Arkansas Statewide PSAP Consolidation Plan Report

Final

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Prepared by:

"Unleashing the Power of Technology"

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Executive Summary

Federal Engineering, Inc. (***FE***) is pleased to present the Arkansas 9-1-1 Board with the *Arkansas Statewide PSAP Consolidation Plan Report*. In April 2020, The State of Arkansas released a Request for Proposal (RFP) for Public Safety Communication Consulting Services on behalf of the Arkansas 9-1-1 Board. The RFP purpose was to obtain proposals for the development of a Consolidation Plan to reduce the number of funded 9-1-1 public safety answering points (PSAPs) from 102 to 77 statewide, as informed by Act 660 in 2019. ***FE*** was acquired to provide professional consulting services to create a plan to support the consolidation of 9-1-1 PSAPs across the State of Arkansas.

This report presents the findings, recommendations, and industry standards and best practices that provide the framework and guidance for PSAP consolidation. It is intended to serve as a foundation and roadmap to guide PSAP consolidation toward legislative directive to reduce the number of PSAPs in Arkansas.

Background

In 2019, Act 660, The Public Safety Act of 2019, legislated the reduction of PSAPs in the state to seventy-seven. Act 660 establishes the 9-1-1 surcharge and mechanism which provides funding to PSAPs across the state.

In 2018, the Arkansas State NG9-1-1 Plan indicated that reducing the number of PSAPs would provide the most benefit to statewide emergency services IP -network (ESInet) and next generation core services (NGCS) implementation, and in improving services, cost efficiencies, and enhanced voice and data interoperability for PSAPs in Arkansas.

The scope of work of this project includes defining discussion and recommendations regarding PSAP consolidation, PSAP services and technology impacts, data and voice interoperability, and a review of Arkansas Code legislating public safety surcharge, distribution, and use.

Approach

Stakeholder engagement, communication, education and information, and data gathering was accomplished through PSAP surveys, data collection workbooks, five stakeholder workshops in each Arkansas Division of Emergency Management (ADEM) region of the state and follow up interviews.

Stakeholders invited to the workshops included:

a. PSAP Managers

b. Local E9-1-1 Service Boards

c. Telecommunicators

d. Arkansas 9-1-1 Board Members (including administrator)

e. Arkansas NENA Executive Board Members

f. Arkansas APCO Executive Board Members

g. Arkansas Geographic Information Systems Office

h. Emergency Management Agencies

i. Arkansas Wireless Information Network (AWIN)

j. Arkansas Network Services (wireline providers)

k. AT&T (currently providing selective routing services for Arkansas legacy 9-1-1 system)

Challenges in the Current Arkansas 9-1-1 PSAP System

Each PSAP is individually governed, and maintains their own facilities, technology, and operations. Each PSAP is staffed with dedicated employees who answer and process 9-1-1 calls, dispatch emergency calls, provide support to field responders throughout the call duration, and in some PSAPs, perform other non-dispatch related duties.

Several challenges were identified in the current 9-1-1 infrastructure and system in Arkansas, likewise these concerns were expressed by stakeholders during the process:

- Disparity in service across the state;
- Unnecessary transfers of emergency calls;
- Lack of voice and data interoperability;
- Limited situational awareness, in and among PSAPs and responders;
- Extended response times for multi-agency/multi-jurisdictional events;
- Lack of supervision in PSAPs;

- Minimal or no career path for PSAP staff;
- Limited or minimal training of PSAP staff;
- No Quality Assurance of emergency calls and dispatches;
- Lack of coordinated response, or lack of expedient coordinated response;
- No viable short- or long-term backup plans, locations, or procedures.

Opportunities in PSAP Consolidation

PSAP consolidation offers significant service improvements and cost efficiencies across the state. Positive benefits discussed in workshops and expressed by stakeholders include:

- Shared resources that can create cost efficiencies for all agencies; the costs for smaller PSAPs to migrate to and maintain NG9-1-1 infrastructure and technology without consolidation may be to cost prohibitive otherwise;
- Access to new and/or improved technologies;
- Improved quality of service and continuity for responders and citizens through service delivery that is aligned with standards and best practices;
- Increased career opportunities and professional growth;
- Standardized SOPs and training across PSAPs statewide, allowing for consistency in service provision to all citizens, regardless of what part of the state they are dialing from;
- Staffing increase in consolidated centers that allow for a larger pool to cover shifts, major incidents, and surge capacity;
- Dedicated supervision and support directly in the PSAP;
- An improvement in or the creation of purpose-built Communications Center facilities designed specifically for the profession to support operations and staff comfort;

- Increased situational awareness. In physically consolidated PSAPs team members are in the same vicinity and “whole room awareness” is created, making it easier to manage dynamic and high priority incidents effectively;

- An opportunity for interoperability between PSAPs across the state. Call transfer and data sharing is made possible through consolidation, technology, and process;

- Redundancy and business continuity; PSAPs can effectively back up one another across the state should a center experience call surge, equipment failure, or major incidents. There is much opportunity to design contingency and business continuity strategies that provide not only call answer and process functions, but additional facilities to relocate should the need arise for center evacuation.

Key Recommendations

This report outlines the governance, financial, technological, operational, and personal implications of consolidating PSAPs. The primary recommendation is that PSAPs physically consolidate from 102 to 78-80 PSAPs as outlined in this report under Section 5.8. The following table is an excerpt from the worksheet that shows the multi-PSAPs counties and how a consolidation, or reduction in PSAPs, is recommended:

Table 3: Multi-PSAP County Recommended Consolidations

PSAPs	Reported Expenses	Call Volume	Cost Per Call	Cost Per Population	Population	Recommended PSAP Reduction	Alternate Options
Benton County Central Communications	$3,063,611	38,575	$79.42	$11.24	272,608	Reduce to 2 PSAPs	*Due to fast growth rate may allow 3 PSAPs - Options to consider (Benton Co., Bentonville+Siloam Springs, and Rogers+Siloam Springs)*
Bentonville Emergency Communications Center	$1,414,778	15,728	$89.95	$27.68	51,111		
Rogers City Police Department	$1,442,447	25,241	$57.15	$21.34	67,600		
Siloam Springs Police Department	$677,476	4,339	$156.14	$39.87	16,991		
Total		83,883			408,310		
Clark County (Arkadelphia Police Department)	$642,351	3,192	$201.24	$61.32	10,475	Reduce to 1 PSAP	
Clark County Sheriff's Department	$674,277	21,564	$31.27	$30.56	22,061		
Total		24,756			32,536		
Crawford County (Alma Police Department)	N/A	3,063	N/A	N/A	5,844	Reduce to 1 PSAP	
Crawford County Sheriff's Department	$1,249,649	15,335	$81.49	$19.71	63,406		
Van Buren Police Department	N/A	10,021	N/A	N/A	23,691		
Total		28,419			92,941		
Crittenden County Communications Center	$640,180	13,577	$47.15	$13.24	48,342	Reduce to 1 PSAP	
Crittenden County (West Memphis PD)	$612,456	26,817	$22.84	$24.86	24,636		
Total		40,394			72,978		
Faulkner County (Conway Police Department)	$1,141,939	27,048	$42.22	$17.19	66,426	Reduce to 1 PSAP (currently co-located)	
Faulkner County Sheriff's Office	$655,992	24,064	$27.26	$5.26	124,806		
Total		51,112			191,232		
Garland County Sheriff's Department (Garland County Comm. Center)	$1,793,107	33,145	$54.10	$18.08	99,154	Reduce to 1 PSAP	
Garland County (Hot Springs Police Department)	$864,418	40,893	$21.14	$23.26	37,169		
Total		74,038			136,323		
Lonoke County (Cabot Police Department)	N/A	50,706	N/A	N/A	26,573	Reduce to 1 PSAP	
Lonoke County (England Police Department)	N/A	2,094	N/A	N/A	2,735		
Lonoke County Sheriff's Department	$742,923	31,362	$23.69	$10.09	73,657		
Lonoke Police Department	N/A	2,364	N/A	N/A	4,262		
Total		86,526			107,227		
Miller County/Texarkana	$2,896,390	117,404	$24.67	$96.64	29,972	Reduce to 1 PSAP	*Negotiate S.O. back into TX COG*
Miller County Sheriff's Office	$248,235	12,483	$19.89	$5.69	43,592		
Total		129,887			73,564		
Pulaski County (City of North Little Rock 911)	$2,244,900	75,113	$29.89	$33.95	66,127	Reduce to 3 PSAPs	*Options to consider (Little Rock, North Little Rock+Maumelle, and S.O.+Jacksonville+Sherwood)*
Pulaski County (Jacksonville 911 Center)	$794,488	23,647	$33.60	$28.09	28,287		
Pulaski County (Little Rock Police Department)	$6,583,446	220,514	$29.86	$33.27	197,881		
Pulaski County (Maumelle Police Department)	$427,597	7,341	$58.25	$23.61	18,111		
Pulaski County Sheriff's Office (includes ASP Troop A)	$525,544	12,931	$40.64	$1.34	392,680		
Pulaski County (Sherwood Police Department)	$800,141	14,704	$54.42	$25.62	31,237		
Total		354,250			734,323		
St. Francis County (Forrest City Police Department)	$431,659	N/A	N/A	$30.74	14,044	Reduce to 1 PSAP	
St. Francis County Sheriff	N/A	N/A	N/A	N/A	25,439		
Total					39,483		
City of Benton	$1,253,513	16,502	$75.96	$34.43	36,403	Already reduced to 2 PSAPs (consider reduction to 1 as Bryant has small population and call volume)	
Saline County (Bryant Public Safety)	$614,924	9,297	$66.14	$29.76	20,665		
Saline County Central	$1,846,365	35,797	$51.58	$15.21	121,421		
Total		61,596			178,489		
Sebastian County (Fort Smith Police Department)	$1,483,246	59,297	$25.01	$16.88	87,845	Reduce to 1 PSAP	
Sebastian County Sheriff's Office	N/A	14,760	N/A	N/A	127,753		
Total		74,057			215,598		
Union County (El Dorado Comm. Center)	$360,451	15,394	$23.42	$20.10	17,932	Reduce to 1 PSAP	
Union County Sheriff's Office	$643,716	10,334	$62.29	$16.45	39,126		
Total		25,728			57,058		
Washington County (Central EMS)	$1,056,324	30,439	$34.70	$4.46	236,961	Reduce to 2 PSAPs	*Alternative configuration of EMS and Fayetteville, then S.O. and Springdale*
Washington County (Fayetteville E911)	$1,470,146	41,493	$35.43	$16.95	86,751		
Washington County (Springdale Police Department)	$1,526,968	31,370	$48.68	$18.84	81,029		
Total		103,302			404,741		
White County (Searcy Police Department)	$746,352	10,183	$73.29	$31.40	23,768	Reduce to 1 PSAP	
White County 911 Center	$767,959	25,532	$30.08	$9.75	78,727		
Total		35,715			102,495		

Note that the population of each County includes overlap for reporting counties and cities. The cost by population was only considered when PSAPs reported expenses without reporting call volume. Also of note are the potential anomalies where data indicates very high or very low cost per call.

This decrease in the number of PSAPs would result in a reduction to **79** PSAPs. Alternate options or case-by-case decisions based on factors such as growth rate, fluctuations in population served due to industry, airport, or university, may fluctuate this number to **78-80**.

A summary of other recommendations can be found in Section 5.1; ***FE*** highlights its key recommendations below:

1. That the Board continue to promote a State guided and local control approach to consolidation of PSAPs and in standardizing PSAP services through nationally accepted standards and best practices.
2. That the Board incentivize and support reduction of PSAPs by providing resources and guidance on how to leverage the current 83.75% PSAP funding distribution toward planning, transition, and implementation of consolidation. And, to utilize the portion of the 15% surcharge revenue set aside for NG9-1-1 via the reimbursable eligible use by PSAPs. To achieve this:
    a. Encourage the PSAPs to apply their fee distribution to consolidation initiatives and
    b. Establishing consolidation as a path to securing an early adoption placement in the rollout of ESInet connectivity and provisioning of NGCS. This incentive for the initiation and follow through of a consolidation plan should be included in the PSAP Certification process thereby providing a direct qualifier for fee distribution.
3. A threshold for PSAP consolidation be established that aligns with the population served by each PSAP. Focus first on multi-PSAP counties now with a future potential focus on county-to-county geography-based consolidations.
4. That consolidation be physical, and not virtual. Virtual consolidation should only exist as an interim solution; the end goal is full physical consolidation for PSAPs.
5. A phased approach to consolidation that focuses on establishing criterion that are communicated to PSAPs and should include the classification of the County and the PSAPs within the population and call volume threshold matrix, and guidance and expectations of what a local/regional plan should contain.

6. That the Board monitor and guide PSAP consolidation through the PSAP Certification Process reporting mechanism.
7. That realistic timelines for consolidation be established as outlined in Section 3.2.4.
8. That potential efficiencies and interoperability opportunities be investigated and implemented among PSAPs through shared infrastructure and technology such as interfaced or hosted call handling function equipment (CHFE), computer aided dispatch (CAD), radio systems and radio consoles, and logging equipment.
9. That PSAPs ensure critical equipment and systems adhere to security and redundancy standards and best practice.
10. That PSAPs have business continuity and back up site/evacuation/relocation plans in place that are tested and well-practiced by staff regularly.
11. That a standardized approach to call answer and call processing be implemented among PSAPs statewide, and that they be based on industry standards and best practice, ensuring the same high level and continuity of care is provided at every region of the state, regardless of where a caller is accessing 9-1-1.
12. That a Quality Assurance and Quality Improvement program exist in PSAPs, that follows industry standards and best practice as outlined in Section 4.5.1.5.
13. That PSAPs assess their current staffing model's effectiveness to ensure appropriate staffing levels are commensurate with workload today, to better equip them moving into NG9-1-1 implementation.
14. That existing PSAP staff are given priority consideration for employment opportunities at consolidated centers.
15. That training in PSAPs comply with National Emergency Number Association (NENA), Association of Public-Safety Communications Officials (APCO), and National Fire Protection Association (NFPA) industry standards as outlined in 4.5.1.4.
16. That supervision in PSAPs comply with NFPA standards as outlined in Section 4.5.1.3.

Next Steps

The enumerated next steps focus on how and what the Board can or should do to facilitate and support consolidation, and to prepare for the future of 9-1-1 in Arkansas. These steps include the following:

1. Review and acceptance of this report, or portions of this report, that best fit the Board's mission.
2. Distributing this report and the Board's vision and plan for execution with the local government leaders and PSAPs.
3. Incorporate tracking consolidation progress within the PSAP Certification Process.
4. Establish a case-by-case submission, review, and decision process to allow the local government entities to present any alternate plans.
5. Expand the single resource of Executive Director to include experienced staff as the 9-1-1 centric programs expand.
6. Assemble a library of resources, tools, and templates for the PSAPs.
7. Conduct reviews annually of plans, projects, and legislation, in preparation for the future of 9-1-1 in Arkansas.

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1. Introduction

Federal Engineering, Inc. (***FE***) is pleased to submit this *Arkansas Statewide PSAP Consolidation Plan Report* (Plan). The Plan details the opportunities and goals for the consolidation of public safety answering points (PSAPs) across Arkansas. The contents of this Plan focus on discussion about PSAP functions, services, technology, and how these aspects impact or influence consolidation planning within service areas.

This report includes description and outcomes briefing from the five consolidation workshops developed and facilitated by ***FE*** across the State.

This Plan provides definition for consolidation, threshold recommendations for consolidation based on population, call volume, cost per call, and geography. The technology in use across the State is referenced as it relates to consolidation opportunity, protecting or leveraging investments, and utilizing broader network capacities for data and voice interoperability.

In providing recommendations for a statewide consolidation Plan, this document includes a review of legislation and cost projections for the ongoing PSAP support for operations, standards and best practices as overseen from the Arkansas 911 Board (Board), and for the upcoming build out of a statewide emergency services IP-network (ESInet) and next generation core services (NGCS).

The recommendations are supported by referenced data, stakeholder input, known outcomes from other States' similar initiatives, and our ***FE*** team's subject matter expertise.

1.1 Project Background

On April 13, 2020, the Office of State Procurement released a Request for Proposals (RFP) titled "Bid No. SP-20-0080 Public Safety Communication Consulting Services" on behalf of the Arkansas 911 Board. The RFP purpose was to obtain proposals for the development of a Consolidation Plan to reduce the number of funded PSAPs from 102 to 77. For the purposes of this Plan, and per A.C.A. § 12-10-303, a PSAP is defined as a "…location at which all 911 communications are initially answered that is operated on a twenty-four-hour basis by an operating agency and dispatches two or more public safety agencies."

The legislated authority for the reduction in the number of PSAPs resides in Act 660 of 2019 referred to as "The Public Safety Act of 2019". Act 660 establishes and provides the surcharge and mechanism through which the goal number of seventy-seven are to be funded. The 2018 Arkansas State NG9-1-1 Plan demonstrated how the number of

endpoints or PSAPs should be reduced to gain the most benefit from the planned statewide ESInet and NGCS, toward improved services, cost efficiencies, and enhanced voice and data interoperability for all PSAPs in Arkansas.

The Board promotes a State guided and local control approach to consolidating PSAPs, and standardizing PSAP services through nationally accepted standards and best practices guidance for operation centric support such as training, quality assurance, technology, and interoperability.

A parallel initiative to contract for the design and build out of a statewide ESInet and NGCS gives this Plan significant importance to overall fund sustainment of an optimum configuration of PSAPs in Arkansas.

1.2 Scope

The purpose of this Plan is to provide guidance and specific recommendations of how and which PSAPs should be consolidated toward the legislated directive to reduce the number of PSAPs.

The required strategy of the scope of work includes a defining discussion about consolidation of PSAPs in Arkansas, PSAP services and technologies impacts, data and voice interoperability, and a review of Arkansas Code legislating public safety surcharge, distribution, and use.

To accomplish this scope of work ***FE*** developed and facilitated five regional workshops to engage stakeholders through education about consolidation and consensus building for same.

From the stakeholder input gathered through the workshops and data collected via the Board's PSAP Certification Process surveys, ***FE*** has developed solutions and a consolidation configuration recommendation that realizes cost and service efficiencies. This Plan is designed to address all impacted PSAPs fairly and equitably while identifying variances that will require case-by-case review by and with the Board and the impacted PSAPs toward a reasonable outcome that maintains the integrity of the Plan.

This Plan includes consideration for cost and service efficiencies, the mitigation of transfers and duplicate work, the benefits of future shared services, adequate redundancy and security of the emergency communications systems/networks, the role and critical function of aggregated GIS data, and future enhancements of the statewide 9-1-1 services system.

2. Stakeholder Engagement

Stakeholder engagement was accomplished by the development and facilitation of five regional workshops. These workshops were designed to provide education and consensus building information to local government stakeholders including PSAP administration, technical support staff, County Judges and City management.

2.1 PSAP Surveys

The Arkansas 911 Board provided the most recent PSAP Certification data gathered from the PSAPs across the state. This data is required for distribution of the surcharge to the PSAPs. To augment this data ***FE*** prepared and distributed surveys that were designed to gather additional data useful to the process of determining that status of each PSAP relative to consolidation opportunities. These surveys requested data regarding contact information, demographics, statistics, technology inventory, facility/space conditions, and operational budgets. Like the PSAP Certification process not all PSAPs respond in a timely manner, and others not at all. The ***FE*** PSAP survey responses came from 75 PSAPs out of 102 to which the survey was distributed. Additional data was extrapolated from the PSAP Certification data and from other sources as needed. The PSAP survey process occurred from October 15, 2020, through January 27, 2021. The following table illustrates the history of the PSAP survey request and response tracking:

Table 1: PSAP Survey Status

Survey History	Dates
The original survey workbook was sent to 103 PSAPs	10/15/2020
Initial deadline for completion was:	10/30/2020
Email reminder #1 sent	11/2/2020
Email reminder #2 sent:	12/9/2020
Phone call prompt to PSAPs that had not returned survey	1/27/2021
PSAPs Submitted	75

2.2 Stakeholder Workshops

The *Regional Stakeholders Workshop Summary* report was delivered to the Board in December 2020. It is included in entirety in this Plan along with the presentation of talking points used to facilitate discussion in the sessions (Appendix A).

2.2.1 Workshop Objective

Federal Engineering, Inc. (***FE***) conducted a series of workshops during a two-week period in November 2020. The objective of these workshops was to provide information and attempt to build consensus regarding a statewide consolidation strategy, while allowing for stakeholder engagement and participation.

Stakeholders invited to the workshops included:

l. PSAP Managers

m. Local E9-1-1 Service Boards

n. Telecommunicators

o. Arkansas 9-1-1 Board Members (including administrator)

p. Arkansas NENA Executive Board Members

q. Arkansas APCO Executive Board Members

r. Arkansas Geographic Information Systems Office

s. Emergency Management Agencies

t. AWIN

u. Arkansas Network Services (wireline providers)

v. AT&T (currently providing selective routing services for Arkansas legacy 9-1-1 system)

2.2.2 Methodology

With the COVID-19 pandemic challenging Arkansas and its PSAPS, participants had the option of attending the workshops onsite or in a virtual environment leveraging the ZOOM® collaboration environment.

The onsite workshops, held in a classroom style arrangement, allowed the required social distancing. ***FE*** subject matter experts provided a PowerPoint presentation providing ideas and best practices regarding consolidation concepts. The Arkansas 9-1-1 Board, as well as the Arkansas GIS Office, provided updates to workshop participants on NG9-1-1 and GIS efforts throughout the State.

Some workshop participants chose to use the ZOOM® platform. ZOOM® features provided two room camera views, workshop audio, and a text chat function. As location acoustics provided challenges, virtual participants could view onsite comments in the text chat function. A wireless microphone, added in the second week, helped to improve ZOOM® audio.

The workshop participants, whether they attended onsite or virtually, were offered multiple opportunities to comment and ask questions.

2.2.3 Schedule

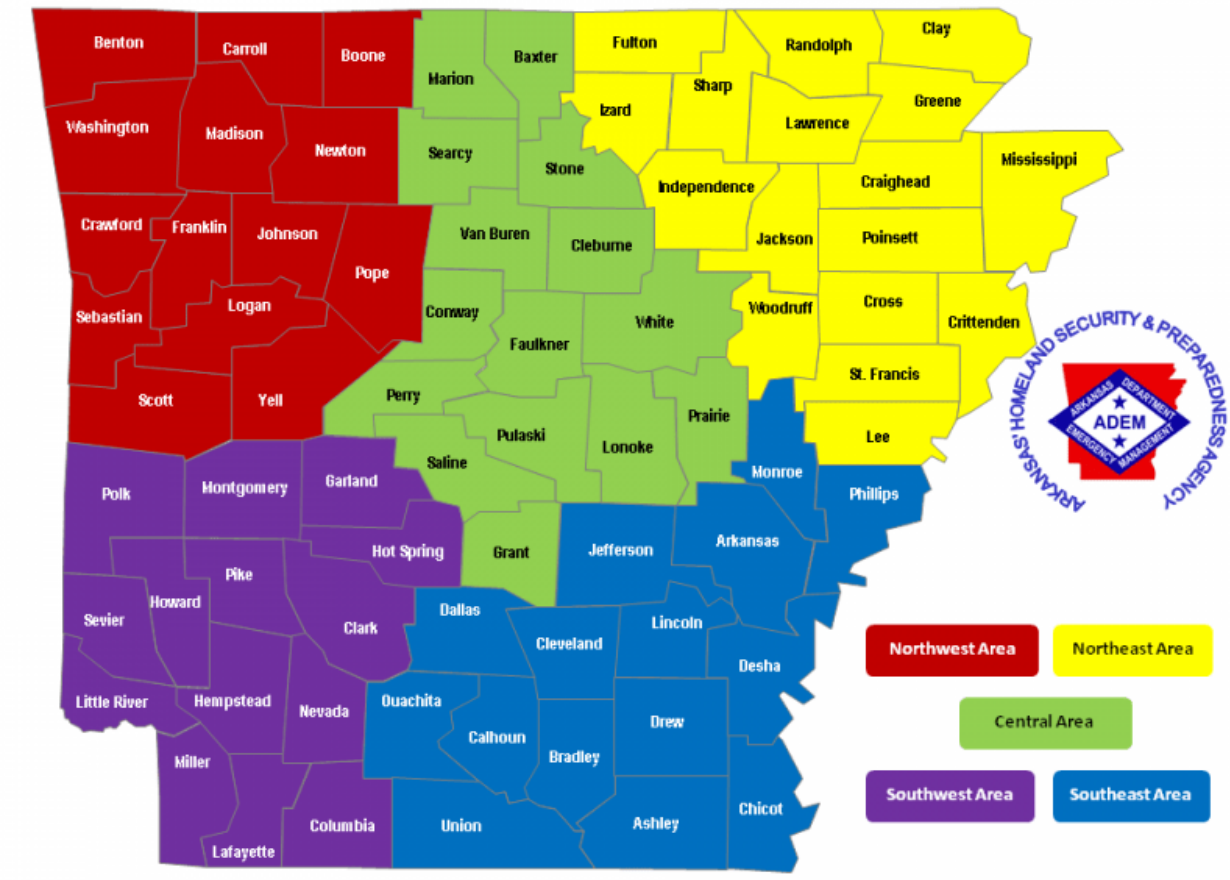
The workshop schedule was as follows:

Date	Region	Facility
11/9/2020	Central Region	Jacksonville Police Training Facility
11/10/2020	Northeast Region	First Community Bank, Jonesboro
11/12/2020	Northwest Region	Crawford County EOC
11/16/2020	Southeast Region	Star City Civic Center
11/17/2020	Southwest Region	Hempstead Hall, UA Hope

All workshops began at 09:00 am and ended approximately 12:00 pm.

The following figure shows the Arkansas Division of Emergency Management regions used as a model for which the regional workshop locations were determined:

Figure 1: ADEM Regions



2.2.4 Workshop Content

The workshops provided discussion and insight into the following topics:

- Introductions
- State of Arkansas Updates
    - 9-1-1 Board
    - NG9-1-1 Plan
    - GIS Office

- Challenges
- Benefits
- How do we get there?
- Dispelling Myths
- Next Steps
- Questions and Answers

A copy of the presentation is provided in Appendix A. ZOOM® video from all five workshops has been provided to the Arkansas 9-1-1 Board.

2.2.5 Workshop Participants

162 stakeholders attended the workshops either onsite or virtually.

2.2.6 Common Discussion Points

The following were common discussion points throughout the sessions:

- How did the legislature determine that the number of PSAPs should be 77?
- The PSAPs require dedication to the core function of answering 9-1-1 calls. Additional duties, such as jailer tasks, should fall to the local agency.
- The Arkansas 9-1-1 Board will provide funding to the agencies performing the PSAP duties. Individual PSAP funding will increase with the reduction of PSAPs through the implementation of the state plan.
- PSAP operations shall be state guided and locally controlled. It is up to the local PSAP director to direct operations.
- The goal of consolidation is to improve service to the local citizens. The Arkansas 9-1-1 Board will strive for standardization with the intention of providing the same level of service for all of Arkansas. The ability to share new technologies such as NG9-1-1 features will also enhance the level and quality of service.
- It is possible for a PSAP to deviate from the consolidation plan; they would risk not receiving state funds.

- Who is going to bear the cost of implementing technologies and services required to consolidate? These include:
    - Computer Aided Dispatch (CAD) Conversion
    - 9-1-1 Customer Premise Equipment (CPE)
    - Radio Integration
    - Facility Expansion
- What happens to the capital investments for technologies and facilities made by the PSAP?
- What is the timeline to implement consolidation plan?
- Will the Arkansas 9-1-1 Board consider a virtual consolidation through sharing of technology platforms such as CAD and 9-1-1 CPE?
- PSAP Staffing considerations including the following:
    - Planning for workload and growth capacity for consolidated centers
    - Attracting, hiring, and retaining qualified personnel
    - Training for all new systems, practices, and procedures
    - Appropriate placement of transitioning staff in consolidated organization

2.2.7 Specific Comments and Concerns

The following were some of the individual comments and concerns regarding consolidation:

- There was a concern raised regarding adding extra call transfers, which would result in increasing response time. Additional response time can decrease a community's ISO rating resulting in increased costs for local citizens.
- Not all PSAPs have certification for Emergency Medical Dispatch (EMD) and are qualified to dispatch Emergency Medical Services (EMS). Agencies should not experience a decrease of service level of the core PSAP functions.

- There was one agency who expressed that they did not want consolidation into another PSAP or have agencies consolidated into their operation.
- Consolidation must include legacy platforms such as fire paging encoder operation.
- The consolidated PSAP does not have institutional and geographic knowledge of my area.
- Potential consolidation partners use disparate technologies; everything from pen and paper to different CAD platforms.
- One stakeholder would like Arkansas 911 Board assistance to help provide Arkansas Wireless Information Network (AWIN) interoperability.
- Not all staff will embrace change. Some fear losing their jobs or additional travel time to work.
- Neighboring PSAPs do not have the same level of service.
- Some Arkansas PSAPs do not currently have wireline 9-1-1 with ANI/ALI. The area may not have broadband or wireless data coverage supporting mobile CAD.
- How do you reach out to neighboring PSAPs without knowing what the 9-1-1 consolidation plan is? There are too many unknowns and confusion regarding consolidation which is scaring people.
- All stakeholders, including County Judges, need to be aware of consolidation planning efforts.
- Sometimes PSAP data does not reach the responders.
- Radio interoperability can present challenges as not all agencies operate on the AWIN system. Some agencies use conventional analog UHF and VHF system; this can impact consolidated PSAPs by hindering interoperability.
- Why not have two PSAPs cover the entire State of Arkansas?
- A community may not want neighboring jurisdictions to dispatch due to liability.

2.2.8 Consolidation Champions

There were some attendees that provided positive feedback regarding consolidation.

The following are some of the comments expressed:

- Do not be afraid of consolidation, especially if the goal is to improve level of service.
- They are tired of hearing excuses for not consolidating.
- New systems will provide flexibility, resilience, and mobility. Dispatch operations can operate on a laptop in a disaster.
- The GIS Office will improve quality and access to mapping data.
- As sometimes there are problems with law and fire operations understanding each other, a neutral PSAP can be the conduit to disseminate information.
- Make sure that good news spreads.
- The benefits of a consolidation partner are the ability to help your neighbor or receive that neighborly help.
- It only takes one naysayer that can clear the room and stifle consolidation efforts. Proceed without them.

2.2.9 Workshop Outcome

The workshops were successful in providing information due to the attendance and participation of Arkansas 911 Board members, the Arkansas GIS Office and ***FE*** subject matter experts. The workshop provided an opportunity to kick off consolidation efforts with Arkansas stakeholders.

The workshop participants represent a variety of views across all PSAP types in Arkansas. As noted, most participants expressed positive views regarding consolidation and brought forth many questions and requests for guidance for and about costs, planning, organizational and operational changes, and timelines. Common concerns were expressed in all regions about the role of and fiscal support from the Arkansas 911 Board.

The information and input provided in these workshops will help define the contents and focus of the Arkansas 911 Board's Consolidation Plan (Plan) as the follow-on deliverable

to this discovery process. Based on the results and general outcome of the workshops, State guidance is needed for the locals in the specific areas of technology transition, data interoperability and convergence (e.g., GIS), organization and governance formulation, and standards and best practices.

The Plan will include input and foundational metrics from the analysis of the PSAP surveys and additional remote interviews with a cross-sampling of specific PSAPs representing various sized organizations and those that are planning or have completed a consolidation. Other remote interviews for input will include key stakeholders representing related programs of FirstNet, AWIN and Arkansas 9-1-1 Board members.

FE recommends continuing to inform and include PSAP representatives in the Plan development and review process. ***FE*** also recommends providing resources to the local government representatives to assist in understanding what forms of governance and funding mechanisms are allowable in Arkansas. These resources should take the form of templates and examples.

2.3 Follow Up Interviews

Following the regional workshops ***FE*** interviewed individuals representing AWIN and AT&T about the correlation of the current and future networks and the future reconfiguration of PSAPs. ***FE*** also interviewed PSAP, County, and City leaders, representative of the various sizes and types of PSAPs across the state. The following table contains the agency/organization and the date of the interview:

Table 2: Stakeholder Interviews

AR 911 Interview Tally Sheet	
Interview	**Date**
AWIN	12/9/2020
AT&T FirstNet	12/8/2020
Lonoke County	1/4/2021
Calhoun County	1/4/2021
City of Little Rock	1/4/2021
Searcy County	1/4/2021
City of Springdale	1/14/2021
Faulkner County/City of Conway	1/14/2021
City of Bentonville	1/19/2021
City of Jacksonville	1/20/2021
Sebastian County	2/2/2021

2.3.1 Arkansas Wireless Information Network (AWIN)

The opening question posed to AWIN representatives was how AWIN and radio communications in general would impact consolidation.

AWIN is in the process of a statewide upgrade including repeaters and microwave. The system consists of 135 sites (towers and dispatch console systems) comprising a statewide system with 32,000 subscribers to date. Each county has radios in service on AWIN. Some are full time users; some are only for interoperability.

Northwest Arkansas is saturated with AWIN users. As example, Washington County is in the process of upgrading. Central Arkansas is covered, and as example Craighead County is saturated with coverage.

Arkansas State Police has 3,000 users and 12 dispatch sites on the system.

All sites are hardened and AWIN is working on closing spurs with a ring configuration, upgrading to Multi-Protocol Label Switching (MPLS)[1] and adding three sites. Other design initiatives include automatic failover of master sites. AWIN only provides transport and radio service.

AWIN receives general revenues for funding and Communications Act (Act 660) funding and has raised funds via bonding. User costs are determined when an agency comes on the system, they use a matrix to estimate resources such as talkgroups and coverage or extra channels. If it is a very large project, Motorola provides design and engineering. There is not currently an inclination to add user fees as funding is paid through the Communications Act. This could change in the future.

The user fee matrix is published online and is limited to small and medium projects.

There is not an Inter-RF Sub-System Interface (ISSI)[2] in place to provide radio over IP communications protocol. Permanent gateway patch requests go to the Executive Committee. When implemented they use MotoBridge[3] and ACU1000[4] type equipment.

[1] MPLS (Multi-Protocol Label Switching) - NENA Knowledge Base (nenawiki.org)
[2] ISSI (Inter-RF Sub System Interface) - NENA Knowledge Base (nenawiki.org)
[3] mb_brochure_low_res.pdf (motorolasolutions.com)
[4] JPS Interoperability Solutions | Radio Interoperability Solutions

Motorola Solutions, Inc.©(Motorola) is integrating SmartConnect[5] to migrate to Long-Term Evolution (LTE)[6]. A few consumers use Push-To-Talk over Cellular (PTToC)[7] applications for Smartphones to access AWIN talkgroups.

The AWIN microwave backbone is being redesigned with MPLS technology; there is extra bandwidth for other uses such as the anticipated ESInet.

For PSAP-to-PSAP communications, it would be advantageous to have PSAP to PSAP talkgroups. Automatic vehicle (or resource) location (AVL)[8] services offered as a service for local agencies. Equipment must be capable of location services.

In discussions about the role AWIN may have in selecting consolidation partnerships it was noted that it would be beneficial to use AWIN partners as a starting point. AWIN administrators and 911 Board administration planned to review and compare the AWIN user list to the PSAP and gateway lists.

2.3.2 AT&T FirstNet®

The question posed to the representative for FirstNet ® in Arkansas was how the FirstNet® buildout can affect or augment consolidation efforts. The response included the status of FirstNet® in Arkansas as having over 21,000 users in State and continually growing. Part of the buildout is the access to 76 deployable sites nationally, with at least one stored and available in each State. If a PSAP has reduction of coverage, a deployable can be requested to assist with said coverage. To facilitate the deployable there is a 14-hour Service Level Agreement (SLA) that provides Band 14[9] coverage for FirstNet® customers; this can be a two-to-three-hour response in Central Arkansas. Cells on Light Trucks (COLTS) are capable of other AT&T bands but not preferable. There are also limited loaner devices for non-FirstNet® users. Deployments to date have included Pine Bluff Jefferson Regional Hospital, the Alexander flooding, and Van Buren County and has been on standby multiple times.

High Performance User Equipment (HPUE)[10] is available providing six times higher transmit power on Band 14 that equates to 80% greater coverage. This provides greater bandwidth with 1.2 Watts max output for Band 14 and operated lower power on LTE. They have worked with Emergency Management and EMS in Arkansas.

[5] APX_NEXT_Family_FS_SmartConnect (motorolasolutions.com)
[6] LTE (Long Term Evolution) - NENA Knowledge Base (nenawiki.org)
[7] What is Push-To-Talk Over Cellular? | Webopedia
[8] AVL (Automatic Vehicle Location) - NENA Knowledge Base (nenawiki.org)
[9] FirstNet Increases Network Coverage as Band 14 is Added to 2,500 Sites (att.com)
[10] FirstNet Extends First Responder Connectivity with MegaRange (att.com)

March 2022 is the date of build out completion of the current network, with future towers planned to be built out with 5G.

The ESInet build out policy and governance will require coordination and alignment with FirstNet®.

2.3.3 Lonoke County

The 9-1-1 Director for Lonoke County provides support for six PSAPs throughout the County. The Director oversees the PSAP equipment, GIS, and addressing. Lonoke County has had six PSAPS since 2001. Consolidation has been discussed and the County has had a consolidation board but could not gain consensus with the City Mayors. The Board was comprised of Mayors, Fire representatives and citizens. The 9-1-1 Director, law enforcement representatives, nor the County Judge were appointed to the Board. Most of the original Board membership are no longer in their roles. There may be a board charter on file in the Judge's office. The topic of consolidation has not resurfaced in Lonoke.

The Director's overall view is that consolidation would be a benefit to the County. The Director pointed to the PSAP Certification documentation to show that transfers would be reduced in a consolidation, and that the police departments answer between 1,200-2,000 calls annually. The larger PSAPs, in volume, are the Sheriff's Office and Cabot Police Department.

The Sheriff's Office hosts the 9-1-1 system. Calls are answered in the respective PSAPs; Carlisle calls are answered at the Sheriff's Office. England Police is a PSAP from 8:00am-4:30pm, then calls and dispatching transition for handling by the Sheriff's Office. Ward Police is a secondary PSAP. The Sheriff's Office may take wireless calls within other jurisdictions. PSAP maintenance reports are not available. All call handling is AT&T VESTA call handling equipment (CHE) or older equipment. All Computer Aided Dispatch (CAD) systems are disparate, older, and owned by each agency. All Lonoke PSAPS are on AWIN. The Sheriff's Office has a logging recorder configured to record all police agencies' voice logging, except for Cabot Police.

The Sheriff's Office and Cabot take the majority of 9-1-1 calls. The issue would be deciding which PSAP would be the consolidated site. A roadblock may be politics between the Sheriff's Office and Cabot. The Sheriff's Office dispatches several Fire and EMS agencies. Cabot does the City of Cabot Fire and EMS.

Sheriff's office has space as the site is a public safety campus with original construction intention/planning to allow expansion. The Cabot dispatch area is small and may not accommodate a consolidation.

The County covers all positions at the Sheriff's office due to Covid. The County funds three full time positions for Cabot, at $5K per month. Pre-Covid, the County funded three positions at 75% and one at 100% for the Sheriff's Office.

The 9-1-1 Director office budget comes from the State surcharge distribution and from locally collected landline surcharge. Covid funding is coming from 9-1-1 office surplus. 9-1-1 funding covers all the PSAPs' equipment and training. They have saved or rolled over funds annually in anticipation of replacing equipment. They are now saving for consolidation plans.

The County Judge makes decisions on equipment replacement and will need to support a consolidation plan. The County is not opposed to consolidation but wishes to wait for State Plan and guidance.

Except for the Sheriff's Office dispatchers, all other agency dispatchers have jailer duties. Each police department has a small jail. England has four cells and cells produce revenue.

The Director believes that a series of meetings regarding consolidation would be beneficial to quell rumors.

Technology may provide a few roadblocks to work through use and configuration of AWIN resources. Issues that may benefit would be existing network challenges for the Sheriff's Office. One solution may be to move dispatch under the County, such as the 9-1-1 Office or the Office of Emergency Management.

2.3.4 Calhoun County

Calhoun County is rural with a population of about 5,000 with one public school. Geographically located in the southern part of the state. Highway 167 runs directly through the County extending from Union to Dallas County. Timber is the largest industry. The largest employer is the Highland Industrial Park.

The County public safety services consist of seven volunteer fire departments, a Sheriff's Office with five deputy sheriffs and one Police Department with two police officers; EMS service is provided via contract with ProMed ambulance with the county providing dispatch. The County dispatches ProMed EMS but does not provide pre-arrival medical instructions.

Union County borders on the south and Dallas County to the north. They share ProMed EMS service with Dallas and Union County. Bradley and Ouachita counties also have contiguous borders with Calhoun. EMS is the only shared resource. They do have mutual aid agreements with other agencies to assist with responses.

The City of El Dorado has a population of about 20,000 and it has a fire department. The City of Camden is larger with its own fire department as well.

Calhoun County staffs one dispatcher around the clock. Dispatchers are also classified as jailers. There is always a jailer and a dispatcher available for each shift. As the dispatchers are predominately female, they aid with the requirement for female jailers for female inmates.

The Emergency Manager has discussed with some of her peers in other counties about how consolidation would work, and about needing to know which partnerships make sense.

The County procured CHE in July 2020 for a hosted solution CHE networked through Little Rock. In November/December 2020, they purchased a new logging recorder that is IP-capable and can be expanded to eight section blocks. The County has also recently added a SIP[11] PBX[12] as an administrative phone system solution and new dispatch furniture. These are significant investments that the County wants to leverage in a consolidation initiative.

Politics and personal relationships could be in play in forging consolidation alliances. Calhoun County's consolidation may be accomplished via contracting services with a larger PSAP or creating of a regional center. Calhoun County would require Service Level Agreements (SLAs) to document expected service levels.

The County could see sharing services across two or more counties but questioned how a consolidation would be funded. The County noted that they have a training center that could be renovated and offered as a regional PSAP.

2.3.5 City of Little Rock

City representatives shared that PSAPs in Pulaski County where the City of Little Rock is located are discussing consolidation. The regional consolidation workshop generated local discussion with potential PSAP consolidation partners. As a result, the City of Little Rock reached out to the other PSAPs in Pulaski County to begin discussing the best ways

[11] SIP (Session Initiation Protocol) - NENA Knowledge Base (nenawiki.org)
[12] PBX (Private Branch Exchange) - NENA Knowledge Base (nenawiki.org)

to consolidate. The City of Little Rock is happy to host a meeting to direct area consolidation.

City representatives shared concerns about understanding the concept of PSAP versus Dispatch noting that the focus should be on service improvements in call-taking and dispatching without transfers of emergency callers. They expressed that there may be concerns about funding being tied to call-taking and not dispatch, and that the current funding collectively does not cover all expenses.

Other considerations include the technology, specifically the disparate CAD systems, standardizing or adapting policies such as event types.

Governance will need to be developed among the municipalities, of which the City Attorneys would need to work out legal issues.

Questions and discussion continued about what would happen to PSAP employees in a consolidation. The city plans to discuss with the other PSAP representatives to include PSAP Directors/Managers.

City representatives noted that Little Rock has a large call volume and would be challenged to bring on additional work, but considerations could be made as point of conversations. Discussion ventured into potential configurations such as their Northwest division of the City is large enough to geographically include the City of North Little Rock, and that the City has a high volume of vehicle accidents, violent crimes, property crime, which does not align with the type of workload other PSAPs have.

Representatives stated that until there is pressure from the State, consolidation efforts will stall.

2.3.6 Searcy County

The Searcy County Judge would prefer to not consolidate as he is concerned about reduction of service if dispatched from another location. Other shared services may stand as a model such as a jail built in 2018 of which they are seeking to share with Marion and Stone Counties. Searcy has discussed PSAP consolidation with Marion and Stone Counties. Stone County also looked at merging with Independence County to the east. The issue is that the Buffalo River cuts off the area; the northwest portion of the county requires crossing the river.

The county has a population of 8,000 and is a rural area with wilderness.

To work with Marion County, there are three incumbent local exchange carriers (ILECS) required for call routing, these discussions occurred in 2019 and crossing LATA causes additional costs. The ESInet initiative will aid in telco connections, and the county feels the statewide ESInet could help.

The County installed a CAD system in December 2018 for which they wanted to have data interoperability with Marion County, but the systems are not connected or cannot connect. Stone County to the east does have the same CAD system as Searcy, but it is unknown if data interoperability has been discussed.

The minimum staffing for the PSAP is two; the dispatchers have occasional jailer duties with the jail capacity of 31 beds.

The Searcy County PSAP could be moved into another room that would allow for space expansion and several more furniture consoles.

The Judge noted that they have never taken any funds from the county general funds for 9-1-1. They purchase equipment not leased and self-maintain.

The Judge is concerned about loss of jobs in any consolidation effort.

The County transfers EMS calls to North Arkansas EMS who provides EMD and EMS dispatch. They house ambulances in Marshall, Searcy, North Arkansas, and Harrisburg.

2.3.7 City of Springdale

The City of Springdale has been discussing consolidation within Washington County. They have some level of virtual consolidation as they are going to be on the same technology platforms as Fayetteville for the radio system and 9-1-1 CHE. Part of the City's backup plans is to move to Central EMS which is a contracted EMS provider. All the Washington County PSAPS can back up each other.

Representatives stated that the concerns are that Springdale crosses the border of two counties, Benton, and Washington, and is adjacent to Rogers Police. Annexation has also expanded the geographical service area for Springdale. Springdale is a one stop shop dispatch center that provides Fire, Police, and EMS within the City and mutual aid to neighboring cities. They are an ACE[13] accredited PSAP having achieved 95% proficiency and has APCO Project 33[14] Training Program certification and are working on fire accreditation.

[13] Online Accreditation (emergencydispatch.org)
[14] APCO International Project 33 Training Program Certification » Home (apcointl.org)

Springdale is about the same size as Fayetteville; they both use Central EMS. Rogers and Bentonville do all three disciplines as well; Bentonville has a smaller population. Lowell assists with call volume and mutual aid.

The technology investments must be considered, and Springdale is moving to a new facility which was a significant investment of $38 million. Technology investments may be reused/leveraged in a consolidated operation.

Springdale has just joined AWIN and has good communications.

2.3.8 Faulkner County and City of Conway

The 9-1-1 Coordinator for the County and City voiced concerns regarding the costs of consolidation and whether the wireless surcharges can cover said costs. It was noted that the County and City of Conway are co-located now, but do not share all technology, staff, or services. They do have the same CHE, but it is configured as two separate user groups that roll over to each other. The County is the primary PSAP and transfers to the City of Greenbriar for dispatch within their jurisdiction.

University of Central Arkansas is a backup center, but it is not sized to handle the capacity of staff and workload needed for the County or the City.

The city has had discussions with North Little Rock about providing backup for the City of Conway. The County has not talked to any other agencies for back up.

The City and County have been talking for four years about ways to consolidate. The Sheriff's Office oversees county 9-1-1, with the 9-1-1 Coordinator overseeing the financial portion only. The history that drove co-location occurred when the facility was built. The City and County looked at the yearly costs and made the decision to co-locate to save facility costs. The agreement for the co-location and any shared equipment is not formalized, however there is an advisory committee exploring these agreements.

Some of the roadblocks to consolidation between the City and County pertains to the CAD systems which are different for each group and conversion is considered expensive.

All radios are on the County system, they also use AWIN and VHF.

There was a third-party study for consolidation, and they are looking into a private vendor to manage the 9-1-1 center. The city has similar concerns as the County, they would like to remain on their own and do not want to partner outside the County.

The County stated that before the surcharge increase, there was a $1.2 million deficit as well as a 50% staff turnover. A high-cost upgrade typically occurred every five years. When the costs outweighed the revenue, the City and County started exploring consolidation strategy.

In discussing whether the increased surcharge could be used to fund a common CAD, the representatives noted that they are saving for the five-year upgrade costs for CHE as it wipes out any carryover.

2.3.9 City of Bentonville

Bentonville is neutral to how consolidation works. Future capital plans and growth include a hardened facility for continued dispatch and have invested a large amount of capital. It is the only true hardened communications center in Northwest Arkansas with a co-located emergency operations center (EOC). Bentonville may have interest in hosting other PSAPs and has had some informal discussions and are open to it. In 2010, some of Benton County had discussions concerning consolidation, however consolidation was opposed at the time.

The City's PSAP has eight consoles, five equipped with CHE. The space can accommodate up to 24 furniture console positions.

The Detention Center and Fire Station 1 are back up dispatch centers. They can answer 9-1-1 calls at Siloam Springs and have used this before. They do not foresee a weather threat to disrupt communications.

All County PSAPs provide EMD. Northwest EMS has taken over much of County EMS.

Bentonville is a little behind on radio and looking at joining AWIN or building out a standalone system. All County PSAPs share CHE.

The biggest roadblocks to hosting other agencies within the City's PSAP is governance, funding, parking, and renovating the facility. The facility is shared with Police Department divisions.

Rogers is in the process of constructing a hardened facility. Springdale is getting a new facility as well.

Integration with Walmart is a possibility, which is constructing a new 480-acre campus, Walmart may purchase the same CAD system to share data with Bentonville. Walmart dispatches their security on their campus for emergency calls. Employees call security first for emergencies. The Walmart campus is in the City of Bentonville. Emergencies

require city intervention as the population of the city doubles during the week during business hours due to Walmart. Walmart emergency transfers are 10-digit emergency calls and not 9-1-1 which is problematic.

Non dispatch duties include warrants, after-hours records, and lobby call box answers.

County PSAPS have been doing Text to 9-1-1 for seven years.

2.3.10 City of Jacksonville

Jacksonville has 14 full time and four part time PSAP employees and service only within the Jacksonville city limits providing police, fire and EMS dispatch using emergency medical dispatch (EMD)[15] protocols. Last year the city had a volume of 138,636 calls; this is trending upwards, especially for medical response calls.

The PSAP has met with surrounding jurisdictions within Pulaski County including Little Rock, North Little Rock and Maumelle. This meeting did not include Sherwood as they did not respond to an invitation.

No other PSAP in the county provides EMD as all but Jacksonville transfers their medical calls to Metropolitan Emergency Medical Services (MEMS). Surrounding PSAPs are not interested in providing EMD, so this would be a roadblock to consolidation. Historically Jacksonville has provided EMD since EMS service came over from Police. If Jacksonville transitioned to MEMS for EMS dispatch, this would impact Jacksonville's ISO[16] rating. The PSAPs would need to work out how to address the disparate EMS services and dispatching for same. This includes the critical component of EMD provision and the leveling of service.

The common denominator for consolidation is that each City has their own Fire and Police departments. Pulaski County dispatches 12 to 14 Fire Departments. Each center operating within the County dispatches their own Police.

North Little Rock PSAP could accommodate Maumelle. Pulaski County could consolidate down to four PSAPs, Pulaski County, Sherwood and Jacksonville, Little Rock, North Little Rock and Maumelle. A single County PSAP would need a large facility requiring construction. This could be a phased in approach whereas Phase 1 is four centers.

Jacksonville would have the ability to take on a small PSAP such as Sherwood. They occupy three to four positions, have two additional positions, and may be able to add

[15] Home - IAED (emergencydispatch.org)
[16] ISO Mitigation

three or four more positions. Sherwood operates one to two positions per shift. Maumelle normally operates one position around the clock.

The Jacksonville PSAP is in a secure hardened facility. Moving operations to a non-hardened facility would be a reduction in service regarding sustainability and needs consideration in a consolidation plan.

To maintain EMD for Jacksonville, the consolidated center would have to employ 12 to 14 dispatchers to continue EMD protocols for Jacksonville dispatch.

Jacksonville PSAP staff confirm warrants; their dispatchers do not interface with public. Some county agencies have their warrants entered by dispatch. Jacksonville staff watches security monitors and entrance/egress of facility.

Pulaski County will deploy text-to-9-1-1 in the near term, they are the only County PSAP that will do this in near term. Jacksonville, Little Rock and North Little Rock would like to increase staff before they provide text-to-9-1-1.

Administrative or non-emergency calls are four times higher in volume than 9-1-1 calls. They provide after-hours emergency calls for public works and animal control calls.

Jacksonville as well as Sherwood and North Little Rock use the same CAD system, but they do not share the platform with each other.

Jacksonville operates standalone CHE with controller at the PSAP.

Jacksonville maintains their old PSAP as a backup that is not live CHE, needing to rely on AT&T to configure to get into operation.

Jacksonville 9-1-1 calls roll over to Pulaski County as a backup.

Jacksonville uses AWIN for radio communications.

2.3.11 Sebastian County

The County engaged APCO[17] to study consolidation. Following the study, they now want to consolidate the three PSAPS, Sebastian County, Fort Smith, and private EMS, located in the County. They are planning to obtain a full planning report to move the initiative forward. Currently within the county, three entities are running PSAPS: two governmental

[17] Leaders in Public Safety Communications | APCO International (apcointl.org)

entities and one quasi-governmental entity. The consolidated PSAP would be under a 9-1-1 board.

Roadblocks are identified as perception of loss of control by agencies. The County Sheriff and the Fort Smith Police Chief support consolidation. Some of the highlights of the planning to date include a selected location, discussions about which agency would employ the PSAP staff, and a governance plan.

County Government and City Government, and a private EMS company, whom is a secondary PSAP would be partners. EMS has the technical ability to be primary or secondary and is set up to be a backup.

The County receives and distributes state funding, the 9-1-1 budget is controlled by the County. Twenty percent of the salary compensation comes from 9-1-1 surcharge.

The County is willing to provide the feasibility study results with other PSAPs/Counties. They are planning to begin moving their consolidation plans forward in the third quarter of 2021.

Sebastian County is interested in expanding to a regional center in the future noting they meet quarterly with six other counties in their emergency management (EM) region and are comfortable discussing regionalization.

2.4 Engagement Outcome

An overview of the individual interviews found that all Counties and Cities have or are planning to make significant investments in their PSAPs. There are concerns about how to move consolidation forward, with specific governance, funding, and operational concerns or roadblocks. Several of those interviewed described a history of considering consolidation for technical or service reasons, though only a few are moving the initiative forward. Some Counties and Cities are willing and able to share their experiences and solutions to help others in planning their consolidation. A small number of entities have stated that they do not want to consolidate. The reasons stated included a lack of clarity of how governance, funding, and operations would work, and concern regarding a lack of control and access.

3. Feasibility Strategy

Goal four of the *State of Arkansas Statewide NG9-1-1 Plan* is to identify opportunities for consolidation. The specific objectives are stated as:

4.1 Establish and adopt a classification system based on County population and call volume.

4.2 Establish and adopt funding guidelines based on the County classifications.

4.3 Establish and adopt rules for compliance with statewide standards related to the funding of Counties for the operation of PSAP(s).

To pursue these objectives, there must first be an understanding of what consolidation models would be viable for Arkansas PSAPs.

3.1 Consolidation Types

There are several PSAP consolidation models available for consideration by the PSAPs of Arkansas. These models or types include variations of physical and virtual mergers, also known as shared services. Variations and considerations for physical consolidation include complete physical consolidation under a centralized authority, complete physical consolidation under a local government, contracted services, co-location with shared technologies, space, and/or services – such as universal call-takers, and necessary back up plans. Note that centralized authority means an authority created for the purpose of governance over a consolidated center, such as joint powers authority (JPA).

The viability of any consolidation model or type is directly connected to two factors: politics and funding.

Political will is a requirement for the success of a PSAP consolidation initiative. Consensus or buy-in by operational and executive level stakeholders and stakeholder groups, and a commitment by decision makers to enter into an intergovernmental agreement, are the key thresholds for advancing a consolidation beyond a study or planning activities.

As with all shared services initiatives, PSAP consolidation requires an identifiable and secured funding mechanism. In Arkansas and many other states legacy funding sources have been updated to reflect and include all devices that can communicate with 9-1-1 via voice or data. This universal public safety fee replaces the outdated Enhanced 9-1-1 (E9-1-1) and wireless surcharges.

The following sections provide information for consideration regarding the consolidation types that are viable for modeling by Arkansas PSAPs.

3.1.1 Physical

The variables of a physical consolidation include a range of shared services models such as:

- Merging of all human and technical resources organizationally and physically under one roof.
- Disparate entities co-locating in a shared physical space, perhaps also sharing some or all technology.
- Sharing any one or more of the organizational components such as call-taking regardless of physical location.
- Contracting call handling and dispatching services with a neighboring PSAP.

Within this range of physical models, there are multiple variations derived from the relationships and service needs of the participating entities. In Arkansas, the majority of PSAPs have two or three call handling equipped positions.[18] It is difficult for these small PSAPs to provide services that align with public expectation and industry standards and better practices.

- Public expectation includes capacity for call handling in peak periods or infrequent high acuity events, and capabilities regarding NG9-1-1 technology and networking.
- Industry standards and better practices include compliance with call answer standards; mitigation of transfers; use of protocols; connectivity; voice and data interoperability with other PSAPs in Arkansas and other states.

There are between 20-25 PSAPs that have four or more call handling equipped positions. Of these several have six to eight call handling equipped positions, with Little Rock standing out with a reported 20 call handling equipped positions. While not all PSAPs provided complete statistical information on the number of call handling equipped positions, population and known call volume of those not reporting make it clear they are in the majority group of having two to three call handling equipped positions.

[18] 2020 PSAP Survey Tracker compilation of surveyed data from approximately 117 Arkansas PSAPs

Physical consolidation would best benefit the smaller PSAPs as the costs associated with equipping, networking, and maintaining several low call volume PSAPs is higher than equipping, networking, and maintaining a larger PSAP(s) with a higher call volume.

Physical consolidation provides the opportunity to separate emergency call handling from the other duties that are handled in the smaller PSAPs. For example, public safety agency owned and operated PSAPs with low 9-1-1 call volume are relied on for many non-emergency support functions, such as record keeping of warrants and orders, internal and external report development (includes data and statistics reporting), agency or municipal switchboard functions, other clerical duties, jailer/matron duties, public interface for agency or municipal purposes, and so on. These are critical duties that the agency and municipality must continue to provide and support. However, the use of trained/certified telecommunicators is not necessary for handling the clerical duties described above.

The larger PSAPs are in urban areas and have a different focus than the smaller PSAPs. The larger PSAPs focus their staff on the emergency call volume, and not on clerical duties. The job descriptions and duties are fundamentally different from the smaller PSAPs. Larger PSAPs can benefit from physical consolidation by increased situational awareness and mitigation of transfers by reducing the number of PSAPs in the urban areas.

3.1.2 Virtual

A virtual consolidation is defined as shared technology and networking to reduce or eliminate disparate systems such as computer-aided dispatch (CAD), call handling equipment (CHE), logging recorder, radio dispatch console systems (RDCS), and other peripheral applications and equipment. A virtual consolidation does not physically bring the staff or organization under one roof. Virtual consolidation is less effective than physical consolidation in providing benefits of situational awareness, backfill of operational staff, and reduction of costs for space and human resources.

Virtual consolidation as a shared services model may allow the physical presence of a secondary or dispatch only site if there is a centralized primary answering point for 9-1-1 communications. This may take the form of call answering at a primary PSAP, then a transfer for dispatching for any agency not dispatched by the primary PSAP. The issue with this configuration is the deterioration of service through the additional time needed in the human and technical mechanics of transferring the caller, then more time added in the querying of the caller a second time. The virtual aspect of this configuration would be the use of the same technology, for example the same CHE.

Another method that would satisfy the definition of a virtual consolidation would be to have trained universal call-takers at a centralized PSAP. The callers are not transferred unless there is a policy-based reason, such as high-priority in-progress events that require a call-taker to remain with the caller until responders arrive. This would manifest as the original call-taker bringing the agency dispatcher onto the call and may or may not hand it off to the dispatcher. This three-way method is common in consolidated (in-room coordination) and single agency PSAPs in a regional response scenario. If by policy most calls are handled at the central PSAP by universal call-takers, then all information for dispatch is shared with the agency dispatcher at another location via CAD. The virtual aspect of this configuration would be the use of the same technology, for example the same CAD.

Virtual consolidation lends itself to a county-centric funding model in which 9-1-1 funds are distributed only to the County or regional central PSAP. Any secondary or dispatch only site that is virtually consolidated via common technology would receive funding in-turn from the County or regional central PSAP. This would require an agreement between the secondary/ies or dispatch-only sites and the primary. An example of this funding model is found in other states where a secondary or dispatch only site must have an agreement in place with the primary and funds are channeled through the primary. No funds come directly to the secondaries or dispatch-only sites.

Note that a future Arkansas statewide initiative may be to standardize more of the technology, such as CAD, radio consoles, logging recorders, and through the NG9-1-1 rollout, the CHE. This may allow for more virtual consolidation type configurations.

FE does not recommend allowing virtual consolidation as a final solution, but rather as an interim step toward full consolidation. The reasons why virtual consolidation is not a goal solution are that virtual consolidation cannot provide several of the key benefits of physical consolidation. Virtual does provide standardization of some technology but creates more points of potential human and technical failure. Virtual does improve some situational awareness but cannot substitute for the direct interaction that comes from staff working together in one space/facility. Virtual can provide some cost efficiencies from the standardization of technology, however it is a far more expensive solution than physical consolidation as space and human capital needs are still stove piped to individual agencies. To that, virtual should be an alternate or interim plan for counties that cannot reach full physical consolidation. Virtual may also be an interim step toward physical consolidation that allows standardized technology and back-up plan development until full consolidation can be achieved.

3.2 Review of Arkansas Legislation

This section provides an overview of the legislation that lays out the background, status, and vision, for determining the most efficient distribution method of the public safety fee. Goal four of the *State of Arkansas Statewide NG9-1-1 Plan* is *Identify Opportunities for Consolidation*. The three objectives for Goal four focus on classifying Counties based on population and call volume, establishing funding guidelines based on said classifications, and ensuring compliance with statewide standards related to the funding. The NG9-1-1 component of the Plan enumerates the anticipated cost for transitioning to a statewide ESInet and next generation core services (NGCS). The Plan does not include cost considerations associated with the reduction in endpoints (PSAPs).

Act 660 transitioned authority from the ETSB to the Arkansas 911 Board with legislated directive to develop a plan to "…*provide funding for no more than seventy-seven (77) public safety answering points to operate in the state."* The 911 Board "*may provide funding for more or fewer than seventy-seven (77) public safety 911 answering points with a two-thirds (2/3) vote of the board;"* And, the 911 Board must report annually to the Governor that includes "…*a review and assessment of sustainability and the feasibility for further reduction of the required number of public safety answering points resulting from the standardization of operational processes and training and the implementation of next generation 911 service;"*

The funding of PSAPs from the public safety fee comes from a disbursement of "*…Not less than eighty-three and seventy-five-hundredths percent (83.75%) of the total monthly revenues shall be distributed on a population basis to each political subdivision operating a public safety answering point that has the capability of receiving 911 calls on dedicated 911 trunk lines for expenses incurred for answering, routing, and proper disposition of 911 calls, including payroll costs, readiness costs, and training costs associated with wireless, voice over internet protocol, and nontraditional 911 calls…"*

To accomplish this legislated directive, the Arkansas 911 Board must focus on the number of endpoints and the associated costs of continuing to fund the PSAPs and the required connectivity (ESInet) and services (NGCS). The attainment target of 77 PSAPs represents a manageable number of endpoints within the anticipated ESInet design/configuration. Act 660 provides an opportunity for the 911 Board, through majority vote, to approve funding for more or less than 77 endpoints (PSAPs), but these independent decisions should be based on known impacts such as costs, network design, and intergovernmental relationships.

Act 660 details all eligible expenditures as broad as space needs, technology systems, equipment and networks, personnel, and training. The fee disbursement is not sufficient

to cover all PSAP costs therefore the municipalities augment the operational budgets through general revenues and other allowable sources. The transition to NG9-1-1 systems and equipment, and core services, will modernize and improve the capabilities of the PSAPs, but this transition is costly and must be deployed at least regionally, and preferably statewide. The eventual networking will connect PSAPs nationally.

The costs associated with NG9-1-1 include infrastructure, security, redundant components and connectivity, standardized network components, core services, call handling equipment, and peripherally impacted systems such as CAD, logging recorders, and radio consoles. There are no direct funding sources for internet-based or internet protocol communication. The legacy wireline, wireless, VoIP, and other devices that can have a public safety fee attached to it are part of the limited sources for funding NG9-1-1. To that, states with legislated authority at a state level like Arkansas understand the need to reduce the number of endpoints (PSAPs) to level the cost of 9-1-1 statewide. It is simply far more expensive to connect and equip small PSAPs as endpoints, than it is to connect and equip larger consolidated centers.

The only method by which the number of PSAPs in Arkansas can be reduced is through some form of consolidation. Any form of consolidation such as complete physical consolidation, co-location, or virtual consolidation, can have significant costs associated with planning and transition. Post-consolidation ongoing operation costs may differ greatly from pre-consolidation costs as the resulting operation is very different from the former operations.

3.2.1 Recommendation of Distribution of Fees

The distribution of the public safety fee is broad in context and spans all PSAP relevant costs. It can be applied to facilities, networks, and operations (personnel and training). Act 660 details the PSAP Certification process and the direct link to funding eligibility. If a PSAP fails to submit the certification report, their fee distribution is held in escrow until the certification report is submitted. This distribution process is appropriate for the current environment.

To incentivize and support the reduction of endpoints for the build out of a statewide ESInet, the 911 Board will need to engage the PSAPs by providing resources and guidance on how to leverage the current 83.75% PSAP distribution toward planning, transition, and implementation of consolidation. Act 660 states that population and call volume are the basis of fee distribution amounts to PSAPs. Using this base as a starting point, the 911 Board should key in on two methods for incentivizing consolidation, they are:

1. Encouraging the PSAPs to apply their fee distribution to consolidation initiatives and

2. Establishing consolidation as a path to securing an early adoption placement in the rollout of ESInet connectivity and provisioning of NGCS. This incentive for the initiation and follow through of a consolidation plan should be included in the PSAP Certification process thereby providing a direct qualifier for fee distribution.

The 83.75% public safety fee distribution to PSAPs can be used by the PSAPs to fund the planning and implementation of a consolidation. The PSAPs can also request reimbursements up to the percentage of wireless 9-1-1 calls received from the apportioned 15% of the fee in trust for NG9-1-1. These requested funds can also be applied to consolidation planning as it applies to the reduction in network endpoints. Note that each PSAP has the autonomy to use the fee distribution (from the 83.75%) in any eligible manner, therefore there are variations to what the monies are applied to.

Consolidation costs vary from a few hundred thousand dollars to millions of dollars. Each initiative will need to address space, technical, organizational, and operational needs. For example, one set of consolidating PSAPs may have an appropriate space that requires little to no renovation to accommodate additional workload. Another set of PSAPs may require new construction or major renovations to accommodate an increase in workload.

Equipping a consolidated PSAP should be directed and funded by the participating parties. The 83.75% fee distribution eligible costs include all call handling and dispatching equipment. Note that the recently released request for proposals (RFP) for a statewide ESInet and NGCS does not include call handling equipment (CHE) as this equipment/system is selected and funded at the PSAP level. The statewide ESInet and NGCS will be required to accommodate all CHE that is Next Gen ready, also referred to as IP-capable and i3 compliant.

The 15% Next Gen fund was previously disbursed to carriers for cost recovery, this is no longer necessary, and the funds can be applied to the state's ESInet and NGCS. It is also important to note that the portion of the 15% Next Gen fund that is available to reimburse PSAPs upon request (up to percentage of wireless calls) averages about $1million annually. This is not enough to fund consolidation across the board but can be applied in reasonable amounts to individual consolidation initiatives via reimbursement requests by PSAPs. The Arkansas Public Safety Communications and Next Generation 911 Act of 2019 specifies that the 15% can be accessed and used by the PSAPs via reimbursable expenditures as follows "*(ii) By public safety answering points for upgrading, purchasing, programming, installing, and maintaining necessary data, basic 911 geographic information system mapping, hardware, and software, including any network elements*

required to supply enhanced 911 phase II cellular, voice over internet protocol, and other nontraditional telephone services, in connection with compliance with Federal Communications Commission requirements."

The Board has the authority to allow PSAPs to request reimbursement for upgrades, purchases, programming, installing, and maintaining data (e.g., CAD) and 9-1-1 specific software and hardware to apply to consolidation initiatives. This may take the form of stating that the PSAPs are to prioritize consolidation and apply reimbursable funds to the costs of consolidation. These costs should correlate directly to the reduction in endpoints as a direct impact on the cost of ESInet and NGCS.

3.2.2 Recommended Phased Approach

Act 660 prescribes funding for no more than 77 PSAPs with the 911 Board having the authority to adjust that number. With stipulated funding based on population and call volume, so too can a consolidation configuration follow the population and call volume. ***FE*** recommends setting a threshold for PSAP consolidation that aligns with the population served by each PSAP. ***FE*** recommends a phased approach to requiring consolidation that focuses on establishing criterion that is communicated to the PSAP across the state. This communication should include the classification of the County and the PSAP(s) within the population and call volume threshold matrix, and guidance and expectations of what a local/regional plan should contain.

The phased approach to consolidation in Arkansas looks like this:

Phase 1 – Encourage and hold as example those mergers that have occurred, are underway, or are in the planning phase. These include St. Francis, Sebastian, Saline, and Crawford counties. Each of these relationships are distinct and will be a great resource for other counties. This phase is a short cycle and may not produce further relationships toward consolidation beyond what is already completed or planned.

Phase 2 – Establish criteria for consolidation based on population and call volume. The resulting number of endpoints could reduce the number of overall PSAPs/endpoints to be close to/in the range of the legislated goal. This approach allows some leeway with anticipated and unanticipated roadblocks. Roadblocks may be unique disqualifiers based on service areas that have large campuses such as industry, military bases, airports, and universities. Roadblocks will also come from relationship or political issues among potential participants. Note that political will is typically centered around individuals and will change when players change such as elected officials and agency heads.

The criteria thresholds are evident when looking at populations by county and growth rate. There are 72 counties with population under 150,000. These counties should be allowed one PSAP per County. There are two counties with populations ranging from 150,001 to 349,999. These counties should be allowed up to two PSAPs. There is one County with a population ranging from 350,000 and above. This County should be allowed up to three PSAPs.

Note that there are decreasing populations and negative growth factors in many counties that make the cost per 9-1-1 call excessive. There are 49 counties with populations below 100,000 with a negative growth rate. Of these, 28 have populations below 20,000 and a negative growth rate, and 13 have populations below 10,000 and a negative growth rate. ***FE*** recommends strong guidance and incentives to the 13 counties with populations below 10,000 and a negative growth rate. The guidance should be in the form of education regarding the cost per call and service deficiencies related to lack of surge capacity, lack of supervision, and technology changes impacting operations in the coming NG9-1-1 environment. Incentives should be financial through funding and planning support in the development of agreements, education and training, and technical and operational transitions.

For the larger PSAPs that reside within counties with a large population base, e.g., over 150,000, there should be a distinction between cities and counties to parse out the population centers and to determine the best distribution of PSAPs to serve the population in urban areas.

Note that if there are population fluctuations created by a transient population, a major airport, a large individual industry campus, or industrial complex, or a university, the County must demonstrate the impact on the population-based threshold criteria. For example, statistics demonstrating the increased call volume due to one or more of these or similar factors.

There are five counties that are either already consolidated or planning a consolidation. They are St. Francis, Sebastian, Saline, and Crawford. Saline and City of Benton are consolidated, and the other counties are in the planning stages.

<u>Phase 3 – (Alternative Planning)</u>

Should the population and call volume thresholds with anticipated roadblocks not achieve the legislated goal number of PSAPs, then a third phase may be necessary. ***FE*** recommends that this phase provide more direct guidance from the 9-1-1 Board and staff through the assignment and management of virtual consolidations as an interim solution that can be leveraged to realize physical consolidation once the roadblocks to same are

removed. For example, the cost of physical space may be too great for the participants of a regional initiative and/or the politics are creating delays in progressing consolidation forward. For these scenarios, creating a virtual consolidation through merging technologies and attainable operational changes, will serve as a step toward consolidation. Those PSAPs remaining at this phase should be flagged by the 9-1-1 Board and monitored closely for opportunities for progress.

FE does not recommend withholding critical operations-based funding to PSAPs that are not cooperative in moving toward consolidation. However, ***FE*** does recommend withholding technology improvements funding, e.g., NG9-1-1 ESInet connectivity and NGCS. This withholding of funds will have direct impact on the PSAPs' ability to provide service levels in line with public expectation. This stop gap should have an impact on the decision makers and should be communicated with all service degradation and inequities highlighted to the County Judges. Leveraging the relationships among the County Judges will encourage and educate the key decision makers in each County.

3.2.3 Monitoring and Guiding Consolidation

A method by which the 911 Board can monitor and guide PSAP consolidation is to require reporting within the PSAP Certification Process. These reports should include:

- Planning activities
- Executed agreements
- Funding mechanism (beyond public safety fee, e.g., general revenue or contribution-based funding mechanism)
- Organizational change model
- Operational impact statements
- Technology transition via replacement, upgrade, expansion

Consolidation initiatives will require long-range planning over the course of several years depending on the size and complexity of the PSAPs involved.

3.2.4 Timeline Expectations for Consolidation Initiatives

Each consolidation initiative will have a unique timeline based on several factors that include the following:

- Number, type, and size of participants
- Length of planning process development
- Governance development and execution
- Space needs
- Network needs
- Operational and organizational change models
    - Policies, procedures, protocols standardization
    - Human resource transition to include hiring, training, and placement; and support decisions such as payroll and benefits.
- Technology plans that may include acquisition and transition.
- Management and implementation of all plans

From these factors realistic timelines can be anticipated to range from a minimum of two years for two smaller population partners that have minimal space, network, and operational changes needed – to five years or more for two smaller population partners that have more complex needs from the above list.

For two or more partners an expected range of five to seven years is realistic for addressing the above factors.

For two or more partners where one or more have large population service areas, and/or have unique service requirements such as an airport or university, one can expect seven to ten years to address the above factors.

It is important to keep in mind that any size population or number of partners can require years to completely merge. The planning and governance activities are the most difficult to time, while the acquisition and/or transition of technology or the construction or renovation of space will be more easily structured through project planning.

3.3 Financial Analysis and Cost Considerations

For the purposes of this report, a financial analysis is an assessment of how viable a consolidation project is. The focus of viability in this analysis is on the cost considerations

that are the responsibility of the 911 Board and those that are, or would be, the responsibility of the local (counties and cities) governments.

The 911 Board is legislated as the steward and distributer of the 9-1-1 surcharge to best support NG9-1-1 ESInet and NGCS rollout as determined by a finite number of endpoints (PSAPs). With the recent surcharge increase and legislative changes creating Act 660, the 911 Board has established a viable funding mechanism for the locally owned and operated endpoints (PSAPs). Within Act 660 and associated statutes (Arkansas Code § 12-10-305, §12-10-318, §12-10-323, §12-10-326) it is specifically stated that the distributed funds, equaling 83.75% of the remitted surcharge, can be applied at the local level to all associated expenses ranging from the facility, technology, and operations.

Of note, §12-10-323. *Authorized expenditures of revenues* indicate the surcharge can be applied by the Counties to "The costs necessary for forwarding and transfer capabilities of calls from the 911 public safety communication center to dispatch centers or to other 911 public safety communications centers:". It also states use for "…the purposes of coordinating, forwarding of calls, dispatch…". And finally, "Appropriations of funds from any source other than §12-10-318 – §12-10-321 may be expended for any purpose and may supplement the authorized expenditures of this section and may fund other activities of the 9-1-1 public safety communication center not associated with the provision of emergency services."

In short, the local governments augment the 9-1-1 surcharge distribution from their choice of other sources. To that, the Quorum Court, as the legislative body of county government, has the legislative authority to "…adopt county ordinances, appropriate funds, contract or join with other governments…". The Quorum Court may also '…levy taxes such as property and sales tax…" with voter approval. However, the Quorum Court does have the authority without voter approval to approve millage changes for county government general funds up 5 mills.[19]

At the local level is the cost determinations for compliance with Act 660 requiring a reduction in the number of endpoints (PSAPs). Local level cost considerations include network, equipment, and facility investments, including projected start-up (planning), transition (implementation), technological upgrades, and recurring operating costs. The local level costs vary widely and are based on the existing conditions (space, technology, operations), relationships among potential consolidation partners, and chosen consolidation model. As previously noted, these costs will range from a few hundred thousand dollars to millions depending on the needs in the areas noted.

[19] County Govt Fact sheet 4.8.20.pdf (uaex.edu)

FE recommends the 911 Board continue the NG9-1-1 plan for funding the ESInet and NGCS rollout within the 15% allotted for same. ***FE*** also recommends continuing with the distribution of the 83.75% to the PSAPs, and the reimbursement process (out of the 15%) for "…upgrading, purchasing, programming, installing, and maintaining necessary data, basic 9-1-1 geographic information system mapping, hardware, and software…" (§12-10-305). Coupled with these dedicated funding sources, ***FE*** recommends that the local governments seek to identify the costs associated with consolidation that exceed the disbursements and reimbursements from the 9-1-1 surcharge and look to their general revenue to fill these gaps. Once a consolidation model is chosen at the local level, and intergovernmental agreements have been developed that include the budgetary needs and local funding mechanism, then the counties and cities can review funding resources through local mill increases or other available sources.

Future potential funding available to the state of Arkansas on behalf of the PSAPs includes the anticipated LIFT America Act[20]. This is a proposed infrastructure bill that would provide $15 billion in federal funds for a nationwide upgrade to IP-based, NG9-1-1 technology for 9-1-1 centers. If this Act passes, there will be definitive application for the funds. The Board should monitor this and other federal funding grants that can be leveraged/applied to the statewide consolidation initiative.

[20] H.R.2741 - 116th Congress (2019-2020): Leading Infrastructure for Tomorrow's America Act | Congress.gov | Library of Congress

4. Opportunities and Efficiencies

Today, 9-1-1 technology, infrastructure, procedures, and practices vary greatly from PSAP to PSAP across the state. These systems are designed in a manner that often does not allow for seamless, electronic transfer of 9-1-1 data when calls are transferred from one PSAP to another. This is caused by a combination of lack of interoperability in 9-1-1 infrastructure and technology, call handling equipment, incongruent Computer Aided Dispatch (CAD) systems or no CAD system, and lack of compatible GIS data. In many cases where electronic 9-1-1 call data cannot be transferred, vital details such as call location, ANI/ALI information and other pertinent call details must be verbally provided from the transferring PSAP to the receiving PSAP, who then must manually enter the information into their call handling or CAD systems. This scenario is fraught with risk, and results in increased time to process calls, the potential for data entry error, delays in connecting the caller to the right resources which contributes to a further delay in dispatching emergency responders to the scene, thus impacting overall response time. That impact is even greater if an error is made in location information, and the responding crews do not arrive at the correct address in a timely fashion.

There are myriad opportunities and efficiencies through consolidation that reduce cost, risk, and response time while improving service levels. Through infrastructure and technology sharing, streamlined standards and procedures aligned with industry standards and best practices, to staffing and training; PSAP consolidation can positively impact call handling, dispatch, and call outcome, and overall PSAP effectiveness from the time a caller dials 9-1-1 until responding crews arrive on scene.

As previously noted, consolidation provides some PSAPs access to technology, infrastructure, and interoperability that may not have existed for them before. Through consolidation, technology, and agreed upon procedures, standards, and best practices, PSAPs can provide greater consistency in how emergency calls are handled throughout the region and state, and ensure communities and citizens receive the same level of service regardless of where in Arkansas they are dialing 9-1-1 from.

4.1 Technology

4.1.1 Call Handling (NG9-1-1)

The current 9-1-1 network in Arkansas, although reliable, has not kept up with technology. Due to the way call delivery network and connections to selective routers are designed, PSAPs can receive out of jurisdiction calls, and are often not able to transfer 9-1-1 call data (and only voice calls) from one PSAP to another. PSAPs also have disparate GIS

systems with no maintenance or data sharing processes between jurisdictions, further complicating location and address issues. This deficiency increases risk and decreases timely call processing and dispatch of resources. Rather than receiving an electronic transfer of 9-1-1 call data into call handling and/or Computer Aided Dispatch (CAD) systems, such as Automatic Number Information (ANI) and Automatic Location Information (ALI), call-takers must provide information verbally to each other and manually enter it into the system.

The current 9-1-1 infrastructure and call handling process creates a lack of interoperability among PSAPs, and a lack of redundancy or ability to provide back up support to other PSAPs should a center experience call surge or equipment failure.

To be NG9-1-1 ready, call handling systems must be IP based and NENA i3 Standards compliant. In addition to handling today's 9-1-1 data, i3 compliant systems will be prepared to receive, process, and transfer other multimedia data such as video and text. A NG9-1-1 capable call handling system, along with ESInet and Next Gen Core Services, will allow for interoperable voice and data transfer to PSAPs statewide, nationwide, and eventually, internationally.

4.1.1.1 ESInet & Next Generation Core Services

The State of Arkansas currently has an RFP issued for the design and implementation of Emergency Services Internet Protocol Network (ESInet) & Next Generation Core Services (NGCS). With that in mind, understanding that we do not yet know the design and implementation plan, this section will provide a general overview.

ESInet is a public safety grade dedicated network exclusively for Emergency Services use. It utilizes broadband, packet switched technology capable of carrying voice and large amounts of various data types. It uses IP protocols and standards and provides infrastructure across which core processes and platforms can be deployed, including those necessary for NG9-1-1. ESInets are engineered, managed networks, that can be created from a mix of both dedicated and shared facilities and resources. They are designed as a "network of networks", with a high level of redundancy and resiliency, that can be interconnected at local, regional, state, national, and international levels so that many types of data for Emergency Services calls can be collected and shared safely, expediently, and seamlessly between PSAPs.

NGCS are comprised of the 9-1-1 system's fundamental roles and interfaces that must exist to accurately route and deliver 9-1-1 calls via voice, text, images, video, or sensors; the caller location data to the correct PSAP based on the geographical location of the caller; and allow for PSAPs to gather additional data and information related to call, the

caller, or the incident being reported. Core services are not the network, but rather the services that must exist to process a 9-1-1 call. These services include but are not limited to: Emergency Call Routing Function (ECRF), Emergency Service Routing Proxy (ESRP), Geographic Information Systems (GIS), Policy Routing Functions (PRF), process management, security, data, confidentiality, interconnection with other 9-1-1 systems, and operations aspects of NG9-11 service as defined in NENA i3 and other NG9-1-1 standards.

ESInet and next generation core services make consolidation a possibility by allowing multiple 9-1-1 PSAPs to have a combined network and infrastructure that is configured for interoperability, so they may share call information, resources, reduce costs, and together service a broader area.

This approach to implementation provides significant cost efficiencies as compared to each county creating and maintaining their own independent system. In many cases, ESInet and additional NG9-1-1 infrastructure would be cost-prohibitive for PSAPs, thus a statewide method utilizing 9-1-1 levy funding, alleviates this pressure. In addition to ensuring all PSAPs have access to ESInet, this endeavor provides the basis for reliable and secure interoperability across all PSAPs, a significant improvement over today's status of interoperability.

Further, costs to procure, implement and maintain ESInet infrastructure, equipment, and support team are significantly reduced by deploying a singular, central approach, again, ensuring that PSAPs who would otherwise not be able to endure the costs associated with migrating to ESInet and NG9-1-1 services are able to.

4.1.1.2 Call Handling Function Equipment (CHFE)

As indicated previously, the recently released request for proposals (RFP) for a statewide ESInet and NGCS does not include call handling equipment (CHE) as this equipment/system is selected and funded at the PSAP level. The statewide ESInet and NGCS will be required to accommodate all CHE. It is imperative that PSAPs either have existing or plan to procure CHE that is Next Gen ready; also referred to as IP-capable and NENA i3 compliant.

FE recommends that PSAPs select CHFEs from a vetted list of select vendors who have proven to be NG9-1-1 ready and have verified that they are interoperable with other CHFE systems on the preferred vendor list. Additionally, PSAPs who do not have existing NG9-1-1 ready IP-capable and i3 compliant CHFE could experience considerable cost, training, and maintenance. There are benefits to joining together with other PSAPs and procuring the same CHFE systems for their centers.

4.1.1.3 LECs, CLECs and Other Service Providers

There are three counties in the state whose Local Exchange Carrier (LEC) is provided by CenturyLink, and the remaining counties are served by AT&T. Throughout the state there are five selective routers, managed by AT&T, that provide 9-1-1 call delivery to PSAPs. They are in: Little Rock Franklin; Fayetteville Hillcrest; Ft Smith Sunset; Jonesboro Main; and Pine Bluff Jefferson.

All PSAPs can receive Phase II wireless E9-1-1 location information, and except for Newton, Calhoun, Cleveland, and Izard Counties, all PSAPs also have landline E9-1-1 service.

4.1.2 Computer Aided Dispatch

Computer Aided Dispatch (CAD) systems are a combination of hardware and software used in PSAP and Public Safety Communication Centers for call handling and dispatching, mapping, field communications, tracking status and location of responders, tracking response units, and data recording, reporting and analysis. CAD systems can be connected to 9-1-1 infrastructure and can receive ANI/ALI and other 9-1-1 data from calls and can be integrated and/or interfaced with other public safety technology such as call handling equipment, telephone, records management systems, mobile data terminals, radio systems, alerting technology, and other CAD systems.

Modern CAD systems are designed to implement applications, interfaces, business rules, and workflows to meet PSAP needs, and most can serve from single agencies to multi-agency PSAPs. CADs can be designed for virtual consolidations, and hub and spoke or hosted solutions can be deployed for agencies who want to share common systems and the efficiencies that go with it.

Today, and especially as the industry progresses through NG9-1-1 implementation, it is necessary for PSAPs to have a CAD system and electronic means for call processing and call management.

Currently across the state, PSAPs have differing types of CAD systems, some agencies have standalone systems, some share CAD systems, and in some PSAPs there is no CAD system at all. As consolidation progresses, FE recommends that PSAPs consider their current CAD state:

- is the current system NG9-1-1 ready and i3 compliant;
- is it aging technology and due for upgrade or end of life;

- is it a NG9-1-1 ready system and could it be offered as a hosted/hub and spoke model to other PSAPs who need a CAD or need to upgrade – which also helps avoid stranded investment;

- is there opportunity to partner with other PSAPs to use one CAD vendor and capitalize on cost sharing, support and resources, training, and interoperability;

- how can we partner with other PSAPs through CAD to create a platform between agencies that may allow for redundancy, back up support, and/or business continuity during major or catastrophic incidents or high call volume overflow.

4.1.3 Geographic Information Systems (GIS) and Mapping

Today's NG9-1-1 applications and solutions are becoming more reliant on complete and highly accurate Geospatial data housed and maintained in Geographic Information Systems (GIS). Synchronization and remediation are critical processes when provisioning the GIS data for use in NG9-1-1.

GIS data accuracy plays a critical role in address verification and wireless 9-1-1 Phase II call location via address point and street centerline data contained within the GIS. In today's call processing requirements, and in NG9-1-1, call routing solutions rely on the provisioning of localized geographical data and polygon areas, built, and maintained through GIS systems, to accurately route emergency calls to the appropriate PSAP at a state, regional, or local level.

GIS NG9-1-1 Standards and Best Practices

The National Emergency Number Association (NENA) is recognized as the standards-making body for NG9-1-1 developing both standards and information documents. A thorough comparison of the current NG9-1-1 standards relevant to the implementation of NG9-1-1 GIS has recently been completed. Most of these NG9-1-1 standards and information documents below are being driven by the NENA Working Groups[21] and in some cases in collaboration with the Association of Public-Safety Communications Officials (APCO) International Standards Development Committee (SDC).[22]

Standards and Best Practices can be found here:

[21] https://www.nena.org/page/NDGCommitteeList;
[22] https://www.apcointl.org/standards/

NENA-STA-006.1.1-2020 - NENA Standard for NG9-1-1 GIS Data Model: https://www.nena.org/page/NG911GISDataModel

NENA-INF-014.1-2015 - NENA Information Document for Development of Site/Structure Address Point GIS Data for 9-1-1: https://www.nena.org/page/SSAP

NENA-INF-71-501 - NENA Information Document for Synchronizing GIS with MSAG & ALI: https://www.nena.org/page/synch_gis_msag_ali

Recommendations

NENA recommends that a minimum match rate of 98% be achieved prior to utilizing the GIS data for NG9-1-1 call routing purposes[23]. Emphasis should be placed on improving the individual synchronization match rate components between the GIS, MSAG, and ALI data sets.

GIS will become the authoritative source for the routing of emergency calls to the correct PSAP in NG9-1-1. This demands that GIS datasets are accurately maintained at the local level in preparation of being shared and aggregated at the regional or statewide (and eventually national and international) level during the transition to NG9-1-1. The need to share this data during the aggregation process makes it necessary to have GIS data that is standardized. A valuable source in preparing the GIS datasets for sharing and aggregation is NENA's NG9-1-1 GIS Data Model Standard[24]. A review of this standard will provide jurisdictions with valuable information that may identify necessary components missing from their GIS data and the opportunity to mitigate prior to transition and use for NG9-1-1.

Develop a PSAP boundary layer encompassing the jurisdiction's entire PSAP coverage area. Special attention should also be placed on working with neighboring PSAP jurisdictions to ensure that coincidental PSAP boundaries are established to eliminate any potential coverage gaps or overlaps between PSAP jurisdictions.

Specify a preference that future Public Safety automated systems utilize Environmental Systems Research Institute (Esri) ArcGIS data with no intermediate conversion process required.

To support the Arkansas State 9-1-1 Plan implementation, the Arkansas GIS office is working under the direction of the Arkansas 9-1-1 Board and has commissioned a NG9-1-1 expert to assist with: creating accurate statewide PSAP boundary data, identify additional GIS data layers not currently maintained statewide and create an

[23] www.nena.org/page/synch_gis_msag_ali
[24] www.nena.org/page/NG911GISDataModel

implementation and maintenance plan in alignment with NENA NG9-1-1 data model; and identify and implement data maintenance procedures. It is recommended that PSAPs who do not have GIS support or assistance with their data and maintenance identify this early in the consolidation process, and perhaps through the state can receive support and guidance.

Ideally, PSAPs and the State GIS team should work collaboratively to ensure each PSAP, region, and the state, have accurate GIS data that conforms to standards and creates the interoperability necessary in the new system, as well as an agreed upon process for centralized collection and redistribution of local GIS data, to provide regular updates and maintenance.

4.1.4 Radio Systems

In workshops and interviews, there were concerns expressed regarding interoperability of radio technology; some systems are analog or VHF and some are digital. Also, that there is different paging and alerting technology across PSAPs (fire specifically), and how would this work when PSAPs consolidate.

The Arkansas Wireless Information Network (AWIN) is a statewide land mobile radio system that is public safety grade. AWIN will be discussed further in Section *5.1.3.2 AWIN* below; it can be extremely beneficial and create smoother consolidation transition if there is one radio network to manage (AWIN) rather than two or three in the PSAP.

A consideration for PSAP consolidation is if the agencies they serve are using AWIN for their radio network, and/or if their radio consoles in the center are connected to AWIN. A large majority of agencies use AWIN either full time in their departments and PSAPs, or part time for interoperability to communicate with their regional partners during joint response for incidents.

Different radio and alerting/paging systems can co-exist in the same PSAP whether they must manage one radio network or several, it should not delay consolidation. Radio systems and paging technology can be engineered so that there is one user interface on the user end (the radio consoles), and the “guts” and technical back end of the system can have both digital and analog radio systems and different paging systems. What is important is that:

- Communicators have one streamlined approach to paging and radio use: not a highly customized procedure for each individual department. This practice will ensure timely dispatch and performance and reduce risk of error if they have a systematic approach to paging and radio use, rather than remembering several

different ways that are department specific to dispatch and communicate with responders.

- Field interoperability between response agencies who co-respond together, be managed by those agencies, and the onus is not placed on the PSAP, nor does the process for managing it complicate or detract from the process for paging and communication, i.e., Department A is on a digital radio system; Department B is on an analog system; responding crews cannot talk to each other through their independent radio system. Department A and B can have access to each other's equipment in their responding units, or another arrangement can be made for their ability to interoperate. Again, the agreed upon process must not complicate procedure and process or overtax Communications staff in the PSAP.

4.1.5 IP Logger

Logging is to be considered as a critical service in NG9-1-1, the loggers should be redundant and scalable as requirements grow to include logging of other multimedia types, so too should they conform to NG9-1-1 standards.

To simplify logging, create interoperability, and cost efficiencies, it is recommended that PSAPs use similar or shared logging systems that can serve their primary and backup sites.

4.2 Improving Security and Redundancy

Security and redundancy are necessities in every PSAP. As industry infrastructure and technology evolved throughout the years, so too have the requirements and expectations for robust security and redundancy measures.
An opportunity exists for PSAPs to partner through this consolidation initiative and create greater security and redundancy within their organizations.

NG9-1-1 introduces yet another requirement to PSAPs, Cybersecurity. 9-1-1 Authorities and PSAPs must begin planning for cyber defense now. It is critical that any design considerations, and implementations of NG9-1-1 include cybersecurity systems and services. To address these cybersecurity concerns, NENA's Security for NG9-1-1 Working Group (NG-SEC) NG outlines PSAP best practices in this field. Industry best practices include:

- Implement a clear NG9-1-1 cybersecurity strategy that identifies assets and their owners, including vulnerabilities, threats, and risks to these assets, as well as how to mitigate them;

- Use the methods and roadmap guidance included in the TFOPA[25] EC3[26] model to create enhanced cybersecurity policies; and
- Develop a cybersecurity action plan to monitor, audit, secure, protect, and report on cybersecurity events.

Adequate preparation and implementation of cybersecurity best practices cannot be overstated. In the case that there is an indication of a cybersecurity threat, and the ESInet provider determines that a compromised PSAP is a threat to its network, all connectivity to the PSAP could be suspended. This action would be required to protect the NG9-1-1 ecosystem.

Procurement and installation of any dedicated systems for intrusion detection and notification should be aligned with PSAP network facility upgrades and NG9-1-1 element installations.

Policies and procedures must be developed and implemented prior to implementation of NG9-1-1 elements including new NG9-1-1 call-taker workstations.

FE recommends all critical PSAP equipment and systems required to receive and dispatch 9-1-1 and emergency calls should be served by redundant power, at minimum, in the form of an uninterrupted power source/supply (UPS) and onsite dedicated generator. The UPS and generator should be tested regularly by performing full power audits to ensure a balanced UPS distribution and look to eliminate single points of failure where possible and feasible. At a minimum, UPS deployment should be designed to survive any single UPS failure without impacting service where possible and feasible.

4.3 Contingency Planning

FE recommends that PSAPs have contingency plans in place for their centers that include: a pre-planned list of resiliency, redundancy, and diversity options for 9-1-1 voice and data in the event of an outage, failure, or evacuation. They should be well defined and provide multiple levels of redundancy.

Contingency plans should be reviewed annually, and the plans be reflected in Policy Routing Rules and Local Policy Routing Rules. Further, PSAPs should consider new possibilities as it relates to consolidation, partnering, and alternative routing. NG9-1-1 will

[25] The TFOPA is a United States federal advisory committee created to provide recommendations to the FCC about what steps PSAPs can take to optimize security, operations, and funding as they migrate to NG9-1-1.
[26] The EC3 model serves to assist and provide guidance to NG9-1-1 stakeholders and ESInet service providers in their design, implementation, and management of credentialing and certificates. This includes the use of best practices; the development of training exercises; the handling of breaches, vulnerabilities, and attacks; and the gathering and sharing of risk information with all authorized stakeholders, including PSAPs

allow for a multitude of contingency routing options that do not have the limitations PSAPs experience today.

4.3.1 Business Continuity

PSAPs must ensure adequate facilities exist to serve as a backup PSAP location in the event of major incidents where additional workstations are required, catastrophic failure at the primary center occurs, or evacuation from the primary PSAP is necessary.

FE recommends that PSAPs have a backup center that mirrors the primary PSAP's functionality whenever possible, ensuring that all technology for call-taking and dispatch is readily available, that adequate space and equipment is present, and that transition from primary to back up sites occur automatically, with very little manual intervention required. PSAPs should include these requirements for consolidation in their planning.

Recent catastrophic events such as post-Katrina flooding, 9-11 bombing, tornadoes, civil unrest in Seattle resulting in an attack on the precinct housing the PSAP, are examples of when an alternate site is necessary for business continuity. The lessons learned in these, and other after-action reviews, is that backup plans should be flexible and have many layers. As example, configuring neighboring PSAPs to accommodate backup space for each other is optimal as the technology, consoles, and operations in general, provide for intermediate short-term issues such as surge capacity, training, and special events. This allows use of costly space an equipment to fit into daily operations. **FE** recommends following the architectural industry standard or rule of thumb of maintaining a minimum distance of three to five miles between PSAPs that are to serve as backup to each other. There must also be an attempt to maintain separate utility feeds, such as water, gas, sewer, electric, and internet service provider. Redundancy for each of these feeds is just as critical to long-term survival of a PSAP as the construction type and design is to preventing damage from wind, flood, earthquakes, and manmade threats and vulnerabilities. Neighboring counties are excellent partners for creating networks of backup plans that can survive multiple levels of fallback. For example, post-Katrina flooding took out approximately nine PSAPs along the Gulf, resulting in wireless 9-1-1 calls being routed as far as Houston. ***FE*** recommends consideration for expanding backup plans to large regions of Arkansas and neighboring states.

A well-documented procedure for staff to follow when they are required to activate the backup plan should exist, and regular drills (quarterly at minimum) should be scheduled to test the continuity and evacuation plan, to test that backup site equipment is functioning properly, and to provide staff a chance to practice relocation often enough that they are familiar and comfortable with the process in a relocation/evacuation event.

4.4 Dispatch Efficiency

PSAP consolidation offers significant service improvements across the state. Positive benefits discussed in workshops and expressed by stakeholders include:

- Shared resources that can create cost efficiencies for all agencies; the costs for smaller PSAPs to migrate to and maintain NG9-1-1 infrastructure and technology without consolidation may be to cost prohibitive otherwise;
- Access to new and/or improved technologies;
- Improved quality of service and continuity for responders and citizens through service delivery that is aligned with standards and best practices;
- Increased career opportunities and professional growth;
- Standardized SOPs and training across PSAPs statewide, allowing for consistency in service provision to all citizens, regardless of what part of the state they are dialing from;
- Staffing increase in consolidated centers that allow for a larger pool to cover shifts, major incidents, and surge capacity;
- Dedicated supervision and support directly in the PSAP;
- An improvement in or the creation of purpose-built Communications Center facilities designed specifically for the profession to support operations and staff comfort;
- Increased situational awareness. In physically consolidated PSAPs team members are in the same vicinity and “whole room awareness” is created, making it easier to manage dynamic and high priority incidents effectively;
- An opportunity for interoperability between PSAPs across the state. Call transfer and data sharing is made possible through consolidation, technology, and process;
- Redundancy and business continuity; PSAPs can effectively back up one another across the state should a center experience call surge, equipment failure, or major incidents. There is much opportunity to design contingency and business continuity strategies that provide not only call answer and process

functions, but additional facilities to relocate should the need arise for center evacuation.

4.4.1 Non-Dispatch Duties

In some of the PSAPs across the state, communications center staff also perform support roles outside of their communication's specific role. These include a wide variety of ancillary tasks such as administrative support, record keeping, public reception, and front desk or administration/switchboard duties. They also include matron/jailer duties and assisting officers with prisoners, monitoring of prisoners in cells, and other non-PSAP related work.

FE recommends that emergency communications staff should not be focused on other duties such as matron/jail/corrections, records management, municipal or agency receptionist or switchboard, clerical duties external to 9-1-1 such as tax collection or permit distribution, and other duties. It is common that smaller PSAPs use staff to perform all these duties and more. In a regional center and larger centers, the focus is on answering emergency calls and dispatching responders, not clerical duties. The smaller PSAP staff have fundamentally different job roles than in larger 9-1-1 centric operations. It is important to agencies using their staff for these other duties, that staff are retained or hired to handle these important agency-specific or municipal-specific duties.

Service level agreements should define what is and is not provided in a regional/consolidated center. An example of an appropriate duty is access to NCIC in the dispatch roles. This is critical to officer safety and may require some record keeping for emergency situations, such as entering or altering information about a missing child or stolen gun.

A consolidated center can be or do almost anything if it is built organizationally and physically to accommodate it. Common and direct dispatch associated tasks are activities that impact officer safety, and citizen safety. The PSAP should not be a depository for other agency support duties. There should be a gateway function to assess impact on funding/budget, technology, operations, policy, relationships with other agencies, before allowing a new task into the 9-1-1 center. As example, monitored applications such as ShotSpotter, bait cars, and crime lines.

It is important that PSAP authorities and emergency service agencies understand that any tasks unrelated to the core duties of Communications staff in the PSAP take away focus from the priority work that needs to occur in the center, creating situations where 9-1-1 calls and vital radio traffic can be missed. While it may seem like an effective allocation of resources in smaller agencies to utilize PSAP staff in non-dispatch support roles, this

practice opens the PSAP and agency to increased risk in underperforming in the PSAP and underperforming in other non-dispatch duties; both of which can have detrimental impacts for responders and citizens. ***FE*** recommends that PSAPs reallocate non-dispatch duties to other members of staff who do not provide frontline roles in Communications Center operations.

4.5 Improving Quality of Service

In workshops conducted across the state, concerns were raised by stakeholders and attendees regarding the lack of consistency in service and standards among PSAPs. These concerns include:

- call answer, call-taking, and dispatch standards and best practice - some PSAPs use scripted protocol and/or procedures and others do not;
- capability of technology;
- interoperability between PSAPs;
- training and supervision;
- and a potential for degradation of service with increased transfer times and callers not being provided the level of care and service they would have had before consolidation.

There are many improvements to quality of service that can be realized through consolidation, intentional strategic direction in addressing these concerns and implementing, or in some cases continuing with, measures to address them.

4.5.1.1 Call Handling Protocols

Call handling protocols that are based on industry standards and best practice are the primary method to ensure call answer, triage, interrogation, and prioritization is handled in a consistent, systematic, efficient, and measurable manner.

Standardization of call handling statewide is necessary to ensure that callers and citizens receive a high level of care and continuum of care across the state, irrespective of what region they are accessing 9-1-1 from.

FE recommends a structured protocol based on industry standards and best practices that includes:

- a systematic, prioritized approach to call interrogation and information gathering;

- combined with an acuity based dispatching methodology that uses call input details to identify response priority;
- has a quality assurance and quality improvement program supporting call processing protocols that measures performance to standards, provide constructive feedback for communicators learning and development, and identifies training trends and gaps through this process and creates and implements individual and center wide training plans accordingly based on this data;
- regular review of call-taking and dispatch protocols to evolve with changing conditions in agencies, technology, and industrywide

While commercialized, evidence-based protocol systems for call-taking and dispatch are industry best practice, PSAPs may choose to create and implement their own protocol systems based on the recommended criteria above.

4.5.1.2 Staffing

Staffing models and capacity are an integral component of effective PSAP operations. While a staffing study is outside the scope of work for this report, PSAPs would benefit from assessing their current staffing models for effectiveness. This helps to evaluate call volume and workload and assign appropriate staffing capacity to accommodate it.

PSAP consolidation increases number of staff in each center, improving staffing availability and flexibility in supporting operations, while reducing costs. The increase in number of staff in consolidated PSAPs assists with call surge, major incidents, and covering short staffing without depleting staffing resources, Today, this is not a possibility in smaller PSAPs, often placing additional pressure and stress on employees, leaving them without adequate time and rest between shifts, contributing to larger issues such as burnout, declining physical and mental health, and increased illness and absenteeism.

As consolidation and NG9-1-1 implementation progress, it is important to continue to monitor call volume and workload to ensure adequate staffing levels and shift patterns in the PSAP. It is imperative to monitor not only call volume, but utility rate, or time required on tasks, as NG9-1-1 implementation progresses. Call volume alone does not tell an accurate story of workload capacity and activity rate, which can be affected by ancillary tasks. A staffing study using Erlang-C and APCO RETAINS methodology is helpful in correctly assessing and designing effective staffing models in communications centers, as call volume increases, and technology and processes continuously evolve.

4.5.1.3 Supervision

To properly manage a medium, large, or multi-agency PSAP, a strong supervisory structure is recommended to ensure compliance with public safety standards and best practices, and to maximize operational efficiency.

Although shift supervisors may not always be present in smaller PSAPs, either for financial reasons or because sworn personnel function in this role, consolidated PSAPs may be too large to operate efficiently without the presence of 24/7 supervision. We strongly recommended that shift supervision not be assigned to a primary call-taker or dispatch position and that shift supervisors are on duty 24/7.

When there are more than two members on duty, NFPA Standard 1221-2019, Section 7.3.4 states that in the room supervision is required, along with other requirements related to supervision. As Public Safety Communications process, technology and expertise continues to evolve at an accelerated pace, so too must the supervision and support within the PSAP evolve to meet it.

It is recommended that Supervisors receive initial leadership training and ongoing continuing education to develop and enhance their leadership capabilities throughout their careers. Benefits of well-developed leaders include improved employee retention, job satisfaction, reduction in absenteeism and illness, higher employee engagement, improved team cohesiveness, and overall improved team performance, equating to lower cost, lower risk and increased service and performance. This has a holistic effect internally on the team in the PSAP and for field responders, as well as externally to allied agencies they work closely with such as other PSAPs and police, fire, and EMS agencies; to client agencies they provide dispatch services for; and most importantly, to the public they serve.

4.5.1.4 Training

Recruit Training

PSAPs across the state have different methods of recruit and initial training programs, and they are dependent on size of center, dedicated training staff, supervision, and resources. Some PSAPs have in house classroom training, followed by at the workstation hands on training. Other PSAPs train new recruits directly at the workstation from their first day on the job.

New recruits often learn area familiarization, policy and procedure, technology and systems, call-taking, and dispatch theory, followed by hands on call-taking and dispatching training.

In the dynamic environment of Emergency Communications, training that is provided solely “at the desk” can prove problematic. The retention and success rate of learning all components of the position “at the desk” while frontline on the job, combined with call volume and number of tasks performed in a short time frame, is overwhelming to new staff who have not yet learned all the pieces of the job individually, in a non-live, lower stress environment. This environment can make it difficult to successfully follow along, put the tasks and learning together quickly in one setting, and correctly retain and recall the skills they are trying to learn. This likely leads to poor retention of information, lack of confidence, frustration in both the trainer and the trainee because they “aren’t getting it” and can influence increased turnover.

The costs of recruiting and training are high; a lack of training in a format and environment that is conducive to good learning is likely not only costing money and time in the recruiting and training process, but increasing risk in call-taking and dispatch; adding additional strain to staff in the Communications Center who cover absences when there are staffing shortages, support additional call volume when new recruits are being trained, and assist with helping to further develop new recruits once they are signed off. Overall, a lack of classroom training combined with hands on training can contribute to lower morale, lower job satisfaction, increased workload, stress and absenteeism and illness, creating a continued cycle of these conditions and a difficult work environment.

Recommendation: That classroom training and simulation-based training be implemented within the center and in a training lab/non-live setting; particularly for recruit training. Classroom theory and simulation training should occur prior to the practical “at the desk” training component.

Continuing Education Training

Training should continue throughout the duration of an employee’s tenure within the PSAP. Continuing education training is pivotal to staff development and engagement. Training should be informed and not limited to trend and gap analysis in quality assurance metrics; policy and procedure review; discipline specific training for police, fire, or EMS communications; special interest or public safety specific training; leadership development; mental health and wellness for public safety communicators; and wherever possible, joint training with the police, fire, and EMS agencies they work with.

Further, we recommend that PSAP training have a position(s) dedicated to training program oversight, and may sometimes include QA/QI duties, depending on center size,

The training team may consist of a full-time coordinator, assisted by Supervisory and senior staff members who can delivery training in area familiarization, policy and procedure, technology and systems, call-taking and dispatch theory, and hands-on

training. Staff who assist with training others should be qualified to do so through training and certification.

We recommend that recruit training, supervisor training, manager training, and continuing education training be informed by industry standards such as:

- NFPA 1061 Standard for Public Safety Telecommunications Personnel Professional Qualifications;
- APCO/NENA ANS 3.103.2.2015 Minimum Standards for Public Safety Telecommunicators;
- APCO ANS 3.102.2-2017 Core Competencies and Minimum Training Standards for Public Safety Communications Supervisor;
- APCO ANS 3.109.1.2014 Core Competencies and Minimum Training Standards for Public Safety Communications Manager/Director

4.5.1.5 Pre-Arrival Instructions and Use of Protocols

At present, there is a Bill (now Act 505)[27] that will require PSAPs that administer pre-arrival instructions to have training in telephone CPR. This will impact those agencies already providing pre-arrival medical instructions via call handling protocols, and those considering or planning to do so. This requirement will add the cost of augmenting training and certification, and staff hours for the administration, implementation, and maintenance of same.

There are several states that legislatively require pre-arrival medical instructions to be administered, these include Maine, Florida, and Pennsylvania. Oklahoma has a Bill going through review now for same. Other states have legislated requirements for training standards of PSAP staff, these states include Ohio, New Hampshire, Maryland, and North Carolina. Some states have specific requirements at local or regional levels such as Michigan that requires approval through a Medical Control Board, this Board also governs the secondary PSAPs in Michigan that are often EMS dispatch centers that provide pre-arrival medical instructions. Each state has a slightly different requirement, standards, guidelines, content, and language, so Arkansas 9-1-1 Board staff is encouraged to contact these entities directly or via the National Association of State 9-1-1 Administrators (NASNA) to garner details and lessons learned.

[27] HB1373 Bill Information - Arkansas State Legislature

Arkansas does not currently require that PSAPs provide service that includes pre-arrival medical instructions, also referred to as Emergency Medical Dispatch (EMD) which is a specific product. Use of protocols is included in the Minimum Training Guidelines[28] as Structured Call-Taking Protocols. 911.gov and other sites contain many tools and guidance on the use, administration, application, and upkeep, of protocol use within the operations, training, and QA, programs of all sizes of PSAPs. 911.gov provides links and tools for standing up a telephone CPR program.

There are several methods for addressing the administration of protocol programs. Across the country there are many PSAPs that setup and maintain their programs in-house, and others that contract these services out to other agencies/firms. For example, if Emergency Medical Services (EMS) are contracted out for call- handling and/or dispatching, then the application of protocols may be part of that service contract.

In the advancement of 9-1-1 services across Arkansas, ***FE*** recommends that these improvements include guidelines for including telephone CPR, and pre-arrival protocols in general.

4.5.1.6 Quality Assurance and Quality Improvement (QA/QI)

Effective Quality Assurance / Quality Improvement (QA/QI) is essential to 9-1-1 operations. Together, APCO and NENA published a standard for implementation of a QA/QI PSAP program[29] citing the lack of standardized methods to provide QA and effective feedback to the Telecommunicator.

The APCO/NENA standard recommends that PSAP agencies review at least two percent of all calls for service, unless that number would be overly burdensome to an organization.

It is recommended that the QA/QI activities receive priority and are consistently delivered by a Quality Assurance and/or Training Coordinators, or Supervisors who provide consistent delivery of QA/QI reviews using dedicated staff to oversee the program. Consideration should be given to the size of the operation, and in medium or large PSAPs, it is suggested that full-time resources, typically Supervisors or dedicated QA/QI and Training Coordinators (see next recommendation), provide oversight of the program, conduct the reviews, e.g., discussion with staff, document the findings of the reviews, identity trends and gaps to create training opportunities or identify necessary changes to SOPs, and maintain the program.

[28] Minimum_Training_Guidelines_for_911_Telecommunicator_2016.pdf
[29] APCO/NENA ANS 1.107.1.2015 Standard for the Establishment of a Quality Assurance and Quality Improvement Program for Public Safety Answering Points, published April 21, 2015

FE recommends that Quality Assurance / Quality Improvement and Training Coordinator positions exist in every PSAP. Whether the roles are separate positions, or in some cases combined, they are nonetheless interconnected and should work closely together. Quality assurance data informs both training and quality improvement needs, while training requirements inform quality assurance measurements and support improvements.

Qualifications for training, quality assurance, quality improvement programs can be informed by the following standards:

- NFPA 1061 Standard for Public Safety Telecommunications Personnel Professional Qualifications;
- APCO/NENA ANS 1.107.1.2015 Standard for the Establishment of a Quality Assurance and Quality Improvement Program for Public Safety Answering Points;
- APCO ANS 3.108.2-2018 Core Competencies and Minimum Standards for Public Safety Communications Instructor;
- APCO ANS 3.106.2-2017 Core Competencies and Minimum Standards for Public Safety Communications Quality Assurance Evaluators;
- APCO ANS 3.104.2-2017 Core Competencies and Minimum Standards for Public Safety Communications Training Coordinator; and
- APCO ANS 3.101.3-2017 Core Competencies and Minimum Standards for Public Safety Communications Training Officer (CTO).

Additionally, career opportunities and succession planning for these positions can be created through staff members who identify training and quality assurance as areas of strength or interest in their career path. They can also receive quality assurance and communications training officer certification and assist with supporting workload and projects, be mentored by the QA/Training Supervisor, and can fill in for this role when absence dictates.

4.5.1.7 Career Growth & Succession Planning

Consolidated PSAPs offer a much greater opportunity for career progression and promotion. In medium and large centers where training, supervision, and project work occur regularly, staff have an opportunity to identify areas of strength and interest and pursue development and opportunities.

Currently, in some PSAPs, there may be limits to career progression if there are no positions outside of their scope they can aspire to, train for, and fulfill, leaving the progression matrix flat.

In many centers throughout the industry, there is an absence of a formal succession planning strategy. Succession planning prepares both the organization and individuals to assume new positions to replace vacancies caused by retirements and departures. Loss of continuity and corporate knowledge can occur impending retirements of key personnel. Succession planning addresses this gap by providing adequate time for necessary training, mentoring and knowledge transfer to the individuals who are likely to succeed in filling vacancies.

Studies have shown that creating transparent processes for progressive career paths and growth opportunities for employees increases retention, engagement, skill set, team performance, cross functionality, innovation, and collaboration. A succession plan also ensures that when employees are away on leave, their positions and work duties can be covered by other members of the team so that work may continue to move forward, and not wait for the employee to return. This is especially important in small and medium sized communications center operations, where there are fewer members who need to remain informed and nimble to respond to and fulfill workload demands should a member of the team not be present.

Cross training opportunities should be included in succession planning; where employees can learn about the roles around them and diversify their skills. Succession planning creates opportunities for enriched learning about not only individual positions, but the overall systems view or “bigger picture thinking” of the organization while providing a channel for skill development and mentoring.

Succession planning helps to career path new employees and identify and develop future leaders, and involves employees in projects, exposing them to opportunities to create a larger understanding of the Communications Center, and the larger system it exists within. This improves innovation, performance, and a greater depth for problem solving cohesiveness, collaboration, and leadership development.

For this report and its recommendations, the succession planning process should include all elements of communications center operations: frontline staff, leadership, training, and technology support staff.

4.6 Cost Efficiencies

In summary, as indicated throughout section 4, consolidation provides many cost efficiencies to PSAPs across Arkansas. These efficiencies include:

- ESInet and Next Gen Core Services – the state is providing the infrastructure to consolidated PSAPs;
- Technology procurement, potential for hosted solutions and/or sharing of call handling equipment, CAD, GIS, logger recorders, radio consoles, security;
- creating interoperability, redundancy, business continuity and backup center/evacuation facilities among PSAPs;
- co-located facilities that currently exist or are purpose built or renovated specifically to support Public Safety Communications Centers and staff therein;
- staffing, supervision and training expertise, accessibility and affordability;
- standardized call handling protocols that reduce cost and risk and improve standards of care and service levels;
- career growth and succession planning;
- shared resources such as IT and specialized support teams - cost efficiencies increase with shared or hosted systems that serve many PSAPs and have one support team to manage and pay;
- Continuity of knowledge and support over many regions/counties.

Cost efficiencies exist in every facet of consolidation, for PSAPs of every size. For smaller centers, the cost efficiencies and scales of economy will be significant.

To conclude, the entire state benefits from PSAP consolidation. Regardless of where the most population is regionally, all people are citizens (and taxpayers) within the State of Arkansas. PSAP consolidation is fiscally responsible to streamline technology, expenditures, operations, and process. The result for citizens is improved service, reduced risk, and cost, and safer communities statewide.

5. Recommendations

5.1 Summary of Recommendations

5.1.1 Workshop Outcomes

Based on the results and general outcome of the workshops, State guidance is needed for the locals in the specific areas of technology transition, data interoperability and convergence (e.g., GIS), organization and governance formulation, and standards and best practices (2.2.9 Workshop Outcome).

FE recommends continuing to inform and include PSAP representatives in the Plan development and review process. ***FE*** also recommends providing resources to the local government representatives to assist in understanding what forms of governance and funding mechanisms are allowable in Arkansas. These resources should take the form of templates and examples.

5.1.2 Radio Voice and Data Communications

FE recommends that PSAP consolidation considerations include identifying if the agencies the PSAPs serve are using AWIN for their radio network, and/or if their radio consoles in the center are connected to AWIN. A large majority of agencies use AWIN either full time in their departments and PSAPs, or part time for interoperability to communicate with their regional partners during joint response for incidents. This can provide interoperability early on with consolidating PSAP partners.

To that end, ***FE*** recommends that:

- Communicators have one streamlined approach to paging and radio use: not a highly customized procedure for each individual department. This practice will ensure timely dispatch and performance and reduce risk of error if they have a systematic approach to paging and radio use, rather than remembering several different ways that are department specific to dispatch and communicate with responders.

- Field interoperability between response agencies who co-respond together, be managed by those agencies, and the onus is not placed on the PSAP, nor does the process for managing it complicate or detract from the process for paging and communication, i.e., Department A is on a digital radio system; Department B is on an analog system; responding crews cannot talk to each other through their independent radio system. Department A and B can have access to each

other's equipment in their responding units, or another arrangement can be made for their ability to interoperate. Again, the agreed upon process must not complicate procedure and process or overtax Communications staff in the PSAP.

5.1.2.1 AWIN

In discussions about the role AWIN may have in selecting consolidation partnerships it was noted that it would be beneficial to user AWIN partners as a starting point. Consolidation planning at a local level must include an assessment and planning for addressing all technology needs, particularly networks and interoperability, both voice and data. As a statewide resource AWIN can be a critical infrastructure component for the county and city PSAPs. As part of the assessment and planning for consolidation, understanding the role AWIN has with any of the participating entities will be critical. In the assessment and planning phase of consolidation, participants must identify where some, all, or none of the agencies are on AWIN for their daily voice communications supporting operations. In cases where there are disparate radio systems, of which AWIN may or may not be in use, decisions must be made on how radio communications should be addressed for the good of the collective.

FE recommends that the consolidation initiative participants compare costs for merging, building out, or transitioning public safety radio system(s) toward the best design/configuration to serve the collective. ***FE*** does not recommend patching, multi-selecting, and other intentionally temporary scenario-based practices be put in place to support daily on-ongoing communications.

FE recommends that agencies work closely with technical support experts and vendors to develop a permanent, sustainable, reliable, and best value, solution(s) for daily operations and interoperability. These solutions should also be leveraged for long-term goals should the cost for complete build out and future growth planning require additional resources. All public safety agencies in Arkansas should maintain interoperability through access to AWIN. AWIN may be the most cost-effective resource for addressing daily operations and interoperability needs.

FE recommends working closely with AWIN representatives to identify all needs, costs, benefits, and challenges; and to learn of AWIN's long-term goals, plans, and costs as may impact local users.

FE recommends this same effort be applied to any radio system solution considered for use in supporting a consolidated operation.

5.1.2.2 ESInet, NG9-1-1, and AT&T FirstNet®

The ESInet build out policy and governance will require coordination and alignment with FirstNet®. As statewide networks, along with AWIN, FirstNet® (and the future ESInet solution), are and will be critical infrastructure for public safety. To understand the role each has in public safety, know that the focus of the ESInet will be on emergency call delivery and handling. The ESInet will be built and used as a statewide network, or interconnected networks, intended to be traversed within the state with future connectivity to adjacent states, nationally and ultimately internationally.

The role of FirstNet® is to provide a dedicated, secure, commercial, and public safety grade standards-based communications for first responders. This network has the capacity, expansion, and user experience, to support data and voice communications in the field.

FE recommends that consolidation partnerships leverage the FirstNet® capabilities, capacity, devices, applications, and accessories, to augment the daily and event data and voice communication needs of the collective agencies participating in a consolidation. In the planning and assessment phase, participating agencies should determine status of the FirstNet® build out or coverage in their region.

FE recommends that the participating agencies should also work with FirstNet® representatives in conjunction with AWIN and their respective radio vendors to develop a path forward to best support a consolidated operation.

5.2 Physical and Virtual Consolidation

FE does not recommend allowing virtual consolidation as a final solution, but rather as an interim step toward full consolidation. The reasons why virtual consolidation is not a goal solution is that virtual consolidation cannot provide several of the key benefits of physical consolidation. Virtual does provide standardization of some technology but creates more points of potential human and technical failure. Virtual does improve some situational awareness but cannot substitute for the direct interaction that comes from staff working together in one space/facility.

Virtual can provide some cost efficiencies from the standardization of technology, however it is a far more expensive solution than physical consolidation as space and human capital needs are still stove piped to individual agencies. To that, virtual should be an alternate or interim plan for counties that cannot reach full physical consolidation. Virtual may also be an interim step toward physical consolidation that allows standardized technology and back-up plan development until full consolidation can be achieved.

5.3 Recommendation of Distribution of Fees

The 911 Board should key in on two methods for incentivizing consolidation:

- Encouraging the PSAPs to apply their fee distribution to consolidation initiatives and

- Establishing consolidation as a path to securing an early adoption placement in the rollout of ESInet connectivity and provisioning of NGCS. This incentive for the initiation and follow through of a consolidation plan should be included in the PSAP Certification process thereby providing a direct qualifier for fee distribution.

5.4 Recommended Phased Approach to Consolidation

FE recommends setting a threshold for PSAP consolidation that aligns with the population served by each PSAP. ***FE*** recommends a phased approach to requiring consolidation that focuses on established criteria that is communicated to the PSAP across the state. This communication should include the classification of the County and the PSAP(s) within a population and call volume threshold matrix, and guidance and expectations of what a local/regional plan should contain.

The phased approach to consolidation in Arkansas looks like this:

- Phase 1 – Encourage and hold as example those mergers that have occurred, are underway, or are in the planning phase. These include St. Francis, Sebastian, Saline, and Crawford counties. Each of these relationships are distinct and will be a great resource for other counties. This phase is a short cycle and may not produce further relationships toward consolidation beyond what is already completed or planned.

- Phase 2 – Establish criteria for consolidation based on population and call volume. The resulting number of endpoints could reduce the number of overall PSAPs/endpoints to be close to/in the range of the legislated goal. This approach allows some leeway with anticipated and unanticipated roadblocks. Roadblocks may be unique disqualifiers based on service areas that have large campuses such as industry, military bases, airports, and universities. Roadblocks will also come from relationship or political issues among potential participants. Note that political will is typically centered around individuals and will change when players change such as elected officials and agency heads.

The criteria thresholds are evident when looking at populations by county and growth rate. There are 72 counties with population under 150,000. These counties should be allowed one PSAP per County.

There are two counties with populations ranging from 150,001 to 349,999. These counties should be allowed up to two PSAPs. There is one County with a population ranging from 350,000 and above. This County should be allowed up to three PSAPs.

FE recommends strong guidance and incentives to the 13 counties with populations below 11,000 and a negative growth rate. The guidance should be in the form of education regarding the cost per call and service deficiencies related to lack of surge capacity, lack of supervision, and technology changes impacting operations in the coming NG9-1-1 environment. Incentives should be financial through funding and planning support in the development of agreements, education and training, and technical and operational transitions.

FE recommends that county-to-county consolidations be considered for further reduction in PSAPs once it is clear what the impact of the population-based approach has on the number of PSAPs.

Note that if there are population fluctuations created by a transient population, a major airport, a large individual industry campus, or industrial complex, or a university, the County must demonstrate the impact on the population-based threshold criteria. For example, statistics demonstrating the increased call volume due to one or more of these or similar factors.

- Phase 3 – (Alternative Planning) Should the population and call volume thresholds with anticipated roadblocks not achieve the legislated goal number of PSAPs, then a third phase may be necessary. ***FE*** recommends that this phase provide more direct guidance from the 9-1-1 Board and staff through the assignment and management of virtual consolidations as an interim solution that can be leveraged to realize physical consolidation once the roadblocks to same are removed. For example, the cost of physical space may be too great for the participants of a regional initiative and/or the politics are creating delays in progressing consolidation forward. For these scenarios, creating a virtual consolidation through merging technologies and attainable operational changes, will serve as a step toward consolidation. Those PSAPs remaining at this phase should be flagged by the 9-1-1 Board and monitored closely for opportunities for progress.

FE does not recommend withholding critical operations-based funding to PSAPs that are not cooperative in moving toward consolidation. However, ***FE*** does recommend withholding technology improvements funding, e.g., NG9-1-1 ESInet connectivity and NGCS. This withholding of funds will have direct impact on the PSAPs' ability to provide service levels in line with public expectation. This stop gap should have an impact on the decision makers and should be communicated with all service degradation and inequities highlighted to the County Judges. Leveraging the relationships among the County Judges will encourage and educate the key decision makers in each County.

5.5 Financial Analysis and Cost Considerations

FE recommends the 911 Board continue the NG9-1-1 plan for funding the ESInet and NGCS rollout within the 15% allotted for same.

FE also recommends continuing with the distribution of the 83.75% to the PSAPs, and the reimbursement process (out of the 15%) for "…upgrading, purchasing, programming, installing, and maintaining necessary data, basic 9-1-1 geographic information system mapping, hardware, and software…" (§12-10-305).

Coupled with these dedicated funding sources, ***FE*** recommends that the local governments seek to identify the costs associated with consolidation that exceed the disbursements and reimbursements from the 9-1-1 surcharge and look to their general revenue to fill these gaps. Once a consolidation model is chosen at the local level, and intergovernmental agreements have been developed that include the budgetary needs and local funding mechanism, then the counties and cities can review funding resources through local mill increases or other available sources.

5.6 Opportunities and Efficiencies Recommendations

5.6.1 Call Handling Function Equipment

FE recommends that PSAPs select CHE from a vetted list of select vendors who have proven to be NG9-1-1 ready and have verified that they are interoperable with other CHE systems on the preferred vendor list.

5.6.2 Computer Aided Dispatch

FE recommends that PSAPs consider their current CAD state:

- Is the current system NG9-1-1 ready and i3 compliant?

- Is it aging technology and due for upgrade or end of life?
- Is it a NG9-1-1 ready system and could it be offered as a hosted/hub and spoke model to other PSAPs who need a CAD or need to upgrade? Which also helps avoid stranded investment.
- Is there opportunity to partner with other PSAPs to use one CAD vendor and capitalize on cost sharing, support and resources, training, and interoperability?
- How can we partner with other PSAPs through CAD to create a platform between agencies that may allow for redundancy, back up support, and/or business continuity during major or catastrophic incidents or high call volume overflow?

5.6.3 Geographic Information Systems (GIS) and Mapping

Develop a PSAP boundary layer encompassing the jurisdiction's entire PSAP coverage area. Special attention should also be placed on working with neighboring PSAP jurisdictions to ensure that coincidental PSAP boundaries are established to eliminate any potential coverage gaps or overlaps between PSAP jurisdictions.

Specify a preference that future Public Safety automated systems utilize Environmental Systems Research Institute (Esri) ArcGIS data with no intermediate conversion process required.

FE recommends that PSAPs and the State GIS team work collaboratively to ensure each PSAP, region, and the state, have accurate GIS data that conforms to standards and creates the interoperability necessary in the new system, as well as an agreed upon process for centralized collection and redistribution of local GIS data, to provide regular updates and maintenance.

5.6.4 IP Logger

To simplify logging, create interoperability, and cost efficiencies, ***FE*** recommends that PSAPs use similar or hosted/shared logging systems where possible that can serve their primary and backup sites. This approach and transition to a networked logging configuration will allow better integration with the pending ESInet and NGCS, and will leverage economies of scale, expansion, and functional capacities, for each grouping of users.

5.6.5 Improving Security and Redundancy

FE recommends procurement and installation of any dedicated systems for intrusion detection and notification should be aligned with PSAP network facility upgrades and NG9-1-1 element installations.

Policies and procedures must be developed and implemented prior to implementation of NG9-1-1 elements including new NG9-1-1 call-taker workstations.

FE recommends all critical PSAP equipment and systems required to receive and dispatch 9-1-1 and emergency calls should be served by redundant power, at minimum, in the form of UPS and onsite generators. These systems should be tested regularly by performing full power audits to ensure a balanced UPS distribution and look to eliminate single points of failure. At a minimum, UPS deployment should be designed to survive any single UPS failure without impacting service.

5.6.6 Non-Dispatch Duties

FE recommends that PSAPs reallocate non-dispatch duties to other members of staff who do not provide frontline roles in Communications Center operations. Since smaller PSAPs must utilize their communications staff to perform multiple support duties and roles, a consolidation initiative is an opportunity to assess the placement of these non-9-1-1 related activities and tasks. Certainly, many tasks can be planned for in the physical and organizational sizing of a PSAP, however it may be cost prohibitive to transition these clerical or municipal contact tasks. These job duties may be better provided by the original agency or municipality rather than by specially trained telecommunicators. Each participating agency must identify and quantify the cost of these non-dispatch duties, such as record keeping and receptionist. These tasks also include any after-hours telephone answering that is not central to public safety response, such as public works when not an emergency.

5.6.7 Call Handling Protocols

There is a disparate approach to call handling protocols from PSAP to PSAP. ***FE*** recommends standardization of call handling statewide. This is necessary to ensure that callers and citizens receive a high level of care and continuum of care across the state, irrespective of what region they are accessing 9-1-1 from.

FE recommends a structured protocol based on industry standards and best practices that includes:

- A systematic, prioritized approach to call interrogation and information gathering,
- Combined with an acuity based dispatching methodology that uses call input details to identify response priority,
- Has a quality assurance and quality improvement program supporting call processing protocols that measures performance to standards, provide constructive feedback for communicators learning and development, and identifies training trends and gaps through this process and creates and implements individual and center wide training plans accordingly based on this data,
- Regular review of call-taking and dispatch protocols to evolve with changing conditions in agencies, technology, and industrywide.

While commercialized, evidence-based protocol systems for call-taking and dispatch are industry best practice, PSAPs may choose to create and implement their own protocol systems based on the recommended criteria above.

In the advancement of 9-1-1 services across Arkansas, ***FE*** recommends that these improvements include guidelines for including telephone CPR, and pre-arrival protocols in general.

5.6.8 Staffing

While local level or individual PSAP staffing studies are is outside the scope of work for this report, PSAPs would benefit from assessing their current staffing models for effectiveness. This helps to evaluate call volume and workload and assign appropriate staffing capacity to accommodate it at present and is a requirement moving toward consolidation.

FE recommends that as consolidation and NG9-1-1 implementation progress, it is important to continue to monitor call volume and workload to ensure adequate staffing levels and shift patterns in the PSAP.

5.6.9 Supervision

FE strongly recommends that shift supervision not be assigned to a primary call-taker or dispatch position and that shift supervisors are on duty 24/7.

When there are more than two staff members on duty, NFPA Standard 1221-2019, Section 7.3.4 states that in the room supervision is required, along with other

requirements related to supervision; ***FE*** recommends PSAP supervision is aligned with the NFPA standard, As Public Safety Communications process, technology, and expertise continues to evolve at an accelerated pace, so too must the supervision and support within the PSAP evolve to meet it.

FE recommends that Supervisors receive initial leadership training and ongoing continuing education to develop and enhance their leadership capabilities throughout their careers.

These recommendations are critical to moving a consolidation forward as a benefit of consolidation is have adequately developed supervision in the regional sized PSAPs.

5.6.10 Training

FE recommends that classroom training and simulation-based training be implemented within PSAPs and in a training lab/non-live setting, particularly for recruit training. Classroom theory and simulation training should occur prior to the practical “at the desk” training component.

Continuing education and training should continue throughout the duration of an employee’s tenure within the PSAP.

Further, ***FE*** recommends that PSAP training have a position(s) dedicated to training program oversight, and may sometimes include QA/QI duties, depending on center size.

FE recommends that recruit training, supervisor training, manager training, and continuing education training be informed by industry standards such as:

- NFPA 1061 Standard for Public Safety Telecommunications Personnel Professional Qualifications;
- APCO/NENA ANS 3.103.2.2015 Minimum Standards for Public Safety Telecommunicators;
- APCO ANS 3.102.2-2017 Core Competencies and Minimum Training Standards for Public Safety Communications Supervisor;
- APCO ANS 3.109.1.2014 Core Competencies and Minimum Training Standards for Public Safety Communications Manager/Director

These recommendations are critical to consolidation as the combined centers must have the capacity of staff to support formal training programs, and to offer said standardized

training to other PSAPs in the state. ***FE*** recommends a future goal of the 911 Board is to engage PSAP leadership in a committee setting to develop and administer training standards statewide. These standards go beyond the current criminal justice requirements and extend to fire, EMS, protocols, operational workflows, automated systems use, security, civil liability, and any other topics commonly found in formal training programs. The key will be to have a standard baseline of components that will allow not only new hire trainees a leg up, but also provide the ability for cross-PSAP assistance during times of need. As example, any certified dispatchers from any PSAP would have the ability to assist in any PSAP in the state during natural or man-made disasters or low staffing due to a pandemic outbreak.

5.6.11 Quality Assurance and Quality Improvement (QA/QI)

As the consolidation initiatives move forward, each grouping should make certain that the resulting regional PSAP has a formal quality assurance program. In these regional settings, ***FE*** recommends that the QA/QI activities receive priority and are consistently delivered by a Quality Assurance and/or Training Coordinators, or Supervisors who provide consistent delivery of QA/QI reviews using dedicated staff to oversee the program.

FE recommends that Quality Assurance / Quality Improvement and Training Coordinator positions exist in every PSAP. Whether the roles are separate positions, or in some cases combined, they are nonetheless interconnected and should work closely together.

5.7 Contingency Planning Recommendations

FE recommends that PSAPs have contingency plans in place for their centers that include: a pre-planned list of resiliency, redundancy, and diversity options for 9-1-1 voice and data in the event of an outage, failure, or evacuation. They should be well defined and provide multiple levels of redundancy.

Contingency plans should be reviewed annually, and the plans be reflected in Policy Routing Rules and Local Policy Routing Rules. Further, PSAPs should consider new possibilities as it relates to consolidation, partnering, and alternative routing. NG9-1-1 will allow for a multitude of contingency routing options that do not have the limitations PSAPs experience today.

5.7.1 Business Continuity

PSAPs must ensure adequate facilities exist to serve as a backup PSAP location in the event of major incidents where additional workstations are required, catastrophic failure at the primary center occurs, or evacuation from the primary PSAP is necessary.

FE recommends that PSAPs have a backup center that mirrors the primary PSAP's functionality whenever possible, ensuring that all technology for call-taking and dispatch is readily available, that adequate space and equipment is present, and that transition from primary to back up sites occur automatically, with very little manual intervention required. PSAPs should include these requirements for consolidation in their planning.

Further, a well-documented procedure for staff to follow when they are required to utilize the backup center should exist, and regular drills (quarterly at minimum) should be scheduled to test the continuity and evacuation plan, to test that backup site equipment is functioning properly, and to provide staff a chance to practice relocation often enough that they are familiar and comfortable with the process in a relocation/evacuation event.

5.8 Statewide Consolidation Plan Recommendations

The following section provides details associated with recommendations included throughout this document that focus on demonstrating the guiding factors and thresholds, and geographic considerations, for the consolidation of PSAPs in Arkansas. Through analyzing the number of PSAPs in each County, the cost per call based on reported expenses, call volume, and population, ***FE*** recommends an initial goal endpoint count of **78-80** PSAPs. A future or parallel path forward to consider geographic-based county-to-county consolidations may be pursued to reduce the number of endpoints/PSAPs to 72. ***FE*** recommends this future or parallel path to 72 PSAPs as an encouraged partnering initiative, but not as a requirement currently. Appendix A contains a worksheet comprised of the data, the analysis exercise and considerations, the captioned descriptive calculations of the application of the population thresholds from Section 3, and a map displaying the geographic logic applied to the future/parallel path county-to-county consolidation partners for the smallest PSAPs.

The population thresholds are applied to the multi-PSAP counties to reduce the number of PSAPs within the counties. The future county-to-county optional geographic considerations are applied to the smallest population counties, which are those with a population of less than 11,000 with a negative growth factor.

The following table is an excerpt from the worksheet that shows the multi-PSAPs counties and how a consolidation, or reduction in PSAPs, is recommended:

Table 3: Multi-PSAP County Recommended Consolidations

PSAPs	Reported Expenses	Call Volume	Cost Per Call	Cost Per Population	Population	Recommended PSAP Reduction	Alternate Options
Benton County Central Communications	$3,063,611	38,575	$79.42	$11.24	272,608	Reduce to 2 PSAPs	*Due to fast growth rate may allow 3 PSAPs - Options to consider (Benton Co., Bentonville+Siloam Springs, and Rogers+Siloam Springs)*
Bentonville Emergency Communications Center	$1,414,778	15,728	$89.95	$27.68	51,111		
Rogers City Police Department	$1,442,447	25,241	$57.15	$21.34	67,600		
Siloam Springs Police Department	$677,476	4,339	$156.14	$39.87	16,991		
Total		83,883			408,310		
Clark County (Arkadelphia Police Department)	$642,351	3,192	$201.24	$61.32	10,475	Reduce to 1 PSAP	
Clark County Sheriff's Department	$674,277	21,564	$31.27	$30.56	22,061		
Total		24,756			32,536		
Crawford County (Alma Police Department)	N/A	3,063	N/A	N/A	5,844	Reduce to 1 PSAP	
Crawford County Sheriff's Department	$1,249,649	15,335	$81.49	$19.71	63,406		
Van Buren Police Department	N/A	10,021	N/A	N/A	23,691		
Total		28,419			92,941		
Crittenden County Communications Center	$640,180	13,577	$47.15	$13.24	48,342	Reduce to 1 PSAP	
Crittenden County (West Memphis PD)	$612,456	26,817	$22.84	$24.86	24,636		
Total		40,394			72,978		
Faulkner County (Conway Police Department)	$1,141,939	27,048	$42.22	$17.19	66,426	Reduce to 1 PSAP (currently co-located)	
Faulkner County Sheriff's Office	$655,992	24,064	$27.26	$5.26	124,806		
Total		51,112			191,232		
Garland County Sheriff's Department (Garland County Comm. Center)	$1,793,107	33,145	$54.10	$18.08	99,154	Reduce to 1 PSAP	
Garland County (Hot Springs Police Department)	$864,418	40,893	$21.14	$23.26	37,169		
Total		74,038			136,323		
Lonoke County (Cabot Police Department)	N/A	50,706	N/A	N/A	26,573	Reduce to 1 PSAP	
Lonoke County (England Police Department)	N/A	2,094	N/A	N/A	2,735		
Lonoke County Sheriff's Department	$742,923	31,362	$23.69	$10.09	73,657		
Lonoke Police Department	N/A	2,364	N/A	N/A	4,262		
Total		86,526			107,227		
Miller County/Texarkana	$2,896,390	117,404	$24.67	$96.64	29,972	Reduce to 1 PSAP	*Negotiate S.O. back into TX COG*
Miller County Sheriff's Office	$248,235	12,483	$19.89	$5.69	43,592		
Total		129,887			73,564		
Pulaski County (City of North Little Rock 911)	$2,244,900	75,113	$29.89	$33.95	66,127	Reduce to 3 PSAPs	*Options to consider (Little Rock, North Little Rock+Maumelle, and S.O.+Jacksonville+Sherwood)*
Pulaski County (Jacksonville 911 Center)	$794,488	23,647	$33.60	$28.09	28,287		
Pulaski County (Little Rock Police Department)	$6,583,446	220,514	$29.86	$33.27	197,881		
Pulaski County (Maumelle Police Department)	$427,597	7,341	$58.25	$23.61	18,111		
Pulaski County Sheriff's Office (includes ASP Troop A)	$525,544	12,931	$40.64	$1.34	392,680		
Pulaski County (Sherwood Police Department)	$800,141	14,704	$54.42	$25.62	31,237		
Total		354,250			734,323		
St. Francis County (Forrest City Police Department)	$431,659	N/A	N/A	$30.74	14,044	Reduce to 1 PSAP	
St. Francis County Sheriff	N/A	N/A	N/A	N/A	25,439		
Total					39,483		
City of Benton	$1,253,513	16,502	$75.96	$34.43	36,403	Already reduced to 2 PSAPs (consider reduction to 1 as Bryant has small population and call volume)	
Saline County (Bryant Public Safety)	$614,924	9,297	$66.14	$29.76	20,665		
Saline County Central	$1,846,365	35,797	$51.58	$15.21	121,421		
Total		61,596			178,489		
Sebastian County (Fort Smith Police Department)	$1,483,246	59,297	$25.01	$16.88	87,845	Reduce to 1 PSAP	
Sebastian County Sheriff's Office	N/A	14,760	N/A	N/A	127,753		
Total		74,057			215,598		
Union County (El Dorado Comm. Center)	$360,451	15,394	$23.42	$20.10	17,932	Reduce to 1 PSAP	
Union County Sheriff's Office	$643,716	10,334	$62.29	$16.45	39,126		
Total		25,728			57,058		
Washington County (Central EMS)	$1,056,324	30,439	$34.70	$4.46	236,961	Reduce to 2 PSAPs	*Alternative configuration of EMS and Fayetteville, then S.O. and Springdale*
Washington County (Fayetteville E911)	$1,470,146	41,493	$35.43	$16.95	86,751		
Washington County (Springdale Police Department)	$1,526,968	31,370	$48.68	$18.84	81,029		
Total		103,302			404,741		
White County (Searcy Police Department)	$746,352	10,183	$73.29	$31.40	23,768	Reduce to 1 PSAP	
White County 911 Center	$767,959	25,532	$30.08	$9.75	78,727		
Total		35,715			102,495		

Note that the population of each County includes overlap for reporting counties and cities. The cost by population was only considered when PSAPs reported expenses without reporting call volume. Also of note are the potential anomalies where data indicates very high or very low cost per call.

This cut of PSAPs would result in a reduction to **79** PSAPs. Alternate options or case-by-case decisions based on factors such as growth rate, fluctuations in population served due to industry, airport, or university, may fluctuate this number to **78-80**.

For future or parallel consideration of county-to-county consolidation, the following table is an excerpt from the worksheet that shows the recommended consolidation partners for the smallest County PSAPs.

Table 4: Geography-Based Consolidation Recommendations

Recommended Geography-Based Consolidations			
Newton	**Searcy**		
Woodruff	**Prairie**	**Monroe**	**Lee**
Montgomery	**Pike**		
Lafayette	**Nevada**		
Dallas	**Cleveland**	**Calhoun**	**Bradley**
Recommended Geography-Based Partnering Considerations			
Small County	*Adjacent Potential Partner(s)*		
Perry	Yell	Conway	
Scott	Logan	Polk	Yell
Chicot	Ashley	Drew	Desha

This cut of PSAPs could bring the total number down to **72** from the range of **78-80** attained through the population threshold-based consolidations.

The following table summarizes the results of the calculations and logic applied in the county-to-county planning worksheet:

Table 5: Recommended PSAPs Goal

PSAPs	79	78-80	72
Plan Projection Logic	**Based on # PSAPs by population**	**Variable due to factors and alternate options**	**Reducing 16 low population county PSAPs to 8 regional centers in geo-based consolidations**

Approaching consolidation planning from both ends of the population spectrum has shown that in both multi-PSAP counties and in small counties regionalizing, there are benefits of provisioning back-up locations among comparably sized PSAPs. For example, in Pulaski County where a three PSAP configuration is recommended, the PSAPs would and could be of similar size and capacity allowing a three-way multi-layered back-up plan to be developed and exercised.

The local perspective and considerations are key to the PSAPs and their respective decision-makers. While cost per call was calculated using the reported expenses from the PSAP Certification reports and reported call volume, there are other factors that impact the overall cost to operate a PSAP. These other factors include costs associated with support programs such as hiring, training, quality assurance, facility, technology, and personnel. As example, a critical cost technology consideration is which agencies/municipalities are on the AWIN radio system.

When local governments begin to plan for consolidation the cost per call will be useful and should be examined to determine their unique cost per period, e.g., per day, minute, or hour. Of equal importance will be identifying and addressing all indirect tasks or other duties not related to 9-1-1. These indirect tasks include record keeping, municipal duties, clerical duties and costs associated with dispatching services that are unique to the PSAP.

The cost per call should be viewed and used as a secondary supporting factor to the population threshold. Note that cost per call calculations do not exclude abandoned, transferred, or completed (dispatched) calls, or the time for processing. Therefore, time to process is not part of this equation but could be a tool for local PSAPs in determining actual workload and impact in a consolidated environment. Other impacts include use of an automatic call distribution (ACD) system, call surge, and limited service such as after-hours call handling for another agency/department.

5.8.1 Roadblocks to Consolidation

There are obvious roadblocks to any public policy change. Change is simply hard for many people, especially when the vision requires experience outside of their view. It was clear during the regional workshops that many PSAP representatives have focused their career and experiences in public safety in their backyard, where they live. This is admirable and valuable from the perspective of commitment to service and community. This can be a blind spot limiting the advancement of 9-1-1 service in both public expectation and the technologies that can meet or exceed said expectations. The benefits of shared service models are not new concepts. Schools, water and wastewater and other public works, and libraries, are some examples of how beneficial shared service models

can be. As the 911 Board provides guidance for the local government leaders in how best to consolidate PSAPs, all should bear in mind the many roadblocks and the impact of not addressing them. The most frequent roadblocks that ***FE*** has encountered are:

- Political will
- Not holding service to community and responders above all else
- Allowing fears to block improvements, such as fear of loss of jobs or local flavor
- Not understanding that 9-1-1 call handling and dispatching are what will be consolidated. All other agency or municipal support functions must be addressed (cost and function) at agency/municipal level or accommodated (cost and transition) in consolidated PSAP.
- Funding resistance and expectations of responsible parties
- Complexity of project to program taking single PSAPs to a consolidated model

Each of these roadblocks can be addressed with education, experience, support, and commitment to service improvements. There are hundreds of consolidated PSAPs across the country that serve as examples of how service can be improved through economies of scale, standardization of policies, data, and technology, and operational elevation.

5.8.2 The Problem with Status Quo

As noted, change is difficult. Romanticizing how things used to be and holding onto past practices is sometimes the preferred method of operating a PSAP. Many people view the past as simpler times that should be held on to. In emergency communications nostalgia does not improve the quality of service, it does not save lives, it does not better equip dispatchers and responders with life-saving equipment, tools, and protocols. As counter to the desire to maintain PSAPs in their current state, or hold Status Quo, local government leaders should consider that the following views and practices are detrimental to community safety if continued:

- Disparity in service across the state
- Unnecessary transfers of emergency calls
- Lack of voice and data interoperability
- Limited situational awareness, in and among PSAPs and responders

- Extended response times for multi-agency/multi-jurisdictional events
- Lack of supervision in PSAPs
- Minimal or no career path for PSAP staff
- Limited or minimal training of PSAP staff
- No QA of emergency calls and dispatches
- Lack of coordinated response, or lack of expedient coordinated response
- No viable short- or long-term backup plans, locations, or procedures

5.9 Checklist Guide to Consolidation

Appendix A contains a checklist guide to consolidation to be shared with local government leaders and PSAP administrators. It should be noted that while this is a guideline and checklist, each individual line item on the task list is more involved and expanded than merely what is described in the document. ***FE*** recommends the commissioning of third-party expertise and support in consolidation planning, procurement, and implementation phases to ensure success, and this should be included in RFP requirements for future phases of consolidation. There are many interconnected pieces of PSAP technology, facilities, infrastructure, and operations to manage in a consolidation endeavor; to that end, it is not advisable for PSAPs to manage consolidation solely on their own if there is not prior experience on staff.

Project planning for consolidation should not only factor in the tasks involving governance, facilities, and technology in PSAPs, it most importantly must factor in people as its central focus for success. The most successful consolidations are those that place the engagement, involvement and support of their primary resource, the people, in the PSAP as priority.

Consolidation should plan for the robust and human-centered change leadership that is necessary for leading and supporting people in PSAPs through the transition process. For many PSAP staff members, it may be significantly different in a consolidated world; they may be going to work in a new facility, with a new team to work alongside, with new technology and procedures to learn. For those who remain in the same PSAP and have other PSAPs join them, it will also be a significant change, like a new team, new technology, new procedures. Regardless of who is consolidating and where, as PSAPs across the state merge and move toward NG91-1 implementation, the environment is ripe with much change.

Further, it is important to remember that while a go-live date on a project plan may be the first day cut over occurs, for every employee that arrives for their first shift in the consolidated center thereafter, it is a go-live day for them. It is their first time working in a new location, with new technology and a new team and environment. Vital factors, such as longer term in the center support and coaching/training to assist employees for the first several weeks, can make a difference in successful transition without a decline in performance and sets the tone for a positive work culture.

6. Recommended Consolidation Roadmap

The Arkansas Consolidation Roadmap figure below provides a high-level though all-encompassing view of parallel goals, objectives, milestones, and corresponding outcomes. The overarching vision for 9-1-1 in Arkansas is to provide the best possible service to those in need of emergency public safety response across the state and to all of Arkansas' public safety response agencies. A huge step forward in how these services are providing is the planned NG9-1-1 rollout of a statewide ESInet and NGCS. Augmenting and aligning with this rollout are complementary networks of AWIN and FirstNet®. These three networks will complete an overlay of data and voice interoperability positively impacting every Arkansas PSAP. With focus on 9-1-1 services statewide, and as partners in the stewardship of the 9-1-1 revenues, the Board and local government leaders must consider opportunities to improve 9-1-1 services through identifying and leveraging economies of scale, creating parity in service, operations, and technology, reducing overall costs, and duplicate outlays.

This Roadmap should be used as a reference guide and for communicating the goals, objectives, tasks, and outcomes, of consolidation from both a statewide and regional/local perspective. It is a companion and synopsis of the detail contained in this report speaking to the recommended actions to be taken by the Board to guide the consolidation plans and by the local government leaders to control the planning and execution of same.

It is important for the reader to understand that unlike many processes, there are far too many variables to allow a straight-line depiction of activities toward the goals noted. The objectives and associated tasking are inter-dependent, and each task drives or is driven by outcomes of other tasks. There are also many external factors that determine how the Board can apply this roadmap when guiding local consolidation initiatives. Each consolidation starts at a different place and will have weight applied in different areas. For example, governance agreement development between County *A* and City *B* may be a collaborative effort resulting in an executed agreement within a few months. Whereas governance agreement development between County *X* and City *Y* and City *Z* may be a polemical and prolonged effort resulting in an executed agreement after a year or more of negotiations. The outcomes may also change as local government entities work through their planning and implementation processes or as the Board considers alternate consolidation plans.

Arkansas Consolidation Roadmap

	Goal: Governance	Goal: Funding	Goal: Technology	Goal: Data	Goal: Standards
	Authority, Relationships, Policy	Sources and Mechanisms	Networks, Systems, Integration, Standards	Interoperability, Ownership, Stewardship	Process, Format, Operations, Standards
Objectives	Public Policy	Surcharge	ESInet, NGCS	Interoperability: Data and Voice	Call Handling
	State Guided, Local Control	General Revenues	Leveraging AWIN, FirstNet	Ownership: Maintenance, Authorized Use and Access	Data Format
	Authority	Grants	Standard Systems: CHE	Agreements: Data Sharing Agreements	Training
	Consequences	Contracted Services and Other Sources	Standard Systems: CAD	Stewardship: Storage, Security	Quality Assurance
	Agreements: IGA, MOU	Agreements: Mechanism	Standard Systems: Logging Recorder	GIS: State Program, Local Data	Structured Protocols
	Milestones	Milestones	Milestones	Milestones	Milestones
Outcomes	Stakeholder Buy-In	Leverage 83.5% and 15%	Plan Local Use, Apportioned Ownership, Life Cycle	Centralized Entity for Format, Standards and Compliance	Adopt Standards for Call Handling Workflow
	Support, Options, Reporting Requirements	Leverage General Revenues and Local Option Levies	Expanding Use for Daily Operations, Expand and Leverage Cross-Jurisdictional Interaction	Monitor Maintenance, Use, Access	Standardize Data Formatting
	Local Oversight Models	Federal Grants: NG911, LIFT America, SLIGP, CARES Act, DOT, DOJ, HHS, DHS, USDA	Publish Standard-Based Compliance Criteria: CHE	Memorialize Responsibilities of Owners and Stewards	Adopt Statewide Training Standards
	Funding Incentives	Inter-Governmental and Private Contracts	Publish Standard-Based Compliance Criteria: CAD	Adopt Standard Storage Security	Adopt Statewide Quality Assurance Standards
	Agreement Templates	Memorialize Authorized Funding Models	Publish Standard-Based Compliance Criteria: Logging Recorder	Leverage State GIS Expertise and Guidance in Managing Local Data	Adopt Statewide Structured Protocols Standards

6.1 Next Steps

Step 1:

The first step for the 911 Board will be to review and accept those recommendations within this report that align with the Board's authority and intentions for progressing consolidation forward in Arkansas. There will no doubt be additional or differing paths taken as this report represents a moment in time that will require adjustments as the State continues forward with the statewide ESInet, NGCS, continued expansion of AWIN, and as FirstNet® builds out and evolves into the full potential of the nationwide network.

Step 2:

Once accepted this report and roadmap should be shared with local government leaders, and the PSAPs to include those that attended workshops, and those that provided input via the individual interviews. There should be a review and response period to allow questions and discussion. The Board should include information on what portions of this report and recommendations will be followed in guiding the PSAPs in their consolidation journeys. If there are portions of this report or recommendations that the Board does not intend to follow or use now, or perhaps plan to apply later, then that information should be shared as well. This provides a foundation for discussion with the PSAPs, and a common mission statement and vision moving forward.

In the communication with the PSAPs establish a discussion and response period during which any issues can be vetted. Express that after said period ends, the Plan to move consolidation forward beings and the expectation is that the PSAPs begin their planning activities. The Consolidation Guide Checklist should be shared and used to begin the documented Plans that each impacted PSAP should use to develop their paths to consolidation. The checklist can be modified to fit the needs of the partnering entities, and as a method for reporting status and issues to each other, within their authorities, and with the 911 Board.

Step 3:

Create a tracking method within the PSAP Certification Process to monitor and maintain status of consolidation initiatives. This will be particularly important if the PSAP plans to request reimbursement from the 15% fund. It will also help in tracking when, if, and how, the 85.75% fund is used in consolidating PSAPs. And lastly, this will be key to tracking progress that will impact the status of the ESInet and NGCS rollout sequence as incentive to compliance with the consolidation Plan.

Step 4:

Establish or adapt alternate plan case review submission and presentation process to allow the local entities the opportunity to offer differing approach(es). The Board should establish ahead of time what are dealbreakers, and what would/may be acceptable. Each case-by-case review must be well documented, and consideration should always be given to what precedent will be set by allowing alternative solutions to be followed. Consideration includes use of the surcharge toward an alternate solution.

Step 5:

Evaluate the workload and impact on the single resource that the Board has now. As the reality of dozens of PSAPs seeking/requiring guidance increases in capacity, so too will the need to expand the staff with both generalists and special focus experts. For example, staff that have an overall expertise in 9-1-1 and those that have focused skillsets such as automated systems, data management, and so on. The Executive Director will be able to evaluate the workload and advise the Board of appropriate expansion when needed.

Step 6:

The Executive Director can prepare for the guidance role by accumulating a library of tools and templates for use by the PAPs. The Consolidation Checklist is an example, as are intergovernmental agreements, and data sharing agreements. Online resources can be collected and shared as well, such 911.gov, NENA, APCO, IAED, FCC, and so on. While it may be common knowledge that these resources exist to some, they may not be to others. As PSAPs begin consolidation planning activities, collecting, and sharing their planning documents, lessons learned, agreements, and any projection tools, such as those for staffing, space programming, systems sizing, and threats and vulnerabilities. Any professional studies completed on behalf of Arkansas, or from other states, are also useful sources of information.

Step 7:

As the consolidation of PSAPs progress, the Board should review their overall Plans, projects, and the legislation, to make certain that all are in alignment and to identify where changes are needed or will be needed to prepare for the future.

Other Steps:

There are certainly interim steps not yet revealed and additional steps, activities and tasking that will surface as this initiative progresses statewide. The impact of the anticipated ESInet, NGCS, and whatever the world of the internet of things (IoT) has to offer for the future of 9-1-1, will require evaluating plans and considering alternative paths,

and will have an impact on the regulatory framework in place. The Board can prepare for this future-state by monitoring the activities of the FCC, 911.gov, DOT, NTIA, and numerous other standards or regulatory setting federal entities. Monitoring and staying abreast of the national rollout of FirstNet® and the ultimate national and international unification of state ESInets will allow the Board to be proactive about 9-1-1 needs in Arkansas.

Appendix A - Referenced Documents

Document Name
AR 911 Workshop Presentation 20201103 Final.pdf
Arkansas Population Threshold and Geo_Base workbook_v1.xlsx
PSAP Consolidation Checklist_20210604.xlsx