notwithstanding the institutional platform on which Boxborough and Littleton may choose to proceed.

2. *Boxborough and Littleton will need to agree on basic issues such as a minimum contractual commitment to membership in the RECC, terms and conditions for the addition of other municipalities, and how membership may be terminated.*

This commitment reflects both fiscal and operational requirements.

The RECC faces substantial start-up costs which are critical to its launch and ongoing operations. Most significantly, this relates to two, essential investments, including the need to:

- Procure and implement the radio and communications systems to support the RECC's continuous operation, estimated at \$1,393,460.
- Merge the computing capabilities related to Computer-aided Dispatching (CAD), the Records Management System (RMS) and mobile-computing capabilities, all of which are used by the Towns' dispatchers and their Police and Fire personnel every day. This and other recommendations of this Feasibility Study related to computer technology have a total one-time cost of \$138,962.

Different sections of the Massachusetts General Laws authorize borrowing for these purposes for various lengths of time typically associated with their expected useful life. The minimum term of commitment to membership needs to guarantee the revenue stream necessary for repayment of these obligations.

There is precedent in Massachusetts involving a regional school district for having a member, should they terminate their membership, continue to be legally obligated for payment of their share of a borrowing authorized during the term of their membership.

Operationally, the State 911 Department controls decision-making about services and costs in the case of both (1) the original organization of the RECC and (2) the goods and services for whichever municipality may leave the RECC

- 3. Town counsel and bond counsel should both be directly involved in all aspects of the organization of the RECC.*

This holds true whether the RECC proceeds pursuant to an IMA or the pending legislation.

Boxborough and Littleton both must be absolutely sure that the documents involved in the organization and operation of the RECC address all related issues appropriately and do not omit any issues which ought to be incorporated.

Littleton may also wish to involve its financial advisor at this stage since borrowing likely will be required.

- 4. The Boards of Selectmen in Boxborough and Littleton play a critical role in the institutional process of the RECC.*

This Section noted earlier the statutory role of the Board of Selectmen in the IMA.

The latest draft of the enabling legislation being considered by in the General Court at the time of the drafting of this Feasibility Study also designates the board of selectmen as the key decision-making body for a town. This ranges from the organization of a town's study committee to the final decision about whether to join the RECC.

C. GOVERNANCE

The Town Administrators, Police Chiefs and Fire Chiefs of Boxborough and Littleton met with other personnel as the Governance, Organization, Staffing and Finance Committee on February 19, 2013 and came to consensus regarding their recommendations related to issues involving Governance as presented in this Section Three.

- 1. The Board of Directors of the RECC should have the Town Administrator, Police Chief and Fire Chief of each town as voting members with one vote each for a total of six votes.**

This configuration, which will need to be specified in the IMA or documents pursuant to the pending legislation, combines the needed managerial skills of the municipal chief executives with the subject-matter knowledge and experience of the Chiefs. It brings to bear on the RECC's policy-making, management and operations the complementary and critical capabilities of these key officials from Boxborough and Littleton in the same room at the same time and otherwise as needed formally or informally.

An especially important element of having this approach work well is not allowing any member of the Board to delegate their role and responsibilities to any other person: only the members of the Board themselves, not a designee, can vote.

2. *The RECC's Board of Directors must be proactive in being open about its conduct of this critical public business.*

Especially as a new public agency dealing with highly sensitive issues of public safety, the RECC's Board of Directors should be extending every reasonable effort to keep its member-agencies and the public informed about its activities.

Where Littleton would be hosting the RECC, there should be a separate page on the Littleton Police Department's Web site, dedicated to providing information about the RECC. It is important to make sure that the Web site does not provide any information which could endanger the security of the RECC itself or its employees or members. Among the examples of Web sites for RECC's which Boxborough and Littleton may wish to review are:

Bucks County, Pennsylvania

www.buckscounty.org/government/departments/EmergencyServices

DuPage, Illinois Public Safety Communications

www.ducomm.org

Valley Communications Center, Washington

www.valleycom.org

Waukesha County, Wisconsin

www.waukeshacounty.gov

3. *The RECC should have standing committees and subcommittees to address areas of significance and report regularly to the Board of Directors.*

This Feasibility Study has benefited greatly from the contributions of the two Committees organized as part of this effort. These have focused on (1) Computer Applications and (2) Governance, Organization, Staffing and Finance.

Computer applications are a permanent and mission-critical part of the RECC. This Committee worked very effectively during this Feasibility Study and has begun to establish both a body of knowledge and rapport as a group which will be invaluable as the RECC may proceed.

As this Section mentioned earlier, the Board of Directors now assumes responsibility for the issues addressed previously by the Governance, Organization, Staffing and Finance Committee.

D. PERFORMANCE

1. *The RECC should have as a goal from the outset its achieving and maintaining high performance measured in such ways as accreditation from CALEA or other professional organizations.*

As one example, CALEA (the Commission on Accreditation for Law Enforcement Agencies, Inc., www.calea.org) has established its Public Safety Communications Accreditation Program in partnership with APCO (see <http://www.calea.org/content/public-safety-communications-accreditation>).

The 212 standards in this CALEA program take a comprehensive view of a center's policy-making, management and operations, addressing:

- Organization.
- Direction and supervision.
- Human resources.
- Recruitment, selection and promotion.
- Training.
- Operations.
- Critical incidents, special operations and Homeland Security.

High performance in organizations is a function to a significant degree of organizational culture. The value of this kind of accreditation process is that it provides a structure and an objective benchmark for the RECC to (a) set goals and objectives; and (b) measure progress, contributing to a positive organizational culture.

2. *The RECC should fund membership for itself, its Board of Directors and all staff in APCO, NENA and other professional organizations of specific value to the RECC.*

Achieving and sustaining high performance requires that the RECC, its leadership and all employees have access to state-of-the-art knowledge about various aspects of emergency communications and other disciplines related to the RECC's policy-making, management and operations. This may range from management policies and practices to professional development of it personnel.

APCO and NENA are the two leading professional organizations in the highly specialized field of emergency communications. Thus, membership in these organizations is the only practicable way to help assure that the RECC functions in a manner that achieves best practice in every respect.

Section Four RECC Operations

Section Four: RECC Operations Summary of Key Findings and Recommendations	
1.	The RECC should bring substantially enhanced emergency services for Boxborough and Littleton.
2.	The RECC's deployment of state-of-the art IT and emergency communications should be major contributors to its effectiveness.
3.	The higher level of coordination of emergency-services assets - mainly personnel and equipment - should bring about better service for Boxborough and Littleton.
4.	Improved information through shared technology and databases supports the delivery of services by the RECC.
5.	The RECC achieves significantly improved interoperability in emergency communications between Boxborough and Littleton.
6.	The RECC includes a fully operational backup site at the Boxborough Police Department with IT and communications identical to what the RECC itself will be using. Neither Boxborough nor Littleton has an appropriate backup system or backup site of its own today.
7.	Having two dispatchers on duty at all times gives the RECC the ability to respond to a surge in demand in a way which the single-dispatcher configurations today in Boxborough and Littleton cannot manage.
8.	Where 76% of the approximately 44,000 calls received each year by Boxborough and Littleton are non-emergency, the RECC must have the ability to manage this requirement from the first day of its operation.
9.	The RECC should enhance the ability of Boxborough and Littleton to provide community-based services, ranging from such things as (1) emergency communications with schools and public-works agencies to (2) responding to needs of individuals in distress.

A. OVERVIEW

RECC operations speaks to the actual delivery of RECC services as an emergency-communications center.

Other sections of this Feasibility Study address the "how to" of planning, developing, implementing and operating the RECC, offering findings and recommendations on such topics as staffing, IT, emergency communications and financial management.

This section concerns itself with *why* Boxborough and Littleton ought to be considering the establishment of the new RECC. In this respect, it sets the context for the Feasibility Study as a whole.

B. FINDINGS AND RECOMMENDATIONS

1. *The RECC should bring substantially enhanced emergency services for Boxborough and Littleton.*

Both Towns are doing their very best under current circumstances to provide the highest level possible of emergency-communications services.

At the same time, the RECC provides the potential for significantly enhanced services for several reasons.

a. Two-deep staffing in dispatch at all times.

Boxborough and Littleton each operates today with only one dispatcher on duty. This presents an inadequate approach to emergency communications for three reasons.

- Should the dispatcher on duty fall victim to a situation like a personal medical emergency, no one else is in the room who could assure the continuation of professional dispatch services. This is of special concern for the 16 out of 21 tours each week which are outside of daytime and on weekends when fewer personnel are present in the respective building.
- With only one position currently staffed, simultaneous calls for service create a conflicting demand which no one individual dispatcher can handle appropriately.
- Having only one dispatcher on duty means that a sudden surge in calls cannot be handled appropriately (see the discussion on this subject later in this Section).

The Town Administrators, Police Chiefs and Fire Chiefs in Boxborough and Littleton have agreed as part of this Feasibility Study to recommend the consolidation of dispatching staff from Boxborough and Littleton. This provides for two-deep staffing of dispatch positions at all times.

b. Enhanced technology.

Technology with respect to the RECC includes (1) computer technology and (2) communications technology.

In the case of computer technology, all of the agencies included here--Boxborough Fire and Police as well as Littleton Fire and Police--use the CAD and RMS applications from TriTech/IMC (IMC) as their core environment.

Examples of enhanced deployment of computer technology central to the RECC and the Towns follow:

- Full mirroring between the PSAP in Littleton and the backup system in Boxborough would be done on a regular basis, using the newly connected fiber-optic network between the Towns. Neither Town today has a backup system. The mirrored environment minimizes risk and facilitates the transition to the backup site when needed.
- Dispatch is enhanced by procurement and implementation of the PowerPhone service-specific, expert protocols for Police, Fire and Emergency Medical Dispatch (EMD), integrated seamlessly with the IMC CAD function. This may also have the ability to mitigate risk in the case of litigation.

Enhanced communications means that Fire and Police from Boxborough and Littleton have a higher quality of communication both within each Town and between them than they have today. This contributes substantially to the timeliness and quality of response as well as the safety of responding personnel. This enhanced communication has three, key elements:

- The interconnection of the fiber-optic networks between Boxborough and Littleton.
- Backup communications between the Towns in order to enable communications to continue in the event of failure of the primary network.
- Improvements in the coverage provided by the infrastructure and its quality, leading to better communication among emergency-services personnel.

The effects of this for the safety and security of the Towns' populations and emergency-services personnel are real and significant.

c. Coordination of emergency-services resources.

The IMC system should enable any dispatcher to call upon whatever assets--personnel or equipment--originating with Boxborough or Littleton which may be most appropriate in responding to a call for service. This can also go well beyond the normal operation of mutual aid by having in the system all police, fire or other resources from the other municipalities with which Boxborough or Littleton regularly interacts. The dispatch center in the Town of Natick, for example, has done a particularly good job with this, using the IMC system.

The RECC's Board of Directors will need to pay specific attention to how this new kind of paradigm is implemented.

d. Improved information.

The RECC's enhanced deployment of computer technology now provides improved information for Boxborough and Littleton in several important ways as Section Six, Information Technology and Systems, later will discuss further. For example:

- The data and information for CAD in both Towns is merged, providing a single view of all activity.
- At the same time as sharing of information is enhanced, agency-level security is maintained for non-CAD functions exactly as it is done today.
- A single, seamless mapping environment is created, leveraging the investment which both Towns have made in Geographic Information Systems (GIS). Boxborough has only one GIS application for its Fire Department integrated with GIS today but may have other GIS resources which could be integrated; Littleton has done no integration with GIS but has a wealth of GIS-related resources in the Littleton Electric Light and Water Department (LELWD).
- The RECC has access to all Master Name Index records for multiple municipalities participating in IMC's Cross Agency function with other towns in this part of Middlesex County.

The RECC's Board of Directors and its staff will need to be thinking continuously about opportunities for improving information. This includes, among other things, monitoring closely new products which IMC may release and enhancements to its current products.

e. Backup site which is fully operational.

Neither Boxborough nor Littleton has any kind of backup site. While each Town has another agency designated by the State 911 Department as a backup, these sites do not offer the full range of capabilities which the RECC's backup site would have.

The RECC's backup site at the Boxborough Police Department is fully operational today, used only by and for Boxborough. This Feasibility Study incorporates the IT and communications for the backup site in Boxborough, identical to what the PSAP in Littleton itself will be using. Among other things, this includes (as noted previously in this Section) a fully mirrored server, taking advantage of the fiber-optic connection between Boxborough and Littleton which this Feasibility Study recommends later in Section Eight on Emergency

Communications.

f. Improvement in interoperability of communications.

The RECC brings together all emergency communications between Boxborough and Littleton by means of interconnecting their fiber-optic infrastructure as well as constructing new infrastructure.

g. Increased 911 surge capacity.

Having two dispatchers on duty at all times should enable the RECC to handle a surge in 911 activity in a capable way which neither Town can now do by itself. The RECC would be in a much better position than either Town by itself to respond to a surge in demand for emergency-communications services.

2. The RECC must be able to handle the large volume of non-emergency calls which Boxborough and Littleton both receive.

76 per cent, or 33,513 out of the total of 44,045 calls which Boxborough and Littleton together received in calendar year 2012, were non-emergency as presented in Table 2.

Table 2
Emergency and Non-Emergency Calls

Description	Boxborough	Littleton	Total	Boxborough Percentage	Littleton Percentage
Calls: Emergency	3,314	7,218	10,532	31.5	68.5
Calls: Non-Emergency	14,139	19,374	33,513	42.2	57.8
Calls: Total	17,453	26,592	44,045	39.6	60.4

The main implication of this absolute number and percentage of non-emergency calls is for staffing of the RECC. As Section Five of this Feasibility Study on Staffing shows, the two dispatchers on duty at all times should be able to handle this volume of calls comfortably. The basic fact here is that non-emergency calls usually require substantially less call-handling time for a dispatcher than emergency calls. As a rule of thumb, a non-emergency call can usually be handled in less than one minute where an average call-handling time for an emergency call is approximately four minutes.

3. *While some changes would need to be made, the RECC should enhance the ability of Boxborough and Littleton to provide community-based services, ranging from such things as (1) emergency communications with schools and public-works agencies to (2) responding to needs of individuals in distress.*

A RECC involving small towns like this may involve changing how some critical, community-based, non-dispatch services are delivered.

For Boxborough and Littleton, this has several aspects, each of which needs to be addressed individually.

a. 7x24 remote monitoring of the Boxborough Police Station.

This RECC Feasibility Study includes \$15,000 in Section Eight, Emergency Communications, to provide 7x24 remotely controlled door access and security cameras for the Boxborough Police Department.

This type of system is widely accepted and used often for this purpose in local-government police departments like Boxborough and is now being implemented in Massachusetts in RECC's from Devens to the South Shore.

Having this capability is a necessary prerequisite to enabling the Boxborough Police Department to provide virtually all of the customer-initiated services (outside of dispatching of course) it has traditionally provided at its building during the same times of day and days of the week.

As one example, this would enable the dispatchers at the RECC to allow into a physically secure enclosure at the Boxborough Police Department an individual who might be seeking shelter from an abusive partner or for other reason late at night.

Clearly, a sworn or civilian employee of the Town would then need to arrive at the Boxborough Police Department to complete an appropriate response. However, the secure access and enclosure, combined with 7x24 video monitoring, would enable the RECC's staff to view this situation continuously and communicate with the Boxborough Police Department to assure a professional response.

Also, the Boxborough Fire Department is located about 100 feet adjacent to the Police Department and is staffed at all times. Thus, the RECC could notify Boxborough Fire immediately of the occurrence of any situation of this kind to which Fire personnel might legally and appropriately respond. One example here might be emergency-medical care.

b. Maintaining human services in Littleton.

Where staffing for dispatching in Littleton is not reduced in any way--and is actually increased with the presence of two dispatchers on all tours, that Town should see no change in how services outside of dispatch itself have been delivered customarily by the Littleton Police Department. Examples of these include such things as responding to walk-in traffic or meeting the provisions of the Commonwealth's Safe Haven Act for protection of newborn infants.

c. Change for human services in Boxborough.

The main change which the creation of the RECC presents for Boxborough is providing human services of the same kind as the examples just mentioned for Littleton.

The essential nature of these services is that they are inherently unpredictable: no one can tell exactly when the need may arise.

This RECC Feasibility Study has not included any funds for staffing of the dispatch function at Boxborough at any time: Boxborough's dispatchers would move to the Littleton Police Department. Thus, the Boxborough Police Station would be staffed only when Police Department personnel, whether sworn or civilian, were present.

The key changes here for Boxborough involve:

- Relying on the combination of (1) the secure entrance and (2) 7/24 video-camera monitoring from the RECC in Littleton.
- Enlisting the cooperation of Boxborough Fire personnel.

The RECC, Boxborough and Littleton will need to work together closely in order to be sure that this aspect of Boxborough's needs is met well. This might, for instance, involve having the RECC's board adopt a written policy for these kinds of circumstances.

d. Communicating with schools, public works and other town agencies.

Communications centers, whether single-agency or multi-agency, have a critical, ongoing relationship with other local-government agencies and schools.

Both Boxborough and Littleton should see their respective ability to communicate with other Town agencies enhanced as a result of the improved capabilities of the emergency-communications and information systems which this Feasibility Study recommends. This investment should help to assure both better information in the hands of dispatchers

when needed as well as a higher level of coverage and reliability for both Towns through the vastly enhanced communications infrastructure.

Also, having two-deep coverage should enhance the quality of after-hours services which the Littleton Police Department has provided for customers of LELWD.

There is no downside to this aspect of the RECC: having substantially improved communications and computing technologies in place can only improve the ability of the RECC and both Towns to work more efficiently and effectively with their respective departments and schools.

Section Five Staffing

Section Five: Staffing Summary of Key Findings and Recommendations	
1.	Staffing needs to assure response to emergency calls which meets NFPA 1221 standards.
2.	Staffing recommendations of this Feasibility Study follow the standards and methodologies of NFPA 1221 and APCO 40, combined with practical experience.
3.	Staffing for the RECC is based on consolidating all of the current dispatching positions authorized by Boxborough and Littleton to staff the RECC.
4.	The consolidation of staffing provides two-deep staffing of dispatchers' positions on a 7x24 basis, consistent with NFPA 1221.
5.	The large percentage of non-emergency calls – 76 percent (76%) of the total – has a significant impact on the workload of the dispatchers.
6.	Compensation used in this Feasibility Study follows the collective-bargaining agreement in place through June 30, 2015 between the Town of Littleton and its dispatchers.
7.	The RECC must maintain competitive compensation in order to be able to recruit and retain qualified personnel, especially in view of the RECC's substantial investment in specialized training.
8.	One of the nine dispatching positions now authorized will be replaced by the new position of RECC Manager in order to provide managerial capabilities for the optimal functioning of the RECC.
9.	The RECC must invest in training for all classifications of staff personnel both initially and on an on-going basis.
10.	Transitioning of the personnel currently working as dispatchers in Boxborough and Littleton into the consolidated RECC will need to be addressed fully on a cooperative basis with the bargaining units, pursuant to the direction of the Board of Directors and labor counsel.
11.	Staffing of the RECC's IT and communications functions will be critical and needs to take into consideration special factors such as its 7x24 operations.
12.	The Town of Littleton will provide staffing for the RECC's financial-management and human-resources functions.

A. OVERVIEW

Staffing is concerned with the personnel employed or contracted by the RECC - specifically, the classification of positions involved, the number of personnel overall and in each position, and the quality of personnel. Staffing is also affected by other characteristics of the RECC's operations and management such as (1) the quality of initial and on-going training which the RECC's personnel receive; and (2) the

nature and quality of computing and communications technologies both at the RECC's facility itself as well as among the RECC's agency members.

Boxborough's dispatchers are represented by the Massachusetts Coalition of Police, Local 200A and Littleton's dispatchers by the Littleton Dispatch Unit, Massachusetts Coalition of Police, Local 204A.

B. RECOMMENDED STAFFING

This Feasibility Study is charged with assessing the full scope of staffing requirements for the RECC's successful operation. Executing this assessment relies both on (1) formal methodologies which are available for this purpose such as NFPA 1221 and APCO 40; and (2) the application of the consulting team's experience with these functions. Actual implementation of staffing may be different from what this Feasibility Study recommends, based on decisions which the Board of Directors may make from time to time.

Scale and the nature of the calls received dominate the discussion of staffing. Here, as noted previously in Table 2, 76 per cent, or 33,513 out of the total of 44,045 calls which Boxborough and Littleton together received in calendar year 2012, were non-emergency.

At its meeting on February 19, 2013, the Governance, Organization, Staffing and Finance Committee agreed without dissent to recommend that all nine current dispatchers' positions be maintained.

One important change was included in this discussion. The Committee saw the need to have a new position of RECC Manager who would be both (1) the overseer of all RECC operations on a day-to-day basis and (2) a working dispatcher.

Part of that same discussion also addressed a few, related issues regarding staffing, including:

- Having the Town of Littleton provide financial-management and human-resources services for the RECC as it does now for other intermunicipal efforts such as the 495 Regional Technology Center Economic Target Area.
- Having the Littleton Electric Light and Water Department (LELWD) provide staffing to coordinate IT for the RECC.
- Having the IT personnel in Boxborough and Littleton continue to provide the same IT-related services for their respective agencies as they have done customarily.

Table 3 summarizes the recommended complement and compensation of staff for the RECC. This is based on the current collective-bargaining agreement between the Town of Littleton and the Littleton Dispatch Unit, Massachusetts Coalition of Police, Local 204A, which expires June 30, 2015. The

subsections which follow address different classifications of staff. The Average Annual Salary in Table 3 includes salary plus longevity and holiday pay.

Table 3
Summary of Estimated RECC Staffing and Salaries

Line	Position Classification	Avg. Annual Salary	Total Personnel	Total Salaries
1	RECC Manager	\$65,000	1	\$65,000
2	Communications Supervisor	\$46,980	1	\$46,980
3	Communications Officer	\$44,025	7	\$308,175
4	HR Services	\$5,000	N/A	\$5,000
5	Financial Services	\$3,035	N/A	\$3,035
6	IT Services	\$20,000	N/A	\$20,000
7	TOTALS:		9	\$448,190

Notes

1. The above noted salaries do not include benefits which would add approximately 35 percent (35%) of the salaries.

B.1 Communications Personnel

This subsection addresses staffing for dispatchers as well as supervisory personnel involved in this function.

As mentioned previously in this Feasibility Study, the Governance, Organization, Staffing and Finance Committee agreed without dissent at its meeting on February 19, 2013 to recommend that all nine current dispatchers' positions be maintained.

As a benchmark, this Feasibility Study uses the nationally recognized methodology based on *Net Available Work Hours Per Employee (NAWH)* to measure staffing of dispatchers for the RECC.

In summary, NAWH begins by looking at the total number of hours an employee is available for work in the course of a year and then subtracts all leaves, training and other times when that person is not available to work. In the next step of the process, the net hours are then divided into the number of calls

received per year, adjusted for the average duration of each call and the percentage of time in each hour the employee is actually available to receive or dispatch calls.

Table 4
Net Available Work Hours per Employee (NAWH)

Item	Description	Number
A	Total Hours for One Full time Employee	1,946.6*
B	Average Vacation and Holiday Leave Hours	133.0
C	Average Sick Leave Hours	32.0
D	Average Personal Leave Hours	32.0
E	Average Training Hours	24.0
F	Average Military, FMLA, Etc. Leave Hours	0.0
G	Average Lunch and Break Hours (1/Day X 206 Days)	0.0
H	Average Other (Meetings, Light Duty, Special Assignments)	16.0
I	Total Unavailable Hours (B through H):	237.0
J	Net Available Work Hours Per Employee (A minus I)	1,709.6

* - Provided by Littleton Police Department

Table 5 which follows applies the NAWH concept to the estimated number of emergency and non-emergency calls for the RECC. This is not a simple cut-and-dried matter. For example, it is not easy to determine the mean time required to handle (1) police, fire or EMS emergency calls or (2) non-emergency calls.

The beauty of the methodology in Table 5 is that one can easily change the characteristics of call-handling or dispatching times and immediately see what effect this may have on the requirement for different types of staffing.

While Boxborough and Littleton together report a total of 35,675 emergency and non-emergency calls for calendar year 2012, this Feasibility Study uses a total of 40,000 calls to accommodate an increase in volume from growth already occurring in the Towns.

Table 5
Dispatch Staffing Options
40,000 Emergency and Non-Emergency Calls

Line	Element	60 Second Average		2 Minute Average		4 Minute Average		6 Minute Average	
Workload									
A	Total Call Volume	40,000		40,000		40,000		40,000	
B	Minutes Per Call	1		2		4		6	
C	Calls Hourly (60/B)	60		30		15		10	
D	Workload in Hours (A/C)	667		1,333		2,667		4,000	
Employee Availability									
E	Net Available Work Hours	1,710		1,710		1,710		1,710	
F	Agent Occupancy Rate	0.75	0.90	0.75	0.90	0.75	0.90	0.75	0.90
G	True Availability Per Person (E x F)	1,283	1,539	1,283	1,539	1,283	1,539	1,283	1,589
Staff Needed									
H	Full Time Equivalent Base Estimate (FTE) (D/G)	0.52	0.43	1.04	0.87	2.08	1.73	3.12	2.60
I	Turnover Rate	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
J	FTEs Required: H x (1+(1-I))	0.61	0.51	1.22	1.01	2.43	2.03	3.65	3.04

The discussion of the time required for call handling takes place in the context of well established and broadly accepted national standards as promulgated by NFPA 1221 and APCO 40. For example, NFPA 1221 Section 7.4.1 reads as follows: “Ninety-five percent of alarms received on emergency lines shall be answered within 15 seconds, and 99 percent of alarms shall be answered within 40 seconds.” Note that this applies only to answering the call, not handling it to closing of the call.

Two approaches can be taken to approximate the time required for a dispatcher to complete an emergency call.

First, NFPA 1221 addresses fire alarms and law-enforcement dispatching separately. In the case of fire alarms, Section 7.4.2 reads: “With the exception of the call types identified in 7.4.2.2, 80 percent of emergency alarm processing shall be completed within 60 seconds, and 95 percent of alarm processing shall be completed within 106 seconds.”

Section 7.4.2.2 then treats certain call types differently as follows:

Emergency alarm processing for the following call types shall be completed within 90 seconds 90 per cent of the time and within 120 seconds 99 per cent of the time:

- 1) Calls requiring emergency medical dispatch questioning and pre-arrival medical instructions
- 2) Calls requiring language translation
- 3) Calls requiring the use of a TTY/TDD device or audio/video relay services
- 4) Calls of criminal activity that require information vital to emergency responder safety prior to dispatching units
- 5) Hazardous material incidents
- 6) Technical rescue

The qualification here is that, while Section 7.4.2 addresses completion of dispatch, it does not speak to the dispatcher’s possible continuing involvement in an incident. Where this may involve circumstances such as mutual aid or a multiple-alarm incident, the dispatcher may have continuing involvement for a period of anywhere from several minutes to an hour or longer.

By contrast, NFPA 1221 does *not* set any similar standard for law enforcement, stating only in Section 7.4.3: “For law enforcement purposes, the AHJ [Authority Having Jurisdiction or here the RECC] shall determine time frames for completion of dispatch.”

The most recent revision of NFPA 1221 in January, 2013 has generated substantial controversy in the emergency-services and telecommunications communities. Ultimately, the Boxborough-Littleton RECC’s Board of Directors is responsible for establishing and regularly reviewing and updating standards appropriate to this RECC’s operating environment.

In larger RECC’s, the issue of allocating communications personnel to individual tours becomes the next challenge. This tends to reflect (1) the absolute number and relative percentage of emergency and non-emergency calls, (2) activity by day of the week and (3) activity by time of day.

The situation with this RECC involving Boxborough and Littleton is different. While the small size of the two Towns’ combined population of 13,920 is a factor, staffing is affected most fundamentally by:

- NFPA 1221 Section 7.3.2, which reads: “Communications centers that provide pre-arrival instructions to callers shall have two telecommunicators on duty and present in the operations room at all times.”

- The recommendation of the Governance, Organization, Staffing and Finance Committee to merge all nine dispatchers' positions currently staffed between Boxborough and Littleton.
- The recommendation of the Governance, Organization, Staffing and Finance Committee to maintain two-deep staffing of dispatchers at all times.

Table 6 presents data regarding the incidence of emergency and non-emergency calls by tour for Boxborough and Littleton. While this data would not be relevant if the Committee's recommendation should be adopted, nevertheless it is important to have it presented as part of the factual basis of this Feasibility Study.

Table 6
Incidence of Calls by Type and Time of Day

Line	Description	Days	Early Night	Late Night	Total
Boxborough					
A	Emergency #	856	1,250	1,130	3,236
B	Emergency %	19%	19%	19%	19%
C	Non-emergency #	3,651	5,332	4,817	13,800
D	Non-emergency %	81%	81%	81%	81%
Littleton					
E	Emergency #	2,621	3,239	1,358	7,218
F	Emergency %	39%	38%	39%	39%
G	Non-emergency #	4,024	5,265	2,132	11,421
H	Non-emergency %	61%	62%	61%	61%
Total					
I	Emergency #	3,477	4,489	2,488	10,454
J	Emergency %	31%	30%	26%	29%
K	Non-emergency #	7,675	10,597	6,949	25,221
L	Non-emergency %	69%	70%	74%	71%
M	Total All Calls	11,152	15,086	9,437	35,675

One fact which stands out from Table 6 is that the percentage of emergency and non-emergency calls is very consistent among all three tours, varying only from 26 per cent to 31 per cent for emergency calls and 69 per cent to 74 per cent for non-emergency calls.

Ultimately, the RECC's staffing for communications should meet both specific standards such as NFPA 1221 for fire calls and high performance for police and EMS calls.

B.2 Executive and Administrative Staff

Managerial and supervisory personnel are also critical for the RECC's effective and efficient operation. This has a few, important elements for Boxborough and Littleton.

- Given the small size of the RECC, the Board--comprised as it is of the Town Administrators, Police Chiefs and Fire Chiefs from both Towns--will have a direct interest in the regular workings of the RECC.
- The new position of RECC Manager oversees RECC management and operations, pursuant to the direction of the Board of Directors, and also works as a dispatcher on day-time tours.
- The Communications Supervisor works the early-night tour which has the second-highest number of emergency calls.

Human resources/training and financial administration will be administered by the Town of Littleton which has been doing this successfully for other entities for several years. The estimated cost of these services, respectively, is \$3,035 per year for financial administration and \$5,000 for human resources. This takes advantage of the knowledge and experience which Littleton has with U. S. Government and Massachusetts law and regulation regarding these functions.

B.3 Information Systems Staffing

The RECC must be sure that it is staffed in a way which meets all of its wide-ranging responsibilities for its IT-related resources.

The characteristics of the RECC's IT environment which follow help to put its requirements for IT staffing in perspective. The RECC's IT staff will be responsible for supporting:

- The integrated CAD/RMS/Mobile system from TriTech/IMC which each Town has been using separately for Fire and Police for many years.
- A maximum of 30 concurrent RMS users, 2 CAD users and 20 Mobile users.
- Multiple servers.
- Mirror-image backup.

- 7x24 operations at the RECC itself and for Boxborough and Littleton.
- Integration and data exchange with numerous Commonwealth and U.S. Government agencies.

Staffing of IT for the RECC should be organized as follows:

- Each of the personnel now involved in IT for Boxborough and Littleton will continue to maintain their regular responsibilities for supporting their respective Departments and users.
- The RECC should contract with LELWD for the services of personnel there to oversee the RECC's systems. This has an estimated cost of \$20,000 per year.
- The RECC Manager will exercise operational responsibility for coordinating issues which may arise with IT at the RECC with the cognizant IT personnel and the RECC's Board of Directors.

The staffing for IT which this Feasibility Study recommends is a best estimate. The exact complement of staffing may very well vary as the RECC itself evolves as an entity. This includes such things as (1) the nature and extent of the application software which the RECC may procure and implement; or (2) decisions which the RECC's Board of Directors or the Towns themselves may make about the specific information technologies to be deployed.

B.4 Telecommunications Staffing

Telecommunications staffing and support comes (1) by contract with specialized providers; and (2) from the staff of each Town and LELWD.

The estimated cost of contract services for this support, as discussed later in Section Eight on Emergency Communications, is \$147,200 per year.

B.5 Envelope security and support

Where the RECC is located in the Littleton Police Department, staffing for envelope security and support is achieved by the nature of this building with no special staffing required.

C. RECRUITMENT AND SELECTION

- 1. The RECC must place a specific emphasis on the quality of the process it uses to recruit and select all of its personnel.*

Recruitment and selection are the bedrock of effective organization-building and performance.

At startup, almost all of the RECC's staffing will be accomplished by the integration of current personnel from Boxborough and Littleton. The only new position will be the RECC Manager.

However, the RECC will be faced with recruitment and selection of personnel on a fairly regular basis over the years. One sees from information provided by APCO that turnover in dispatching positions nationally has been about 17 per cent. Projected for the Boxborough-Littleton RECC, this would amount to turnover of roughly 1.36 per year (1 out of the 8 non-management positions).

Both Littleton and Boxborough have had many years of experience in recruiting for these positions.

The advent of the RECC now provides the opportunity for the Board of Directors and RECC Manager to review best practice in recruitment and selection for these kinds of positions. The special challenge here is in recruiting and selecting personnel with sets of skills which are generally in short supply. This ranges from individuals with specific knowledge and certification as telecommunicators in the police, fire and EMD disciplines to people who have experience with state-of-the-art, emergency-services application software.

Other RECC's around the United States have established very specific processes for recruitment and selection of dispatchers. These can be found on the Web sites of various agencies. The RECC's Board of Directors should review these carefully with HR and other staff from the Towns.

2. *The possible transitioning of current communications personnel in Boxborough to employment with the RECC as employees of the Town of Littleton will need to be addressed.*

There are several issues here which call for the involvement of the RECC's Board of Directors, key officials from Boxborough and Littleton, and labor counsel. For example:

- What becomes of the collective-bargaining unit to which the Boxborough personnel currently belong and how does it affect their becoming members of the Littleton bargaining unit as new employees of the Town of Littleton?
- What formal procedures need to be followed for Boxborough's personnel to become members of the Littleton bargaining unit?
- How are issues such as seniority in the new, consolidated bargaining unit resolved?
- Where the RECC may be formed through an intermunicipal agreement (IMA) between Littleton and Boxborough, how does this affect personnel and labor-relations issues?

The RECC's Board of Directors as well as Littleton's and Boxborough's leadership should reach out to the bargaining units and their personnel at the earliest possible time in order to assure the

most cooperative and productive transition possible for everyone involved.

3. *Security is an essential part of the recruitment and selection process.*

The RECC's operations fall within the purview of NCIC 2000, the program of the U.S. Department of Justice which "...is a nationwide information system dedicated to serving and supporting criminal justice agencies -- local, state, and federal -- in their mission to uphold the law and protect the public." See www.fbi.gov/hq/cjisd/ncic.htm

Guidelines of the Federal Bureau of Investigation's (FBI's) Criminal Justice Information System (CJIS) regulate strictly the access by persons to secure areas, equipment and criminal-history records. Among other things, the CJIS guidelines require fingerprint-based record checks both within state and nationally. This applies to all such persons including, among others, support personnel, contractors and custodial workers.

The RECC will need to be sure that these security checks are carried out for all persons as appropriate in the course of its recruitment and selection process.

D. TRAINING

1. *Training on an on-going basis will be critical both to the successful launch of the RECC and to its on-going success.*

A few characteristics of training in the launch of the RECC are particularly important.

- a. While personnel from both Boxborough and Littleton are accustomed to using the IMC CAD and RMS applications, there may be differences from what they have known in serving a single town as the merging of information, features and functions occurs for both Towns with the launching of the RECC. Training in specific aspects of this new RECC environment should begin at least three months prior to the RECC's go-live date. This period provides appropriate time for the RECC's staff to learn what they need to know in a systematic manner. In addition, should such things as issues in functionality or duplication of data occur, this would provide some time for these to be addressed before the RECC's go-live date.
- b. The RECC should assess each current or prospective employee's knowledge, skill and ability in order to tailor training to the specific requirements of their job. This assessment also helps to assure that the RECC is spending its time and funds as efficiently and effectively as possible.
- c. State and national standards ought to be followed in establishing training programs for the RECC's personnel. At the State level, the State 911 Department promulgates

requirements and standards for training. Nationally, professional organizations such as APCO have established specialized standards and curricula for public-safety communicators. APCO's Project 33 Revised, Minimum Training Standards for Public Safety Telecommunicators, has produced the National Public Safety Telecommunicator Training Standard, the foundation-document for these purposes. For instance, APCO offers the courses which follow among others:

- Public Safety Telecommunicator I.
- Communications Center Supervisor.
- EMD Concepts.
- Fire Service Communications.

APCO provides these courses by various means such as (1) classroom training, which may extend for as much as a full week for a single course; (2) one-day Web seminars; or (3) self-managed instruction through Web-based courses.

The cost of these courses varies by their content, method of delivery and duration. As one example, APCO's standard fee for a one-week course taught on site at the RECC's offices would be \$6,200 plus expenses. Web-based courses, which can facilitate training for shift-based personnel and help to reduce the cost of training, cost roughly \$300 to \$500 per student. Courses offered locally in Massachusetts, for example, have a cost of roughly \$199 each for a one-day class or \$399 for a three-day class and are often within commuting distance of the Boxborough-Littleton area. In addition, the availability of the Littleton Police Department's community room to serve as the RECC's training facility should aid greatly both in (1) contributing to the efficiency and effectiveness of the RECC's providing these courses for its staff; and (2) minimizing its cost.

The RECC's Board of Directors and RECC Manager should address initial and ongoing training as a regular subject of their formal and informal communication, documenting in the minutes of meetings (for example) their logic and decision-making.

2. ***The RECC must fund initial and on-going training for all classifications of its personnel as appropriate.***

Opportunities for training can represent a significant inducement to maximize retention of employees and minimize turnover.

This Feasibility Study budgets \$5,000 one-time for initial training and then \$10,000 per year for employee development. Among other things, this considers the relatively high rate of turnover of staff at this kind of RECC, which APCO has identified at 17 per cent per year or almost one out of every six telecommunications employees. The RECC can also limit the on-going cost of training by having senior personnel, such as the RECC Manager, become certified through APCO

as instructors.

E. RETENTION OF STAFF

- 1. The RECC's human-resources strategy should follow the findings of APCO's Project RETAINS in order to maximize job satisfaction and minimize turnover.*

This Feasibility Study has consistently applied APCO'S research showing an average annual turnover of approximately 17 per cent (17%) in telecommunicators' positions - or almost one out of every six employees per year. As APCO observes on its Web site (www.apcointl.com), "...small and medium size agencies appear to be vulnerable to low retention rates in a given year because a few separations can have a dramatic impact on the retention rate."

APCO began Project 40, known as Project RETAINS (Responsive Efforts To Address Integral Needs in Staffing) in 1999 in order to address the issue of perceived high turnover in public-safety communications centers. The research associated with Project RETAINS has identified key factors indicative of employee satisfaction and retention: (1) have a fully staffed center; (2) monthly overtime hours; (3) job complexity; (4) hourly base pay; and (5) working conditions.

Likewise, Project RETAINS found eight factors which predicted satisfaction: (1) center performance (management); (2) preparation and ongoing training; (3) appreciated by management; (4) shift-selection process; (5) effective mentoring of new trainees; (6) appreciated by immediate supervisor; (7) screening and application process; and (8) appreciated by the media.

As the RECC develops its human-resources strategy, it will be critical to keep this information from APCO in the foreground and apply it diligently.

Section Six Information Technology and Systems

Section Six: Information Technology & Systems Summary of Key Findings and Recommendations	
1.	Boxborough and Littleton have agreed to continue to use the TriTech/IMC integrated CAD/RMS/Mobile computer system, which both Towns' Fire and Police Departments have used for many years, as the core of the RECC's IT.
2.	Two applications should be added to the IMC system in order to provide the more robust CAD environment which the RECC requires. These are (1) the PowerPhone CAD protocols and (2) IMC's Cross Agency data-sharing application.
3.	About six months after the execution of the new contract with IMC will be required for pre-implementation tasks such as conversion, testing and training before the new system can "go live" in production at the RECC.
4.	IT staff from Boxborough and Littleton who are now supporting their respective systems will continue in these roles with additional support from personnel at LELWD in order to assure a high level of customer service for all of the RECC's users.
5.	A new contract needs to be signed between Littleton, on behalf of the RECC, and IMC. IMC has not agreed to use the same kind of performance-based contract which it executed for a much larger and more complex public-safety system in Massachusetts in the last two years.
6.	Training will need to be provided for the dispatchers and other personnel in the use of the enhanced RECC system, especially the new applications.
7.	The RECC must be sure that the IMC system conforms at all times with State and Federal standards, specifically the Global Justice XML Data Model (Global JXDM) for criminal-justice data as used by SWISS and the Massachusetts Fusion Center.
8.	New, identical servers should be procured for the RECC and its backup site at the Boxborough Police Department with regular mirroring done by means of the fiber-optic network which this Feasibility Study recommends. The servers must be sized to function flawlessly at peak load and be scalable to accommodate growth in records and files over time as well as possible addition of new members to the RECC.
9.	Particular one-time or recurring costs related to IT may be borne by the individual Towns. This may include such things as the procurement of desktops or MDTs.
10.	The new RECC Manager will be responsible for monitoring the performance of the IT environment and working with IT personnel and the Board of Directors to assure a high level of service at all times.

11.	The RECC's Computer Applications Committee, established as part of this Feasibility Study, should continue as a standing entity, meeting monthly with formal agendas and minutes, lending whatever knowledge and skill it can to the continuing success of the RECC's systems.
12.	The RECC should work with IMC and its other customers to monitor how social media may be integrated best into the RECC's operations.
13.	GIS may present particular challenges since IMC is presently committed to using Google Maps but cannot have the ESRI ArcGIS products functioning at the same time on the same system as Goggle Maps: IMC has made this mutually exclusive.
14.	This Feasibility Study recommends using the more robust ESRI ArcGIS environment for which both Boxborough and Littleton have already developed a relatively substantial set of applications as the GIS environment for the RECC.

A. OVERVIEW

Information technology and systems (IT) sit at the core of the RECC's policy-making, operations and management.

Where Boxborough and Littleton have both had many years of reasonably successful experience with their current IMC systems in both their Fire and Police Departments for CAD, RMS and Mobile applications, the use of the IMC system by the RECC will form the core of the RECC's IT operations.

IMC has presented references for small RECC's like the one which is the subject of this Feasibility Study. Key officials from Boxborough and Littleton have reviewed these references and found no objection.

This discussion of Information Technology and Systems is also predicated on the RECC's having in place the fiber-optic communications which this Feasibility Study discusses in Section Eight on Emergency Communications.

The principle of strategic positioning, mentioned previously in this Feasibility Study, is also critical to the RECC's successful deployment of IT. This principle may be defined as "buy smart, not cheap." As one example, the RECC should now procure identical servers which can accommodate all requirements for the next several years rather than avoiding this issue and staying with the aged servers in both Towns. Not putting appropriate servers in place would put at unacceptable risk the possibility of performance issues and not constitute a fiscally prudent action for the longer term.

B. CURRENT APPLICATIONS

1. *Boxborough and Littleton use almost all of the same core group of applications from IMC.*

Table 7 presents the applications which Boxborough and Littleton currently have licensed from IMC with the respective number of seat licenses for each application.

Table 7
Summary of Current Applications

Application	Boxborough Seats	Littleton Seats ¹	Total Seats
1. CAD: Joint Police and Fire	4	20	24
2. CAD Query and Reporting ²	4	N/A ²	4
3. Police Mobile	4	10	14
4. Fire Mobile	2	4	6
5. Police Records	7	20	27
6. Fire Records	6	4	10
7. Police Paging ³	6	2	8 ³
8. Fire Paging ³	6	2	8 ³
9. Web Reporting	N/A	N/A	N/A
10. Imaging and Photo Lineup	7	20	27
11. Bar Coding and Property	7	20	27
12. Police Investigations	2	20	22
13. Administration	4	20	24
14. E911 Interface	1	1	2
15. Quest	10	20	30
16. State Interface	1	1	2
17. Fire Alarm Interface	1	1	2
18. EMS	1	1	2
19. Attendance	4	20	24
20. Vehicle Maintenance	4	20	24
21. False Alarm Billing	1	1	2

¹Littleton's Dispatch and Records licenses are unlimited (up to the number of Pervasive users which right now is 20).

²Littleton has unlimited Full CAD licenses (which includes query and reporting capabilities) so there is no need to license CAD Query and Reporting for Littleton.

³Paging is by server, not by agency. The RECC will have 8 licenses available in dispatch. How those licenses are distributed (Fire, Police, etc.) will need to be decided by the RECC's Board of Directors.

All of these applications will be migrated to the consolidated RECC system and, where appropriate, merged. Agency-level security will need to be implemented as necessary.

C. QUALITY OF IT SERVICE

1. *The RECC's IT environment must provide a level of service at least equal to that which Boxborough and Littleton experience now. Neither Town should bear any adverse consequences from the implementation of the RECC's consolidated system.*

The RECC will need to address in specific detail the functional requirements of:

- Each Town individually.
- The RECC itself.
- The RECC and the Towns collectively.

Where both Boxborough and Littleton will continue to use all of their current applications, this should be a non-issue.

However, personnel from the RECC, Boxborough and Littleton will need to monitor the conversion and consolidation closely in order to be sure that the RECC's consolidated system is functioning flawlessly to the full satisfaction of all parties.

2. *The RECC's IT staffing must assure a high level of support for all of its users.*

While this is a basic tenet of any high-performance IT organization, the RECC for Boxborough and Littleton faces two challenges:

- Continuing the solid level of support which is reported for all users in both Towns.
- Providing explicit coordination for the RECC itself as it serves both Towns.

This Feasibility Study recommends, and the Computer Technology Committee and key managers in both Towns have agreed, to keep their existing personnel and models of support in place.

The main change which now occurs is having the Littleton Electric Light and Water Department (LELWD) provide coordinating services for the RECC. This will also benefit from LELWD's (1) ongoing role in supporting the fiber-optic connectivity between Boxborough and Littleton and (2) special expertise in GIS. The annual cost of these services is estimated at \$20,000.

The RECC Manager should be charged with overseeing the effectiveness of support for all users and keeping the Board of Directors informed of any issues which may arise and his suggested solutions.

3. *Strategic positioning must be a core principle for the RECC in assuring a high quality of IT service.*

Strategic positioning is a basic tenet of any high-performance IT organization. In this context, it refers to procuring IT-related goods and services which have the best longer-term value to the organization. Strategic positioning may be described as "buy smart, not cheap."

The RECC must be thinking from the beginning about strategic positioning in its planning for, procurement and deployment of IT. Strategic positioning must be incorporated as a central, pervasive element in everything the RECC does related to IT.

D. MIGRATING THE IMC SYSTEM TO THE RECC

1. *The IMC system as currently used in Boxborough and Littleton will be the core IT environment for the RECC.*

Both Towns have used the IMC system for their Police and Fire CAD/Records/Mobile applications for many years. Neither Town has articulated any concern with the continued use of the IMC system.

This Feasibility Study undertook extensive interaction with the IT staff in both Towns as well as IMC, mainly through the Computer Applications Committee. This interaction was intended to identify:

- The Towns' satisfaction with the IMC system.
- IMC's experience with comparable RECC's.
- Conversion of both Towns' current data into the consolidated RECC system.

- Security in the new multi-discipline, multi-jurisdiction RECC-based environment.
- New applications from IMC and third parties which would enhance the operation of the RECC.
- All one-time and annual costs.
- Lead time required for migration to the RECC.
- Hardware requirements.
- Backup systems.
- How best to manage and support the consolidated system.

The consolidation of Boxborough's and Littleton's IMC systems with the RECC into a multi-discipline, multi-jurisdictional system is complex, difficult, time-consuming and lengthy. Any efforts to short-cut this process only bring unacceptable risk of a disappointing and unsatisfactory implementation.

The RECC should follow the steps presented here in order to assure the highest probability of success in the actual deployment of the RECC's consolidated system.

- a. ***Emphasize the role of the Computer Applications Committee on an ongoing basis.*** This group has already showed that it brings together broad and deep knowledge and experience in many facets of IT which will continue to be invaluable as the consolidated implementation and ongoing support of the RECC's system require.
- b. ***Engage an experienced local government IT and public-safety consultant.*** Executing the consolidation of the IMC system with the RECC requires specific knowledge of the business of IT generally and IMC specifically. The RECC needs to keep in mind that its actions here will likely continue to affect its ability to make maximum, effective use of the IMC system for the next 10 years or longer. The consultant should have specific knowledge both of (1) the local-government process for procurement and implementation of sophisticated IT systems in Massachusetts; and (2) specific subject matter knowledge of public-safety systems.
- c. ***Establish a realistic timetable for carrying out the entire migration and consolidation process.*** About six months will be required to complete all of the tasks required here, meeting highest and best practice. Table 8 shows the duration of this process in calendar days.

Table 8
Timetable for Migration and Consolidation of IMC System

Task	Days From Start
1. Negotiation of RECC Systems Contract	1 - 30
2. Conversion and Merging of Current Records and Files	31 – 150
3. Testing of Merged RECC System	151 – 180
4. Training of Personnel on Merged RECC System	151 – 180
5. Go Live of Merged System	181

- d. ***Have the Computer Applications Committee carry out a post-consolidation evaluation.***
The RECC’s Board of Directors should have a record of how the merger and consolidation went and what lessons they may offer for the future.

Before the contract between the RECC and IMC is signed, a subcommittee of the Computer Applications Committee should be identified and tasked with monitoring the merger and consolidation. This will enable them to maintain a contemporaneous record of what happens during this process, from which they can then correlate their information for this post-consolidation report.

E. IMPLEMENTATION

1. ***One person needs to be identified as System Administrator for the RECC’s system.***

Where the Littleton system is the core of the RECC’s future operations, this should be someone with knowledge of the Littleton system.

2. ***The new servers must be sized to function flawlessly at peak load.***

This Feasibility Study includes funds for two, mirror-image servers for the RECC itself and the backup site. These have been configured to function during peak periods and with expected growth in the volume of records that will be maintained.

3. *The RECC will need to plan carefully for the implementation of the consolidated RECC system.*

Implementation begins immediately upon execution of the RECC's contract with IMC.

The Computer Applications Committee should continue to play an active role throughout the implementation and thereafter. Where the Committee's membership includes key personnel from Boxborough and Littleton, this should help to assure that deliberations regarding issues in the implementation receive through consideration and benefit from the collective knowledge and experience of everyone involved.

This pre-implementation phase, which is expected to last about six months, includes several significant, time-consuming tasks as follows.

- **Conversion.** IMC will need to convert the Police and Fire CAD and RMS systems for Boxborough and Littleton to the consolidated RECC system. To put this in perspective, Boxborough by itself has about 32.5 GB of storage, representing 12 years of history. One of the particular challenges in merging the records and files during the conversion will be making sure that a single code is adopted for various fields which now may be different between Boxborough and Littleton. IMC has stated that the conversion requires four months at a cost of \$26,250. A full month for testing after IMC's delivery of the conversion is included in the schedule in Table 8 earlier in this Section.
- **End-user training.** Where both Boxborough and Littleton Fire and Police are experienced users of IMC CAD/RMS/Mobile, the only training that will be needed for end-users is related to (1) new applications such as the PowerPhone CAD application protocols and (2) changes in the dispatching environment related to the new consolidation of information and processes. Based on information provided by IMC, this training altogether is estimated to cost \$6,000 for five days at IMC's offices in Marlborough at \$1,200 per day. Alternatively, IMC can deliver training on site in Littleton at \$1,500 per day. Each Town will be responsible for the overtime or other compensation related to training of its own personnel.
- **Technical training.** No technical training ought to be required since the application and systems environment stays the same with IMC

4. *The RECC's Computer Applications Committee must take an active role in overseeing the implementation.*

This Committee should meet at least monthly with IMC's Project Manager in order to be sure that progress is being achieved as expected in accordance with the plan of services in the contract with IMC.

Each meeting should have a formal agenda, prepared and distributed in advance to all participants. The agenda should focus on:

- Accomplishments over the last month;
- Outstanding issues to date.
- Activities for the current month.
- Preparations for tasks in the following month.

Minutes in detail should be prepared and circulated as soon as possible following each monthly meeting in order to have a formal record of what has transpired.

The RECC's Project Manager (and then the RECC Manager themselves) should be responsible for providing these minutes to the Committee and Board of Directors, keeping them apprised of progress in the implementation of the RECC's consolidated system.

5. *Security must be addressed continuously.*

This has to do with both (a) the nature of the information maintained by the RECC's system; and (b) the several dozen personnel at the RECC and in Boxborough and Littleton who will have some type of access to the system for various purposes.

Security must conform in all respects with all requirements of the Commonwealth and U.S. Government.

6. *The RECC's backup site must have IT resources identical to the RECC server itself.*

This Feasibility Study includes an exact, mirror configuration of the main and backup servers, which will be connected by fiber-optic communications and have regular mirroring of all software.

This approach will enable the backup site at the Boxborough Police Department to commence operations as quickly and flawlessly as possible in an emergency.

Where Boxborough currently has two dispatching positions configured, this will also be critical to continuity of operations.

The budget in the next subsection of this section incorporates these capabilities.

F. COST OF THE RECC'S SYSTEM

1. *The one-time cost of the RECC's IMC CAD/RMS/Mobile system is estimated at \$138,962 with an annual cost of \$12,208.*

Table 9 on the next page presents the costs associated with the RECC's IMC system. These costs originated with IMC and have been reviewed carefully.

The discussion of each line item follows.

1. **Hardware and Operating System.**

This includes the two, mirror-image servers, one for the RECC itself and the second for the backup site at the Boxborough Police Department, with the Microsoft Server 2012 operating system and 30 Client Access Licenses (CALs) for each machine.

The need for these servers is clear. The IMC server in Boxborough, for example, is a Dell PowerEdge 2900 that is more than five years old. These two servers have a combined cost of \$17,466.

2. **Pervasive Relational Database Management System (RDBMS).**

Pervasive, the vendor of the RDBMS which IMC uses, does not provide for the migration of any current licenses. Also, it requires a second license for the backup server. The Pervasive licenses cost \$3,950 with annual support of \$988.

3. **Application Software: IMC.**

- a. All current applications used by Boxborough will be migrated to the RECC server at Littleton. The cost of the migration is \$56,250.
- b. IMC applies a general credit - here, \$56,250 - to the cost of the migration. This is not detailed by IMC on a per-application basis and apparently the original contracts between the Towns and IMC did not address migration and relicensing.

Table 9
Computer System One-Time and Annual Costs

Line	Description	One-time	Annual
1	Hardware and Operating System	\$17,466	\$0 ¹
2	Pervasive RDMS	\$3,950	\$988
3	IMC Apps: Migrate Boxborough, Add Cross Agency	\$57,750	\$270
4	PowerPhone CAD Software	\$42,500	\$3,950
5	GIS ESRI Layer Implementation	\$6,000	\$3,000
6	Conversion	\$26,250	\$0
7	Training: End Users	\$6,000	\$4,000
8	Vendor Travel & Subsistence	\$1,000	\$0
9	Project Management	\$12,000	\$0
10	Operations Training (2 Days)	\$3,000	N/A
11	System Installation	\$0	\$0
12	Professional Services	\$10,000	\$0
13	LELWD System Support	\$0	\$20,000
14	Contingency	\$9,296	\$0
15	TOTALS:	\$192,212	\$32,208
16	LESS: IMC CREDIT	\$56,250	-----
17	NET	\$138,962	-----

¹The servers have a three-year warranty.

- c. IMC will regard the backup server as a training and development system and, thus, not charge for this duplicate copy of all of its own applications. PowerPhone licenses its system for two concurrent seats and, thus, the use of the backup system in an emergency would not be occurring at the same time as the main server was in service.
- d. IMC's Cross Agency data sharing product is included at a one-time cost of \$1,500 and annual support of \$270. This enables Boxborough and Littleton to access the Master Name Index (MNI) for a group of approximately eight towns in the Northern Middlesex area. This vastly increases the quantity of information on individuals available to the Police Departments in Boxborough and Littleton. In this respect, it recognizes the movement of people across the network of highways like Route 2 and I-495 among others that cross through or near Boxborough and Littleton from the other towns.
- e. As part of this migration and consolidation, IMC is providing six additional licensed seats for current applications at no direct cost. It has recommended that these be added for Boxborough with the following applications each going from two to six maximum concurrent licensed users: Law Records, Fire Records and Police Mobile.

4. **PowerPhone CAD Software.**

PowerPhone provides a software system which has separate modules for Police, Fire and Emergency Medical Dispatch (EMD). Boxborough, for example, already uses the PowerPhone EMD application.

Each of these modules, respectively, has an expert protocol, tailored to a wide range of calls for service which a RECC like this may receive. This ranges from an active-shooter incident or domestic to a hazardous-materials incident, coronary or stroke.

The main reason why PowerPhone is a potentially significant part of the RECC's operations is that it and IMC together have engineered an automatic interface so that, once the dispatcher in the IMC system has put in the code for the type of call, the separate screen for PowerPhone automatically displays the protocol for response specifically related to that call.

While this Feasibility Study generally is not inclined to recommend additional software at an additional cost, the extra value which PowerPhone and its integration with IMC adds to the RECC's day-to-day operations is persuasive.

Where PowerPhone is priced for two maximum concurrent users, there is no charge for its use on the backup sever.

The one-time cost of \$42,500 includes \$40,000 for goods and services from PowerPhone and \$2,500 for the interface with IMC. Annual support for both products is \$3,950.

5. GIS Implementation.

IMC has recently implemented Google Maps.

The issue here is that IMC's implementation of Google Maps is mutually exclusive with the ESRI ArcGIS system which both Boxborough and Littleton have been using for years and in which they have both invested substantially.

Indeed, the multiple layers of the ESRI system represent a much deeper and richer GIS environment than Google Maps currently provides, especially as this pertains to the specific requirements of the RECC's operating environment.

The budget here includes IMC's quote of \$6,000 for six days of services at \$1,200 per day to integrate the ESRI map layers into the IMC system with \$3,000 for annual updates or support.

6. Conversion.

Boxborough and Littleton have more than 12 years of history which will need to be converted to the RECC system. IMC uses its long-time subcontractor, Tactical Technologies (TacTech), for this work.

This conversion is very detailed and requires many policy decisions by Boxborough and Littleton in cooperation with IMC and TacTech. Among other things, this may involve deciding which codes to use in the RECC system where Boxborough and Littleton may, in some cases, now have different codes for the same data. This may also require change in policy or procedure for one or more agencies in Boxborough or Littleton to adopt the new codes for the RECC.

7. Training: End Users.

Funds here in the amount of \$6,000 provide five days of training at IMC's offices in Marlborough, Massachusetts at \$1,200 per day for end users, mainly focused on helping the dispatchers learn the new consolidated RECC environment.

8. Vendor Travel and Subsistence.

This item includes \$1,000 to cover travel for IMC's trainer as well as its personnel involved in the two days of Operations Training (see item 10 later).

9. Project Management.

IMC will have an individual functioning as its Project Manager in coordinating all of the vendor's efforts in the implementation of the RECC's system. IMC has quoted a price of \$12,000 for these services. This should be put in the context of the implementation's taking about six months from contract execution to Go Live. This also includes the services related to line item 11 here, System installation.

10. Operations Training (2 Days).

This funds the cost of IMC's having an experienced individual on site for the first two days of the Go Live when the likelihood is relatively high that issues may arise that need to be resolved immediately. The cost of these two days is \$3,000 or \$1,500 per day.

11. System Installation.

The RECC and IMC together face the challenging task of migrating all of the application systems and software to the new servers from the old servers. This item is included in the \$12,000 for Project Management in line item 9 here.

12. Professional Services.

This provides for the services of an independent professional to (1) negotiate the performance-based contract for the system between the RECC and IMC and (2) be available as needed to advise in the implementation. This item is funded at \$10,000.

13. LELWD System Support.

This recommendation came from the meeting of the Computer Applications Committee on February 12, 2013. It responds to the need to have one person who has the knowledge and experience as well as the time available to coordinate the support of the IMC system for the RECC, Boxborough and Littleton.

14. Contingency.

Prudence suggests that the RECC have a contingency for a project of this complexity of five per cent--here, \$9,296 or five per cent of \$185,916.

G. INTEROPERABILITY

1. *The RECC's systems must meet current and emerging standards for interoperability.*

Massachusetts is following the U. S. Government Department of Justice's Global Justice XML Data Model (Global JXDM) for criminal-justice data through the State-wide Information Sharing System in Massachusetts, known as SWISS in its work in connection with the Commonwealth Fusion Center. Managed by the Commonwealth's Executive Office of Public Safety and Security (EOPSS) and the Massachusetts State Police (MSP), the Fusion Center relies on two-way communication of data following the Global JXDM standard.

In this connection, EOPSS has mapped out how the marketplace can comply with this standard in the systems they provide to local-government public-safety agencies like the RECC.

In addition, the U.S. Department of Justice's Justice Reference Architecture (JRA) provides a service-oriented-architecture (SOA) reference model which represents the next generation of information sharing among justice agencies.

IMC should also warrant compliance with the Global JXDM standard and JRA implementation.

The RECC's IMC system needs to continue to be able to generate reports from the Boxborough and Littleton Police and Fire Departments to the Commonwealth and U.S. Government related to such requirements as the Commonwealth's Criminal Justice Information System (CJIS), the FBI's National Incident Based Reporting System (NIBRS) and the U. S. Fire Administration's National Fire Incident Reporting System (NFIRS).

H. OUTSOURCING.

1. *The RECC should be fully aware of all aspects of outsourcing as it may consider this option for services.*

As one example, this Feasibility Study noted previously in Section Four: Staffing, that "Guidelines of the FBI's Criminal Justice Information System (CJIS) regulate strictly the access by persons to secure areas, equipment and criminal-history records. Among other things, the CJIS guidelines require fingerprint-based record checks both within state and nationally. This applies to all such persons including among others support personnel, contractors and custodial workers."

Thus, the RECC must exercise special care in considering the outsourcing of IT-related services: it does not have the ability simply to contract with any vendor for any vendor's employee to do work related to the RECC's information systems.

I. FUTURE ISSUES

1. *The possible addition of one or more towns to the RECC will need to consider their current use of computer technology.*

Section Nine of this Feasibility Study, Financial Management, addresses the possibility of adding one or more towns to the RECC.

If a new town were already an IMC user, this would facilitate greatly their integration into the RECC. This would (1) ease the conversion of their historical data and (2) minimize the training of the agency's personnel.

However, if one or more new towns or agencies were users of different systems, this would not only add relatively significant cost to license or otherwise procure goods or services from IMC but also require complete training of all of the new agencies' personnel.

2. *The RECC should evaluate what data may be available from the Patriot Properties' CAMA systems in each Town, respectively, which could enhance the value of the IMC applications.*

Patriot Properties is the vendor of the Computer-assisted Mass Appraisal (CAMA) system used by the Board of Assessors both in Boxborough and Littleton. Under the Massachusetts General Laws, the Board of Assessors has direct responsibility and authority for managing these records.

The CAMA system is the most complete repository of property-related information in each Town.

After the RECC has operated successfully for several months, the Board of Directors and Computer Applications Committee should work with the Assessors, RECC Manager and IMC to see what data may be available in the CAMA system which could enhance the value of various applications in the RECC system.

Section Seven Site and Building

Section Seven –Site and Building Summary of Key Findings and Recommendations

1. The Littleton Police Department's dispatch area is in move-in condition and requires no change to accommodate the RECC.
2. The RECC's Board of Directors and the Town of Boxborough together will need to decide whether to make any physical improvement to the RECC's backup site at the Boxborough Police Department.
3. The RECC should review the new 2013 edition of NFPA 1221 as a checklist regarding the main and backup facilities.

A. OVERVIEW

Site and building refers to the quality and sufficiency of the RECC's facilities compared with the national standards established by NFPA 1221.

B. FINDINGS AND RECOMMENDATIONS

1. *The Littleton Police Department's dispatch area is in move-in condition and requires no change to accommodate the RECC.*

The Littleton Police Department's headquarters is an almost-new facility, occupied in 2010.

The dispatch area has two, fully equipped dispatchers' positions with state-of-the-art equipment and ample space at the consoles and in the dispatch area overall.

This space is in move-in condition and requires no physical change or expense to accommodate the RECC's operations for Boxborough and Littleton. Where construction of this kind of facility can be relatively costly, Boxborough and Littleton are fortunate to have this space immediately available at no cost.

Further, should the RECC decide to add one or more towns of similar size, these same two positions could easily accommodate whatever increase in calls these other similar towns may bring to the RECC. This should apply to an upper limit of approximately 30,000 in total population of the member-towns.

2. *The RECC's Board of Directors and the Town of Boxborough together will need to decide whether to make any physical improvement to the RECC's backup site at the Boxborough Police Department.*

The dispatching area at the Boxborough Police Department does not meet the standards of NFPA 1221.

NFPA 1221, Chapter 4, Communications Centers, speaks specifically about the requirements of alternate communications centers. NFPA 1221 defines an Alternate Communications Center at Chapter 3.3.4 as "A designated communications center capable of assuming the functions normally performed at the primary communications center."

The RECC's Board of Directors and the Town of Boxborough together will need to decide exactly what improvements should be made to the Boxborough facility. The details of this work have been beyond the scope of this Feasibility Study in the same way as the detailed engineering studies recommended in Section Eight on Emergency Communications.

The only improvement related to the backup site at the Boxborough Police Department which this Feasibility Study includes is \$15,000 for security cameras and door access. This is found in Section Eight, Emergency Communications, in Table 10, Emergency Communications: One Time and Annual Costs.

The Board of Directors should bring to this discussion whatever resources, including architects and experts in this field, are required to make a prudent, well informed decision.

3. *The RECC should review the new 2013 edition of NFPA 1221 as a checklist regarding the main and backup facilities.*

This effort should be considered a matter of due diligence for the RECC in order to be sure that it is staying as current as possible with best practice and national standards appropriate to the nature and scale of its operations.

Other personnel in Boxborough and Littleton who have knowledge of these domains, such as the Building Commissioners, ought to be involved in this review.

Section Eight Emergency Communications

Section Eight – Emergency Communications Summary of Key Findings and Recommendations	
1.	All frequencies that now appear in the Boxborough and Littleton Police and Fire Departments need to be carried over to the new RECC.
2.	All present remote radio sites, towers and poles will need to be reused.
3.	A future engineering study will be needed to determine a large level of detail which goes far beyond this Feasibility Study.
4.	Each Town should donate one frequency to the RECC.
5.	Boxborough dispatch should serve as the backup site for the RECC.
6.	Littleton Electric Light and Water has very generously offered to provide \$200,000 of fiber cable to effect connectivity between Boxborough and Littleton for the RECC.
7.	Littleton’s two current consoles are an appropriate number for the RECC.
8.	The RECC needs to accommodate the full complement of lines used by both Towns.
9.	The RECC requires two forms of networking infrastructure, one for primary use and the second for backup.
10.	The municipally owned fiber-optic network in each Town should be used for the RECC’s primary communications infrastructure.
11.	Microwave should be used as the backup infrastructure between Boxborough and Littleton.
12.	The RECC itself must control the core of the wide area network.
13.	The RECC needs to be sensitive to the emergency-communications needs of certain populations of users.
14.	The RECC needs to budget realistically for all one-time and annual costs related to emergency communications.

A. OVERVIEW

Emergency communications represents one of the more complex and difficult elements in this Feasibility Study. This has to do with two key factors: (1) carrying over to the new RECC all of the emergency communications capabilities which Boxborough and Littleton now have; and (2) assuring that all required capabilities are in place for the RECC going forward.

B. CONNECTIVITY

1. *All frequencies that now appear in the Boxborough and Littleton Police and Fire Departments need to be carried over to the new RECC.*

The new RECC must have complete capability to communicate with all emergency-services agencies and personnel: this coverage is essential to the RECC's core mission.

These frequencies include not only those now used by the Boxborough and Littleton Police and Fire Departments but also those used to communicate with outside agencies including, among others, the Boxborough Department of Public Works (DPW), the Littleton Highway Department and school districts in each Town including Acton-Boxborough.

2. *All present remote radio sites, towers and poles should be reused.*

This is an essential element of connectivity for the new RECC. It helps to assure the same coverage between Boxborough and Littleton as presently experienced with no need to renegotiate private sites or build duplicate facilities. Reuse of these facilities also expedites the operational launch of the RECC and helps to control overall costs.

This will be accomplished by utilizing owned fiber-optic cabling and new microwave radio for both primary and backup connectivity. The end result is that both Boxborough and Littleton will be able to reuse their current radio equipment and maintain coverage during emergency situations or should a town no longer participate in the RECC in the future.

3. *A future engineering study will be needed to determine the final level of detail and cost which are beyond the scope of this Feasibility Study.*

This engineering study, with an estimated cost of \$30,000, will need to address such issues as:

- Microwave sites in each Town and related costs.
- Line of sight, path and hops.
- Final costs of fiber-optic connectivity including such things as location and amount of splices, route build out, electronics and available dark fiber.

4. Each Town should donate one radio frequency to the RECC.

Since obtaining new frequencies can take a year or longer, this donation would help to assure that the RECC has the necessary frequencies available at the time of its launch. At the same time, the RECC should be applying for at least four new frequencies.

5. The Town of Boxborough's existing dispatch center should serve as the backup site for the RECC.

Boxborough's dispatch center currently has two fully operational consoles and is connected to the municipal fiber-optic network. The RECC backup site in Boxborough will also serve as the second hub for the microwave radio-communications network.

6. The two consoles at the Littleton Police Department are a fully adequate number.

This configuration is based on the two-deep staffing presented in this Feasibility Study.

The industry standard for centers of this kind calls for a margin of consoles to meet the demands of surges of 25% to 33% above the regular complement. This standard is met easily, based on current and projected call volume, by having these two consoles staffed at all times.

Each of these consoles will manage Fire, Police and EMS. Thus, each console position will have appearances of fire alarm box circuits, fire business lines as well as dedicated point-to-point circuits to fire stations.

7. The RECC needs to accommodate the full complement of lines used by both Towns.

Boxborough and Littleton each has its own network of services which must appear at the RECC. These include:

- Business lines.
- Alarm lines.
- Point-to-point circuits between radio systems and towers.
- Point-to-point circuits between main fire station and fire substations.

Fiber-optic networks and microwave radio-communications systems may also be used to extend existing point-to-point circuits from Boxborough to the new RECC in Littleton. The total approximate number of lines required is as follows:

- Fire Alarm Box Circuits: 32 to 36.
- Business Lines: 58 to 62.
- Radio Circuits (RTNA, fiber optic and FDDA): 30 to 32.

- Point-to-point Fire Substation Circuits: 12 to 15.

The final configuration (quantity and type) of network services that the RECC will require may be reduced through consolidation.

In addition to these network services, other services, such as those from Metro Fire, the Boston Area Police Emergency Radio Network (BAPEREN), the Greater Boston Police Council (GBPC), and North Eastern Massachusetts Law Enforcement Council (NEMLEC) would need to be reordered and terminated at the new RECC by the service provider.

Enhanced 911 (E911) circuits/lines for the RECC are the responsibility of the Commonwealth's State 911 Department and will need to be configured and installed by the Department. Other circuit/special lines such as those from the Massachusetts Criminal Justice Information Services (CJIS) are the responsibility of the Executive Office for Public Safety and Security (EOPSS) which must coordinate installation.

C. FIBER OPTIC/MICROWAVE NETWORKS

1. *The RECC requires two forms of networking infrastructure: the first for the RECC's primary use and the second to serve as its backup.*

a. Primary Infrastructure

The municipally owned fiber-optic network in Boxborough and Littleton should be used for the RECC's primary communications infrastructure since it offers the required bandwidth for all networked services. The goal here is to access the RECC by means of the fiber-optic network in Littleton as the hosting community. Fiber-optic bandwidth, for all practical purposes, is only limited by the electronic equipment in use.

The quotation received for this work and included in Table 10 is \$88,469.

The RECC will still need to purchase equipment to light the fiber and interface with the radios and alarms. This has an estimated total cost of \$45,000 including \$20,000 for each end and \$5,000 for labor and electrical work.

Licensed microwave radio-communications or laser-communications systems could be used to support connectivity between fiber-optic-cabling termination points.

b. Backup Infrastructure

It is critical to the overall operation of the RECC that a backup infrastructure be in place to provide redundancy should disruption to the primary network architecture occur (e.g.,

damage to a fiber-optic cable, damage to a supporting pole, failure of fiber-optic electronic equipment). This backup infrastructure would consist of licensed microwave radio communication sites from Boxborough's current dispatch center to the RECC in Littleton.

Licensed microwave radio communications offers a controlled standby network utilizing a wireless technology that can be designed to operate automatically during a fiber-optic-cable disruption. In order to configure this backup infrastructure, the following considerations must be taken into account during procurement and implementation:

- A complete engineering study must be conducted to ensure a proper system design serving the RECC location and the two member-agencies;
- The licensed microwave-radio system must be DS-1 (T1) compatible;
- The licensed microwave-radio system must support, at a minimum, the RECC's four radio frequencies;
- The licensed microwave-radio system must support voice and data communications (e.g., voice over IP (VoIP), MPLS, etc.) by supporting connectivity to appropriate network equipment (e.g., routers, switches, etc.);
- All network equipment (e.g., routers, switches, etc.) must provide for Quality of Service (QoS) and be Federal Information Processing Standard (FIPS)-compliant.
- The licensed microwave-radio system must be designed with at least two alternate routes to ensure network redundancy and survivability.
- The licensed microwave-radio system build-out for both the primary and backup networks would very likely require new monopoles in each Town with microwave dishes and supporting towers in view of the public. This Feasibility Study recommends that this cost be shared.
- Licensed microwave radio-systems may present issues with weather since heavy rain, snow or icing of antennas could cause disruptions.

Initial investigation into the microwave connectivity between the RECC site at the Littleton Police Department and the Boxborough Police Department showed that, even by utilizing the water tank located between the two Departments, a useable microwave path is problematic. Its design would require at least identifying another high location in order to have a useable system.

This two-department connectivity would require three microwave hops for alternate ingress/egress.

Again, only an engineering study can assure that microwave is feasible. Among other things, this would include a geotechnical study to determine whether the ground could support the needed towers. The engineering study may also determine if other structures like water towers are available that could be used to attach microwave components and, thus, reduce the cost of the microwave network.

D. COMMERCIAL NETWORKS

1. *The RECC itself must control the core of the wide area network (WAN).*

Commercial vendors like Verizon will still have an important role with the RECC since these carriers provide essential services such as standard business lines and radio circuits.

Completely relying on any commercial vendor for these services would not be operationally or fiscally prudent. At some point, each Town should consider using the microwave-radio-based network to serve as a back-up (redundant network) to the Verizon circuits.

E. OTHER CONSIDERATIONS.

1. *The RECC needs to be sensitive to the emergency communications needs of certain user populations.*

Certain operational requirements, such as access for the handicapped, are mandated by law or regulation. At the same time, the RECC needs to provide facilities related to emergency communications for other populations. These include, for example:

- a. *Linguistic minorities.* Commercial services provide instantaneous call-handling and translation services specifically for centers like the RECC. Neither Boxborough nor Littleton currently uses this kind of service.
- b. *Senior citizens.* This population has often used 10-digit telephone numbers for emergency services for their entire lives, notwithstanding the use of 911 in Massachusetts for more than 20 years. Similarly, seniors also may resort to site visits to a police or fire station because they may not have access to or understand other communications or information technologies.

F. COSTS

1. *Table 10 details all one-time costs for emergency communications.*

The pricing which follows in Table 10 has been based on discussions with a leading vendor. It covers towers and appurtenances, communications shelters, site generators, microwave equipment and mobilization, installation and integration efforts. There may be some costs related to emergency communications which are particular to each Town. This situation is similar to the costs discussed in the Section of this Feasibility Report on Information Technology & Systems. Costs which one Town may anticipate having to fund locally include Verizon charges for local line services, reprogramming charges for radios and disconnection charges for radios, or new monopolies in each Town.

Annual maintenance is calculated generally at 10% of the one-time cost.

2. ***The RECC should maintain insurance coverage for the replacement of its emergency-communications equipment in case of damage or destruction.***

Littleton should confer with its broker to determine what the nature of this coverage would be and how much it would cost. A preliminary estimate, based on two per cent of the total one-time cost, is approximately \$26,000 per year and has been included in Table 10.

3. ***The RECC has optional costs which it may wish to consider later.***

Creating a totally state-of-the-art emergency communications environment would have a cost of approximately \$300,000 per Town or a total of \$600,000. This includes \$300,000 just for Boxborough Fire, above and beyond what this Feasibility Study recommends.

The RECC or the Towns individually may wish to consider this at some time in the future.

4. ***Adding a third town to the RECC would involve a one-time cost for communications infrastructure of approximately \$200,000 and an annual cost of roughly \$20,000.***

This Feasibility Study addresses in several places the possibility of adding a third town in the same range of population as Boxborough and Littleton.

Without knowing any particulars regarding the town or its location, the cost of integrating this third town into the RECC's network would be about \$200,000 one-time and \$20,000 per year. This does not include the cost of any fiber-optic cabling or connectivity.

Table 10
Emergency Communications: One Time and Annual Costs

Item Description	Qty	One Time		Annual Cost
		Unit Cost	Total Cost	
1. Microwave:				
a. Design, fabrication, delivery and installation of 120' self-supporting tower and appurtenances.	3	\$97,000	\$291,000	\$29,100
b. Design, fabrication, delivery and installation of a radio shelter building (approx 18' X 20') and appurtenances	2	\$87,000	\$174,000	\$17,400
c. Design, fabrication, delivery and installation of back-up generator, ATS and appurtenances	2	\$46,000	\$92,000	\$9,200
d. General Contractor mobilization, demobilization and miscellaneous site work	2	\$54,000	\$108,000	N/A
e. Public Safety microwave (4.9GHz) equipment, installation and Integration-3-hop system (does NOT include intermediary towers)	1	\$120,000	\$120,000	\$12,000
f. Electrical Prep Work	1	\$10,000	\$10,000	N/A
Microwave Total:			\$795,000	\$67,700
2. Fiber Build-Out	1	\$88,469	\$88,469	\$8,500
3. Equipment: Fiber Optic Lighting & Interfaces	1	\$45,000	\$45,000	\$4,500
4. Fiber Optic Electronics Only	2	\$10,000	\$20,000	\$2,000
5. Fire Alarm Integration	1	\$60,000	\$60,000	\$6,000
6. Engineering Studies	1	\$30,000	\$30,000	\$0
7. Propagation Studies	1	\$30,000	\$30,000	\$0
8. Interface with existing Boxborough and Littleton systems	2	\$100,000	\$100,000	\$10,000
9. Telephone system integration	1	\$10,000	\$10,000	\$1,000
10. Two receivers for coverage	2	\$100,000	\$200,000	\$20,000
11. Boxborough Security Cameras & Door Access	1	\$15,000	\$15,000	\$1,500
12. Insurance	1	\$0	\$0	\$26,000
TOTAL CORE SYSTEM:			\$1,393,469	\$147,200

Section Nine Financial Management

Section Nine: Financial Management Summary of Key Findings and Recommendations	
1.	The RECC=s financial management needs to conform with Massachusetts General Laws, whether the RECC proceeds through (1) an intermunicipal agreement between Boxborough and Littleton or (2) pursuant to legislation which may be enacted as part of the Massachusetts General Laws.
2.	The Town of Littleton should act as financial manager and fiscal agent for the RECC, drawing on its experience with other intermunicipal entities in providing these services.
3.	The RECC will be required to follow the Commonwealth=s Uniform Massachusetts Accounting System (UMAS) in its financial management.
4.	A CPA firm specializing in municipal finance in Massachusetts should be engaged to assist in developing the RECC=s chart of accounts and providing services otherwise as may be needed in the organization of the RECC=s financial systems, practices and procedures.
5.	The RECC Manager, working closely with Littleton=s Assistant Town Administrator/Director of Budget and Finance, should have immediate responsibility for day-to-day financial issues and will need to report to the Board of Directors on a timely basis and otherwise exercise all appropriate financial oversight.
6.	Borrowing for the startup of the RECC is limited to (1) networking and infrastructure and (2) IT-related costs.
7.	Billing for membership in the RECC should be based solely on population at the outset. The RECC=s Board of Directors ought to review this policy annually as current information on such things as the number of emergency or non-emergency calls related to each Town becomes available.
8.	The RECC, as a new governmental entity, should have an independent audit every year.
9.	The RECC=s Board of Directors has significant decision-making authority with respect to its financial management.
10.	The RECC should be aggressive in its pursuit of financial assistance from governmental and other sources.
11.	Boxborough and Littleton could save an additional \$323,894 per year with the addition of a third town of similar size. Economies likely would also accrue to the third town itself.
12.	The combination of a third town and 100% capital funding from the Commonwealth would make the RECC highly feasible for both Boxborough and Littleton.
13.	Implementing a single-dispatcher configuration on all tours could have a major impact in making the RECC more fiscally feasible for both Boxborough and Littleton but raises serious operational issues.

14.	This RECC Feasibility Study presents a set of detailed information on financial management which enables Boxborough and Littleton to evaluate options for services or finances as these may emerge over time.
15.	The new costs associated with the development and operation of the RECC do not begin until FY2015, starting July 1, 2014. This is based on the RECC's not having a decision from the State 911 Department regarding implementation funding, which is essential to the RECC's fiscal feasibility, until June, 2014.

A. OVERVIEW

The RECC will need to exercise fiscal prudence and comply with State law and governmental standards in all aspects of its financial management. This section offers a systematic presentation of various issues involved in the RECC's financial management.

B. LEGISLATIVE CONTEXT OF THE RECC'S FINANCIAL MANAGEMENT

Financial management of the RECC may depend on the vehicle by which it is organized, i.e., either (1) through an intermunicipal agreement (IMA) pursuant to Massachusetts General Laws (MGL) Chapter 40, Section 4A or (2) pursuant to enabling legislation now pending in the General Court.

Should the RECC proceed through an IMA, then its financial management would be subject to the General Laws as they affect municipalities. This would cover the full range of these policies from audits to borrowing.

However, should the RECC be organized pursuant to new legislation, then its financial management would be subject to this legislation. As currently drafted, the legislation may in fact have certain provisions which are different from and potentially more advantageous to the RECC than the General Laws for municipalities. One example, at the time of this Feasibility Study, extended the term for borrowing for capital projects to 25 years, well beyond what the General Laws provide for various purposes for municipalities.

At the same time, it is important to note certain provisions of the legislation pending at this time which may change the landscape for the RECC's financial management compared with the General Laws applying to municipalities. Examples follow.

1. **Planning Funds.** A RECC would be authorized to collect funds under a stated limit for the purposes of meeting the expenses of the RECC's planning board. These funds, among other things, could be expended to employ such expert assistance as the RECC planning board deems necessary.

This provision is significant since it provides initial capital for the RECC=s development and implementation during the planning phase prior to the municipalities in fact voting on acceptance of the statute to commit them to formal membership.

2. **Issuance of Bonds and Notes.** The pending legislation authorizes the RECC to issue bonds and notes for any period, without differentiation by purpose, up to 25 years.
3. **Assessment of Cities and Towns.** The bill would have the RECC=s assessment occur through the Cherry Sheet.
4. **Annual Financial Report.** The RECC would need to submit an annual report to each of the member cities and towns, containing a detailed financial statement, and a statement showing the method by which the annual charges assessed against each city and town were computed.

C. STAFFING OF THE RECC=s FINANCIAL MANAGEMENT

1. *The RECC Manager and the Assistant Town Administrator/Director of Budget and Finance should be responsible for day-to-day financial administration of the RECC.*

Because of the RECC=s small size with only nine personnel, the RECC Manager themselves ought to be able to address routine financial issues in the RECC. Except in the case of an extraordinary situation, financial processing should be limited to Payroll and minimal purchasing outside of vendor-support contracts.

The experience which the Assistant Town Administrator/Director of Budget and Finance has had with similar entities should enable her to provide the necessary support here with limited effort.

D. REPORTING TO THE BOARD

1. *The RECC Manager and Littleton=s Assistant Town Administrator/Director of Budget and Finance will need to report to the Board of Directors on a timely basis and otherwise exercise all appropriate financial oversight.*

This frequent, full reporting is typically done formally on a monthly basis and will be essential to the Board=s meeting its statutory responsibility for oversight of the RECC=s finances.

E. FINANCIAL SYSTEMS AND SOFTWARE

1. *The RECC would use the financial system deployed by the Town of Littleton.*

The Town's financial-management system should conform with all functional requirements of the Commonwealth and have the ability to establish the RECC as a separate fund or otherwise as Littleton's independent auditor may advise.

2. *Littleton's independent auditor should assist in developing the RECC's chart of accounts and providing services otherwise as may be needed in the organization of the RECC's financial systems, practices and procedures.*

This is a prudent and necessary step in order for the RECC to be sure from the outset that it is complying in all respects with best practice in (1) Massachusetts municipal finance; and (2) national standards otherwise.

3. *The RECC should have an independent audit every year.*

This is sound practice which is particularly necessary in the early years of the RECC's existence to assure that (1) its financial management is impeccable; and (2) any information which may be presented in each fiscal year's management letter is resolved timely.

As a practical matter, the RECC likely would be included as part of the Town of Littleton's annual audit.

F. THE RECC'S BUDGET

This Feasibility Study presents the RECC's budget on the next several pages. This budget incorporates the recommendations made in other sections of this Feasibility Study and is based on the following concepts.

The new costs associated with the development and operation of the RECC do not begin until FY2015, starting July 1, 2014. This is based on the RECC's not having a decision from the State 911 Department regarding implementation funding, which is essential to the RECC's fiscal feasibility, until June, 2014.

1. *The accounts currently used by Boxborough and Littleton form the basis for this budget*

The accounts and baseline amounts were determined by surveys completed by the Towns themselves.

Table 11
Implementation Budget

Line	UMAS	Account Description	FY2013 Current	FY2015 Year 1	FY2016 Year 2	FY2017 Year 3	FY2018 Year 4	FY2019 Year 5
1		Personal Services						
2	5110	Salaries and Wages	373,773	409,987	424,337	439,188	454,560	470,470
3	5120	Salaries and Wages - Temporary Positions	16,692	17,277	17,882	18,508	19,155	19,826
4	5130	Additional Gross, Overtime	69,536	71,970	74,489	77,096	79,794	82,587
5	5140	Additional Gross, Differentials	24,406	25,261	26,145	27,060	28,007	28,988
6	5150	Fringe Benefits to Employees	81,000	83,835	86,769	89,806	92,949	96,203
7	5170	Fringe Benefits on Behalf of Employees	0	0	0	0	0	0
8	5190	Other Personal Services	11,014	11,799	12,212	12,639	13,082	13,540
9		Subtotal Personnel Services:	576,421	620,129	641,834	664,298	687,548	711,612
10								
11	5200	Purchase of Services						
12	5210	Energy (Electricity, fuel oil)	200	210	220	231	243	255
13	5230	Non-energy Utilities (Water/Sewer)	0	0	0	0	0	0
14	5240	Repairs and Maintenance:	6,575	6,904	7,249	7,612	7,992	8,392
15	5241	BBuilding and Grounds	0	0	0	0	0	0

(Table Continues on the Next Page)

**Table 11 (Continued)
Implementation Budget**

Line	UMAS	Account Description	FY2013 Current	FY2015 Year 1	FY2016 Year 2	FY2017 Year 3	FY2018 Year 4	FY2019 Year 5
16	5242	BVehicles	0	0	0	0	0	0
17	5243	BAudio-visual equipment	0	0	0	0	0	0
18	5244	BOffice Equipment	0	0	0	0	0	0
19	5245	BCommunication Lines	4,212	4,423	4,644	4,876	5,120	5,376
20	5246	BCommunications Equipment	0	147,200	154,560	162,288	170,402	178,923
21	5247	BComputer Hardware	0	0	0	0	2,500	2,625
22	5248	BComputer Systems Software	0	988	1,037	1,089	1,144	1,201
23	5249	BComputer Applications Software	0	11,220	11,781	12,370	12,989	13,638
24	5250	BOffice Furnishing	0	0	0	0	0	0
25	5270	Rentals and Leases						
26	5271	BBuildings	0	0	0	0	0	0
27	5272	BVehicles	0	0	0	0	0	0
28	5290	Other Property Related Services	0	0	0	0	0	0

(Table Continues on the Next Page)

Table 11 (Continued)
Implementation Budget

Line	UMAS	Account Description	FY2013 Current	FY2015 Year 1	FY2016 Year 2	FY2017 Year 3	FY2018 Year 4	FY2019 Year 5
29	5300	Professional and Technical						
30	5301	BAccounting and Auditing	0	5,500	5,775	6,064	6,367	6,685
31	5302	BBond and Financial Advisory Services	0	10,000	0	0	0	0
32	5303	BCommunications Procurement & Implementation	0	35,000	5,000	5,250	5,513	5,788
33	5304	BGeneral Legal Counsel	0	10,000	5,000	5,250	5,513	5,788
34	5305	BManagement Consulting	0	0	0	0	0	0
35	5306	BAdvertising	0	1,000	1,050	1,103	1,158	1,216
36	5307	BCAD/RMS Procurement & Implement	0	10,000	5,000	5,250	5,513	5,788
37	5308	BLabor Relations	0	20,000	5,000	5,250	5,513	5,788
38	5309	BHuman Resources Admin.	0	5,000	5,250	5,513	5,788	6,078
39	5310	BEmployee Training	2,500	2,500	2,625	2,756	2,894	3,039
40	5311	BData Processing Systems and Services	0	20,000	21,000	22,050	23,153	24,310
41	5340	Communication						
42	5341	BTelephone and Telegraph	0	0	0	0	0	0
43	5342	BWireless Phones	0	0	0	0	0	0

(Table Continues on the Next Page)

Table 11 (Continued)
Implementation Budget

Line	UMAS	Account Description	FY2013 Current	FY2015 Year 1	FY2016 Year 2	FY2017 Year 3	FY2018 Year 4	FY2019 Year 5
44	5343	BData Processing Lines	0	0	0	0	0	0
44	5344	BPrinting and Mailing	0	0	0	0	0	0
45	5345	BPostage Delivery Services	0	0	0	0	0	0
46	5380	Other Purchased Services	0	0	0	0	0	0
47		Subtotal Purchase of Services	13,487	289,945	235,192	246,951	261,799	274,889
48	5400	Supplies						
49	5410	Energy Supplies	0	0	0	0	0	0
50	5420	Office Supplies	4,000	4,200	4,410	4,631	4,862	5,105
51	5430	Bldg & Equip Repairs & Main Supplies	0	0	0	0	0	0
52	5440	BData Processing Lines	0	0	0	0	0	0
53	5450	Custodial and Housekeeping Supplies	0	0	0	0	0	0
54	5460	Groundskeeping Supplies	0	0	0	0	0	0
55	5480	Vehicular Supplies	0	0	0	0	0	0
56	5490	Food and Food Service Supplies	0	0	0	0	0	0

(Table Continues on the Next Page)

Table 11 (Continued)
Implementation Budget

Line	UMAS	Account Description	FY2013 Current	FY2015 Year 1	FY2016 Year 2	FY2017 Year 3	FY2018 Year 4	FY2019 Year 5
57	5500	Medical and Surgical Supplies	0	0	0	0	0	0
58	5580	Other Supplies	1,500	1,575	1,654	1,736	1,823	1,914
59	5581	BData Processing	0	0	0	0	0	0
60	5582	BUniforms	4,000	4,200	4,410	4,631	4,862	5,105
61	5583	BLibrary Supplies	0	0	0	0	0	0
62	5584	BMagazine Subscriptions	500	525	551	579	608	638
63	5585	BNewspaper Subscriptions	0	0	0	0	0	0
64	5586	BSundry Supplies	0	0	0	0	0	0
65		Subtotal Supplies	10,000	10,500	11,025	11,356	11,696	12,047
66								
67	5600	Intergovernmental	0	0	0	0	0	0
68								

(Table Continues on the Next Page)

Table 11 (Continued)
Implementation Budget

Line	UMAS	Account Description	FY2013 Current	FY2015 Year 1	FY2016 Year 2	FY2017 Year 3	FY2018 Year 4	FY2019 Year 5
69	5700	Other Charges and Expenses						
70	5710	In-State Travel	1,000	1,050	1,103	1,158	1,216	1,276
71	5720	Out-of State Travel	0	2,000	2,100	2,205	2,315	2,431
72	5730	Dues and Memberships	500	525	551	579	608	638
73	5740	Insurance Premiums	0	26,000	27,300	28,665	30,098	31,603
74	5760	Judgments	0	0	0	0	0	0
75	5780	Other Unclassified Items	0	0	0	0	0	0
76	5781	BSurvivor Benefits	0	0	0	0	0	0
77	5782	BReserve Fund Appropriations	0	10,000	10,500	11,025	11,576	12,155
78	5783	BReserve: Computer Hardware	0	0	0	0	0	0
79	5784	BReserve: Communications	0	0	0	0	0	0
80	5785	BReserve: Building Improvement	0	0	0	0	0	0
81	5786	BReserve: Automobiles	0	0	0	0	0	0
82		Subtotal Other Charges and Expenses	1,500	39,575	41,554	43,631	45,813	48,104

(Table Continues on the Next Page)

Table 11 (Continued)
Implementation Budget

Line	UMAS	Account Description	FY2013 Current	FY2015 Year 1	FY2016 Year 2	FY2017 Year 3	FY2018 Year 4	FY2019 Year 5
83	5800	Capital Outlay						
84	5820	Land	0	0	0	0	0	0
85	5820	Buildings (Buildout)	0	0	0	0	0	0
86	5840	Site Improvements	0	0	0	0	0	0
87	5850	Additional Equipment						
88	5851	--Automobiles	0	0	0	0	0	0
89	5852	BCommunications Equipment	0	0	0	0	0	0
90	5853	BClassroom Furniture	0	0	0	0	0	0
91	5854	BOffice Equipment and Furniture	0	0	0	0	0	0
92	5855	BBulletin Boards and Shelving	0	0	0	0	0	0
93	5856	BClassroom Equipment	0	0	0	0	0	0
94	5870	Replacement Equipment:						
95	5871	BComputer Hardware	0	0	0	0	0	0
96	5872	BCommunications	0	0	0	0	0	0
97	5873	BAutomobiles	0	0	0	0	0	0
98		Subtotal Capital Outlay	0	0	0	0	0	0

(Table Continues on the Next Page)

Table 11 (Continued)
Implementation Budget

Line	UMAS	Account Description	FY2013 Current	FY2015 Year 1	FY2016 Year 2	FY2017 Year 3	FY2018 Year 4	FY2019 Year 5
99	5900	Debt Service						
100	5910	Maturing Principal on Long-Term Debt						
101	5911	BCAD/RMS System	0	28,000	28,000	28,000	28,000	28,000
102	5912	BCommunications Infrastructure	0	140,000	140,000	140,000	140,000	140,000
103	5915	Interest on Long-Term Debt						
104	5916	BCAD/RMS System	0	2,100	1,680	1,260	840	420
105	5917	BCommunications Infrastructure	0	21,000	18,900	16,800	14,700	12,600
106	5925	Interest on Notes	0	0	0	0	0	0
107		Subtotal Debt Service	0	191,100	188,580	186,060	183,540	181,020
108								
109		SUMMARY OF EXPENDITURE ACCOUNTS						
110	5100	Personal Services	576,421	620,129	641,834	664,298	687,548	711,612
111	5200- 5300	Purchase of Services	13,487	289,945	235,192	246,951	261,799	274,889

(Table Continues on the Next Page)

Table 11 (Continued)
Implementation Budget

Line	UMAS	Account Description	FY2013 Current	FY2015 Year 1	FY2016 Year 2	FY2017 Year 3	FY2018 Year 4	FY2019 Year 5
112	5400-5500	Supplies	10,000	10,500	11,025	11,356	11,696	12,047
113	5600	Intergovernmental	0	0	0	0	0	0
114	5700	Other Charges and Expenses	1500	39,575	41,554	43,631	45,813	48,104
115	5800	Capital Outlay	0	0	0	0	0	0
116	5900	Debt Service	0	191,100	188,580	186,060	183,540	181,020
117		TOTAL EXPENDITURES	601,408	1,151,249	1,118,184	1,152,296	1,190,396	1,227,672
118		Less: 911 Municipal Grants	41,912	78,357	78,357	78,357	78,357	78,357
119		NET ANNUAL COST	559,496	1,072,892	1,039,827	1,073,939	1,112,039	1,149,315
120		TOTAL PER CAPITA @ 13,920	40.19	77.08	74.70	77.15	79.89	82.57

2. *The RECC's budget should incorporate all one-time and annual expenses, both operating and capital, which may be reasonably anticipated.*

This budget reflects the complexity of the RECC as a public agency and the scope of its activities.

3. *Borrowing should be undertaken for eligible capital expenditures as appropriate.*

Massachusetts General Laws authorize borrowing for significant capital expenditures which the RECC will be facing. For Boxborough and Littleton, this applies to (1) the emergency-communications infrastructure and (2) the upgrade and consolidation of the IMC computer system. Borrowing for these purposes, if done under the General Laws as they apply to municipalities, will be limited to the respective terms specified therein. Should the pending legislation be enacted, these terms would be extended significantly. This budget allocates debt service - principal and interest - to each year=s operating budget on a roughly level basis, identifying the debt service for each borrowing by its purpose.

4. *The budget must be adjusted for inflation over the next several years.*

As a general rule, this budget assumes a 5 per cent annual increase in most costs. While this may seem high, this Feasibility Study wishes to be conservative in projecting increases in costs. Personal services follow Littleton's collective-bargaining agreement which includes increases of 3.5 per cent through Fiscal Year (FY) 2015. Otherwise, exceptions to this are described in the next part of this section, G. Budget Notes.

G. BUDGET NOTES

The notes which follow offer specific information on the assumptions underlying key accounts of relatively large fiscal significance in the budget.

- The number preceding each item is its account identifier as derived from the Commonwealth of Massachusetts Uniform Massachusetts Accounting System (UMAS) and is used to structure the RECC=s budget in the following Table 11.
- Boxborough's and Littleton's budgets for dispatching for FY2013, as presented later in Section H, Current Expenditures for Dispatching, form a large part of the basis for the RECC's budget. These show both gross expenditures for dispatching and net expenditures, less annual State 911 Department support grants.

Specific notes follow.

1. **5110: Salaries and Wages:** Staffing presented in Table 2 in Section Five, Staffing, including the nine personnel identified there, following Littleton's collective-bargaining agreement. This includes the marginal cost of the new position of RECC Manager of \$20,000 per year.
2. **5246: Communications Equipment:** The amount of \$147,200 comes from Table 10.
3. **5247 - 5249: Computer Hardware, Systems Software and Applications Software:** Provides for annual support costs as listed previously in Table 9, Computer System One Time and Annual Costs for the consolidated RECC CAD/RMS System.
4. **5301: Accounting and Auditing:** Funds two items: (1) the services of a CPA firm specializing in working with local governments to help organize the accounting system for the RECC and carry out the annual audit; and (2) the work of the Town of Littleton in providing financial services for the RECC.
5. **5302: Bond and Financial Advisory Services:** Funds the services of the financial advisor to assist in the planning and issuance of bonds and notes.
6. **5303: Communications Procurement and Implementation:** Funds the professional services of a firm specializing in working with local governments and public-safety agencies to (1) execute the procurement of the new communications infrastructure, estimated to cost \$1,393,469 and (2) provide annual services as may be needed from time to time.
7. **5304: General Legal Counsel:** Funds legal services of a firm specializing in working with local governments to (1) establish the RECC's legal and physical infrastructure (e.g., general representation and specialized representation in such areas as negotiation with contractors); and (2) provide general-counsel services on an ongoing basis.
8. **5307: CAD/RMS Procurement and Implementation:** Similar to Communications, funds the professional services of a firm specializing in working with public-safety agencies and local governments to (1) execute the upgrade and consolidation of the IMC system and (2) provide annual services as may be needed from time to time.
9. **5308: Labor Relations:** Funds the services of special counsel in employment and labor relations to work with the RECC in addressing complex questions anticipated in such areas as transition of Boxborough's personnel from their previous bargaining units to the RECC and negotiation of collective-bargaining agreements and other matters year-to-year.
10. **5309: Human Resources Administration:** Funds the services of the Town of Littleton in administering Human Resources activities for the RECC.

- 11. Data Processing Systems and Services:** Funds the services of LELWD in overseeing and coordinating support of the RECC's IT environment.
- 12. 5740: Insurance Premiums:** The estimated cost here reflects the need for coverage for the new emergency-communications infrastructure, valued at \$1,393,460. This kind of coverage tends to be about 2 per cent of the cost of these assets.
- 13. 5782: Reserve Fund Appropriations:** The amount here is less than one percent (1%) of the RECC=s budget.
- 14. 5900ff: Debt Service:** These accounts address the costs of issuing and repaying notes and bonds for (1) the communications infrastructure; and (2) the upgrade and consolidation of the IMC CAD/RMS/Mobile system. Table 12 summarizes these capital costs.

Table 12
Summary of Capital Costs

Item Description	Amount
Communications Infrastructure	\$1,393,469
CAD/RMS System	\$138,962
Total Capital Costs:	\$1,532,431

As discussed previously in this Section, limits on the term of borrowing will be a function of whether the RECC is organized (1) pursuant to an IMA between Boxborough and Littleton or (2) new enabling legislation.

H. CURRENT EXPENDITURES FOR DISPATCHING

As Table 11 showed previously in detail, Boxborough and Littleton currently spend a net of \$559,496 per year for the same kind of emergency-communications services as the RECC would provide. And this does not include the enhancements in computer applications or networking infrastructure which this Feasibility Study includes. Table 13 presents each Town's current reported annual expenditures for emergency-communications services. These costs were determined by means of a survey of the Towns as part of this Feasibility Study.

Table 13
Summary of Current Expenditures for Dispatching

Agency	Total	Cost Percentage	Population Percentage	Population	Cost Per Capita
Boxborough	\$232,420	41.5%	35.9%	4,996	\$46.52
Littleton	\$327,076	58.5%	64.1%	8,924	\$36.65
Total:	\$559,496	100.0%	100.0%	13,920	\$40.19

It should be noted here that the national average for dispatching cost per capita where there is no special financial assistance is in the approximate range of \$25.00 to \$35.00. To be fair, smaller towns have a relatively high cost per capita since a town of less than 5,000 to 10,000 like Boxborough and Littleton here carries the same staffing, typically one dispatcher on duty 7x24, as a relatively larger town--for example up to a population of roughly 15,000.

Table 14 which follows on the next two pages presents the detail of what Boxborough and Littleton now spend on dispatching. This is important since it contributes significantly to formulating the budget for the RECC as Table 11 presented previously.

Table 14
Detail of Current Expenditures for Dispatching

UMAS Code	Account Description	Boxborough	Littleton	Total
5100	Personal Services			
5110	Salaries and Wages	165,620	208,153	373,773
5120	Salaries & Wages: Temp	16,692		16,692
5130	Additional Gross, Overtime	36,922	32,614	69,536
5140	Additional Gross, Differentials	3,650	20,756	24,406
5150	Fringe Benefits to Employees	1,000	80,000	81,000
5190	Other Personal Services	11,014		11,014
	Subtotal Personal Services	234,898	341,523	576,421
5200	Purchase of Services			
5210	Energy (Electricity)	200		200
5240	Repairs and Maintenance	6,575		6,575
5245	Communication Lines	4,212		4,212
5310	Employee Training	1,000	1,500	2,500
	Subtotal Purchase of Services	11,987	1,500	13,487

(Table Continued on Following Page)

UMAS Code	Account Description	Boxborough	Littleton	Total
5400	Supplies			
5420	Office Supplies	2,000	2,000	4,000
5580	Other Supplies		1,500	1,500
5582	Uniforms		4,000	4,000
5584	Magazine Subscriptions		500	500
	Subtotal Supplies	2,000	8,000	10,000
5700	Other Charges and Expenses			
5710	In-state Travel		1,000	1,000
5730	Dues and Memberships		500	500
	Subtotal Other Charges & Expenses		1,500	1,500
	TOTAL ALL EXPENDITURES:	\$248,885	\$352,523	\$601,408
	LESS STATE 911 GRANT:	\$16,465	\$25,447	\$41,912
	NET COST:	\$232,420	\$327,076	\$559,496

I. APPORTIONMENT OF EXPENSES

1. Billing for membership in the RECC should be based solely on population.

At the meeting of the Governance, Organization, Staffing and Finance Committee on February 19, 2013, Boxborough's and Littleton's key officials agreed to recommend that population be used as the sole basis for billing of the RECC's costs.

Based on population from the 2010 U. S. Census, Boxborough's population of 4,996 would make it responsible for 35.9 per cent of the RECC's costs and Littleton's population of 8,924 would yield a percentage of 64.1.

The group also made clear that it wished to have the RECC’s Board of Directors review the formula for billing each year.

2. *A guiding principle of the RECC for apportionment of expenses should be the use of a methodology which is equitable, transparent, easy to administer and readily understandable to non-technical personnel.*

As a general proposition, similar centers tend to use a formula based on such factors as (1) the number of emergency calls, (2) the number of non-emergency calls or (3) population. Where multiple factors are involved, these are sometimes weighted to reflect the center=s own judgment about their relative significance in that center=s operation. Interesting variations include having the apportionment calculated on a three-year rolling basis in order not to have a "Aspike" in any one year in a participating municipality=s assessment. The RECC=s Board of Directors should be open to amending this formula for good reason from time to time.

Table 15 derives the cost of the RECC to each Town. It uses \$1,072,892 for FY2015 from Table 11 as the new net annual cost when the center is in full operation. It also calculates the estimated cost advantage or disadvantage, not including related mandatory or optional local expenditures as this Feasibility Study discusses later in this section.

Table 15
Estimated Municipal Cost

Town	Population	% of Total Population	RECC Annual Cost	Current Annual Cost	Annual Cost Difference	Annual Percentage Difference
Boxborough	4,996	35.9%	\$385,070	\$232,420	(\$152,650)	-65.68%
Littleton	8,924	64.1%	\$687,822	\$327,076	(\$360,746)	-110.29%
Total:	13,920	100.0%	\$1,072,892	\$559,496	(\$513,396)	-91.76%
RECC Annual Cost:	\$1,072,892					

The municipalities may also need to address one-time costs which are specific to each Town, respectively, and may occur either:

- a. As part of a *mandatory upgrade or replacement*, e.g., of its communications infrastructure or end-user hardware such as RMS workstations or MDT=s in order to meet the standards of the consolidated CAD/RMS system; or
- b. As a *local option* where the Town may decide that the advent of the upgraded IMC system is a good opportunity to enhance its public-safety technology, e.g., by adding new MDTs where none or fewer had previously existed.

Depending on the current status of each municipality's computing and communications infrastructure as well as its own priorities generally, these additional one-time costs could amount to several tens of thousands of dollars or more. As well, there may be related annual maintenance or support costs.

3. *Boxborough and Littleton both would gain significant financial benefit by having a third town participate in the RECC.*

As Table 16 on the next page shows, adding a town with a population of approximately 6,500 would benefit Boxborough by \$116,248 per year and Littleton by \$207,646 per year while adding little marginal burden to the RECC's finances or operations. The third town's population would represent 31.8 per cent, or almost one-third, of the new total of 20,420. This assumes that percentage of population would be the only basis for assessing costs. The noteworthy additional costs, in approximate numbers, should be:

- \$200,000 to connect the new town to the RECC's network, plus \$20,000 per year for maintenance of this connection.
- \$60,000 for licensing IMC applications plus \$10,800 per year for support.

A third town, then, would bring a total of \$58,800 per year in marginal costs including (1) \$28,000 per year in debt service for the \$260,000 in one-time costs of computer technology and emergency-communications infrastructure, (2) \$20,000 per year for maintenance of the emergency communications infrastructure and (3) \$10,800 for support of IMC's applications.

Two scenarios are possible regarding the allocation of (1) one-time and (2) annual costs related to the addition of a third town.

- If the third town should join at the original time of organization of the RECC, its costs likely would be shared among the three towns in the same way as all other one-time or annual costs.
- If the third town should join after the original organization of the RECC, then Boxborough, Littleton and the third town would need to negotiate in advance the formula for how the third town would pay for capital and operating costs.

On the revenue side, having a third town of this size in the RECC would increase the State 911 Department's annual-support grant by \$32,946 from \$78,357 to \$111,303. This is based on estimates from the State 911 Department, which provides additional assistance to RECC's in

Table 16
Addition of Third Town

Town	Population	Percentage Population 3 Towns	Percentage Population 2 Towns	RECC Annual Cost 3 Towns	RECC Annual Cost 2 Towns	Current Annual Cost	Annual Cost Difference 3 Towns	Annual Cost Difference 2 Towns	Annual Cost Difference 3 vs 2
Boxborough	4,996	24.5%	35.9%	\$268,821	\$385,070	\$232,420	(\$36,401)	(\$152,650)	\$116,248
Littleton	8,924	43.7%	64.1%	\$480,177	\$687,822	\$327,076	(\$153,101)	(\$360,746)	\$207,646
Third Town	6,500	31.8%	N/A	\$349,748	N/A	N/A	N/A	N/A	N/A
Total:	20,420	100.0%	100.0%	\$1,098,746	\$1,072,892	\$559,496	(\$189,502)	(\$513,396)	\$323,894
Annual Cost 2 Towns:	\$1,072,892								
Marginal Cost 3rd Town:	\$58,800								
Add'l 911 Grant 3rd Town:	\$32,946								

tiered percentages, based on the number of participating municipalities. The first tier is for RECC's with two municipalities, the second for RECC's with three municipalities, and so forth.

The net cost to the RECC for the third town would be \$25,854, overwhelmingly offset by its paying for \$349,748 per year of the RECC's total expenses as Table 16 on the previous page showed.

The two dispatchers' positions already included in this Feasibility Study should be perfectly capable of handling the additional volume of calls from a third town of this size.

J. IMPACT OF GRANT FUNDS ON PER CAPITA ASSESSMENTS

The availability or use of grant funds is highly uncertain.

Having said that, this subsection responds to the scope of work of this Feasibility Study and identifies several possible sources of funds to support different aspects of the RECC.

Table 17 presents several scenarios related to the RECC=s possibly receiving different amounts of grant assistance. In summary, the three grant-funded scenarios, respectively, assume 100, 67 and 33 per cent funding of the one-time costs for emergency communications and computer technology.

Table 17
Net Impact of Grants on Annual Assessment

Town	Population Percentage	Current Cost	No Grant	\$1,532,431 Grant	\$1,026,728 Grant	\$505,702 Grant
RECC Annual Cost	100.0	\$559,496	\$1,072,892	\$881,792	\$944,855	\$1,009,829
Boxborough	35.9	\$232,420	\$385,168	\$316,563	\$339,203	\$362,529
Littleton	64.1	\$327,076	\$687,724	\$565,229	\$605,652	\$647,300

Because most financial assistance of this kind applies to one-time expenditures, this Feasibility Study applies the one-time grants in their respective amounts to the reduction of annual debt service for computing and communications.

This Feasibility Study emphasizes in the strongest possible terms that this information is for illustrative purposes only with no general or specific expectations regarding this funding.

K. COMBINING GRANT FUNDING AND A THIRD TOWN

The fiscal feasibility of the RECC would increase dramatically, should there be the combination of (1) a third town and (2) 100 per cent funding of the two capital costs.

In summary, Boxborough would save \$32,108 per year and the negative difference for Littleton would be reduced to \$30,507. The Towns together would save \$1,601.

Table 18 combines this information.

Table 18
Combination of a Third Town and 100% Grant Funding

Agency	Current Annual Cost	RECC Annual Cost	Savings From 3 rd Town	Cost With 3 rd Town	Savings From 100% Grant	Net Annual Cost
Boxborough	\$232,420	\$385,165	\$116,248	\$268,917	\$68,605	\$200,312
Littleton	\$327,076	\$687,724	\$207,646	\$480,078	\$122,495	\$357,583
Total:	\$559,496	\$1,072,892	\$323,894	\$748,995	\$191,100	\$557,895

L. FINANCIAL ASSISTANCE

1. *The RECC should pursue all available avenues in seeking financial assistance from governmental sources.*

The Commonwealth and U.S. Government have several programs which are targeted to (1) supporting the implementation of regional centers like the RECC; or (2) funding specific elements required for their operations such as wireless communications. Generally, U.S. Government grants are coordinated through the Commonwealth, specifically EOPSS. Particular sources of potential funding should be pursued, including the following among others.

- a. **Massachusetts Executive Office of Public Safety and Security (EOPSS): State 911 Department.** The Regional Emergency Communication Center Development Grants are the Commonwealth's vehicle, as its FY2014 Guidelines and Application Package states at Section IV, Purpose, on page 5, A...to support the development and startup of regional PSAPs, regional secondary PSAPs, and regional emergency communication centers...to maximize effective emergency 911 and dispatch services as well as regional interoperability.@
The State 911 Department, which is part of EOPSS, administers this program.

The RECC Development Grants authorize funds for several purposes which may be relevant to implementation of the RECC here for Boxborough and Littleton. These categories, using the letter-identification from the grant-application guidelines, include:

- C. Project Management Services.
- D. Transition Expenses.
- E. Architectural and Engineering services.
- F. Construction.
- G. Equipment.

Deadlines for applications under this program are established periodically by the State 911 Department. The deadline for the FY2014 program was April 1, 2013.

- b. U. S. Department of Justice (DOJ).** DOJ, mainly through the Bureau of Justice Assistance (BJA), organizes most of its funding through state-level agencies like EOPSS in Massachusetts. The RECC will need to examine the terms and conditions of each potential grant individually.
 - **Byrne Justice Assistance Grant Program.** This program matches the RECC in two important respects: (1) the emphasis on improving the technology and tools used to prevent, detect and fight crime; and (2) cross-jurisdictional needs.
 - **Regional Information Sharing Systems (RISS) Program.** RISS promotes intergovernmental coordination and communication, oriented to addressing criminal conspiracies and activities that span multijurisdictional boundaries.
- c. U. S. Department of Homeland Security (DHS).**
 - **Homeland Security Grant Program** may be able to provide funds for the RECC.
 - **Office of Emergency Communications** provides no-cost services including instruction and assistance with the planning, governance, operational, and technical aspects of developing and implementing interoperable communications initiatives.

- d. **U.S. Department of Commerce, National Telecommunications and Information Administration. Public Safety Interoperable Communications (PSIC) Grant Program.** These grants fund interoperable communications projects, with an emphasis on helping first responders improve public-safety communications during a natural or man-made disaster.

2. *The RECC should seek corporate contributions where this involves no conflict of interest.*

The RECC may be able to obtain funds from corporations in the area. It will be important to be sure that any such gift not involve a real or perceived conflict of interest.

While it is difficult to estimate the level of funding or purposes for which it may be available, the scope of the RECC=s needs is broad enough and the nature of this endeavor significant enough to the Towns and the Commonwealth that every effort should be made to pursue these funds.

M. LATE MEMBERSHIP

1. *Any municipality which joins the RECC after the period for original charter membership should pay a one-time late-membership fee.*

This fee has several legitimate purposes.

- a. A fiscal incentive should exist for interested municipalities to commit to the RECC from the outset, supporting its organization, policy-making and management.
- b. Those municipalities which commit to the RECC from the outset should not be disadvantaged by any special fiscal burden for having made this decision.
- c. Municipalities which do *not* commit to the RECC from the beginning should not gain a fiscal advantage from having made that decision.

The RECC=s Board of Directors should determine the (1) amount of and (2) basis for assessment of this fee. This will need to consider both capital and operating costs as well as all marginal impacts, fiscal or operational, which each such member=s addition may present.

N. PROCUREMENT

1. The RECC should look to U. S. Government and Commonwealth sources in its procurement.

The RECC will be procuring a wide range of goods and services from telecommunications to information technology.

The Commonwealth has had a program of cooperative purchasing in place for more than 30 years.

Massachusetts General Laws Chapter 20B, Section 1(f) authorizes local jurisdictions to procure goods and services through the U.S. General Services Administration (GSA). Of particular potential interest is GSA’s Schedule 84, Total Solutions for Law Enforcement, Security, Facilities Management, Fire, Rescue, Clothing, Marine Craft and Emergency/Disaster Response. This is a preapproved roster of a wide range of security and emergency-services vendors.

O. FISCAL IMPACT OF SINGLE-DISPATCHER CONFIGURATION

1. Implementing a single-dispatcher configuration on all tours could make the RECC fiscally feasible for both Boxborough and Littleton but raises serious operational issues.

As Table 19 shows, combining (1) a single-dispatcher configuration on all tours with (2) 100 per cent funding of all capital costs by the State 911 Department and (3) membership of a third town could bring significant financial advantage for both Boxborough and Littleton. Table 19 incorporates what the new RECC cost would be with one dispatcher rather than the two-dispatcher coverage on all tours which this RECC Feasibility Study includes otherwise.

**Table 19
Combination of a Single Dispatcher, a Third Town and 100% Grant Funding**

Agency	Current Annual Cost	RECC Annual Cost	Savings From 3 rd Town	Cost With 3 rd Town	Savings From 100% Grant	Net Annual Cost
Boxborough	\$232,420	\$289,440	\$28,838	\$203,582	\$68,605	\$134,977
Littleton	\$327,076	\$516,800	(\$36,568)	\$363,644	\$122,495	\$241,149
Total:	\$559,496	\$806,240	\$7,730	N/A	\$191,100	N/A

The column to the far right, Net Annual Cost, summarizes what the fiscal impact would be for each Town in combining all three of these conditions. In brief, Boxborough would see its annual cost of dispatching reduced by \$97,443 from the \$232,420 it now pays to \$134,977; Littleton would see its annual cost of dispatching reduced by \$85,927 from the \$327,076 it now pays to \$241,149.

Notwithstanding the attractive fiscal picture the single-dispatcher configuration presents, it is fundamentally flawed operationally.

This RECC Feasibility Study's recommendation to have two dispatchers on all tours follows the standard which NFPA 1221 Section 7.3.2 states as follows: "Communications centers that provide pre-arrival instructions to callers shall have two telecommunicators on duty and present in the operations room at all times."

At the same time, this RECC Feasibility Study's Table 5 at page 25 shows that, using nationally accepted calculations for staffing of telecommunications, the RECC could manage the reported call volume for Boxborough and Littleton together with a total of 4 dispatchers.

The obvious, fundamental weakness of the presentation in Table 5 is that it assumes an even distribution of calls across all times of the day and all days of the week. However, as Table 6 on page 27 shows, this is not the case for this RECC with Boxborough and Littleton.

Having one or two dispatchers on duty, whether for all tours or selected tours, is a policy decision for the RECC and the Towns. The responsibility of this RECC Feasibility Study has been to present best practice, based on generally accepted national standards. This RECC Feasibility Study takes no position on the appropriateness of the single-dispatcher configuration either generally or for specific tours.

P. EVALUATING OPTIONS IN THE FUTURE

- 1. This RECC Feasibility Study presents a set of detailed information on financial management which enables Boxborough and Littleton to evaluate options for services or finances as these may emerge over time.***

As Boxborough and Littleton proceed in evaluating options for services and financial management after the completion of this RECC Feasibility Study, it will continue to be important to have a sound set of facts on which to make these judgments.

One example which has arisen in the course of this RECC Feasibility Study has been consideration by the Town of Boxborough of not having its Police station staffed at certain times.

This RECC Feasibility Study provides detailed cost information which now would enable Boxborough to (1) identify the cost of maintaining staffing of the Police station at certain hours and (2), using the data here, recalculate that Town's net cost of these services.

Section Ten Rollout Plan

Section Ten: Roll Out Plan Summary of Key Findings and Recommendations	
1.	The rollout plan is simplified greatly by three factors: (1) being able to use the IMA as the institutional platform for the RECC; (2) not having to build a RECC facility; and (3) having the same vendor's computer system in place in all agencies in both Towns.
2.	The Boards of Selectmen in Boxborough and Littleton should be able to make a decision about whether to establish the RECC immediately following the receipt of information around June, 2014 regarding the availability of funding for implementation from the State 911 Department.
3.	Once the Boards of Selectmen make the decision to proceed with the RECC, the three main tasks of (1) procuring and implementing the emergency-communications infrastructure, (2) consolidating the computer systems and (3) consolidating the dispatch staff can proceed concurrently and independently.
4.	With only two Towns involved, the RECC can be operational in approximately six months from the date of the vote on the IMA by the Boards of Selectmen.
5.	The RECC's Board of Directors should report monthly in writing to both Towns' Boards of Selectmen.
6.	The RECC's Board of Directors needs to identify one individual to act as Project Manager for the rollout of the RECC until the RECC Manager is on duty.
7.	The RECC Manager will assume significant responsibility in the rollout, once on duty.
8.	The Computer Applications Committee established as part of this Feasibility Study should continue to be active, recognizing the critical, ongoing role that IT will play in the daily operational success of the RECC.

A. OVERVIEW

The rollout plan addresses what needs to be done (1) to have Boxborough and Littleton decide, individually and together, about proceeding to establish the RECC and (2) to bring it to full operation.

B. FINDINGS AND RECOMMENDATIONS

1. *The Rollout Plan is simplified greatly by three factors: (1) being able to use the IMA as the institutional platform for the RECC; (2) not having to build a RECC facility; and (3) having the same vendor's computer system in place in all agencies in both Towns.*

The combination of these three factors works greatly to the advantage of Boxborough and Littleton in the rollout of the RECC. A few examples serve to highlight this.

- Where the entire cycle of constructing a new RECC building takes about 21 to 24 months from authorization to occupancy in production, having the Littleton Police Department's dispatch area in move-in condition with no change required is an enormous benefit to the RECC and the Towns.
- The time to procure and implement a new computer system for towns like this would be a minimum of 15 months and involve related tasks such as completely training all personnel in the new system. Here, all personnel in Boxborough and Littleton are well familiar with the IMC system which Police and Fire in both Towns now use: the only major task is conversion of the their records and files into the consolidated RECC system.

This situation should make the rollout of the RECC both (1) manageable readily and (1) executable with success.

Still, the Board of Directors will need to work closely with the RECC Manager and the original Project Manager to make sure that everything is proceeding well as planned.

2. *The Boards of Selectmen in Boxborough and Littleton should be able to make a decision about whether to establish the RECC immediately following receipt of information regarding the availability of funding from the State 911 Department around June, 2014.*

Because of the relatively large cost of the emergency-communications infrastructure and secondarily the upgrade and consolidation of the IMC system, the fiscal feasibility of the RECC will not be clarified until the amount of support by means of an Implementation Grant from the State 911 Department is known. This information is expected around June, 2014.

Only at that point will the Boards of Selectmen in Boxborough and Littleton have the information they need to evaluate the fiscal feasibility of the RECC.

3. *Once the Boards of Selectmen make the decision to proceed with the RECC, the three main tasks of (1) procuring and implementing the emergency-communications infrastructure, (2) consolidating the computer systems and (3) consolidating the dispatch staff can proceed concurrently and independently.*

There are no direct dependencies among these three tasks: each can go forward on its own without affecting either of the others.

4. *The RECC's Board of Directors should report monthly in writing to the Town's Boards of Selectmen.*

As the rollout of the RECC proceeds, it will be very important for the Board of Directors to report monthly in writing to the Towns' Boards of Selectmen.

The RECC constitutes a major enhancement of emergency communications for Boxborough and Littleton but also a major change. Thus, it will be important for the Board of Directors to carry out this reporting.

Having both Town Administrators, Police Chiefs and Fire Chiefs on the RECC's Board should help to assure that the monthly reports are comprehensive and accurate in all respects.

5. *The RECC's Board of Directors needs to identify a Project Manager for the rollout of the RECC until the RECC Manager is on duty.*

While the staff of Boxborough and Littleton has functioned very effectively as a group during this Feasibility Study, a Project Manager who has both the knowledge and time is required to assure that the rollout proceeds well in every respect.

These services may be provided either by an employee or contractor.

The need for a Project Manager also recognizes that it will take about three to four months to recruit and select the RECC Manager and have that person report for work at the RECC.

6. *The RECC Manager will assume significant responsibility in the rollout, once on duty.*

The RECC Manager should have the breadth and depth of experience with RECC's which will enable him/her to assume responsibility for project management. At that point, the services of the previous Project Manager will conclude.

7. *The Computer Applications Committee established as part of this Feasibility Study should continue to be active,*

This recognizes the critical, ongoing role that IT will play in the daily operational success of the RECC.

This Committee, with broad representation from both Boxborough and Littleton, has proved to be very effective and efficient.

Particularly given the critical nature of the IMC system, computer technology and the emergency-communications infrastructure in which this Committee has also been involved, the Computer Application Committee's continuing role will be very important. Among other things, this involves addressing specialized areas such as Geographic Information Systems (GIS).

The Committee should plan on meeting at least monthly or more often if needed.

Section Eleven

Conclusion

This Feasibility Study concludes that the RECC offers substantial opportunities for enhancing emergency services to Boxborough and Littleton and the people they serve.

At the same time, the RECC becomes fiscally feasible only with the combination of (1) a third town and (2) 100 per cent funding of its capital costs.

A basic decision which Boxborough and Littleton face is whether and when to solicit the participation of a third town or a fourth town. Both Boxborough and Littleton, as well as the additional town(s), would benefit significantly in the financial impact of this expansion since it would have minimal marginal cost.

Another early decision regards whether to proceed in establishing the RECC through (1) an intermunicipal agreement (IMA) or (2) pursuant to the enabling legislation which may be passed sometime soon. In either event, the RECC would have the ability to shape its own organization, policies for governance, financial management, technological infrastructure, operations and services.

Boxborough and Littleton have both showed a high level of interest, energy and organizational capacity in pursuing the feasibility of the RECC. They should continue to meet and communicate regularly, taking advantage of all opportunities to bring this idea to a reality.

Appendix A
List of Interviewees by Town

List of Interviewees by Town

Boxborough:

Town Administrator Selina Shaw
Fire Chief Randolph White
Police Chief Warren Ryder
Town Planner Elizabeth Hughes
Information Systems Specialist Matthew Frost

Littleton:

Town Administrator Keith Bergman
Assistant Town Administrator/Director of Budget and Finance Bonnie Holston
Fire Chief Scott Wodzinski
Deputy Fire Chief Steele McCurdy
Deputy Police Chief Matthew King
Communications Officer Sean Coffey
Electric Light and Water Department General Manager Savas Danos
Electric Light and Water Department Information Systems Manager Alan Brown
Information Systems Manager Nancy Glencross