

# Northern Middlesex Regional Emergency Communications Center

## Dracut, Pepperell and Tewksbury

### Analysis

#### Introduction

The Northern Middlesex Council of Governments (NMCOG) originally hired CTC, Inc. to complete the Professional Services contract awarded by the State 911 Department in 2015. Within that document, there were several options for the NMCOG communities to join together to provide regional dispatch services. One option, which has been implemented, resulted in Dracut and Tewksbury establishing a District Agreement for the Northern Middlesex Regional Emergency Communications Center (NMRECC). NMRECC will operate out of a newly constructed facility adjacent to the Tewksbury DPW building. In this updated report, CTC, Inc. provides additional analysis related to Pepperell joining Dracut and Tewksbury as part of the NMRECC.

The report provides information regarding existing conditions analysis of the current primary public safety answering point (PSAP) centers in each community, provides the three community scenario and conducts a cost benefit analysis for the three communities. The report also includes information on the State 911 Department grant opportunities to develop and operate the center.

This three community scenario would provide a very cost-effective strategy for all the communities to develop and operate the NMRECC. The Mission of the RECC is to exclusively focus on emergency communications in a state-of-the-art facility through the Regional 911 Emergency Communication District, as outlined in Massachusetts legislation. The benefits of the NMRECC include the following:

- a. Enhance the emergency communication services provided to Dracut, Pepperell and Tewksbury citizens and their public safety departments.
- b. Provide for a more robust emergency communication capability through the RECC during times of great demand for such services.
- c. Provide for cost savings to all three communities through a greater economy of scale.
- d. Reduce the cost of future replacement of communication equipment for all three communities.
- e. Provide for greater information sharing between communities regarding crime patterns, vehicles and suspects through a common computer aided dispatch and records management software systems.

The following information was provided through the Professional Services contract Final Report and has been updated primarily through budget and staffing information from the Town of Pepperell.

## I. Existing Conditions Analysis

In this section, we will summarize the FY 16 conditions of dispatch environment for the three communities.

### A. Current Community Environment

The population figures for the three communities are outlined below in Table 1. These population figures include the 2010 U.S. Census figures and population projections for 2020, 2025 and 2030. The population to be served, as of the 2010 U.S. Census, was 69,915 residents, but it is expected to increase by 8.69% to 75,992 in 2040.

**Table 1**  
**Population Projections**

Locality	2010 Census	2020 Projection	2030 Projection	2040 Projection	% Change 2010-2040
Dracut	29,457	29,976	30,571	32,042	8.78
Pepperell	11,497	11,648	11,962	12,553	9.18
Tewksbury	28,961	29,436	29,980	31,397	8.41
<b>Total</b>	<b>69,915</b>	<b>71,060</b>	<b>72,513</b>	<b>75,992</b>	<b>8.69</b>

*Source: 2010 U.S. Census and MassDOT projections for 2020, 2030 and 2040.*

### B. Current Dispatch Environment

- **Town of Dracut Police Dispatch**

The Dracut Police Dispatch Center functions as the primary Public Safety Answering Point (PSAP) for the town. It also dispatches the Dracut Police Department. The Dracut Fire Department operates a secondary PSAP that receives 911 calls from the PSAP for all fire and medical emergency calls. The Police dispatch center is equipped with three positions. The Fire dispatch has one position. The Police Department PSAP is staffed by four (4) full time and five (5) part-time dispatchers. Two dispatchers are on duty on each shift. One fire fighter staffs the secondary dispatch for all shifts. The Department budgets approximately \$10,000 per year primarily for computers. Since the update for the RECC Implementation Plan in 2014, there have not been any capital improvements to the community's dispatch centers for consoles and radio systems.

Table 2 below shows the available metrics for the Dracut Police Department:

**Table 2: Dracut Police Department**

Activity	2013	2014
Total 911 Call Volume	4,994	4,610
Total Calls for Service	21,364	22,013
• Police	11,677	12,584
• Fire	1,991	1,868
• EMD	1,518	1,424

- **Dracut Fire Department Communication Center**

The Dracut Fire Department operates a secondary PSAP. A single firefighter is assigned to dispatch on each shift. The Fire Department operates a municipal fire alarm system. The system uses town-owned cable to connect the facilities. One firefighter providing dispatcher services is on duty at all times. Table 3 below shows the available metrics for the Dracut Fire Department.

**Table 3: Dracut Fire Department**

Activity	Calls
	2014
Fire Calls Dispatched	3,166
Emergency Medical Calls Dispatched	1,424

- **Pepperell**

The Pepperell Communications Department is a separate department of town government. The dispatch center is located in the Pepperell Police Department. The department is the primary public safety answering point for the Town and dispatches the Pepperell Police and Fire Departments. The Pepperell Communications Department answers the administrative lines for these departments as well.

The Communications Department is staffed with a Director and five (5) full-time dispatchers, and one (1) part-time dispatcher. The day shift is staffed by two dispatchers, afternoon shift by 1.5 dispatchers and night shift with one dispatcher.

Table 4 shows the available metrics for the Pepperell Communications Center.

**Table 4  
Town of Pepperell**

Activity	2013	2014
Total 911 Call Volume	1,334	1,398
Total Calls for Service	10,651	11,481
• Police	8,225	9,265
• Fire	1,727	1,550
• EMD	699	666

- **Tewksbury**

The Tewksbury Police Department Dispatch Center provides dispatch service for the Tewksbury Police Department and the Tewksbury Fire Department, and is the primary PSAP. The dispatch center is equipped with three positions. Two of the positions are staffed twenty-four hours a day. There are a total of nine (9) full-time dispatchers, seven (7) part-time dispatchers, and a chief dispatcher. The dispatch center is located inside the Tewksbury Police Department on Main Street. There have been no significant capital improvements to the Dispatch Center. The Department has identified a significant need to replace the radio systems in the consoles at the center. Table 5 below displays the metrics for the Tewksbury Police Communications Center.

**Table 5  
Tewksbury Police Department**

Activity	2013	2014
Total 911 Call Volume	5,862	6,006
Total Calls for Service	61,547	57,149
• Police	19,942	18,664
• Fire	3,701	3,923
• EMD	2,7371	2,972

**C. Dispatch Center Staffing**

Table 6 below displays the current staffing at each PSAP in these three communities:

**Table 6  
Current Personnel**

Dispatch Center	FT Authorized	FT Actual	PT Authorized	PT Actual	On Duty Days	On Duty Afternoon	On Duty Nights
Dracut Police Dept.	4	4	4	4	2	2	1
Pepperell Communications Dept.	5	5	1	1	2	1.5	1
Tewksbury Police Dept.	9	9	7	7	2	2	2
<b>Total</b>	<b>18</b>	<b>18</b>	<b>12</b>	<b>12</b>	<b>6</b>	<b>5.5</b>	<b>4</b>

**FT= Full Time**  
**PT= Part Time**

**Note: The Dracut Fire Department provides one firefighter dispatcher on each shift each day of the year or the equivalent of four dispatcher full time assigned to dispatching duties.**

## D. Emergency Medical Dispatch

Emergency Medical Dispatch (EMD), complete with pre-arrival instructions, has become the established standard of care throughout this country. The Massachusetts State 9-1-1 Board made EMD a requirement for 9-1-1 systems in the Commonwealth effective July 1, 2012. The regulations require that each PSAP provide EMD either through certified EMD dispatchers at the PSAP/RECC or through a certified EMD resource. Further, the PSAP/RECC or certified EMD resource must use a single EMD Protocol Reference System (EMDPRS) on every request for medical assistance, have policies and procedures for use of EMDPRS, and establish a continuous quality assurance (QA) program.

Table 7 below displays the status of and protocol in use at each PSAP and the most recent year (2014) of volume:

**Table 7  
EMD**

Locality	Protocol in Use	Volume
Dracut	Priority Dispatch	1,424
Pepperell	Powerphone	666
Tewksbury	Priority Dispatch	2,972
<b>Total</b>		<b>5,062</b>

## E. 911 Call Volume in 2015

Table 8 below shows the breakout of the 911 call volume by community received via wireless or wireline (landline). The wireless calls are initially received at the Essex RECC (managed by the Essex County Sheriff's Office) and are then transferred to the PSAP within each community. Oftentimes, multiple calls are received for the same incident, however, only one of those calls is transferred to the community PSAP. Using the 2015 911 call volume provided by the State 911 Department, Pepperell would add 11% in additional 911 wireless calls to be received by NMRECC from the Essex County RECC.

**Table 8 – 911 Call Volume in 2015**

Community	911 Wireless	911 Wireline	Total
Dracut	2,143	2,377	4,520
Pepperell	580	761	1,341
Tewksbury	2,303	3,722	6,025
<b>Total</b>	<b>5,026</b>	<b>6,860</b>	<b>11,886</b>

The wireless call figures are important in determining the incentive paid by the State 911 Department. Under the Fiscal Year 2018 Development Grants, the State 911 Department has advised that Grantees are strongly encouraged to directly accept wireless 911 calls. Applicants submitting wireless transition plans will be given additional priority consideration in the review and selection process for grant awards.

## F. FY 2016 Budget

The participating communities were asked to provide their FY 16 budget information to be used for comparison with any new projections related to the NMRECC operations.

Table 9 below displays the FY 16 budgets for Dracut, Pepperell and Tewksbury with a breakout of the personnel expenses and support (administrative and maintenance) expenses:

**Table 9: FY 16 Budgets**

<b>Dispatch Center</b>	<b>Personnel Expenses*</b>	<b>Support Expenses</b>	<b>Budget Total</b>
<b>Dracut</b>	\$ 554,266	\$ 36,762	\$591,028
<b>Pepperell</b>	313,242	44,431	357,673
<b>Tewksbury</b>	584,424	45,500	629,924
<b>Total</b>	<b>\$ 1,451,932</b>	<b>\$ 126,693</b>	<b>\$1,578,625</b>

\* Includes salary, benefits and other government costs.

## II. Dracut, Pepperell and Tewksbury Scenario

This scenario consolidates the dispatch operations of the communities of Dracut, Pepperell and Tewksbury into a single regional dispatch center/RECC. The existing PSAPs do not have sufficient space or equipment to accommodate the new consolidated center. Therefore, a new facility and equipment is required. A summary of the required characteristics of this particular center are summarized below:

Number of positions ..... 7  
 Required Space ..... 6,500 square feet  
 Acreage ..... (1) Minimum  
 Number dispatch personnel ..... 21  
 Personnel Expenses ..... \$1,609,879  
 Operations & Maintenance ..... \$145,831  
 Capital Expenses ..... (Grant)

Currently, the State 911 Department provides grant funding for the development of the Regional Emergency Communications Centers. The funding under the RECC Development Grant can be used for:

- Security Measures including equipment and one-time costs associated with the installation of the security measures.
- Architectural and Engineering Services to support construction of new or expansion of existing RECCs.
- Construction of the RECC including:
  - Construction materials

- Plumbing, electrical and cabling materials
- Labor
- Other construction or structural improvement items
- Consultant services
- Equipment to be used to foster the development and startup of RECCs.
- The RECC Executive Director’s salary one year prior to the opening of the RECC and during Year 1.

The State 911 grant announcements provide information regarding the guidelines and limitations of the funding. This is a competitive grant process that is funded by a surcharge of cell phone usage to enhance the state 911 system. The NMRECC is applying for grant funds under the FY 18 Development Grant program and is expected to request 50% of the construction funding, equipment costs, funding for the Clerk of the Works and the Executive Director’s salary. The NMRECC has already received funding for the OPM and architectural services and 50% of the construction cost. The estimated completion of the facility construction is December 2018 with move-in occurring in January/February 2019.

### III. Cost Benefit Analysis

The participation ratios for the NMRECC are based on the population and 911 call volume of the communities as shown below. CTC recommends this analysis as a fair and equitable method to share the costs for the Regional Emergency Communications Center (RECC). This method is used by a number of RECCs in Massachusetts and is also used by the State 911 Department to distribute their Incentive and Operations Grant funding. This method calls for an equal ratio of 911 call volume (50%) and population (50%). The information for the criteria is developed using independent sources, i.e., the State 911 Department and the U.S. census data. The 2010 population data and 2015 911 calls are listed below in Table 10.

**Table 10: 911 Call Volumes and Population re Participation Ratios**

<b>USER Agency</b>	<b>911 Call Volume</b>	<b>911 Calls Only</b>	<b>Population</b>	<b>Population Only</b>	<b>50% 911 Calls 50%Population</b>
Dracut	4,520	38.02%	29,457	42.13%	40.08%
Pepperell	1,341	11.28%	11,497	16.45%	13.87%
Tewksbury	6,025	50.70%	28,961	41.42%	46.05%
<b>TOTAL</b>	<b>11,886</b>	<b>100.00%</b>	<b>69,915</b>	<b>100.00%</b>	<b>100.00%</b>

#### A. Capital Equipment Expenses

Table 11 on the next page summarizes the non-building capital expenditures necessary to fully equip the RECC for use by the three communities. This amount covers the equipment and furniture for seven (7) dispatch positions/consols to ensure a minimum of five (5) dispatcher positions and one supervisor position, as well as to ensure coverage during times of large incidents that would require two additional consols. This does not include

the cost of the building itself. The Commonwealth has indicated through their grant program that they will cover the capital costs incurred in this effort; therefore, the costs are not included in later tables, except to calculate future maintenance costs. The State 911 Department has provided Development Grant Guidance regarding the capital equipment expenditures for their grants that are used to support the development, expansion or upgrade of Regional Emergency Communications Centers. The equipment category includes radio systems and consoles, computer aided dispatch (CAD) and records management systems (RMS), fire alarm receiving and alerting equipment, and security systems. Radio equipment must meet the special conditions for the EOPS Statewide Inter-Operability Emergency Communications (SIEC).

**Table 11: Equipment Costs**

<b>Equipment Cost Elements</b>	<b>Cost Estimate</b>
CAD/RMS System	\$ 524,001
Radio System including consoles	\$ 1,295,000
Dispatch Console Furniture	\$ 105,388
EMD Software, Cards & Training	\$ 85,000
Computer hardware, software and network	\$ 285,800
Electric Services	\$ 45,100
Radio Tower	\$ 120,300
<b>Total</b>	<b>\$2,460,589</b>

**B. Personnel/Salary Expenses**

In order to have four (4) fully-staffed dispatch positions for the day and mid-night shifts, five (5) dispatch positions for the evening shift and one (1) working supervisor position assigned to each shift, seventeen (17) full time and four part-time (4) dispatchers and four (4) full time supervisors are required. Three of the supervisors will be assigned to a shift and one will be a floater, who would provide coverage for days off. The supervisors would be at a console assisting the dispatchers and taking calls when the center is having a surge of calls. In addition, an Executive Director and an Administrative Assistant are also required. Table 12 on the next page shows the estimated annual salary cost for these employees, including fringe and other government costs. Opinions on salary are based on the current salaries paid by the communities. Salary Expenses represent more than 90% of the total operating budget for the proposed NMRECC. In this cost analysis, CTC also included required fringe/government costs for Medicare, retirement and medical expenses. The Annual Salaries are projected as follows:

- Executive Director - \$82,000
- Administrative Assistant - \$49,254
- Supervisors - \$62,000
- Dispatchers - \$49,254



**Table 12: Personnel Expenses**

Staffing Cost Element	Cost Estimate
Salaries	\$1, 237,562
Fringe & Govt. expenses	\$ 267,322
Overtime	\$ 75,000
PT Dispatchers	\$ 29,995
<b>TOTAL</b>	<b>\$ 1,609,879</b>

**Staffing Analysis and Recommendations**

CTC, Inc. used their analytical tools as a basis for the staffing and budgetary expense projections. Information used to develop the staffing criteria is very similar to that used by AECOM in the *2014 RECC Implementation Plan*. CTC, Inc. used the APCO Project Retains Research Report outlined below to develop the staffing model.

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

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

The Project RETAINS Research Report provided common practices across the country, which are useful to consider for the staffing levels for the NMRECC. On the next page you will find data from one hundred fifty-three (153) 911 PSAP centers relative to staffing and call volume. This data is then compared to what is proposed for the NMRECC.

**Table 13: NMRECC comparison with Project RETAINS data**

Center Category	Average	Median	NMRECC
# of Personnel	18	12	21
# of Agencies	12	6	6
Sq. Miles	770	125	42.37
Population	79,000	35,000	69,915
Call Volume	238,000	82,000	90,643

The RETAINS Report put forward that seventy-five percent (75%) of the centers surveyed handled fewer than 10,000 calls per employee, with an average of 6,500 calls per employee. The Report also noted that as call volume per employee increased, so did employee turnover. They further looked at the relationship between annual call volume per employee and the staffing situation reported by managers. On average, employees handled just over 5,200 calls per year in centers where managers indicated their center was fully staffed at the time (all authorized positions were filled). Employees in centers that were described by managers as chronically understaffed handled about twice as many calls—at 11,200 per year. The average for this RECC, based upon the total 2014 call volume of 90,643, would be 3,941 calls per employee in the staffing model for the NMRECC. We do not recommend decreasing this level, rather in this decision time for the RECC and the transition, we recommend the shift staffing of four dispatchers on the day and mid-night shifts and five on the evening shift to keep a strong level of service to their citizens and to more effectively manage the EMD calls. A working supervisor would be assigned to each shift with a floater supervisor position assigned to fill in on days off and vacation periods. The working supervisors will provide oversight, guidance and support for those times when a surge of calls impact the center. The supervisor would also provide oversight and leadership for key technical, training and quality assurance functions as assigned by the Executive Director.

As the project moves further towards implementation, greater analysis of call volumes by shift should be conducted to ensure that all shifts are being covered properly. To support the staffing requirement, it is recommended that an operational policy be developed for a contingency plan for staffing during a major event or when numerous EMD calls are being managed. We recommend the position of Executive Director for the functions of providing organizational leadership, continuation of the development of the RECC and for outreach to the communities and the public safety agencies. We also recommend an Administrative Assistant to support the Executive Director for the wide variety of administrative tasks that the Executive Director will undertake. Our recommendations consider the historical commitment for dispatch and other ancillary services in each center, while, at the same time, recognize the economy of scale that the RECC would provide. The staffing plan will also prepare the center for the increased call volume due to the transfer of wireless calls after the center is established and the State 911 Department approves the transfer.

### **C. Operations and Maintenance Expense**

Table 14 on the next page provides cost estimates for the recurring NMRECC expenses within the annual budget. Capital expenditures were not included in this estimate as these are eligible RECC grant request items from the State 911 Department.

**Table 14: Operations and Maintenance Expense**

Cost Element	Cost Estimate
Maintenance/ops. expenses	\$24,000
Software License Annual Fees	\$25,431
Admin.	\$32,400
Lease expenses	64,000
<b>Total</b>	<b>\$145,831</b>

**D. Total Annual Cost**

Table 15 below shows the estimated annual cost for the NMRECC for Dracut, Pepperell and Tewksbury. This cost includes salaries, operations and maintenance. The Commonwealth, through the State 911 RECC Grant Programs, will provide the funds for future capital expenditures under current grant guidance.

**Table 15: Total Annual Cost Estimates**

Item	Annual Cost Estimate
Operating Expenses	\$145,831
Personnel Expenses	\$ 1,609,879
<b>Pre Grant-Total</b>	<b>\$1,755,710</b>
State Grant*	\$575,732
<b>Annual Budget</b>	<b>\$1,179,978</b>

\*Current support and incentive grant funds are based upon population and 911 call volume totals. They do not decrease but any increase in these categories would result in increased grant funding. Opportunities may exist that will allow an increase in those funding to manage the initial wireless call taking and dispatching.

Note: Under the Tewksbury-Dracut NMRECC, the State 911 Department would provide \$151,238 in support funds and \$344,243 in RECC funds for a total of \$495,481. Under the three community NMRECC, the State 911 Department will provide \$177,156 in support funds and \$398,576 in RECC funds for a total of \$572,732, thus showing an increase of state funding of \$77,251 due to Pepperell's participation in the NMRECC.

**E. Total Annual Change per Community**

Table 16 on the next page provides an estimate of what the annual assessment will be for each community under the participation ratio using total population and total call volume. This particular methodology distributed the savings more equitably to ensure cost savings for each municipality. This takes the estimated savings due to grant funding into account. This budget, based upon recurring costs for the first operational year of the NMRECC, excludes any capital expenditures from existing plans and budgets as these costs will be borne by the State 911 Grant funds discussed in Section F. The State 911 funds have a significant positive impact on the future funding for Regional Emergency Communication Centers. Table 16 compares the amount that each community expended in FY2016 (see Table 9) to the amount that they would be assessed under their portion of the NMRECC

annual budget using the ratio for that community identified in Table 10. This budget provides estimates based upon the highest salary level of the current union contracts and a work schedule of four and two, both of which are negotiating elements when the Dispatch District is established. Salaries will not be at this high level as all of their employees are not at the highest pay grade due to their current seniority.

**Table 16: NMRECC Recurring Cost Savings by Community**

User Agency	Participation Ratio	FY 16 Budget	New Assessment	Cost Savings
Dracut	40.08%	\$ 591,028	\$ 472,935	\$118,092
Pepperell	13.87%	\$ 357,673	\$ 163,663	\$194,010
Tewksbury	46.05%	\$ 629,924	\$ 543,380	\$86,543
<b>TOTAL</b>	<b>100%</b>	<b>\$ 1,578,625</b>	<b>\$ 1,179,978</b>	<b>\$398,645</b>

#### F. Current State 911 Grant Funds and Guidance

The Massachusetts State 911 Department provides grant funding to existing Primary PSAPs, regional PSAPs, regional secondary PSAPs, and RECCs are eligible to participate in the Program and are eligible to receive support grant funding. For Fiscal Year 2018, twenty-five percent (25%) of the total surcharge revenues of the previous fiscal year were allocated to the support grant awards. Support grant awards shall be disbursed according to a formula that weighs both 911 call volume and population served. Between \$8 and \$12 million will be available under the FY 18 Development Grant.

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

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

Funds shall be disbursed according to a formula that weighs both 911 call volume and population served.<sup>1</sup>

Existing regional PSAPs and RECCs that expand through the addition of one more PSAPs shall be eligible to apply for funds to be allocated based on the population formula set forth in the chart below. Such additional grant funding shall be, for each PSAP that is added to the applicant or after January 1, 2013, the greater of: the amount that would otherwise have been allocated to the applicant for the fiscal year, pro-rated to allow for funding for the remainder of the grant cycle, for the addition of the PSAP(s), or the dollar amount set forth in Table 17.

**Table 17: State 911 Department Incentive Grants**

Increase in Population Served <sup>1</sup> (per PSAP added)	Funding Amount/ RECCs	Funding Amount/ Regional PSAPs
0-25,000	\$25,000	\$12,500
25,001-50,000	\$50,000	\$25,000
50,001-100,000	\$75,000	\$37,500
100,001 or greater	\$100,000	\$50,000

The percentages in clauses i to iv, inclusive, and the percentages of the total amounts allocated to each grantee eligible within such clauses i through iv may be adjusted by the State 911 Commission to ensure a proper allocation of incentive funds as more regional PSAPs and RECCs are added.

The amount allocated to a grantee or grantees under the Support and/or Incentive Grants may be adjusted or capped. In addition, should the status and/or dynamic of a primary PSAP, regional PSAP, RECC or regional secondary PSAP change during this funding cycle, the State 911 Department may take the following actions:

- Should a primary PSAP, regional PSAP, RECC, or regional secondary PSAP cease to exist, said PSAP will no longer be eligible for funding under the Support and/or Incentive Grants. The contract shall be terminated immediately;
- Should a primary PSAP, regional PSAP, RECC, or regional secondary PSAP increase its capacity through consolidation with another PSAP(s), the State 911 Department will re-calculate the eligible award amount taking into account the increased population and call volume and, if applicable, the chart above. This new allocation would then be off-set by the funding already received and the difference would be pro-rated to allow for funding for the balance of the grant cycle.
- The State 911 Department may limit allowable expenses and/or approved categories of expenses for a PSAP that is regionalizing.

To assist with the establishment of a Regional Emergency Communication Center (RECC), the State 911 Department also provides that they will reimburse the payroll costs for the hiring of an Executive Director for a two year period, covering one year prior to the effective date of the RECC and one year thereafter to provide planning and support to this transition period for the communities. Therefore, the salary for the Executive Director will be subsidized for the first year of operation, thereby reducing the overall personnel costs.

**G. Capital Savings/Anticipated replacement cost of dispatch equipment**

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

- PC's and laptops – 3 year cycle

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<sup>1</sup> 2010 U.S. Census will be utilized.

- Servers and routers – 5 year cycle
- Software upgrades – 7 year cycle
- Radio console – 7 year cycle
- Dispatch Furniture – 10 year cycle

All communities involved in this planning process will be faced with replacement of their dispatch equipment. The recent survey results revealed that there has not been a great deal of funding for this equipment in the annual budgets. All of the communities in the study expressed their need to replace the majority of their dispatch equipment due to its age and condition. Based upon the cost of existing PSAP communications equipment and the existing (11) consoles in the communities, the replacement value over the next ten years for all of the communities would be \$6,014,844. In Table 18 the annualized cost of this equipment is broken down by community as follows:

**Table 18: Annual Equipment Expenditures**

<b>Community</b>	<b>Annual Equipment Expenditure</b>
Dracut	\$218,722
Pepperell	\$164,041
Tewksbury	\$218,722
<b>Total Annual</b>	<b>\$601,485</b>

Equipment is an allowable expense for all PSAPs and RECC’s. RECC’s are also eligible for equipment purchases of Public Safety Radio Systems. Under the NMRECC the cost of future replacement of communication has been included into the budget estimates. Deferring this equipment purchase to the NMRECC would provide substantial savings to the three communities. These PSAPs have identified a dire need for new radio equipment expenditure to replace the equipment utilized by the community PSAP, particularly consoles and radio equipment. The equipment savings by the deferral to the NMRECC provides substantial benefit to the community as these expenditures are eligible grant funded reimbursement items for a RECC. Due to the municipal budget issues in Massachusetts, there has been limited investment in 911 dispatch equipment over the past five years. Most communities have provided a small amount of planned purchases of computers, software updates and copy machines due the fiscal constraints that all of the communities have faced.

### **H. Cost Savings Summary**

Table 19 on the next page documents the savings that are anticipated from this cost sharing effort, as outlined in the previous sections. Not included in this summary is the salary of the Executive Director for the first year and the host incentive funds provided to Tewksbury, which represent the incentive and support funds provided previously to the Dracut and Pepperell PSAPs.

**Table 19: Cost Savings Summary**

	<b>Recurring cost Savings</b>	<b>(Minus - Current State Support)</b>	<b>Equipment capital expenses Savings</b>	<b>Total Savings</b>
<b>Dracut</b>	118,092	(60,857)	218,722	\$ 275,957
<b>Pepperell</b>	194,010	(27,764)	164,041	\$ 330,287
<b>Tewksbury</b>	86,543	(71,660)	218,722	\$ 233,605
<b>Total</b>	<b>\$398,645</b>	<b>\$(160,281)</b>	<b>\$601,485</b>	<b>\$ 839,849</b>

Additional revenues for wireless calls could be added to these estimates starting in the first year of operation at the NMRECC. These figures would need to be confirmed by the State 911 Department, but any increase in the incentive grant would further reduce the cost for the participating communities in the NMRECC. The State 911 Department will require further analysis and a transition plan to be submitted one year prior to receiving wireless 911 calls directly.