



Consolidation Guide

prepared for
**Office of Statewide
Emergency Telecommunications
State of Connecticut**

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TABLE OF CONTENTS

| | |
|---|-----------|
| EXECUTIVE SUMMARY | 1 |
| 1. CONSOLIDATION OVERVIEW..... | 3 |
| 1.1 HOW HAS 9-1-1 EVOLVED? | 3 |
| 1.2 WHAT IS CONSOLIDATION?..... | 4 |
| 1.3 WHY CONSIDER CONSOLIDATING?..... | 4 |
| 1.4 CONSOLIDATION MODELS..... | 5 |
| 1.5 HOW DO YOU DETERMINE THE BEST MODEL FOR THE PARTICIPATING AGENCIES? | 7 |
| 1.5.1 Overall Service Level Improvement (Service Improvement) | 7 |
| 1.5.2 Cost Savings Potential (Cost Savings)..... | 8 |
| 1.5.3 Improved Communication..... | 10 |
| 1.5.4 Shared Technology..... | 11 |
| 1.5.5 Training Consistency..... | 12 |
| 1.5.6 Organizational Expansion/Career Path | 12 |
| 1.5.7 Participating Agency Control (Loss of Control)..... | 13 |
| 1.5.8 Non-dispatch or Ancillary Tasks | 15 |
| 1.5.9 Summary of Eight Key Issues..... | 15 |
| 2. WHAT IS THE CONSOLIDATION PROCESS? | 17 |
| 2.1 WHY IS A CHAMPION NEEDED? | 17 |
| 2.2 CONSENSUS BUILDING | 17 |
| 2.3 PRELIMINARY DISCUSSIONS / INTEREST BUILDING..... | 17 |
| 2.4 IDENTIFICATION OF STAKEHOLDERS | 18 |
| 2.5 FEASIBILITY STUDY | 19 |
| 2.5.1 Study Components | 19 |
| 2.6 MOVING FORWARD/INITIAL DECISION MAKING | 29 |
| 2.7 PLANNING | 29 |
| 2.7.1 Forming of a Consolidation Project Committee | 29 |
| 2.8 KEEPING THE PSAP EMPLOYEE AND OTHER STAKEHOLDERS INFORMED..... | 30 |
| 2.8.1 PSAP Employees | 30 |
| 2.8.2 Other Stakeholders..... | 30 |
| 2.8.3 Change Management..... | 30 |
| 2.8.4 Finalization of Governance and Funding Models | 31 |
| 2.9 FACILITY..... | 31 |
| 2.9.1 Site Procurement..... | 32 |
| 2.9.2 Emergency Operations Center (EOC)..... | 33 |
| 2.9.3 PSAP Redundancy Planning..... | 33 |
| 2.10 TECHNOLOGY | 33 |
| 2.10.1 Overview / Planning for the Future (NG9-1-1 Technology)..... | 34 |
| 2.10.2 Computer Aided Dispatch (CAD)..... | 34 |
| 2.10.3 9-1-1 Answering Equipment (Customer Premise Equipment (CPE))..... | 34 |
| 2.10.4 Radio Consoles..... | 35 |
| 2.10.5 Mapping / Geographic Information System (GIS)..... | 35 |

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|-----------|--|-----------|
| 2.10.6 | <i>Logging Recorders</i> | 35 |
| 2.10.7 | <i>Master Clock</i> | 36 |
| 2.10.8 | <i>Dispatch Furniture / Consoles</i> | 36 |
| 2.10.9 | <i>Technology Summary</i> | 36 |
| 2.10.10 | <i>Reuse of Equipment / Technology</i> | 37 |
| 2.11 | HUMAN RESOURCES | 37 |
| 2.12 | DEVELOPMENT OF STANDARD OPERATING PROCEDURES (SOPs)..... | 38 |
| 2.13 | PSAP BUDGET DEVELOPMENT..... | 38 |
| 2.14 | PROJECT MANAGEMENT..... | 38 |
| 3. | IMPLEMENTATION & TRANSITION PHASE | 40 |
| 3.1 | SCHEDULE..... | 40 |
| 3.2 | STAKEHOLDER AND EMPLOYEE INVOLVEMENT | 40 |
| 3.3 | FACILITY..... | 42 |
| 3.4 | TECHNOLOGY | 42 |
| 3.5 | TRAINING | 43 |
| 3.6 | CUT-OVER TO THE NEW PSAP..... | 43 |
| 3.7 | PROJECT MANAGEMENT..... | 43 |
| 3.8 | POST-ACTIVATION ISSUES..... | 43 |
| | APPENDIX A - REFERENCES | 45 |
| | APPENDIX B – GLOSSARY | 47 |
| | APPENDIX C – PSAP MAP | 50 |

EXECUTIVE SUMMARY

What is PSAP Consolidation?

The evolution of 9-1-1 technology and difficult economic times have encouraged both state and local governments, and public safety agencies to investigate the concept of shared services or consolidation. The simplest definition of consolidation is the combining of two or more PSAPs into a single facility and/or organization using one of several existing models. Though the consolidation process is often complex and difficult, it can yield substantial improvements in service levels, responder safety, employee retention, and potential cost savings if implemented correctly.

Why Consider Consolidating?

Agencies consider consolidation for a number of reasons. Commonly cited reasons are:

1. Service level improvements - Improving service is the single most important reason to consider consolidation.
2. Individual agencies no longer wish to support the training and technology needed or handle the personnel issues for PSAP staff.
3. Potential for cost savings - While cost savings are possible, two points are critical. First, not all consolidations result in cost savings. Second, in those scenarios where cost savings are achievable the actual realization of the savings may not occur for several years due to capital and other start-up costs.

Consolidation Models

The four primary consolidation models are full, partial, co-location and hybrid. Each of these models has different characteristics and provides different benefit levels.

What is the Consolidation Process?

Consolidation of 9-1-1 and dispatch services can be a lengthy and complex process. The steps include:

1. Identifying a Champion - Successful consolidations usually have one trait in common, a well-respected champion to spearhead the process from beginning to end. Consolidation represents a major culture change and is often threatening to participating agencies long accustomed to having complete control of their 9-1-1 and dispatch services.
2. Interest Building - The process of developing interest in consolidation among decision-makers and stakeholders. If enough interest exists, the process moves to the next phase of conducting a feasibility study.
3. Feasibility Study - A comprehensive study that:
 - Benchmarks current 9-1-1 and dispatch services by examining a wide variety of issues. These issues include staffing, call processing and dispatching, budget, technology, political environment, and facilities.

- Determines if consolidation makes sense from a service level, political, technological, and financial perspective.
- Makes recommendations for consolidation models, governance, funding, staffing, technology and facilities.
- 4. Planning Phase – Decisions regarding participation, funding formulas, organizational structure, governance models, and human resources issues occur in this phase. Establishing facility and technology needs and planning for procurements occurs in this phase as well.
- 5. Implementation / Transition Phase – Technology procurement, installation and training, facility construction or renovations and procurement of furnishings all occur in this phase.
- 6. Post-Consolidation Phase – This is the time immediately after activation of the new PSAP. Service and technology issues are common during this phase. These issues are not usually indicative of the success of the consolidation, but are transitory in nature. Keeping these issues in proper perspective is vital.

Key Points

- The primary reason for considering consolidation is service level improvements.
- Consolidation does not always result in cost savings. High start-up and capital costs may delay any cost savings for several years.
- The process needs a champion to be successful.
- Identification of all stakeholders and including them in the consolidation process from the beginning is important.
- Conducting a feasibility study is the first step after establishing sufficient stakeholder interest.
- Development of a communications plan to keep stakeholders, particularly PSAP employees, informed and involved in the process is critical.
- The new PSAP needs a carefully crafted governance agreement to provide equitable service to all participants and the community.
- Keeping post-consolidation technology and operational issues in perspective is vital.
- Retaining professional project management assistance is highly recommended.

1. CONSOLIDATION OVERVIEW

1.1 How has 9-1-1 Evolved?

Historically, 9-1-1 call answering and dispatch services have been provided by small public safety answering points (PSAPs), except in larger urban areas. The PSAPs were commonly part of a larger law enforcement, fire or emergency medical services (EMS) agency. These PSAPs typically had a small staff that answered 9-1-1 calls and dispatched field units for a single primary agency in addition to a host of other non-9-1-1 or dispatch related job tasks. Little specialized training was necessary for the staff to perform these functions and advanced technology was not yet present. In fact, sworn personnel with no 9-1-1 training routinely filled temporary vacancies in the PSAP. However, over the last 25 years several key factors have caused public safety communications to evolve into a profession that requires highly skilled people with extensive training and advanced technology. The key factors are:

- The explosion of cellular phone usage which created two major issues:
 - A dramatic increase in 9-1-1 call volume.
 - The need for Wireless 9-1-1 Phase I and II caller locating technology and improved mapping abilities.
- Increased public awareness about available 9-1-1 technology and services such as emergency medical dispatch (EMD) raised public expectations and drove the need for higher service levels.
- The terrorist attacks of September 11, 2001 raised awareness for the need for interoperability among responder agencies and the PSAPs that serve them.
- Next Generation 9-1-1 (NG9-1-1) which is an IP-based “system of systems” that will eventually allow PSAPs to receive new forms of data, such as text messages, photos, and video, from a variety of wireless devices.

As this evolution progressed, those agencies managing PSAPs found that as training and technology needs increased so did the costs associated with operating a PSAP. In fact, the evolution is continuing, as future 9-1-1 service levels will include the ability to handle text messages, video, and photos over IP-based networks (NG9-1-1). As time progresses those agencies that maintain individual PSAPs will be faced with supplying even higher levels of training and procuring expensive new technology without which they will no longer be able to meet the 9-1-1 service level expectations of the community.

From a state level perspective, Connecticut has long recognized the importance of public safety communications and interoperability. The Bureau of Statewide Emergency Telecommunications (now OSET) was formed in 1982 and subsequently:

- Implemented standard 9-1-1 telephony equipment statewide.
- Implemented telecommunicator training and certification classes.
- Created the subsidy program for regional and large PSAPs.
- Implemented cellular Phase 2 location services.

These accomplishments along with the current projects to implement the statewide fiber network and Next Generation 9-1-1 are all parts of Connecticut's efforts to standardize and improve the State's level of 9-1-1 service.

Key public safety industry organizations recognize that the on-going evolution of 9-1-1 requires establishing minimum standards for PSAP employee training, operations, technology, and facilities. These organizations include:

- National Emergency Number Association (NENA)
- Association of Public-Safety Communications Officials – International (APCO)
- International Association of Fire Chiefs (IAFC)
- Commission on Accreditation for Law Enforcement Agencies (CALEA)
- National Fire Protection Association (NFPA)
- International City/County Management Association (ICMA)

The references in Appendix A contain links to these organizations.

1.2 What is Consolidation?

The evolution of 9-1-1 and the associated technology coupled with difficult economic times have encouraged state and local governments and public safety agencies to investigate the concept of shared services or consolidation. The simplest definition of consolidation is the combining of two or more PSAPs into a single facility and/or organization. A single set of critical PSAP technology and protocols are used. In reality, four basic models are commonly used; full, partial, co-location, and hybrid. A full discussion of these models begins on page 6. Customization of each of these four models is possible to meet unique regional and stakeholder needs. The consolidation process is a complex and difficult process that can yield substantial improvements in service levels, responder safety, employee retention, and potential cost savings if implemented correctly.

1.3 Why Consider Consolidating?

Agencies consider consolidation for a number of reasons. Commonly cited reasons are:

1. Service level improvements - **This is the single most important reason to consider consolidation.** Dispatchers and 9-1-1 call takers are truly the "first responder on the scene" and can substantially affect the outcome of an incident. The types of service improvements typically achieved include:
 - Reduction or elimination of the transfer of 9-1-1 calls between PSAPs improves response times and lowers the potential for human or technology errors.
 - Quicker call processing and dispatch times, resulting in faster on-scene times for field personnel.
 - Sharing of physical space enables communications between call takers, law enforcement, fire and EMS dispatchers to be virtually instantaneous. This improved communications enables field personnel to receive information more quickly and accurately which is particularly important in multi-jurisdictional

- incidents. This communication is the least tangible or quantifiable benefit of consolidation, but is one of the most important.
- If large enough, a consolidated PSAP can utilize a call taker / dispatcher organizational structure. This structure enables the call takers to focus solely on the incoming call and obtain the best information possible. The dispatcher's ability to focus solely on field personnel improves field personnel safety.
 - Standardized training of all PSAP employees increases regional consistency.
 - A single regional PSAP allows resource management during major incidents from a single point of control rather than fragmenting control among multiple PSAPs.
 - A consolidated environment will offer the opportunity for smaller participants to benefit from state-of-the-art technology, improved training, and expanded career opportunities that would not be otherwise financially or organizationally feasible.
2. Individual agencies are no longer able or no longer wish to support the training and technology needed or manage the personnel issues for PSAP staff. Reassigning sworn personnel functioning as PSAP management and support staff to other positions is possible by eliminating the PSAP.
 3. Another primary reason cited for consolidation is cost savings. While cost savings are possible, two points are critical. First, not all consolidations result in cost savings. A common misconception is that consolidating will result in significant personnel reductions thus significant cost savings. Consolidations do not normally involve large staff reductions. The real cost savings come from the elimination of redundant and expensive technology such as CAD, 9-1-1 answering equipment, radio consoles, connectivity costs and logging recorders as well as the dedicated 9-1-1 trunks and network technology needed to access the state system currently found in each PSAP. The single set of technology and systems found in a consolidated environment reduces costs associated with procurement, connectivity, and maintenance costs.

Second, in those scenarios where cost savings are achievable the actual realization of the savings may not occur for several years. The consolidation process can be expensive and can generate substantial one-time start-up and capital costs for facility and technology needs. These costs delay the actual cost savings.

It is important to understand that comparing the cost of current, non-consolidated PSAP operations with that of a consolidated environment is not an apples-to-apples comparison. An analogy may be a 1985 model ambulance and a brand new ambulance, which can get from the scene of an accident to an emergency room in a similar manner. However, the older model is less reliable, less safe, less efficient, and not equipped with the most current medical devices. These devices can be the difference between life and death. The 1985 model, regardless of how well maintained, will eventually break down and need replacement.

1.4 Consolidation Models

Variations of four basic models provide the basis for most 9-1-1 and dispatch services consolidations. The models include full, partial, co-location, and hybrid. Gaining a basic understanding of these models prior to beginning the actual consolidation process can help provide focus and direction as the process moves forward. Each group of potential participants considering consolidation must carefully consider what model will best fit their collective operational, economic, political, and regional needs. The models and the basic characteristics of each are as follows:

1. Full

Full consolidation refers to the consolidation of all 9-1-1 answering and emergency dispatch functions (law enforcement, fire, and EMS) within a defined geographical area into a single organization. This geographical area can include one or more units of government (e.g. region, city, town, or township). The highest level of service level improvements occurs under this model. Model characteristics include:

- Usually includes services for law enforcement, fire, and EMS call taking and dispatching.
- The structure of the consolidated PSAP is often a stand-alone agency, a separate department either within an existing municipality or as an independent organization (e.g. joint powers authority).
- A full consolidation houses employees in a single facility or among two or more regional facilities.
- Commonly configured as a single organizational or reporting structure, which may include a board, advisory and/or users' group as a mechanism for served agencies to provide input and resolve issues.

2. Partial

A partial consolidation is the combining of emergency communications for multiple public safety agencies within a specified geographical area, but not all. For example, several Sheriff's Offices may combine their communications into a single PSAP, but fire and EMS handle their own communications individually. Model characteristics include:

- Communications services for one or two disciplines (law enforcement, fire, and/or EMS), but not all.
- Typically set up as part of an existing agency. For example, three Sheriff's Offices decide to combine their 9-1-1 call taking and dispatch functions so expansion of one of the existing PSAPs takes place to include the new agencies.
- Usually falls under the organizational structure of the host agency. However, in urban areas or multi-municipality consolidations the new consolidated PSAP may be large enough to be a stand-alone agency.

3. Co-location

A co-location of PSAPs refers to the sharing of physical space and, at times, critical PSAP technology such as CAD, 9-1-1 answering positions, radio consoles, and logging recorders while remaining completely separate entities. For example, communications for a city police and fire department reside in the same physical space but each remains part of its original organization. Governance for each department remains under its original organization as well. Model characteristics include:

- Participants that are seeking cost efficiencies by the sharing physical space and technology without giving up direct control of actual call taking and dispatching. This model most often occurs when variables do not allow for an actual full or partial consolidation of services.

- Can be used as precursor to a full consolidation. For example, communications for multiple law enforcement departments could be co-located as the initial step in a full consolidation. The agencies work side by side while cross training is completed and issues associated with creating a single organization are resolved.

4. Hybrid

A hybrid model refers to a model that has aspects of both a full consolidation and co-location. A typical example of this model would be the co-location of a commercial ambulance service with a fully consolidated PSAP. Sharing of systems may or may not occur and organizational structures remain separate. A partial consolidation could also potentially share space with a commercial or nonprofit entity as well. However, this document assumes a hybrid model includes full public safety consolidation.

1.5 How do you Determine the Best Model for the Participating Agencies?

The differences between these models are many. However, comparing eight key issues for each model provides an overview. These issues represent the most commonly expressed areas of concern when discussing consolidation models. A chart at the beginning of each section indicates the level of impact, low to high, of each issue on each model. A rating of high will represent the greatest degree of impact.

1.5.1 Overall Service Level Improvement (Service Improvement)

Service Level Improvement Model Comparison

| Potential for Service Improvements | | |
|------------------------------------|---------------------------|--|
| Model | Potential for Improvement | Notes |
| Full | High | This model combines the sharing of physical space and technology to achieve the highest overall service improvement. |
| Partial | Medium | In a partial consolidation a minimum of two PSAPs still exist and must coordinate responses and incident management, reducing the overall service improvements that can be achieved. |
| Co-location | Low - High | The level of improvement realized depends upon the degree of physical space and technology sharing as well as the political environment. The sharing of physical space and technology and a cooperative political environment increases the potential for improvement. |
| Hybrid | High | When a full consolidation is present, this model combines the sharing of physical space and technology to achieve the highest overall service improvement. |

An overall improvement in the level of 9-1-1 answering and dispatch services provided to the community, participating agencies, and field personnel is **the single most important reason** to consider PSAP consolidation. The types of specific service improvements commonly seen include:

- The reduction or elimination of the number of calls transferred between PSAPs. Each time a call transfer takes place a time delay occurs and response times increase. The presence of one or more secondary PSAPs in the public safety service configuration increases the need to transfer calls. Transferred calls typically occur when:

- The PSAP receiving the call does not handle the dispatch for all needed services. The primary PSAP only dispatches for law enforcement, fire or EMS but not all. The transfer of the caller is required to ensure all needed services will respond. In Connecticut, 9-1-1 calls are often transferred to a coordinated medical emergency direction (CMED) facility for emergency medical dispatch (EMD) instructions.
 - Transfer of misrouted wireless calls to the correct PSAP in locations. Although misrouted calls will still occur occasionally, for a majority of wireless calls in a consolidated environment routing and answering of calls occurs at a single location. In some states wireless calls are received by the state police first and then transferred to the appropriate PSAP. Consolidation may not reduce these types of transfers unless the state police participates in the consolidation effort.
 - Call transfers occur when one PSAP answers 9-1-1 calls for another, but does not provide dispatch services. The PSAP that receives the calls functions as a switchboard and transfers the calls to the appropriate dispatch center for the dispatch of field units.
 - Emergency communications practitioners have long recognized the negative impact of transferring 9-1-1 calls on response times and recommends that as few transfers as possible take place.
- A single consolidated PSAP increases the effective management of large-scale incidents, natural disasters, and multi-jurisdiction/multi-agency and discipline incidents. The dispersing of single incident control of communications and resources among several different PSAPs, fragments overall incident management and increases the potential for human and technological based errors.
- Additional service improvements such as quicker response times, improved communications, and utilization of a call taker/dispatcher structure for larger PSAPs are possible. Discussion of these improvements takes place in other parts of this section.

1.5.2 Cost Savings Potential (Cost Savings)

Cost Savings - Model Comparison

| Potential for Cost Savings | | |
|----------------------------|------------------------|---|
| Model | Cost Savings Potential | Notes |
| Full | Low - High | The potential for cost savings depends on a number of variables such as capital costs and facility needs. A feasibility study identifies these variables. |
| Partial | Low - Medium | The potential for cost savings depends on a number of variables such as capital costs and facility needs. A feasibility study identifies these variables. However, since physical space and technology are not shared potential cost savings are lower. |
| Co-location | Low - Medium | The potential for cost savings depends on a number of variables such as capital costs associated with facility needs and technology sharing. A feasibility study identifies these variables. Potential cost savings are lower even when the sharing of space and technology occurs as duplication of personnel and tasking is inherent in this model. |
| Hybrid | Low - High | Same as a full consolidation model. |

The most often cited reason for considering consolidation is cost savings. Generally, consolidation will result in cost efficiencies. However, initial capital investments in equipment and facility costs often delays realizing the cost savings for several years. Cost savings are a long-term objective and not the primary reason to consider consolidating.

Another common misconception about cost savings is that a consolidation of PSAPs will result in a reduction of staff. Normally, this is not the case for two reasons. First, the majority of PSAPs are commonly understaffed. Second, while the number of call takers and dispatchers needed in the consolidated center may be fewer, the larger organization will need several new positions to function properly. These positions include supervisors, training, quality assurance, and technical staff. The total number of employees stays roughly the same while the distribution of staff among various job titles changes.

Consolidation associated cost savings come primarily from the reduction and/or elimination of duplicate networks, technology, and associated maintenance costs. Streamlining the network of circuits, trunks and voice/data transport methods may realize immediate savings. Rather than purchasing and maintaining redundant and often dissimilar systems in multiple PSAPs, a single PSAP requires only a single set of systems and technology. Consolidation also allows for potentially substantial cost savings in two additional areas. First, all PSAPs require either an actual back-up facility or a plan. In places utilizing actual facilities, the number of these facilities required is lower in a consolidation. For example, a region with six PSAPs needs a back-up facility for each while a single consolidated PSAP requires a single back-up facility. Second, the costs associated with installing large scale systems replacements such as radio consoles or customer answering positions (CPE) equipment will be substantially less when installed in a single PSAP rather than multiple ones.

The amount of savings is dependent upon a number of variables such as:

- The number of participants.
- Whether a suitable facility is available or if one will need to be built or renovated.
- Whether technology and/connectivity costs are paid for by a state 9-1-1 board.
- Whether systems such as CAD, radio consoles, 9-1-1 answering positions, and logging recorders can be re-used or new systems purchased.
- How much and how soon costs savings are realized vary significantly depending on the capital costs associated with each consolidation.

One of the most important considerations of comparing the cost of current individual PSAPs with the cost of establishing and maintaining a consolidated PSAP is that it is not an apples-to-apples comparison. In a non-consolidated environment, the service levels from agency to agency may vary and differ from the type of service provided by a fully consolidated center. Service level differences are often a result of training issues. The availability of training budgets and differing individual agency opinions on the importance of PSAP training are two examples of issues that affect service levels. In a consolidated environment, training is consistent and all agency disciplines receive the same high level of dispatch services.

While the level of potential cost savings is high when consolidating, the actual savings realized will depend upon the variables found in each situation.

1.5.3 Improved Communication

Communication Model Comparison

| Potential for Improved Communications | | |
|---------------------------------------|--------------|--|
| Model | Potential | Notes |
| Full | High | This model represents the greatest potential for improved communications. The improvements result from complete integration of workspace and organizational structure. |
| Partial | Low - Medium | Communication within a partially consolidated PSAP is more effective than multiple PSAPs. However, those agencies that are not part of the consolidation will be located in other facilities. This separation lessens the amount of improvement possible. The political environment between consolidated and non-consolidated agencies will also factor into the effectiveness of the communication. |
| Co-location | Low - High | The degree of improvement depends upon the physical configuration of the agencies within the facility and the level of cooperation between them. Achieving the highest level of communication levels requires maximum workspace integration and inter-agency cooperation. |
| Hybrid | High | Same as a full consolidation model. |

Improved communication within a consolidated center is one of the most significant consolidation benefits, but is the least tangible and quantifiable. When multiple individual PSAPs are present, fast and effective communication between them can be a challenge. For example, a fire incident with mutual aid responses requires that the dispatchers from each PSAP coordinate via radio or telephone. A multiple PSAP configuration fragments tracking of resources and field personnel rather than a single agency. In a fully consolidated PSAP the call takers, law enforcement, fire, and EMS are usually located in close physical proximity. Close proximity provides:

- Communication between call taker and dispatcher and among law enforcement, fire and EMS dispatchers and field personnel is virtually instantaneous. While this benefit is not quantifiable, its importance to effective communications should not be underestimated.
- Incident management, notifications and the dissemination of information to field personnel and all levels of government response are significantly improved.
- The centralized tracking of available resources regionally provides for improved resource management.

The reduction of agencies requiring coordination improves the emergency management response and recovery during and after manmade and natural disasters.

Partial consolidations and co-locations benefit from this increased communication to a lesser degree depending on the physical configuration and the existing political environment.

1.5.4 Shared Technology

Shared Technology Model Comparison

| Potential Benefits from Shared Technology | | |
|---|------------|--|
| Model | Potential | Notes |
| Full | High | This model has the most integrated and shared technology and provides the greatest benefits. |
| Partial | Medium | The benefits from sharing technology are higher than in individual PSAPs. However, realizing full benefits is not possible if all public safety agencies are not part of the PSAP. |
| Co-location | Low - High | The benefits from sharing technology depend heavily on the political environment within the PSAP and the degree of cooperation between agencies. |
| Hybrid | High | Same as a full consolidation model. |

In non-consolidated PSAPs, each has its own CAD, radio consoles, records management, and logging recorder (the State of Connecticut provides CPE and network connectivity). The make, model and age of these systems will vary from PSAP to PSAP, but they most likely will be older and more basic in technology since total call volume in small PSAPs is generally low (except in large urban areas). In some cases, smaller PSAPs may not have some of these systems due to a lack of funding or need. Typically, the disparate systems are not interfaced or interoperable, and separate expensive networks crisscross the PSAP service area in support of the distinct systems.

In a consolidated environment, there is a single set of systems in place supported by one network. The combining of call volume and number of field personnel for all agencies requires systems that can handle higher call volume and disparate dispatch criteria. These more robust systems usually come with more features such as reporting and multi-jurisdictional and agency dispatch capabilities that would not be available in a non-consolidated environment. In other words, the level of technology needed in a consolidated environment provides law enforcement, fire, and EMS agencies with tools that enable them to respond more efficiently to calls for service.

Since a consolidated center uses a single set of systems, dispatchers for all local agencies will have access to real time information for the entire service area. This real time access means the dispatchers will have better situational awareness of incidents that have potential to affect multiple response areas and agencies for which they are dispatching such as vehicle pursuits, hazardous materials incidents, or large fires.

Finally, one of the most significant advantages of sharing the latest technology is the potential for cost savings. This advantage is discussed more fully in 2. Cost Savings Potential.

A high degree of technology sharing is desirable. A full consolidation model offers the highest degree of sharing; however, technology-sharing models depend upon the specifics of a particular consolidation or co-location.

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1.5.5 Training Consistency

Training Consistency Model Comparison

| Potential for Consistent Training | | |
|-----------------------------------|-----------|--|
| Model | Potential | Notes |
| Full | High | A fully consolidated PSAP has a single training program ensuring all staff receives training to the same standards. |
| Partial | Medium | Standardization of training within the partially consolidated center is present. However, non-consolidated agencies would continue to have their own programs. Regionally, the differences in training are reduced, but still present. |
| Co-location | Low | Generally, the agencies maintain their own training programs. Any differences that existed before the co-location will be present afterwards. |
| Hybrid | High | Same as the full consolidation model for PSAP staff. Employees for any co-located non-profit or commercial agency usually have their own programs. |

When multiple PSAPs exist in a single geographic region, training levels often differ widely from PSAP to PSAP once the basic state-required training is completed. Not only does on-the-job training for 9-1-1 call taking and the dispatch of law enforcement, fire, EMS agencies, and EMD training vary, but the continuing education needed to maintain various certifications and skill levels does as well. This inconsistency results in broad discrepancies in the level of service each community receives within the same region. In the simplest terms, which PSAP answers and dispatches the call can directly affect patient and incident outcome.

The creation of a larger, fully consolidated PSAP ensures that all employees receive the same standardized training regionally. This training consistency prevents widely disparate service levels and ensures the desired high level of training is present. Partial consolidations and co-locations offer lesser degrees of training consistency depending on the particular variables associated with each.

1.5.6 Organizational Expansion/Career Path

Organizational Expansion / Career Path Model Comparison

| Potential for Organizational Expansion | | |
|--|-----------|--|
| Model | Potential | Notes |
| Full | High | This model generally has the largest degree of expansion of the organizational structure, which increases the potential for career advancement. Employee retention also increases. |
| Partial | Medium | Depending on the size of the PSAP, some expansion of the organizational structure takes place. The expansion does allow for improved career advancement, but not to the level seen in a fully consolidated center. |
| Co-location | Low | Each agency retains its original organizational structure thus limiting career advancement and lowering employee retention. |
| Hybrid | High | Same as the full consolidation model for PSAP staff. Employees for any co-located non-profit or commercial agency are limited to any career opportunities found in their own agencies. |

Often, where each municipality or agency maintains its own PSAP the size of the PSAP may be small. These individual PSAPs are commonly part of law enforcement agencies. As such, command staff provide oversight. The small size and law enforcement oversight generally limits the career path available to PSAP staff.

In a larger consolidated PSAP, the organizational structure tends to expand. This expansion may include:

- The separation of call taking and dispatching into two separate functions.
- The ability for employees to do multi-agency dispatching that includes law enforcement, fire, and EMS.
- The addition of in-house trainers, quality assurance staff, technology support positions, shift supervisors, and management staff.

A common misconception is that a consolidation allows for a substantial reduction in staff. While the newly consolidated center will likely need fewer call takers and dispatchers than the combined staff of the consolidating agencies, new positions are required to support the larger organizational structure. These positions include shift supervisors, technology support, QA, training, and management staff. The reduction of call taker/dispatcher positions and the creation of new positions generally cancel each other out, effectively eliminating staff reductions.

The expansion of the organizational structure has two key benefits. First, the addition of trainers, shift supervisors, and quality assurance staff will improve the level of service and reduce human error. Second, the expanded structure will provide a career path for employees, which will increase employee retention and reduce the costs associated with hiring and training new staff.

1.5.7 Participating Agency Control (Loss of Control)

Loss of Control Model Comparison

| Degree of Control Loss | | |
|------------------------|--------------|--|
| Model | Control Loss | Notes |
| Full | High | The loss of control by participating agencies is highest in this model. Agencies retain control of response plans, but lose direct control of personnel. This model requires maximizing the standardization of response related policies, plain language, etc. Some form of participating agency input is usually present. |
| Partial | Low - High | The level of control retained by participating agencies is contingent upon the governance model used. For example, if the PSAP will be part of a law enforcement department, but will also dispatch fire then control for law enforcement remains high while control for fire is low. Control loss for the participating agencies is high if the PSAP is structured as a stand-alone agency. |
| Co-location | Low | The agencies maintain operational control. |
| Hybrid | High | Same as the full consolidation model. If non-profit and commercial agencies are involved, they retain control of their own operations. |

The loss of direct control of PSAP staff and operations can be one of the largest roadblocks to achieving a successful consolidation. Historically, PSAPs are often part of the law enforcement or fire department that they serve and under

the parent agency's complete control. The changing of standard operating policies and addressing of PSAP personnel issues is easily and immediately achievable. In a full or hybrid consolidation model, direct control is not possible.

Participating agencies must follow a formal procedure to implement new operating policies and work in conjunction with PSAP management. Participating agencies must also allow PSAP management to investigate personnel issues and implement needed remedial training or determine disciplinary action. This loss of control is a difficult culture change for some participating agencies, particularly for law enforcement. For the consolidated PSAP to be successful, management must have control over its own staff and operating procedures that will affect utilization of PSAP resources.

Establishing a formal complaint process and a forum for addressing problems mitigates the resistance to the loss of direct control associated with a full consolidation. Establishing a formal complaint process and a forum for input ensures participating agencies that they will still have input into the PSAP even though direct control of personnel is lost. This forum can take the form of an advisory board or other type of group.

Another common misconception about the consolidation process is that control of participating agency responses moves from the agency to the PSAP. For example, rather than a law enforcement department determining how many units will respond to a domestic dispute the PSAP makes that determination. This premise is absolutely false. The PSAP's role is to implement the response plans determined by each participating agency and to ensure equitable application of PSAP resources to law enforcement, fire, and EMS. Control of each agency's response plan must stay with that agency. Educating participating agencies early in the consolidation process can improve understanding and help advance the consolidation process.

Any successful consolidation involves a certain amount of standardization of response protocols, incident types, type of language used on radio frequencies (10-code vs. plain language), and unit numbers. Dispatching many agencies becomes difficult when each agency functions differently. These differences increase the potential for human error. Therefore, where possible, standardization is encouraged. While standardization helps the PSAP be as efficient as possible, the process reinforces a feeling of control loss by the participating agencies. However, mitigation of control loss is achievable to some degree. Some mitigation is achievable by providing assurance that unique agency responses and other issues can be accommodated.

In a partial consolidation model, the degree of participating agency control depends on the governance structure chosen for the PSAP.

Under a co-location, the participating agencies retain control of their PSAP functions as they have in the past.

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1.5.8 Non-dispatch or Ancillary Tasks

Non-dispatch Tasks Model Comparison

| Degree of Change in Managing Non-Dispatch Tasks | | |
|---|------------------|--|
| Model | Degree of Change | Notes |
| Full | High | Fully consolidated PSAPs generally focus on 9-1-1 and emergency related tasks therefore the impact of losing 24/7 staff at the individual PSAPs is high. Each community will need to evaluate the financial impact of retaining or hiring additional employees to cover tasks once done by dispatchers and the political impact of not having 24/7 access at the individual PSAPs. |
| Partial | Low - High | The impact in this model is dependent upon the organizational structure chosen. Impact for a participating agency-managed PSAP is likely to be low. However, the decision to consolidate requires careful evaluation by the participating agencies. |
| Co-location | Low | Each agency maintains its own structure and tasks. |
| Hybrid | High | Same as the full consolidation model for PSAP staff. Non-profit and commercial agencies would need to evaluate the impact for their operation only. |

In many small PSAPs where the call volume is low, staff members are often responsible for a host of other non 9-1-1 or dispatch related responsibilities. These include tasks such as handling walk-in complaints, holding cell monitoring, dispatchers performing jail duties, releasing impounded animals and vehicles, management of business key holder/contact files, entering records, tickets, and permits, tracking municipal fees such as dog licenses, and functioning as a receptionist and switchboard for the parent agency and/or the entire municipality.

Each unit of government considering consolidation must determine how these types of tasks will be managed if consolidation becomes a reality. This may mean adding tasks to current non-PSAP employees, retaining one or more dispatch staff to perform non-dispatch tasks or hiring new employees. The hiring of new staff will affect the potential cost savings for the municipality and should be considered when assessing whether to consolidate.

Not only do PSAP staff perform necessary functions outside what would be considered 9-1-1 and dispatch duties, but also often provide a 24/7 presence within the law enforcement agency or fire department. Many law enforcement agencies and fire departments consider this 24/7 presence to be a vital part of the service level provided to the community and do not wish to lose it. Not having a 24/7 presence can be managed in a number of ways such as a direct phone to the consolidated PSAP or installing "safe room" capabilities in the facility entrance. However, each community will need to assess if compromises such as these are acceptable when considering consolidation.

1.5.9 Summary of Eight Key Issues

The chart following provides a summary of the impact of each of the eight key issues for each model.

Model Comparison Summary Chart

| Key Issue | Full Consolidation | Partial Consolidation | Co-location* | Hybrid Consolidation |
|---|--------------------|-----------------------|--------------|----------------------|
| Potential for Service Improvement | High | Medium | Low - High | High |
| Potential for Cost Savings | Low - High | Low - Medium | Medium | Low - High |
| Potential for Improved Communication | High | Low - Medium | Medium | High |
| Potential Benefits from Shared Technology | High | Medium | High | High |
| Potential for Training Consistency | High | Medium | Low | High |
| Potential for Organizational Expansion | High | Medium | Low | High |
| Degree of Control Loss | High | Medium | Low | High |
| Degree of Change for Management of Non-Dispatch Tasks | High | Low - High | Low | High |

* The level of impact is dependent upon the level of sharing of space and technology as well as the political environment present. Achievement of maximum benefits requires a high level of sharing of technology and physical space as well as a cooperative political environment to achieve maximum benefit.

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2. WHAT IS THE CONSOLIDATION PROCESS?

Consolidation of 9-1-1 and dispatch services can be a lengthy and complex process. This section will provide an overview of the phases of the consolidation process and the key issues associated with each phase.

2.1 Why is a Champion Needed?

Successful consolidations usually have one trait in common, a champion to spearhead the process from interest building all the way through implementation. Whether this champion is an individual person or a group, the potential benefits of consolidation must provide sufficient motivation to drive the concept forward even under contentious circumstances. The concept of consolidation represents a major culture change and is often threatening to participating agencies long accustomed to having complete control of their 9-1-1 and dispatch services. Ideally, a well-respected champion(s) will be able to educate potential participants about the consolidation process.

2.2 Consensus Building

Consensus building or collaborative problem solving is a critical part of the consolidation process from the early stages to the day a consolidated PSAP opens. The majority of the consolidation models involve a melding of disparate political agendas, service level needs, standard operating procedures, cost limitations, and levels of buy-in to the project. Even in a co-location, the consolidation model that has the least amount of organizational integration, participating agencies must negotiate facility needs and space assignments. Participants may have different understandings of the issues to be resolved. Although the degree and form of consensus building that takes place changes from phase to phase, it must be on going throughout the consolidation process. Each phase of consolidation will require different degrees of involvement and problem solving. Regardless, making consensus building a committed priority must occur to achieve success.

2.3 Preliminary Discussions / Interest Building

The first step in the consolidation process is to develop interest in exploring consolidation among stakeholders such as law enforcement, fire, and EMS management staff and those in decision-making positions within local government. Interest may be based on improving overall emergency communications services such as major incident management, participating in state level initiatives, or the potential for cost savings. Identifying initial interest allows the process to move forward from informal conversation to actually evaluating the possibility of consolidating. The process requires a person or persons to champion the concept, as discussed above. This person is someone who fully supports the concept and believes in its merits strongly enough to continue to push the concept forward through what can be a contentious and difficult process. A champion keeps the consolidation concept in the forefront and prevents it from falling by the wayside as governmental decision makers consider other, less controversial projects. Ideally, a well-respected champion facilitates open communication and problem solving.

It is important to identify in the earliest phase of the process the decision makers and key agency heads who would be logical participants in investigating some form of consolidation. The goal is to extend an invitation to all potential participants and to identify if there is enough interest to conduct a feasibility study. Addressing issues, other than basic concept interest, should not take place at this early point in the process. At this stage, focus needs to be on

conducting a formal feasibility study to determine if a consolidation would be beneficial and what form it should take. Attempts to resolve specific consolidation related issues need to occur later in the process.

2.4 Identification of Stakeholders

Critical to the successful implementation of any project is identifying all stakeholders. Stakeholder identification includes all people and organizations impacted by the project, not just those in favor of moving the project forward. Failing to identify, and eventually involve, all stakeholders opens the door to implementation issues and project failure. In a consolidation, project stakeholders include:

- Citizens – People who live in the area served by the participating agencies. Commonly, involving citizens directly in the consolidation process does not occur. However, advising them that efforts are underway to improve service and achieve cost efficiencies is advisable.
- Decision makers – Those at the executive level in local government that have the decision-making authority to commit to a consolidation effort. This group of stakeholders should be included at the earliest stages of discussion and interest building.
- Participating agencies may include law enforcement, fire, EMS, and emergency management. Agency heads should be included at the earliest stages of discussion and interest building. All staff levels should be included in the consolidation process starting with the feasibility study.
- PSAP Staff – This group includes the management and staff of any stand-alone PSAPs and agency-operated PSAPs. PSAP staff should be included in the consolidation process starting with the feasibility study. PSAP staff involvement should increase once the planning process begins.
- Others such as information technology, facilities, and financial or budget staff may have minor involvement in the data collection process for a feasibility study. If not involved in the feasibility study, this group should fully participate, beginning in the early planning stages.

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Figure 1 – PSAP Consolidation Stakeholders

2.5 Feasibility Study

Given the complexities involved in an emergency communications consolidation, a comprehensive feasibility study is highly recommended prior to any forward movement in consolidating. Technological consolidation is usually feasible. Financial and political feasibility are much different questions. The most important finding the study provides is a bottom line determination if consolidation is not only feasible, but recommended as well. A feasibility study will examine all aspects of a potential consolidation and provide a variety of options, recommendations, and cost analysis so that making an educated, well-informed decision is possible.

2.5.1 Study Components

A feasibility study contains components designed to provide a comprehensive overview of current conditions, recommendations, and options. These components include:

- Benchmarking of current emergency communications services, technology, and political climate
- Options and recommendations regarding consolidation models, organizational structure, governance, staffing, technology, cost comparisons and estimates.
- Standards for critical facilities are commonly included as are high-level cost estimates for new construction.

An overview of each commonly found study component follows.

2.5.1.1 Benchmarking of Current Conditions

The first step in a feasibility study is the benchmarking of current emergency communications services. This step involves collecting data from all agencies participating in the study. Data collection usually involves survey distribution, site visits, and stakeholder interviews. Exercising caution is necessary to account for varying definitions and data collection practices. The type of data collected includes:

- Current organizational structure and governance.
- Current staffing levels and pay scales.
- 9-1-1 and administrative call volume and processing statistics.
- Training and quality assurance processes.
- Budget.
- Current technology.
- Current facility overview.
- Stakeholder, agency and individual perspectives on consolidation.
- Non-dispatch tasks listed in #8 below.

Benchmarking allows for:

- Identification of current operational and technological strengths and weaknesses.
- Provides baseline data for staffing levels, personnel and technology cost comparisons.
- Provides background information necessary to determine initial consolidation feasibility and potential model options.

This component identifies key issues and potential roadblocks to successful consolidation.

2.5.1.2 Political Feasibility

An accurate measurement of the current political environment is vitally important to a feasibility determination. No other single issue can derail a consolidation effort as quickly as a hostile or negative political environment. Therefore, time needs to be spent discussing consolidation related issues with the various stakeholders to determine if consolidation efforts are likely to be successful. For example, forcing unwilling agency heads to consolidate for budget reasons could be a prescription for failure. This operational failure eventually causes the agency to withdraw from the consolidated center. These sorts of scenarios are common, expensive, and may leave lasting scars that affect cooperation.

2.5.1.3 Technological Feasibility

This component examines the technological feasibility of consolidation, identifies any potential roadblocks, and may provide cost estimates for technology needs in a consolidated environment. Since technological feasibility is almost a given, key findings in this section identify roadblocks and new technology that may make technological consolidation prohibitively expensive.

A consolidated PSAP that serves multiple participating agencies needs a variety of systems to function. These systems include CAD, RMS, radio, 9-1-1 answering equipment, and logging recorders. In addition, technological connectivity, such as the 9-1-1 telephone network, radio infrastructure, and connections to state computer systems must be able to support the PSAP. The complex nature of these systems requires that people well versed in each conduct the evaluation to avoid potentially expensive errors.

2.5.1.4 Facility Options

A common misconception is that a PSAP can be located in any space that is large enough. As a critical facility, most existing structures simply do not meet the specialized needs that a PSAP requires. Therefore, identifying facility options for the consolidated PSAP early in the process is a key issue. Facility procurement, construction, and renovations are all time-consuming processes and require extensive planning.

Assessment of whether a facility is suitable for housing a PSAP is complex. A feasibility study can provide the necessary evaluation of existing facilities to determine if enough available space is present to accommodate a consolidated PSAP. The study should provide analysis of the suitability of an existing structure to function as a critical communications facility. This information will be valuable in narrowing the number of option available.

Any cost estimates should be considered preliminary and used for initial planning purposes only. A more in-depth analysis may require an architect or engineer.

2.5.1.5 Projected Call Volume/Work Load

This component of the study involves projecting the workload for the consolidated PSAP to establish initial staffing levels. The workload consists of incoming 9-1-1 calls, incoming and outgoing administrative calls and events dispatched to participating agencies.

The study should also provide future call volume projections for 5 -10 years post-consolidation. The projections incorporate population trends and other known factors that will affect 9-1-1 call volume. The projections are then utilized to establish long-term staffing plans.

2.5.1.6 Projected Staffing Levels

This component uses the call volume and workload data identified in *5. Projected Call Volume / Work Load* (immediately above) and estimates the number and type of staff that a consolidated PSAP needs. These projections are usually calculated using industry standards and tools.

Two issues affecting staffing levels are the number of dispatch consoles and the number of administrative calls handled by the new PSAP. First, experience has shown that prior to consolidation, many agencies staff one or two radio console positions handling a few field units at a given time.

A consolidated PSAP may be more efficient if small agencies are able to share talk groups/radio frequencies. This sharing lowers the number of dispatch positions and full time employees needed. However, personnel costs should not be the driving factor in determining the number of console positions.

Second, the number of administrative calls significantly affects the number of call takers/dispatchers needed in a consolidated PSAP. Administrative calls do not require a field response or are not public safety related. Many small PSAPs function as the main switchboard for their municipality and field calls for administrative staff within their own departments. Ideally, the handling of these types of calls remains with the municipality rather than the newly consolidated PSAP. Although, the handling of these calls by the PSAP may occur if all participating agencies agree and recognize that staffing levels must reflect this workload. Ideally, providing the same level of service to all participating agencies is best. However, a participating agency or municipality may choose to pay a higher funding contribution for a higher level of service. Establishing effective service levels should always be the primary focus.

2.5.1.7 Projected Cost Estimates

This component of the study identifies different types of costs associated with consolidation including personnel, capital, and one-time project related costs. Cost estimates and analysis may include:

- Personnel costs (salaries and benefits), based on staffing estimates for a consolidated center.
- Comparison of personnel costs for current PSAPs combined with that of a consolidated center.
- Technology costs, including CAD, RMS, 9-1-1 answering equipment, radio consoles, associated with procurement and maintenance of systems needed to support a consolidated PSAP.
- Comparison of the current PSAPs' combined maintenance costs for PSAP technology and estimated costs for a consolidated PSAP. Normally, elimination of redundant PSAP systems is the source of long-term cost savings.
- High-level, budgetary costs for new facility construction, if needed, and identification of other capital costs associated with facilities.
- Identification of one-time project costs such as initial employee training, hiring of management staff, and professional services fees.
- 10-year cost projections for a consolidated PSAP that will identify what cost savings are achievable and the time required in achieving any actual savings.

2.5.1.8 Non-dispatch Tasks or Ancillary Duties

In smaller, non-consolidated PSAPs, dispatchers often perform other responsibilities that are not related to emergency communications in addition to 9-1-1 and dispatch duties. Typically, these non-dispatch tasks are not moved to a consolidated PSAP. Examples of these other responsibilities include:

- Handling walk-in complaints.
- Holding cell monitoring.
- Dispatchers performing jail duties.
- Releasing impounded animals and vehicles.
- Management of business key holder/contact files.
- Entering records, tickets, and permits, or tracking government fees such as dog licenses.
- Functioning as a receptionist and switchboard for the parent agency and/or the entire government organization.

The managing of these duties post-consolidation is often a key concern for agencies considering consolidation. Concerns focus on two issues, the re-assigning of these types of duties and maintaining a 24/7 presence in the agency.

Typically, the consolidation members will establish a list of all non-dispatch tasks and work with PSAP management to determine which will be handled by the PSAP and which will remain a local responsibility. Remaining local duties are assigned to other personnel or perhaps modified to be handled in other ways. For example, an auto-attendant switchboard function can effectively manage after hours phone calls to the agency.

For many law enforcement agencies, maintaining a 24/7 staffed agency presence is an important service to the community. While many agencies use available technology to minimize the issues surrounding safety and walk-in complaints, each agency must weigh the value of having a 24/7 presence against the benefits of a consolidated PSAP. Staffing alternatives to dispatch personnel may be an option for many agencies.

2.5.1.9 Consolidation Models

The study provides an overview of the consolidation models that best fit the participating agencies. The chart below provides a brief summary of the four common models discussed in this document.

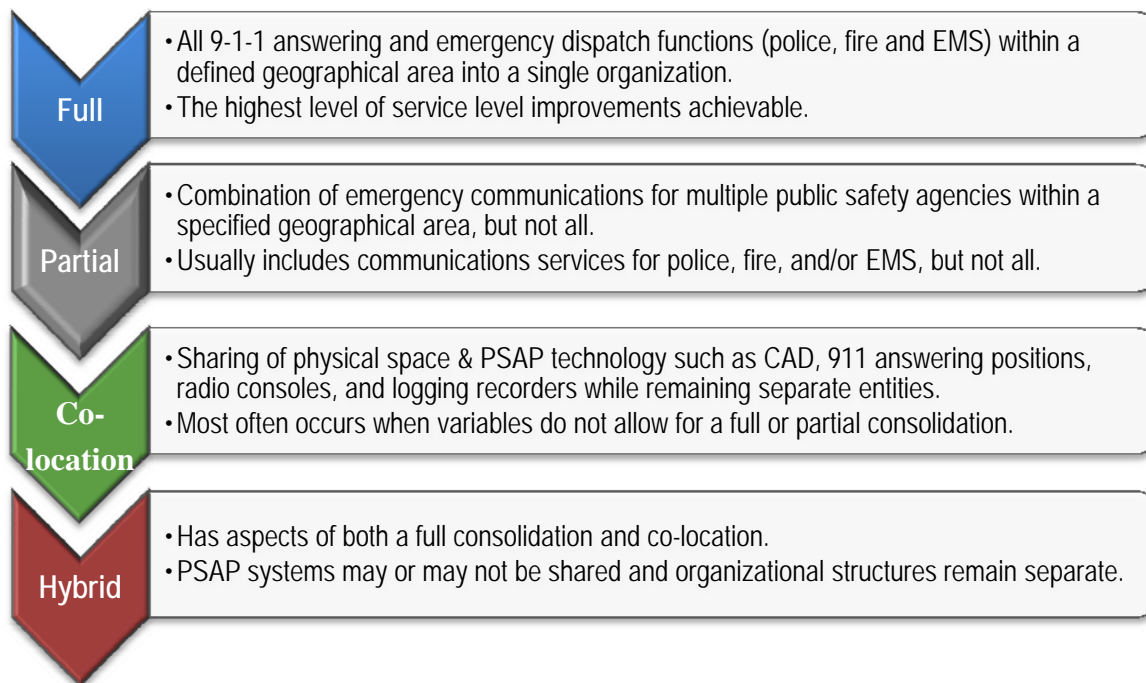


Figure 2 – Consolidation Model Overview

2.5.1.10 Governance Options

Consolidation may require the establishment of a new form of governance for the PSAP. A feasibility study will provide an overview of different governance models, the positives and negatives of each, and a recommendation for the model that best fits the participating agencies. Each consolidation effort has many variations. A governance structure that works well in one scenario may not in another. A well-crafted governance agreement is critical to the success of the consolidation. The agreement also allows a director to manage operations effectively. Regardless of the governance model chosen, incorporating the following key points are essential:

- Reporting structure for director and composition of any oversight board.
- Span of authority and control for any oversight board.
- Capital and operating budget development process.
- Budget approval process.
- Funding mechanism, board authority, and a method for updating it or changing it as needed.
- Length of the agreement.
- De-consolidation process - What happens if a participating agency leaves before the end of the agreement? For example, does the departing agency lose any capital contribution?
- Ownership of technology purchased jointly.
- Process for participating agency complaint resolution and input.
- Span of authority for the director.
- Standard operating procedures approval process.

A well-crafted agreement will prevent common errors in establishing governance and ensure that the PSAP is able to function as designed. Examples of common governance models include:

2.5.1.10.1 Separate Department within a Participating Government Structure

In this governance model, the consolidated PSAP is part of the organizational structure of one of the participating entities. The PSAP is its own independent department or part of an existing department, such as an Office of Emergency Management. Completely independent from any law enforcement, fire, or EMS agency it serves, a civilian director manages the PSAP. The director is a department head reporting to the same position within the organization structure as other department heads.

The primary positives of this structure include:

- This model offers a clean reporting structure for not only the PSAP director, but for the participating agencies as well. Since the director reports to a senior management position within the parent organizational structure, there is a single point of contact for disputes that cannot be resolved otherwise. This model provides protection for the PSAP from politics that can affect the PSAP under other governance structures. This model also provides the PSAP protection from changes in direction that result from personnel changes in decision-making positions, thus creating a more stable environment for the PSAP long-term.
- Independent leadership that allows the director to effectively manage PSAP resources and provide equitable service to all participating law enforcement, fire, and EMS agencies.

- This model can include an advisory board comprised of participating agency and/or municipal representatives, and, if desired, community leaders to act in an advisory capacity to the PSAP manager. It is important that this board have *advisory* input only.
- Utilizing civilian staff rather than sworn personnel creates a more developed career path for PSAP staff and allows police and fire personnel formerly assigned to the PSAP to focus on their primary duties.
- As part of a municipal structure, the PSAP has access to administrative support such as human resources, building facilities, and computer and network support.
- The department director will need specific technical and operational skills related to 9-1-1. Ideally, the director should be a 9-1-1 professional.

The primary negatives of this structure include:

- The adjustment to the loss of direct control of PSAP staff by participating agency personnel.
- The cost of a civilian director as opposed to managing the PSAP with lower level sworn command personnel can be more expensive.

Examples of this governance model include:

| Agency | 2010 Population | Notes |
|-------------------------------|-----------------|---|
| Anoka County, Minnesota | 330,844 | Part of the Twin Cities region. |
| Arlington County, Virginia | 207,627 | Washington D.C. area. |
| Burlington County, New Jersey | 448,734 | Large geographical size that contains many small-medium size municipalities. |
| Groton ECC, Connecticut | 44,400 | Two towns: four police departments, ten fire agencies, and four EMS agencies. |
| Onondaga County, New York | 467,026 | Central NY – Includes City of Syracuse and the surrounding rural areas. |
| Ramsey County, Minnesota | 508,640 | Includes the City of St. Paul. |
| Venango County, Pennsylvania | 54,984 | Rural northwest Pennsylvania. |

Appendix A - References contain links to these agencies.

2.5.1.10.2 Part of a Participating Agency

In this governance model, the consolidated PSAP is part of one of the existing law enforcement, fire, or EMS agencies. Under this type of structure, sworn personnel often manage the PSAP and fall under the authority of the hosting agency head such as the sheriff, law enforcement or fire chief.

The primary positives of this structure include:

- Avoiding the costs of hiring a civilian director is possible and the parent agency's budget can absorb management costs.
- As part of an existing municipal structure, the PSAP has access to administrative support such as human resources, building facilities, and computer and network support.
- Buy-in for consolidation is sometimes more palatable if the managing agency is the same type of agency as those considering consolidation. For example, some law enforcement agencies find it more attractive to consolidate with a law enforcement PSAP than a fire or independently operated PSAP.

The primary negatives include:

- The adjustment to the loss of direct control of PSAP staff by participating agency personnel.
- Participating agencies perceive that distribution of PSAP resources is not equitable. Generally, the perception is that the host agency receives a higher level of service.
- Political infighting among the participating agencies can impact the PSAP and/or entities represented on the oversight board. Although initially all agencies and entities may agree on the direction for the PSAP, over time, as the people and political agendas change, the PSAP can become the focus of political disputes. This structure requires a carefully crafted governance agreement to protect the PSAP from the impact of political disputes. Such an agreement will ensure that the PSAP can focus on its primary mission.
- A more limited career path for the operational staff as management and supervisory positions are commonly held by sworn personnel.

Examples of this governance model include:

| Agency | 2010 Population | Notes |
|--|-----------------|--|
| Hennepin County Sheriff's Office, Minnesota | 1,152,425 | Contains the City of Minneapolis. |
| Kandiyohi / Big Stone Counties, Minnesota | 42,239 / 5,269 | Primarily rural. |
| Orleans County, New York | 42,883 | Western New York – rural. |
| Rochester / Olmsted County, Minnesota | 144,248 | City of Rochester dispatches for Olmsted County. |
| St. Louis Park / Golden Valley Police Departments, Minnesota | 45,250 / 20,371 | First ring metro area suburbs. |

Appendix A - References contain links to these agencies.

2.5.1.10.3 Joint Powers Structure

In this governance model, the consolidated PSAP is an independent agency headed by a civilian director. Under this type of structure, the PSAP is not part of any larger government structure, but is in fact an independent entity. The director traditionally reports to a board comprised of representatives of the participating members.

The primary positives of this structure include:

- Independent leadership allows the director to best manage PSAP resources and provide equitable service to all participating agencies.
- Offers a developed career path for PSAP staff as civilian personnel generally fill supervisory and management positions.
- A degree of neutrality in that it is independent of law enforcement, fire or EMS. This neutrality allows the PSAP to provide equal service to all participating agencies and avoid the perception of bias or favoritism.
- Total organizational and single mission focus on PSAP services without resource competition.

The primary negatives of this structure include:

- Since the PSAP is not part of a larger municipal entity, real and intangible costs for support services such as computer/network services, human resources, and facilities are perceived to be higher and in fact may be more transparent. A poorly crafted governance structure can result in a director that has to answer to multiple bosses. This situation can be difficult for the director and can prevent the director from effectively managing the PSAP.
- Political infighting among the participating agencies can impact the PSAP and/or entities represented on the oversight board. Although initially all agencies and entities may agree on the direction for the PSAP, over time, as the people and political agendas change, the PSAP can become the focus of political disputes. This structure requires a carefully crafted governance agreement to protect the PSAP from the impact of political disputes. Such an agreement will ensure that the PSAP can focus on its primary mission.

Examples of this governance model include:

| Agency | 2010 Population | Notes |
|--|------------------|---|
| Dakota Communications Center, Minnesota | 398,552 | Serves 11 cities within Dakota County. |
| Litchfield County Dispatch, Torrington, Connecticut | 62,213 | Serves 20 towns in Northwestern Connecticut. |
| Northwest Central Dispatch (Bergen County, New Jersey) | N/A | Urban – Dispatches various law enforcement, fire, and EMS agencies. |
| Red River Regional Dispatch Center Clay County MN / Cass County, ND | 58,999 / 149,788 | Multi-county and multi-state. |
| Rice / Steele Counties Consolidated Public Safety Dispatch Center | 64,142 / 36,576 | Rural counties. One of the first examples of consolidation in MN. |
| Southern Idaho Regional Communications Center | 76,151 | Large geographical area, rural, and serves 4 counties. |

Appendix A - References contain links to the agencies listed in the chart.

2.5.1.11 Funding Mechanisms

Mechanisms to fund PSAP operations and equitably divide the on-going operational costs among participating agencies widely vary. The participating agencies must consider the chosen funding model to be fair and equitable and must “fit” into the current political environment. The perception of what is fair and equitable differs significantly from region to region. Therefore, a universal single, “best” funding model does not exist. Funding models can be as

simple as a set fee per capita or quite complex including several parameters such as population, system usage, or property tax rates. Every model has positives and negatives and often designing a hybrid solution best meets the needs of the entities and agencies involved. The following are examples of funding models that are frequently used:

- **Tax Based** - One or a combination of tax mechanisms such as sales tax, or property taxes supplies the funding.
- **Population Based or Per Capita** – Population drives the funding formulas.
- **Usage Based** – The number of 9-1-1 calls received and dispatched for each municipality or agency is the determining factor in this formula.

2.5.1.12 Organizational Structure

All consolidation models, except co-location, require the establishment of a new organizational structure. This structure defines job titles, roles and responsibilities, chain-of-command, and career path options. The structure should answer these questions:

- Will the PSAP have separate call takers and dispatchers? Separating call taking and dispatch functions is a model that is beneficial in medium to large PSAPs. However, this separation is not required in all consolidations. In fact, in smaller consolidated centers not separating the functions is more efficient. A feasibility study provides recommendations as to the best configuration for a specific scenario.
- Will there be shift supervisors?
- Will the supervisors work a console position?
- What is the reporting structure for each position?
- Will there be technology support, quality assurance, and training staff?

The feasibility study provides organizational structure options and recommendations based on the specifics of a particular consolidation effort.

2.5.1.13 Human Resources

The merging of multiple agencies into a single one requires the solution of a multitude of human resource issues. A feasibility study identifies these issues and offers recommendations. Issues commonly found are:

- Pay scale disparities
- Benefits such as health insurance
- Vacation, sick, personnel and other paid time off disparities
- Seniority
- Job titles and descriptions
- Retirement plans
- Union contracts
- Automatic acceptance of existing PSAP staff or a re-hire process

These issues are of critical importance to existing PSAP staff, but resolution does not normally occur until the planning phase. Keeping existing PSAP staff informed throughout the consolidation process is paramount to easing

concerns and reducing rumors. Involving human resources personnel from all participating agencies helps to facilitate the resolution of these issues and improves communication.

2.6 Moving Forward/Initial Decision Making

Completion of the feasibility study is only the first real step in the consolidation. Once the study is complete, moving forward to the planning phase requires making key decisions first. These decisions form the basis for further planning and determine how the PSAP will be structured, governed, and funded, as well as how it operates. Decisions include:

- Governance
- Organizational Structure
- Funding Mechanisms
- Identifying facilities for evaluation or preparing for new construction

A common roadblock to each agency deciding whether to participate occurs at this point in the process. Each agency understandably needs to know how much the initial capital and recurring costs will be for participating and how much, if any, cost savings is achievable. However, identifying these costs requires that the number of participants be determined in order to calculate workload, staffing, and required physical space needs. One method to resolve this Catch-22 is to have all potential participants agree to continue in the process until a funding model and agency-specific financials are determined.

Once potential participants agree on a consolidation model, organizational structure, form of governance, and funding mechanism, cost estimates for each agency are calculated. Finalization of participating agency costs occurs once the final number of participants is determined.

2.7 Planning

2.7.1 Forming of a Consolidation Project Committee

Once finalization of the decision to consolidate occurs, the formation of a consolidation committee takes place. The committee is comprised of representatives from participating agencies and decision-making authorities. Participating agency representation ensures agency input into critical issues and helps increase buy-in. The committee's charge is to begin resolving consolidation related issues, assist in planning, and oversee the procurement process for any equipment needed for the new PSAP. This committee needs some level of decision-making authority to be able to move through the many issues effectively.

Hiring of a director or manager for the new PSAP needs to take place as early in the planning and implementation process as possible. The director's input into the establishment of the organizational structure, policy development, staffing issues, equipment and technology choices is invaluable.

2.8 Keeping the PSAP Employee and Other Stakeholders Informed

2.8.1 PSAP Employees

The process of consolidation involves a high degree of change for all involved. Change is difficult for many, but especially employees of the existing PSAPs. Employee concerns focus on root employment issues that potentially affect quality of life and family. Concerns commonly expressed include:

- Will I have a job?
- Will my pay change?
- Will my health insurance change?
- Will I lose my seniority?
- Will I lose my vacation and other benefits?
- What hours will I have to work?
- How far will I have to drive to work?
- Will I receive adequate training for new equipment and policies?
- Will I be able to function in the new center?

Overlooking these issues and failing to communicate with employees is a common pitfall in the consolidation process. Employee concerns are intangible, can be emotional, and focus on “what if” scenarios. Many managers prefer to avoid these types of emotional issues and focus on the tangible projects, such as equipment procurement. However, without a steady stream of updates and accurate information, dissemination of rumors and inaccurate information occurs. This process is extremely destructive to employee buy-in and retention. In fact, uncontrolled rumors and inaccurate information can actually destroy a consolidation effort by creating a hostile environment that prevents the PSAP from functioning effectively. Therefore, keeping employees as informed and involved as possible during the entire planning and implementation process is critical.

2.8.2 Other Stakeholders

A consolidation effort brings a host of changes for all stakeholders, such as field personnel, focus on new procedures, loss of control, and direct contact. Even though stakeholders focus on less emotional and quality of life issues than PSAP staff, the changes can be a difficult adjustment. The need to provide a steady stream of updates and accurate information is as important as with the PSAP staff.

2.8.3 Change Management

PSAP consolidation represents change for existing PSAP employees and stakeholders. Managing this change is critical to the success of the project. Change management methods include:

- Implementation of a communications plan. A communications plan is a crucial step in assuring accurate information for stakeholders. Communications plan options include regularly distributed newsletters, e-mails, conference calls, or designating and updating a single point of contact within each PSAP, participating agency and other stakeholders for consolidation information.
- Involve staff from different PSAPs on planning teams for the new center.
- Setup staff observations at the various participating PSAPs.

- Setup or encourage social opportunities so employees can meet their new co-workers.
- Encourage as much staff unification as possible prior to the actual transition to the new site.

2.8.4 Finalization of Governance and Funding Models

As Section 2 indicates, developing preliminary governance and funding mechanisms is complete by this point. Agencies and municipalities must finalize participation decisions at this point so that:

- A governance agreement is completed.
- A funding model is put in place.
- Final facilities and space needs are resolved.
- Procurement of appropriately sized technology can begin.

2.9 Facility

Finding a suitable structure to house the consolidated PSAP may be a difficult task. Two primary options include new facility construction and renovation of an existing facility. Dismissing new construction as too expensive is often the first reaction by decision makers. However, the reality is that renovations of existing structures is often more expensive. Renovating an older structure to meet current building code standards can be much more expensive. Renovation projects also can reveal serious issues well into the renovation. One such issue is the presence of asbestos. Project delays occur while expensive asbestos removal takes place. Deciding to renovate or construct a new facility is a difficult choice and needs consideration early in the process.

The PSAP is a distinct and very different type of facility, unlike any other in the locality. Planning for design features specific to its critical mission is necessary. Various public safety industry standards exist to provide guidance in the design, construction, equipping and operation of PSAPs including:

- Associated Public-Safety Communications Officials (APCO)
- National Emergency Number Association (NENA)
- National Fire Protection Association (NFPA) - Code 1221 Emergency Services Communications 2010

Appendix A - References contain links to standards for critical facilities.

Some key PSAP facility needs include:

- Back-up electrical power sources - The PSAP needs two types of back-up power sources. The first type is a diesel or natural gas generator. A generator assures that the PSAP can function without interruption of critical services in the event of a power outage. Installation must be coordinated with local utilities. The second type is an uninterruptible power source (UPS). The UPS provides initial short-term power during outages while the PSAP converts to generator power.
- Heating, ventilation and air conditioning – HVAC is particularly challenging in the PSAP environment due to the need to maintain temperatures within an acceptable range for both personnel and technology.

- Lighting and acoustics – Due to the large numbers of computer monitors present in today’s PSAP, the facility’s light plan must minimize glare and eyestrain, providing a comfortable working environment for PSAP personnel. Acoustic design is also important to reduce the ambient noise level and provide an optimum communications environment.
- Workplace safety and Americans with Disabilities Act (ADA) compliance – Workplace safety and ADA compliance present significant challenges to the design and operation of a PSAP. Careful consideration of people and workflow is required to build a facility that functions in an effective and efficient manner while meeting these goals.
- PSAP security plan - Due to its critical role in public safety, the PSAP needs a security plan that includes two primary areas. First, a plan that limits access to unauthorized persons and vehicles is needed. Critical facility features include blast proof windows and other hardening techniques that provide protection against severe weather events or man-made threats. Second, addressing cyber security needs is necessary.

Ideally, the facility chosen for the new PSAP provides all industry recommended features for a facility designed as critical. However, fiscal realities and other restraints sometimes require compromise. When choosing a facility, as many of the industry recommended structural features as possible need to be included.

2.9.1 Site Procurement

Deciding where to locate the new PSAP involves assessing any potential site for several key support features. These features ensure that the PSAP is not only secure, but provides maximum redundancy and protection from single points of failure. Desired features include:

- Central location to equalize the impact on employees’ drive times
- Multiple main power sources - Two separate power sources that feed the PSAP prevent a single point of failure should one of the sources be lost. For example, a site that allows the PSAP to receive power from two separate power grids is ideal.
- Isolation from transportation facilities - Public safety agencies respond to many major incidents that involve transportation of people and cargo (aircraft, rail, motor vehicles, pipelines, etc.). These incidents present major challenges to a PSAP through incident and response management. In order to prevent the PSAP from becoming *part* of the incident, it is important to locate the PSAP away from rail yards and track, airports, tank farms, major highway interchanges, and industrial areas where hazardous materials are stored or used.
- Flooding - Ideally, the PSAP facility is located so that there is a minimal flood threat. However, if not possible, ensuring that the facility is structurally able to withstand the potential impact of extreme water conditions is necessary.

- High value targets - Avoiding close proximity to high value targets such as government, industrial, or entertainment venues is preferred so the PSAP is isolated from any possible attack.
- Co-location with incompatible entities - A PSAP is a target in and of itself. Therefore, co-location of the PSAP with or near facilities such as nursing homes, day care centers, schools, etc. would impose inappropriate risk on those facilities. Conversely, co-locating the PSAP in a facility that is also high value target imposes unacceptable risk on the PSAP.
- Dual entrance points for critical utility and communication services.

2.9.2 Emergency Operations Center (EOC)

The EOC serves as the nerve center of the locality during major natural or manmade incidents or, during planned events. During a crisis, the EOC and PSAP work hand-in-hand. Locating an EOC near the PSAP increases coordination and communications during major incidents and improves the performance of both agencies. Co-locating these agencies is nationally recognized as having significant value and is driving a trend to include an EOC in any new construction. If budget and space allow, it is a worthwhile consideration.

2.9.3 PSAP Redundancy Planning

Establishing a back-up facility or plan for the new PSAP is vital to ensure continuity of 9-1-1 service and dispatch operations should the PSAP suffer a catastrophic systems failure or need to evacuate the facility.

Examples of back-up plans include:

- Maintaining a separate, smaller facility or “cold” back-up that is activated as needed. These facilities do not generally mirror the primary PSAP, but are functional under emergency situations. In some cases, the back-up PSAP is identical to the primary PSAP, but smaller. In these cases, the back-up PSAP can be used to expand the primary PSAP capabilities in major incidents.
- Developing a partnership with a PSAP from an adjacent town, city or a geographically close existing regional center.
- Splitting of services between two back-up entities. For example, 9-1-1 calls may be routed to a PSAP in an adjacent town and while dispatch services are handed off to another PSAP.

2.10 Technology

This section provides an overview of critical PSAP systems. Professional emergency communications organizations develop current standards for these key PSAP systems. While establishing a new PSAP with all the necessary critical systems is expensive, equipping a consolidated center will cost less than equipping several smaller centers. Procurement of new systems requires completing the identification of new system needs and specifications for each technology during this phase. Appendix A - References contain links to current technology standards.

2.10.1 Overview / Planning for the Future (NG9-1-1 Technology)

Next Generation 9-1-1 represents the most significant evolution of technology and operational changes since the inception of E9-1-1. NG9-1-1 is a complex and evolving field, but is essentially an IP-based network of networks. These networks allow the ever-increasing number of wireless devices to access 9-1-1, improve interoperability, and lower equipment costs.

Today's PSAPs do not have the technical capability to accommodate the evolving capabilities of wireless communication devices. The number of wireless devices capable of accessing 9-1-1 is growing every day. For example, cell phones now commonly provide texting, photo, and video capabilities. The segment of our population that grew up with such capabilities expects that the PSAP that answers their 9-1-1 call will be able to do so whether it is a voice or text based call. They also expect that the PSAP is capable of receiving photos, video, and other forms of data. In the near future, the IP-based networks that NG9-1-1 provides will enable the PSAP to receive these types of data. As public expectations increase and the technology to meet those expectations become common, the standard of care each PSAP needs to provide will increase. Those agencies that do not plan for and implement Next Generation solutions may face increased liability and risk.

2.10.2 Computer Aided Dispatch (CAD)

The CAD system performs a variety of key functions within the PSAP. Its primary functions include:

- Verify incident locations and identify the correct response agencies.
- Interface with 9-1-1 answering equipment for mapping purposes.
- Provides a method for PSAP staff to route calls for service to the correct dispatcher, recommends appropriate field unit responses, monitor and track field unit status and location.
- Document incident and response unit activity and provide timestamps of all activity related to calls for service.
- Transfers appropriate incident data into departmental records management systems for their further usage.
- Interface with agency records management systems (RMS) in order to share data between CAD and RMS immediately and without the need for redundant data entry.
- Except in the smallest of PSAPs, CAD is an essential tool for managing response resources efficiently and to properly document actions of the PSAP staff and responder agencies.

2.10.3 9-1-1 Answering Equipment (Customer Premise Equipment (CPE))

Specifically designed for answering and processing 9-1-1 calls, this telephone equipment and software is mission critical. The 9-1-1 CPE delivers the telephone number and the location information of the 9-1-1 caller. It has redundant components and sub-systems to assure the receipt and proper handling of 9-1-1 calls. 9-1-1 CPE also interfaces with the PSAP's CAD system, the 9-1-1 network infrastructure (location database and selective routing system), mapping and GIS systems. Selective routing enables routing of wireline 9-1-1 calls to the correct PSAP. The ALI database provides the PSAP with location information for wireline 9-1-1 calls so that sending a response is possible even if the caller cannot speak.

2.10.4 Radio Consoles

Dispatchers use PSAP radio console equipment to communicate with field personnel and other agencies. The consoles themselves may consist of rack-mounted electronics or, more recently, PC based consoles utilizing proprietary software with an audio interface with a microphone and speakers. Field units are equipped with mobile radios mounted in vehicles and/or portable radios assigned to individuals.

The radio system often interfaces with the CAD system to provide the dispatcher with the identification of radios/units calling to enhance communications. Recommendations for radio consoles in a consolidated PSAP include:

- Reusing of older, out-of-life-cycle equipment is not recommended. Expanding the number of consoles and obtaining parts is difficult and, at times, impossible. Anecdotal information obtained from radio technicians indicates that often relocated, older equipment does not survive the physical moving process.
- While not all agencies need to operate on the same frequency band, all radio consoles should be of the same age, make, model, and capabilities. Using consoles of different makes and capabilities creates operational issues that affect the ability of the PSAP to provide the most efficient service.

2.10.5 Mapping / Geographic Information System (GIS)

Mapping/GIS systems provide a vital enhancement to modern PSAP operations particularly in terms of handling wireless 9-1-1 calls. Mapping applications can be integrated with the CAD, 9-1-1 answering equipment, or be stand-alone applications. CAD integrated systems provide the highest level of functionality. An effective mapping system requires a strong GIS program.

A concern almost universally expressed during the consolidation process is that knowledge of local geography is lost if dispatching moves to a consolidated facility. Certainly, dispatchers in small PSAPs acquire a large knowledge base of local geography. However, mapping and GIS solutions now fill this void. In addition to providing the expected level of mapping, current technology incorporates unique local landmarks and common names (such as "Joe's barn") as well. This technology combined with proper training effectively eliminates the need for the dispatchers to know the unique aspects of a region.

A good mapping system and strong underlying GIS is critically important and a necessity.

2.10.6 Logging Recorders

The logging recorder creates automatic voice recordings of all radio and emergency telephone conversations handled by the PSAP. Active recording is extremely important to document information given to and disseminated by the PSAP. Primary uses for these recordings include:

- Evidence in criminal and civil court proceedings
- Complaint investigation
- Quality assurance and training
- Used as part of major incident de-briefing and after-action reporting

Active recording is a necessity for documenting information.

2.10.7 Master Clock

A master clock system, or synchronized timing plays a key role in the PSAP. The clock synchronizes the time stamp within all connected PSAP systems. Systems include CAD, 9-1-1 answering positions, radio consoles, and logging recorders. Collectively, these systems contain complete records of all 9-1-1 calls, dispatch records, and radio transmissions. Uses for these records and audio include evidence in court cases, training, incident debriefing, complaint investigation, and quality assurance. Given these uses, the need to synchronize time on all systems is clear.

2.10.8 Dispatch Furniture / Consoles

Although not a primary PSAP system, procuring new dispatch furniture consoles is usually necessary. The dispatch furniture houses all of the electronics and systems operated by PSAP call-takers and dispatchers to perform their assigned tasks.

In the modern PSAP environment, each call-taker/dispatcher console contains several PCs and monitors, keyboards and mice, microphone and speakers and other associated equipment. Specifically designed to house this equipment, dispatch furniture also provides electrical power and grounding, manages network and other cabling, and provides local task lighting, heating and cooling control for the call-taker/dispatcher. The dispatch furniture also provides the ability for ergonomic positioning of these devices. This functionality reduces fatigue and eyestrain, and promotes efficient operation of multiple systems simultaneously.

2.10.9 Technology Summary

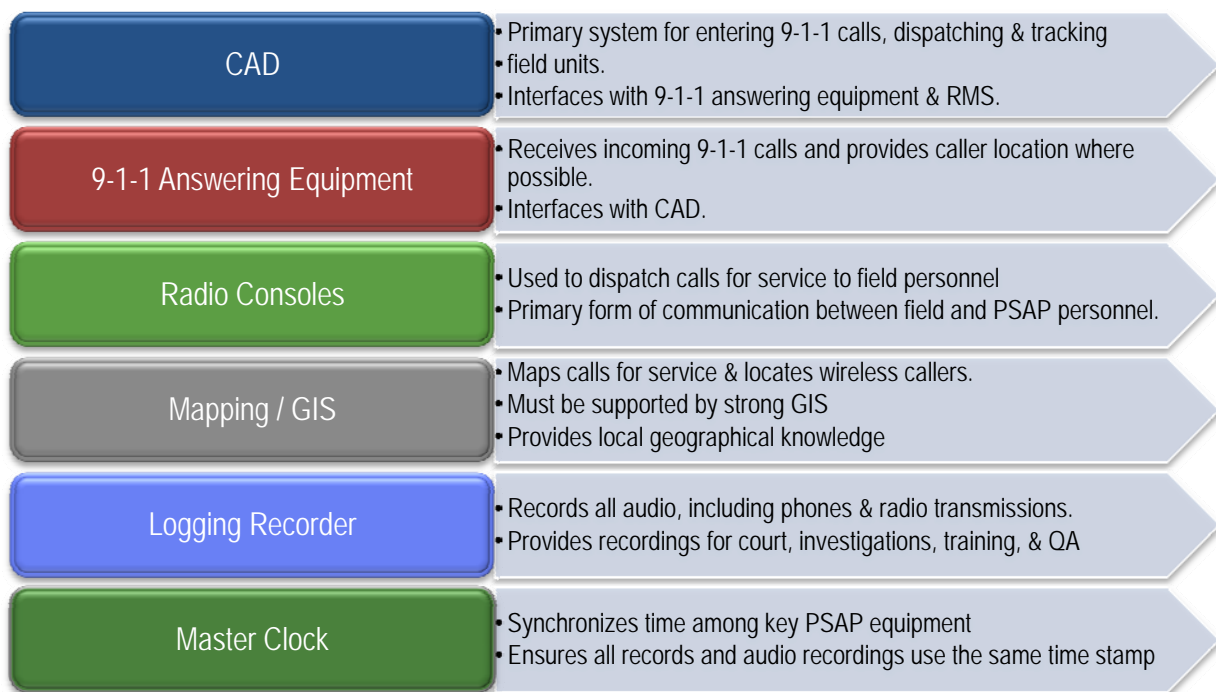


Figure 3 – PSAP Systems – Primary Technology Overview

2.10.10 Reuse of Equipment / Technology

When establishing a new or expanding an existing PSAP for consolidation costs play a significant role. A logical question to ask is whether equipment already in use in the existing PSAPs is useable in the new, consolidated PSAP. On the surface, reusing equipment is an economical and fiscally responsible choice and cost savings through reuse is possible. However, addressing this issue requires conducting system evaluations and cost/benefit analysis. Evaluation and analysis includes the following criteria:

- Age, make, model, and software version of the equipment installed in each PSAP. Mixing different makes and models of equipment is not recommended. Maintenance and functionality differ from position to position creating substantial issues operationally.
- Expansion capabilities of each system to accommodate the functionality and size needed in the larger consolidated PSAP.
- Type of connectivity needed to other systems. As technology evolves, so does the manner in which equipment connects or interfaces with each other. Older equipment may function well, but can no longer interface with other current technology the consolidated PSAP requires.
- Issues related to the physical movement of equipment. Older equipment is susceptible to damage when moved. Managing of service disruptions during equipment moves is problematic.
- The costs associated with moving and/or expanding existing systems requires examination. A cost/benefit analysis examines the costs of moving existing versus procuring new systems along with the functionality of both. Equipment reuse is not always the most cost effective path.

2.11 Human Resources

Resolving human resource issues in a consolidation may be a daunting task. Understandably, these issues are among the most emotionally charged for existing PSAP employees. Resolving these issues begins with deciding upon an organizational structure.

Key issues include:

- Establishing new job titles and descriptions based on the organizational structure for the PSAP.
- Pay scales and achieving parity between consolidating agencies. Ensuring that employees are not "harmed" in terms of pay and benefits is recommended.
- Benefits such as vacation, seniority, sick time, health insurance, retirement.
- Hiring of key staff.
- Disposition of staff employed by consolidating PSAPs. Is the hiring of all existing PSAP employees automatic or will each employee need to apply for a position?
- Union contracts, if applicable.

2.12 Development of Standard Operating Procedures (SOPs)

Agency standard operating procedures provide the framework for how the PSAPs currently operate. Each existing PSAP has its own set of operating procedures and methods of operation. These procedures and methods likely range from formalized to casual in nature. Consolidation requires the melding of old and newly created procedures to establish how the new PSAP functions. Two types of SOPs guide the new PSAP. The types include administrative and operational SOPs. Each receives differing amounts of input from participating agencies.

Administrative SOPs guide how the new PSAP operates internally. These types of SOPs include such topics as disciplinary process, ethics, work rules, chain of command, and so forth. In a stand-alone PSAP, participating agencies do not have input into these rules. Operational SOPs include such topics as call taking procedures, dispatch plans, field unit responses, and incident notifications. Participating agencies have significant input into these types of SOPs. For example, the number and type of field units assigned to respond to a specific incident type comes directly from the participating agency. The PSAP's role is not to dictate how a participating agency will respond to calls for service, but to carry out the agency's pre-determined dispatch plan.

This process includes as much standardization among agencies as reasonably possible. Development of SOPs, standardizing language (10-codes vs. plain language) and responses is a potentially contentious and time-consuming process, which must begin as soon as possible.

The 9-1-1 industry recognizes the need for SOPs and develops SOP templates in line with current industry standards. Appendix A - References contain links to organizations that provide these standards.

2.13 PSAP Budget Development

Developing a budget for the consolidation process includes several different types of costs:

- Capital Costs – equipment, facility, and infrastructure costs
- One-time transitional costs specifically associated with the consolidation process. Examples of these costs include:
 - New systems training
 - Overtime to cover training, staffing needs during cutover to the new PSAP, and participation in consolidation tasks or committees
 - Professional services such as architects, consulting fees, etc.
 - Hiring costs for key personnel such as a PSAP director
- Operating budget – development of the operating budget for the new PSAP

2.14 Project Management

As this document illustrates, PSAP consolidation is a complex process involving:

- Determination of technology needs
- Procuring of technology and facility furnishings, vendor contract negotiations and oversight
- Identification of current operational processes and establishment of new combined processes
- Establishment of an organizational structure and resolution of human resource issues

- Development of a funding mechanism
- Negotiation of intergovernmental agreements
- Consensus building
- Determination of facility needs
- Oversight of new PSAP construction or renovations
- Balancing of all project components and schedules
- Setting up training for new equipment
- Overseeing the transition to the new PSAP

Sometimes participating agencies assign an in-house project manager to oversee the consolidation process while also handling his or her primary job responsibilities in an effort to save costs on an expensive project. Given the complexities of the overall consolidation process, considering hiring professional project management to manage the various project components is strongly recommended. Benefits include:

- A high level of expertise derived from multiple consolidation projects, systems procurements, and construction projects.
- Potential for cost savings. A savvy and experienced project manager will potentially save the project money through vendor negotiations alone.
- Mediation of disagreements and disputes between participants. The neutral role of the project manager provides good standing to resolve disputes and reduces conflict between participants who will need to work closely after the consolidation project is completed.

In short, professional project managers manage complex projects everyday while an in-house resource may only manage a project of this complexity once during a career.

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3. IMPLEMENTATION & TRANSITION PHASE

3.1 Schedule

The following table provides time estimates for the construction and installation of the facility and key PSAP technology. These time estimates do not include the procurement process as the time needed to navigate them vary widely. Each city, county, or town needs to add the time required for its own procurement process to the time estimates below.

| PSAP Consolidation Timeline Estimates | | |
|---------------------------------------|-------------------------|---|
| Project Component | Estimated Time Required | Notes |
| Facility | 18 – 36 months | Including site procurement. Multiple project specific variables will determine actual time needed. |
| CAD | 12 – 18 months | From contract signing. Time needed for the procurement process must be added. System functionality needs must be determined as part of the procurement process. |
| CPE | 12 months | From contract signing. Time needed for the procurement process must be added. System functionality needs must be determined as part of the procurement process. |
| Radio Consoles | 12 months | From contract signing. Time needed for the procurement process must be added. |
| Logging Recorder | 4 months | From contract signing. Time needed for the procurement process must be added. What is to be recorded needs to be decided prior to the procurement process. |
| Furniture | 3 months | From contract signing. Time needed for the procurement process must be added. |

The procurement of these components runs concurrently with an average total project timeline of 18 – 36 months. Therefore, the collective procurement process requires vendor coordination so that delivery and installation of these components take place in the correct order. For example, installation of CAD, CPE, and radio consoles is not possible until there is dispatch furniture in place. Further, early delivery of technology results in equipment sitting unused in boxes while the warranty period has started.

3.2 Stakeholder and Employee Involvement

As emphasized throughout this guidebook, stakeholder and PSAP employee involvement is key to the success of any consolidation project.

More than any other, this phase requires input from PSAP employees to determine appropriate facility and new systems options. Not only does including PSAP employees and stakeholders help increase buy-in and improve communication, but it ensures that the facility and systems are set up to maximize operational efficiency. Failing to involve those who actually use the systems and work in the facility may lead to critical errors. Examples of common errors include:

- Allowing Information Technology (IT) departments to choose the CAD system based on IT priorities. This choice often results in a CAD system that does not meet the PSAP's functional needs. The functional needs of the PSAP must be the first consideration or a decrease in service level may occur. Involving IT staff in the choice of CAD systems is positive. However, operational functionality must be the highest priority. Therefore, those who use the system must have significant input into choosing the systems.
- Allowing designers, architects, or others without PSAP design experience to design the floor plan. Involving PSAP staff in the design of the operations floor plan ensures maximum workflow efficiencies.
- Allowing designers or others with no PSAP design experience to choose lighting and chair options for operational staff. These two issues seem small, but are important quality of life issues for those who work in the facility around the clock.

Involving stakeholders, especially field personnel, in choosing options and resolving issues with systems and SOPs that directly affect them is invaluable as well.

The graphic below highlights key areas for employee and stakeholder input.

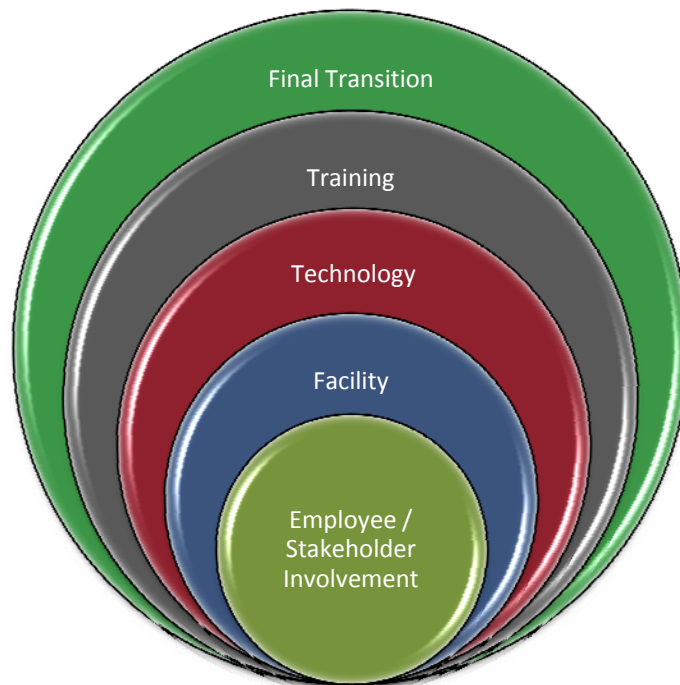


Figure 4 – Areas for Stakeholder Input

3.3 Facility

Choosing a site, developing facility design plans and construction or renovation documents, and the actual renovations or construction and procurement of office and dispatch furnishings are part of this phase.

When planning a new facility or doing major renovations, securing the services of an architect or engineer that is familiar with PSAPs and other similar facilities is vital. A PSAP is an essential facility with unique needs. A lack of experience in designing this type of facility often results in major design flaws. These flaws can be expensive to rectify, if rectifying the flaw is possible at all. Often, changing these flaws is not possible resulting in a facility that does not function well for the lifetime of the facility. Examples of design errors include:

- Parking not planned to accommodate two full shifts of employees plus visitors. During shift change at a 24/7 facility, two full shifts are present at the same time.
- Failure to take into account the raised flooring the PSAP needs to run cabling. Raised flooring shortens the ceiling height, which must be considered when planning light fixtures. In an actual scenario, the error caused employees 6' or taller to strike their heads on the fixtures.
- Planning HVAC for a traditional office environment rather than a PSAP. PSAPs need separate HVAC systems to balance the needs of the equipment room, the operations floor, and the administrative areas.
- Planning public entrances that open into the operations floor. This flaw requires that all visitors pass through the operations floor to reach other parts of the facility. This design creates a security issue and a distraction for employees.
- Failure to plan the operations floor in close proximity of the equipment room. These two areas need to be in close proximity to facilitate connectivity and access by supervisory staff.
- Failure to plan appropriately for adjacent agencies. Examples seen in actual designs include storing vats of hazardous chemicals in a room immediately adjacent to the operations floor and running pipes that carried caustic chemicals to an adjacent crime lab through the ceiling directly over the operations floor. A single leak in either scenario would shut the PSAP down.

Procurement of furnishings for the administrative and operational areas of the building is part of this phase as well.

3.4 Technology

For a PSAP, when choosing technology, CAD, CPE, radio consoles, or logging recorders, the call volume, type of agencies served, size, and number of field units supported all play a role in the scale of systems needed. The more calls, field units, and agencies that are supported the more functionality the systems must provide. Generally, cost rises as functionality needs increase. Therefore, when combining several small PSAPs replacing technology is common.

All technology requires a needs assessment as part of the procurement process to ensure acquiring the appropriate level of functionality. Extensive testing of each system takes place to ensure proper functionality prior to activating the new PSAP.

3.5 Training

Training of PSAP staff and stakeholders such as field personnel play a large role in this phase of consolidation. A minimum of the following training is necessary:

- Administrative and operational SOP training for all employees of the new PSAP.
- Training on CAD, CPE, and radio consoles for operational staff. All operational staff require full training on each of these systems.
- System administrators' training for each type of technology.
- Appropriate levels of systems training for support staff such as QA and training personnel.
- PSAP management staff training for CAD, CPE, and logging recorders.
- Facility systems training for PSAP supervision and management.
- SOP training for field personnel, if applicable.
- Field personnel training for mobile data systems, if applicable.
- Agency training for RMS, if applicable.

3.6 Cut-Over to the New PSAP

Activating a new PSAP requires careful planning to ensure no loss of service to the public. While each consolidation is unique, planning for the following is necessary:

- Fully staffing both the new and existing PSAP during the actual transition to provide redundancy in the event of a major system failure.
- Development of a contingency plan for each mission critical technology.
- Plan to have representatives from each technology or system vendor and the telephone company present at the time of activation.
- Plan to utilize in-house trainers to provide support to operational staff during cutover and for a period of time afterwards.

3.7 Project Management

As suggested elsewhere in this document, given the complexities of the overall consolidation process, considering hiring professional project management to manage the various project components is strongly recommended.

3.8 Post-Activation Issues

The consolidation process does not stop upon activation of the new PSAP and the post-activation road will not be without bumps. Keeping post-activation issues in perspective is critical. Common issues may include:

- Operational errors resulting from problems with new technology. Tweaking new technology to eliminate bugs is a common part of any system replacement.
- Operational errors caused by human error. In a new PSAP, the staff functions initially under a great deal of stress. They have to contend with new equipment, surroundings, co-workers, supervision and SOPs. Often the staff must do this under a microscope focused on them by the media and participating agencies. Remembering that initial errors are not indicative of long-term performance or the success of the consolidation is important.
- Participating agency complaints and concerns regarding service levels. Agency complaints are common initially. Some complaints may be valid while some may be based in a desire to see the consolidation fail. Investigating each complaint in a timely manner is important. If valid, the appropriate in-house action needs to be promptly taken. Valid or not, each complaint should receive a written response. Communication with stakeholders and participating agencies is important in building confidence in the new PSAP.

Certainly, these issues are problematic, but anticipating them provides an advantage. The advantage is in a predetermined approach and response planning. Proactive planning allows the addressing of each issue to be as positive as possible.

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APPENDIX A - REFERENCES

| References | | |
|--|---|---|
| Organization | Information Type | Link |
| Best Practices / Industry Standards | | |
| APCO International | Wide variety of 9-1-1, NG9-1-1, & radio related resources, standards, & best practices. | http://www.apco9-1-1.org/ |
| CALEA | Communications accreditation information | http://www.calea.org/Default.htm |
| DHS – Office of Emergency Communications | Information regarding interoperable communications. | http://www.dhs.gov/xabout/structure/gc_1189774174005.shtm |
| NFPA Code 1221 Version 2010 | Operational / Facility standards for communications | http://www.nfpa.org/ |
| National Interoperability Information Exchange | SOP templates and information sharing | http://niix.org/niix/index.jsp |
| NENA | Wide variety of 9-1-1, NG9-1-1, related resources, standards, & best practices. | http://www.nena.org/ |
| Consolidated Centers / Reports | | |
| Anoka County, MN | Governance Model Example: Separate Department within a Participating Agency | http://www.co.anoka.mn.us/ |
| Arlington County, VA Office of Emergency Management | Governance Model Example: Separate Department within a Participating Agency | http://www.arlingtonva.us/departments/EmergencyManagement/EmergencyManagementMain.aspx |
| Burlington County, NJ Department of Public Safety | Governance Model Example: Separate Department within a Participating Agency | http://www.co.burlington.nj.us/ |
| Dakota Communications Center | Governance Model Example: Joint Powers Structure | http://www.mn-dcc.org/ http://www.mn-dcc.org/about.asp (Joint Powers Agreement) |
| Groton Emergency Communications Center, Groton, CT | Governance Model Example: Separate Department within a Participating Agency | http://www.groton-ct.gov/depts/adminsvcs/emgmt_ecc.asp |
| Kandiyohi / Big Stone Counties | Governance Model Example: Separate Department within a Participating Agency | http://www.co.kandiyohi.mn.us/ |
| Litchfield County Dispatch, Torrington, CT | Governance Model Example: Joint Powers Structure | http://www.lcd911.com/cms/ |
| Northwest Central Dispatch System, Bergen County, NJ | Governance Model Example: Joint Powers Structure | http://www.nwcds.org/ |
| Onondaga County, NY | Governance Model Example: Separate Department within a Participating Agency | http://www.ongov.net/ |
| Orleans County, NY Sheriff's Office | Governance Model Example: Part of a participating agency | http://orleansny.com/ |
| Ramsey County, MN Emergency Communications | Governance Model Example: Separate Department within a Participating Agency | http://www.co.ramsey.mn.us/home/index.htm |
| Red River Regional Dispatch Center | Governance Model Example: Joint Powers Structure | http://www.rrrdc.com/ |

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|---|---|---|
| Rice / Steele Counties Consolidated Public Safety Dispatch Center | Governance Model Example: Joint Powers Structure Consolidation Report | http://www.ci.northfield.mn.us/assets/r/Rice-Steele-800-MHz-Final-Report-01-29-20093.pdf |
| Rochester Police Department / Olmstead County, MN | Governance Model Example: Part of a participating agency | http://www.rochestermn.gov/default.aspx |
| St Louis Park / Golden Valley Police Departments | Governance Model Example: Part of a participating agency | http://www.ci.golden-valley.mn.us/publicsafety/9-1-1.htm |
| Southern Idaho Regional Communications Center | Governance Model Example: Joint Powers Structure | http://www.sircomm.com/default.htm |
| Stanislaus Regional 9-1-1 Modesto, CA | Governance Model Example: Joint Powers Structure | http://www.stan9-1-1.com/ |
| Venango County, PA 9-1-1 Center | Governance Model Example: Separate Department within a Participating Agency | http://www.co.venango.pa.us/EMA_9-1-1/Index.htm |
| State of Connecticut | | |
| Office of Statewide Emergency Telecommunications (OSET) | Variety of Information on the State 9-1-1 Program | http://ct.gov/dps/cwp/view.asp?a=2150&q=294332 |
| State of CT Section 28-30-1 | Emergency Telecommunicator Training and Certification | http://ct.gov/dps/lib/dps/office_of_statewide_emergency_telecommunications_files/oset-files/telecommunicator_training_regulations.pdf |

APPENDIX B – GLOSSARY

The glossary may be found on the following pages.

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Glossary

| Term | Definition |
|-----------------------|---|
| 10 Codes | A method of communicating via radio frequency that uses codes prefaced by "10" to communicate specific messages. For example, 10-4 means OK or received. |
| 9-1-1 | A three-digit telephone number to facilitate the reporting of an emergency requiring response by a public safety agency. |
| APCO | Association of Public Safety Communications Officials - International |
| CAD | Computer Aided Dispatch - Critical computer system that is used to process 9-1-1 calls, dispatch field personnel, track units, and interface with RMS |
| CALEA | Commission on Accreditation for Law Enforcement Agencies |
| CMED | Coordinated Medical Emergency Direction |
| Consolidation | The combining of two or more PSAPs. Generally, the form a specific consolidation takes is based on four models. These models include full, partial, co-location, and hybrid. |
| CPE | Customer Premise Equipment - Also known as 9-1-1 telephone answering equipment |
| E9-1-1 | Wireline technology that provides the phone number and billing address of the 9-1-1 caller. |
| EMD | Emergency Medical Dispatch - Triage of medical emergencies prior to dispatching and medical instructions given to caller by dispatchers prior to the arrival of EMS. |
| EMS | Emergency Medical Services |
| IAFC | International Association of Fire Chiefs |
| ICMA | International City/County Management Association |
| Logging Recorders | PSAP technology that records audio from telephones and radios. |
| NENA | National Emergency Number Association |
| Next Generation 9-1-1 | Refers to the next evolution of 9-1-1 technology based on IP-based networks. Also commonly used to describe the ability of PSAPs to receive text, video and photos. |
| NFPA | National Fire Protection Association |
| NG9-1-1 | Next Generation 9-1-1 |
| Non Dispatch Tasks | Tasks performed by PSAP employees that are not emergency communications related. |
| Phase I and Phase II | Refers to the ability to locate 9-1-1 calls made from a cell phone. |
| Plain Language | Plain language, also known as plain talk refers to using words to convey meaning on a radio frequency rather than 10 codes. For example, rather than saying 10-4 a field unit may say "OK or received." |

| Term | Definition |
|--------------|---|
| PSAP | Public Safety Answering Point - In some regions, this term refers to an agency that answers 9-1-1 calls only. This term applies to an agency that receives and processes 9-1-1 calls and dispatches calls for service to field personnel. |
| RMS | Records Management System |
| Stakeholders | All that would be impacted by a PSAP consolidation. |
| UPS | Uninterruptible power supply. Equipment that services as a bridge between normal electrical power and a back-up generator. Its purpose is, in the event of a power outage, to supply short term power while the PSAP converts to its back-up generator. |

Note:

This glossary contains 9-1-1 and dispatch terms used in this document only. NENA provides a comprehensive glossary at <http://www.nena.org/standards/technical/master-glossary>.

APPENDIX C – PSAP MAP

The PSAP map may be found on the following page.

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Connecticut Public Safety Answering Points

