METROPOLITAN EMERGENCY SERVICES BOARD
9-1-1 TECHNICAL OPERATIONS COMMITTEE AGENDA

May 19, 2022 10:00 a.m.

WebEx Meeting: Meeting Link
Phone Number: (408) 418-9388
Access Code: 255 361 49084
Password: mUMg3KcNm35 (68643526 from phones and video systems)

1. **Call to Order**

2. **Approval of Agenda**

3. **Approval of Minutes –** April 21, 2022 Meeting

4. **Action Items**
   - A. Acceptance of 911 Authority MESB NG9-1-1 Transition Plan

5. **Discussion Items**
   - A. Admin Line Outages, Who to Contact?
   - B. Workload Sharing / CAD2CAD Workgroup Update
   - C. Mental Health Call Processing Standard

6. **Reports**
   - A. PSAP Operations Roundtable Workgroup
   - B. SECB NG9-1-1 Committee Report
   - C. 9-1-1 Network Report (Attached)
   - D. 9-1-1 Data Report (Attached)
   - E. MN Sheriff's Assoc. PSAP Subcommittee Report
   - F. IPAWS Report
   - G. SECB Classification/Training/Certification
   - H. SECB NG9-1-1 Technical Operations Workgroup
   - I. SECB NG9-1-1 Operations Workgroup

7. **Announcements -** None

8. **Adjourn**

Metropolitan Emergency Services Board
9-1-1 Technical Operations Committee
Meeting Minutes (Virtual)
April 21, 2022

Committee Members Present:

Laura Anderson, Sherburne County
Susan Bowler, Carver County
Dan Klawitter, Hennepin EMS
Eric Lammle, St. Louis Park
Jeff Lessard, U of M-**absent**
Chad Loeffler, Metro Transit
Scott Haas, Scott County
Janelle Harris, City of Edina
Joni Hodne, City of Minneapolis
Tony Martin, Hennepin County
Mike Melby, North Memorial Ambulance-**absent**
Darlene Pankonie, Washington County
Nancie Pass, Ramsey County
Lauren Petersen, MAC/Airport
Cheryl Pritzlaff, Dakota County
LaVae Robinson, City of Bloomington
John Scheuch, Ridgeview EMS
Bob Shogren, Isanti County
Val Sprynczynatyk, Anoka County
Jake Thompson, Chisago County
Vicki Vadnais, Allina EMS

Guests: Marv Bachmeier, *Hennepin EMS*; Vic Barnett, *Ramsey County*; Laura Barton, *911 Authority,* Marcus Bruning*, ECN;* Greg Ersham*, Motorola;* Lisa Flask*, Lumen;* Matthew Hoffer, *Lumen;* Doug Kayser*, Ridgeview EMS;* Joel McCamley*, 911 Authority;* Todd Moen*, Carver County;* Kari Morrissey, Anoka County; Dan Palmer*, Ramsey County;* Scott Petersen*, Minneapolis;* Jon Rasch, *Ramsey County*; Sheri Stevens*, MN State Patrol*, Alicia Stovern, *Chisago County*

MESB Staff: Marcia Broman, Mike Mihelich, Jill Rohret**,** Martha Ziese

1. Call to Order
Susan Bowler called the meeting to order at 10:01.

2. Approval of *April 21*, 2022, Agenda
Item #G was added to the Discussion Items (Lumen outage yesterday)

Motion (Martin/Rasch) approve April 21, 2022, 9-1-1 TOC amended meeting agenda. Approved.

3. Approval of March 20, 2022, Minutes
Val Sprynczynatyk asked “not’ be removed referencing who would be encouraged to attend the PSAP Roundtable meetings. The sentence should read “Kari said the workgroup is recommending trainers and others that are not in a supervisory role attend the roundtable”.

Sprynczynatyk said under item E. Reports FSA should be changed to FLSA.

Motion (Pritzlaff/ Sprynczynatyk) to approve the March 20, 2022, 9-1-1 TOC minutes. Approved.

Roll call for items 2 and 3

Agency	Member	Yes	No
Allina EMS	Vadnais	X	
Anoka County	Sprynczynatyk	X	
Bloomington PD	Robinson	X	
Carver County	Bowler	X	
Chisago County	Thompson	X	
Dakota County	Pritzlaff	X	
Eden Prairie PD	Vik	X	
Edina PD	Harris	X	
Hennepin County	Martin	X	
Hennepin EMS	Klawitter	X	
Isanti County	Shogren	X	
MAC/Airport	Petersen	X	
Metro Transit	Loeffler	X	
Minneapolis	Hodne	X	
Ramsey County	Rasch	X	
Ridgeview EMS	Scheuch	X	
St. Louis Park	Lammle	X	
Scott County	Haas	X	
Sherburne	Anderson	X	
Washington County		Absent	

Yea: 18 Nay: 0 Motion passes

4. Action Items

A. Approval of Amendment to PSCS Training Curriculum

Kari Morrissey said the amendment is an update to the wireless class of service update which added the E91-1 Civic Address, WD1 and WD2.

Motion (Martin/Klawitter) to approve the Amendment to PSCS Training Curriculum. Approved.

B. Selection of MESB PSAP Representative to the SECB NG9-1-1 Operations Workgroup

Mike Mihelich said this representative will attend the workgroup meetings and give reports of any significant workgroup activities at the MESB 9-1-1 TOC meetings. This representative is for the operational committee not the technical committee.

Lauren Petersen verified there could be participants that would attend the workgroup meetings but not be the official representative for the 9-1-1 TOC.

Motion (Robinson/Thompson) to nominate Kari Morrissey as the 9-1-1 TOC representative to the SECB NG9-1-1 Operations Workgroup. Approved.

C. Nominations to Serve on the NENA NIOC (NG9-1-1 Interoperability Oversight Commission

Jill Rohret said NENA has asked to nominate or re-nominate a representative for this 2-year term seat. Dar Pankonie has held this seat for the past 2 years and is willing to remain the 9-1-1 TOC Representative to the NENA NIOC.

Rohret asked if there was anyone else that might be interested in the seat on the NENA NIOC Committee.

Dar Pankonie said the first 2 years consisted of forming the board and the by-laws in place, developing the Forest guide and initiatives.

Motion (Sprynczynatyk/Pritzlaff) to approve Pankonie to continue as the 9-1-1 TOC representative to the NENA NIOC. Approved.

Roll call for item 4.A 4.B 4.C

Agency	Member	Yes	No
Allina EMS	Vadnais	X	
Anoka County	Sprynczynatyk	X	
Bloomington PD	Robinson	X	
Carver County	Bowler	X	
Chisago County	Thompson	X	
Dakota County	Pritzlaff	X	
Eden Prairie PD	Vik	X	
Edina PD	Harris	X	
Hennepin County	Martin	X	
Hennepin EMS	Klawitter	X	
Isanti County	Shogren	X	
MAC/Airport	Petersen	X	
Metro Transit	Loeffler	X	
Ramsey County	Hodne	X	
Ridgeview EMS	Rasch	X	
St. Louis Park	Scheuch	X	
Scott County	Lammle	X	
Sherburne	Anderson	X	
Washington County	Pankonie	X	

Yea:19 Nay: 0 Motion passes

5. Discussion Items

A. Overview of Draft 911 Authority MESB NG9-1-1 Transition Plan

Mike Mihelich said with the NG9-1-1 transition coming up, the MESB has contracted with 911 Authority to assist in creating a transition plan. This document will be available for the 9-1-1 TOC members to review before the final draft is presented at the May 9-1-1 TOC for approval.

Joel McCamley gave a presentation.

Vic Barnett asked how would the configuration changes and CPE firewall configurations be handled in a live system without any downtime for the PSAPs?

McCamley said if there was downtime that would mean the transition failed. The metro region will be handled differently than other regions because it is a lot more sophisticated and therefore more complicated. These questions provide a good segway on how to transition. First, project management (scope-schedule) is critical. The other important points are risk management, acceptance testing and validation plan, and change management.

B. PSAP Start Discussions with Vendors for Upcoming NG9-1-1 Transition
Mihelich said it is important to begin talking to all the vendors to ensure they will be ready for the transition. Until vendors are selected, it won't be known what version of NENA i3 will be used by the State of Minnesota.

Marcia Broman said there are four pillars to the data transfer project. First is the creation of the regional data sets. Secondly is to achieve accuracy and completeness. Third is to put this data to use. The big one is deployment. Ongoing will be the maintenance of the geo spatial data.

C. Workload Sharing/CAD2CAD Workgroup Update
Jon Rasch said as of the update yesterday, Winbourne is working on updated governance, technical requirements, a statement of work sample, and investment summary documents. These documents will be shared at the May 6 workgroup meetings and then presented to the May 9-1-1 TOC meeting.

D. Mental Health Call Processing Standard
Tony Martin said a draft of the statewide consideration document will be sent to members for review and feedback later today.

E. NENA Conference Conflict for June 9-1-1 TOC Meeting
Mihelich asked if members wanted to cancel of reschedule the June 9-1-1 TOC due to the conflict with the NENA conference June 11-16.

Members agreed to cancel the June 2022 9-1-1 TOC.

F. Return to In-Person MESB Meetings in July
Rohret said the MESB chair has declared all MESB meetings will be in-person, beginning in June 2022. This will begin in July for the 9-1-1 TOC.

Martin asked if viewing/without the power to vote might be considered in the future.

G. Lumen Outage
Pankonie said even though yesterday's admin line outage did not significantly impact PSAPs, it would be in the 9-1-1 TOC's best interest to draft a letter to the Public Utilities Commission to make them aware.

Lauren Petersen said Sandy Stroud had indicated she was in favor of the 9-1-1 TOC drafting a letter.

Rohret asked members if it made more sense to draft a letter as a region or would it have more impact to come from individual PSAPs? MESB could draft a form letter that PSAPs could put on their own letterhead and detail specifics.

Pankonie recommended a group letter be sent detailing the different PSAPs issues that also is sent to Lumen.

Martin said he felt individual PSAP letters in addition to a regional group letter would have the most impact.

Mihelich asked that PSAP details be sent to him, and he will draft a letter.

Scott Haas said he appreciated Mihelich's updates.

6. Reports
A. PSAP Operations Roundtable Workgroup
LaVae Robinson said Heidi Myer is the new chair and Dawn Kenyon is the new vice-chair. The next meeting in July is at the MAC and Robinson will be working to encourage more members to attend. Robinson will remain as secretary until there is another volunteer.

Robinson said it is the roles people play that are important to be valuable in this workgroup. There is a survey that will be sent out through BaseCamp to see what CTOs are interested in seeing addressed in this workgroup and who would sit on this committee.

Robinson will send out a matrix of who is sitting on this Roundtable workgroup.

B. SECB NG9-1-1 Committee Report
Chad Loeffler said the committee met yesterday. There was an operations update. Vic Barnett is stepping down as the chair of the committee. The meeting documentation will change to more of how the MESB documents meetings. Tony Martin gave a mental health project update. There was a recruitment and retention discussion. There was a public safety training certification discussed. TCPR trainings was discussed. There was a 403 discussion. There were some 9-8-8 updates.

Vicki Vadnais asked if there had been any discussion on studies that documents cardiac arrest survival results with the newly implemented dispatch CPR assistance. Vadnais will reach out to CARES.

C. 9-1-1 Network Report – Report included in packet

D. 9-1-1 Data Report – Report included in packet

E. MN Sheriff's Association PSAP Subcommittee Report
Susan Bowler said at the last meeting the FSLA was discussed. A rough draft was sent to the workgroup. A legal opinion on that draft will be coming. Also discussed was dispatcher recognition and pension. Dispatcher retention was discussed. A document to help policy/decision makers know about 9-1-1 was discussed.

F. IPAWS Report – no update

G. SECB Pension Workgroup
Pankonie said that workgroup has ended and can be withdrawn from future agendas.

H. SECB Classification/Training/Certification
Robinson said that bill is working its way through the Ways and Means Committee. There is a companion senate bill that goes along with it.

Pankonie said the senate bill did not get heard at committee level nor go to their omnibus bill.

7. Announcements
Mihelich reminded members the next meeting in June will be virtual.

8. Adjournment 11:41 a.m.

METROPOLITAN EMERGENCY SERVICES BOARD

Meeting Date: May 19, 2022
Agenda Item: 4A. Approval of Task 3 (MESB NG911 Transition Plan), 911 Authority
Presenter: Mihelich

RECOMMENDATION

MESB staff recommends the 9-1-1 TOC recommends approval of Task 3 (MESB NG911 Transition Plan) as a Project Deliverable as listed in the signed agreement with 911 Authority.

BACKGROUND

911 Authority has been contracted to assist the MESB with transition from Enhanced 9-1-1 (E9-1-1) to Next Generation 9-1-1 (NG9-1-1), through the State of Minnesota's Request for Proposal (RFP) process. 911 Authority will complete three tasks as Project Deliverables:

- Task 1 - Develop an MESB NG911 Transition Strategy
- Task 2 – Assess the Current MESB 911 System
- Task 3 – Develop MESB NG911 Transition Plan

ISSUES & CONCERNS

Transition to NG9-1-1 will come with many unknown variables as the state's RFP breaks up NG9-1-1 into multiple components; NG Core Services, ESInet Egress, and 911 Control Center. Respondents to the RFP can bid on one or more of the components, which could result in multiple vendors providing the overall NG9-1-1 system to the state. Each vendor has different methods on how they provide NG9-1-1 services, and 911 Authority has been contracted to assist us with the transition and its many variables. Task 3 will assist the PSAPs with better understanding the operational and financial impacts that will come with the new NG9-1-1 system.

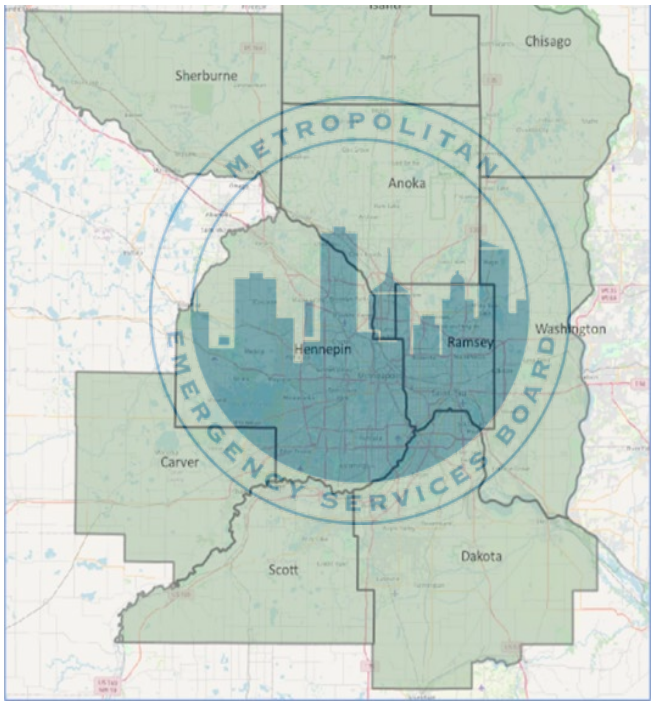
NG9-1-1 also comes with enhanced capabilities such as the ability to send photos and videos through multi-media messaging on cellular phones. The new ESInet will allow PSAPs to use the NG9-1-1 system for more than just 9-1-1 phone calls, opening the possibilities of connecting data such as Computer Aided Dispatching (CAD) and online mapping solutions. All PSAPs in the State of Minnesota will need to evaluate these new capabilities and choose which of them to implement along with a strategy on how best to accomplish the roll-out while ensuring that residents have a consistent 9-1-1 experience throughout the state.

FINANCIAL IMPACT

This action is in reference to an already active agreement between the MESB and 911 Authority.

MOTION BY:
SECONDED BY:
MOTION:

PASS/FAIL



MESB NG9-1-1 Transition Plan 2022-2025

Prepared by

911 Authority

Connecting Public Safety with Technology

Contents

Executive Summary

The Metropolitan Emergency Services Board (MESB) supports public safety for the residents of Anoka, Carver, Chisago, Dakota, Hennepin, Isanti, Ramsey, Scott, Sherburne, and Washington Counties, and the City of Minneapolis. This support includes oversight and management of the metropolitan portion of the ARMER radio system; oversight and management of the regional 9-1-1 system; and coordination of the regional EMS system. This regional approach to planning and supporting Public Safety Answering Points (PSAPs), radio system users, and EMS providers ensures optimal response to emergencies and large-scale public safety events occurring within the metropolitan region.

The MESB provides regional leadership, planning, coordination, and support for public safety communications and EMS providers, resulting in efficiencies for local governments and consistent public safety response within the metropolitan region.

The MESB works closely with the Minnesota Department of Public Safety, Division of Emergency Communication Networks (ECN) to not only manage the current E9-1-1 system, but to plan and implement Next Generation 9-1-1 (NG9-1-1). NG9-1-1 is Internet protocol based and will provide increased functionality for 9-1-1 callers and Minnesota's public safety answering points, which answer 9-1-1 calls and dispatch public safety resources in response to those calls.

In preparation for the planned transition to NG9-1-1 in 2022 and beyond, the MESB commissioned an assessment report of the MESB regional PSAPs to provide a current analysis of 9-1-1 and PSAP operations across the MESB region. A key objective of that report was to establish a 9-1-1 technology baseline to use for planning and inform specific MESB NG9-1-1 RFP requirements. The data gathered for the report is also used here to focus and guide the completion of this MESB NG9-1-1 Transition Plan.

The purpose of this plan document is to articulate the vision of the MESB PSAPs as it relates to the transition of the regional PSAPs to a fully operational NG9-1-1 network in the metropolitan area. This document identifies initiatives requiring additional action and activity to achieve the stated goals and objectives established in this transition plan. The goals and objectives presented in this transition plan, some of which are in progress, are designed to step the MESB and the regional PSAPs through an orderly transition to full end state i3 NG9-1-1 operations, build on the existing common capabilities of the region and support a sustainable program for years to come.

The vision for the MESB NG9-1-1 Transition Plan is to facilitate a planned, diligent, and seamless transition from the current 9-1-1 system serving the MESB PSAPs to fully NG9-1-1 capable and compliant systems supporting the MESB PSAPs.

The table below provides a high-level summary of the goals and objectives established by the MESB Regional PSAPs for this plan, identifies actual and planned initiatives that support the plan goals and

objectives, and provides and identifies measurements and milestones to indicate progress toward achieving the goals and objectives of the plan.

MESB NG9-1-1 Transition Plan Goals and Objectives	Supporting Initiatives	Measurement / Milestone
1. The MESB desires a planned, diligent, and seamless transition from the current 9-1-1 system serving the MESB PSAPs to fully NG9-1-1 capable and compliant systems supporting the MESB PSAPs.	• Implement MESB NG9-1-1 Transition Strategy and Plan (Initiated Q4-2021)	• Execute NG9-1-1 transition plan identified in this document
2. The MESB requires reliable and resilient NG9-1-1 service and will leverage NG9-1-1 standards-based technology to support the eighteen primary and six secondary PSAPs serving the citizens of and visitors to the Minneapolis/St. Paul metropolitan area.	• MESB Participation in the 2022 ECN NG9-1-1 RFP and procurement process to include the evaluation of proposed solutions to the RFP	• Distribution of the MN-ECN NG9-1-1 RFP • (anticipated Q1-2022)
3. The MESB, in cooperation with Minnesota PSAPs and ECN, seeks to leverage common Minnesota NG9-1-1 operational, technical, and functional requirements in the procurement of any future NG9-1-1 systems to continue the long history of public safety interoperability across Minnesota.	• MESB Participation in the 2022 ECN NG9-1-1 RFP and procurement process to include the evaluation of proposed solutions to the RFP	• MN-ECN-NG9-1-1 RFP awarded and transition begins • (anticipated Q1-2023)
4. The MESB maintains a focus on offering PSAPs better continuity-of-operations (COOP) options as well as enabling resource sharing for the PSAPs that are interested in working together.	• Develop new regional processes for NG9-1-1 call overflow and backup scenarios between PSAPs • Establish regional COOP plans that leverage the NG9-1-1 network capabilities • Regional CAD to CAD initiatives will overlap during the transition time frame • Regional 988 initiatives will overlap during the transition time frame	• MESB Regional NG9-1-1 COOP Plan approved by the Board • COOP planning should include consideration for other MESB PSAP initiatives like CAD to CAD and radio interoperability
5. The MESB works with ECN to procure an NG9-1-1 network with enhanced support for the delivery of shared/hosted and cloud-based applications for PSAPs. (e.g. hosted call handling, CAD, CAD-to-CAD interoperability, logging/recording)	• MESB Participation in the 2022 ECN NG9-1-1 RFP and procurement process to include the evaluation of proposed solutions to the RFP	• MN-ECN-NG9-1-1 RFP awarded and transition begins • (anticipated Q1-2023)
6. The MESB sees the local, authoritative data maintained by its counties as a strategic asset for its PSAPs and seeks to create data processes that allow the region to effectively use and maintain high-quality geospatial data to support NG9-1-1.	• Continue investment in GIS data development projects • Plan for all PSAPs to transition to full geospatial location-based routing • Establish process and procedure • Operationalize the data	• All PSAPs transitioned to end state location-based routing as defined by the NENA i3 end state assumptions
7. The MESB works with the PSAPs in planning for the transition of their PSAP 9-1-1 technology to NG9-1-1 capable systems needed to operate on a fully standards compliant NG9-1-1 network.	• Formalize the coordination role of the MESB staff for the transition to NG9-1-1 • Establish a Call Handling Equipment (CHE) upgrade plan for all regional PSAPs and incorporate it into the	• Final MESB PSAP CHE Upgrade plan • Published MESB PSAP network cutover schedule

MESB NG9-1-1 Transition Plan Goals and Objectives	Supporting Initiatives	Measurement / Milestone
	overall network deployment and PSAP cutover schedule from the new ECNSP	
8. The MESB seeks a single-point of contact for PSAPs to report 9-1-1 issues and problems to have resolution proficiently coordinated among vendors and providers.	• The MESB work with ECN to establish a PSAP help desk function that supports and coordinates on behalf of the regional PSAPs with ECNSPs • Leverage the transition work done for Goal #7	• MESB participates in the service definition with ECN to facilitate the system wide help desk function necessary to support the PSAPs
9. The MESB, in partnership with Minnesota PSAPs and ECN, seeks to leverage common, statewide 9-1-1 funding and grant opportunities in the purchase and deployment of NG9-1-1 systems.	• MESB Participation in the 2022 ECN NG9-1-1 RFP and procurement process to include the evaluation of proposed solutions to the RFP • CHE Upgrade plan • All future procurements related to public safety	• Q1-2022 RFP awarded and transition begins • (anticipated Q1-2023)

These elements of the plan are explored in greater detail in Section 2 and Section 3 below.

1. NG9-1-1 Transition Plan Background

This section of the plan provides definitions relevant to the plan, establishes the methodology used to develop the plan and provides context for understanding the plan.

1.1 Relevant Legislative Definitions

Proposed changes to Chapter 403 of the Minnesota Statute, 911 Emergency and Public Safety Communications, include updated terminology in 403.2 that is referred to throughout this plan. Although there are many additions to 403.02 Definitions, the list below reflects those pertinent to this document.

1. **911 network.** "911 network" means (1) a legacy telecommunications network that supports basic and enhanced 911 service, or (2) the ESInet that is used for 911 calls, that can be shared by all public safety answering points, and that provides the IP transport infrastructure upon which independent public safety application platforms and core functional processes can be deployed, including, but not limited to, those necessary for providing next generation 911 service capability. A network may be constructed from a mix of dedicated and shared facilities and may be interconnected at local, regional, state, national and international levels.
2. **911 system**. "911 system" means a coordinated system of technologies, networks, hardware, and software applications that a PSAP must procure and maintain in order to connect to the state 911 network and provide 911 services.
3. **911 service**. "911 service" means the emergency response service a public safety answering point provides as a result of processing 911 calls through their 911 system
4. **Emergency Communications Network Service Provider** (**ECNSP**). "Emergency Communications Network Service Provider (ECNSP)" means a service provider, determined by the commissioner to be capable of providing effective and efficient components of the 911 network or its

management, that provides or manages all or portions of the statewide 911 emergency communications network. The ECNSP is the entity or entities that the state contracts with to provide facilities and services associated with operating and maintaining the Minnesota statewide 911 network.

5. **Emergency Services Internet (ESInet)** "ESInet" means a network which is Internet Protocol-based and multi-purpose in supporting local, regional, and national public safety communications services in addition to 911. The ESInet is comprised of 3 network components: ingress network, NGCS and egress network.

1.2 MESB NG9-1-1 Plan Development Methodology

The MESB commissioned the NG9-1-1 Transition Strategy and Planning Project leading to this transition plan in August 2021. The project consisted of three tasks. They are:

Task 1 – Develop a NG9-1-1 transition strategy document

A document that summarizes the MESB regional business needs, circumstances, and goals for the NG9-1-1 implementation. The strategy must recognize synergies, dependencies, and constraints of the metro regional 9-1-1 system's existence within the context of a statewide 9-1-1 system.

- *The MESB NG9-1-1 Transition Strategy Document [1]was published in November 2021 and established the goals and objectives used as a foundation for this plan*

Task 2 – Conduct an assessment of the current MESB 9-1-1 systems

For the ten-county metropolitan region, including:

a. Current state of the ESInet.
b. Current state of the GIS data available to support location-based call routing using NG9-1-1 Core Services functional elements.
c. Current state of the 9-1-1 system monitoring and management.
d. Current inventory of PSAP call handling equipment, computer aided dispatch, and mapping systems for NG9-1-1 readiness.

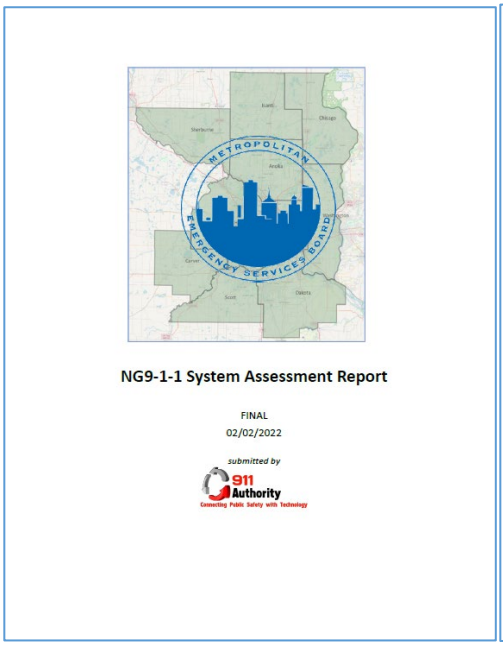
- *The MESB NG9-1-1 System Assessment Report [2]was published in February of 2022 and provides regional initiatives, actions and next steps for this plan*

Task 3 – Develop an MESB NG9-1-1 Transition Plan

The plan should contain information related, but not limited, to clearly defined stages of transition, presented within an anticipated time horizon and noting specific sequencing dependencies and linkages. Additionally, the plan should specifically address the following areas

[1] MESB NG9-1-1 Transition Strategy Document, 11/15/2021
[2] The MESB NG9-1-1 System Assessment Report, 2/2/2022

1) The MESB ESInet Transition
2) The MESB NG9-1-1 Core Services Transition
3) The MESB NG9-1-1 Data Transition



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2 MESB NG9-1-1 Transition Plan Scope

This section of the plan establishes the boundaries of the plan, begins to delineate roles and responsibilities in the region required to assist the region in the execution of the MESB NG9-1-1 Transition Plan.

2.1 MESB NG9-1-1 Transition Elements

Referencing the diagram below, there are three (3) primary points of 9-1-1 system that must be addressed in an NG9-1-1 transition. An additional way to view it is in terms of 9-1-1 call flow or how a 9-1-1 call gets to a PSAP

1. **Ingress** - getting the 9-1-1 call traffic (all types) to the NG9-1-1 network for routing to a PSAP
   - Getting a 9-1-1 call into the system
2. **Core** - anchoring, routing, and distributing the NG9-1-1 call traffic
   - Decides which PSAP to send the 9-1-1 call to
3. **Egress** - getting the NG9-1-1 call traffic routed to the PSAP with location data
   - Getting the 9-1-1 call to a PSAP

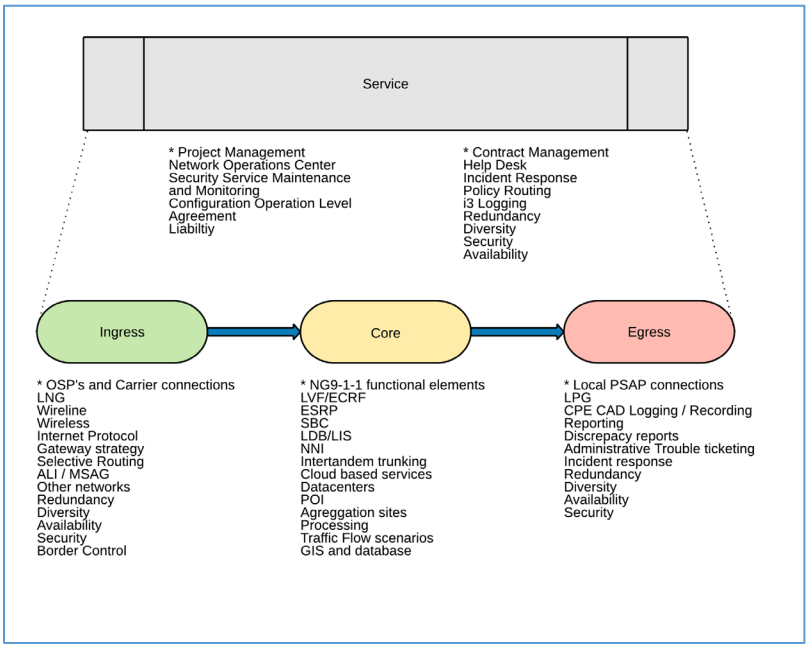

Figure 1 - Transition Elements Categorized by Ingress/Core/Egress

These three areas each have technical, operational, and administrative considerations that will be addressed in this end-to-end NG9-1-1 plan for a successful transition of the MESB PSAPs to NG9-1-1. Along with participating in the transitions occurring in the Ingress, Core and Egress components of the NG9-1-1 system, the local PSAPs will need to take the responsibility for updating the current technologies used in their operations to be NG9-1-1 ready.

The MESB identified planning emphasis around the following three areas of transition at the beginning of the project. They are:

1) The MESB ESInet Transition
2) The MESB NG9-1-1 Core Services Transition
3) The MESB NG9-1-1 Data Transition

As a result of the MESB Transition Strategy Document project coupled with the assessment report findings, the elements requiring planning, action and initiatives on the part of the MESB or MESB PSAPs in order to transition to a full NG9-1-1 end state expands to include the following:

1) 9-1-1 call origination network transition (ingress)
2) 9-1-1 call routing functions transition (core)
3) 9-1-1 call delivery network to the PSAPs transition (egress)
4) 9-1-1 PSAP system technology migrations and updates (egress)
5) 9-1-1 call database functions transition (core)
6) 9-1-1 network support and monitoring transition (all)
7) 9-1-1 network disaster recovery and continuity of operations (all)

These planning elements are translated to planning milestones with specific actions, timelines and activities necessary for a successful transition of the MESB PSAPs to NG9-1-1 in Section 3.

2.2 Transition Roles and Responsibilities in NG9-1-1

It is important to establish clearly defined roles and responsibilities during the transition to NG9-1-1.

The MESB

The MESB will provide the guidance and framework for ensuring that call delivery to each PSAP will meet operational requirements. In addition, the MESB will be instrumental in providing MESB PSAPs with implementation oversight and project management of the configuration and operation of ESInet and NG core services. In this capacity, the MESB will maintain a focus on call delivery to ensure that MESB PSAPs will be able to meet their requirements once the network is fully deployed.

The transition of MESB PSAPs to a new NG9-1-1 network will be managed through additional documented practices and procedures. During the transition, the MESB will:

- Support MESB PSAPs in coordinating the implementation of and transition to NG9-1-1.
- Assist PSAPs by coordinating with the NG9-1-1 ECNSP to ensure that guidelines and best practices will be followed during all transition and implementation activities.
- Support MESB PSAPs as 9-1-1 system changes occur during the transition to NG9-1-1 by applying established change management process, practices and procedures in order to plan for and mitigate any operational disruption during the transition to NG9-1-1.
- Support the MESB 9-1-1 Technical Operations Committee (TOC) in the engagement of the MESB stakeholders in the planning and implementation of the transition to NG9-1-1.
- Assist PSAPs/counties in meeting NG9-1-1 core services data requirements and coordinating the transition of legacy MSAG/ALI to NG9-1-1 data management processes.
- Assist PSAPs in ensuring that quality assurance and quality control measures performed by the ECNSP are met for all components of the NG9-1-1 network and services.

- Establish a baseline for connectivity among PSAPs.

Metro Regional PSAPs

The metro region PSAPs will be the end users of the NG9-1-1 network. In this user role, each PSAP will be a stakeholder and will collaborate with the MESB at various stages of transition. PSAPs will be responsible for ensuring that their requirements are communicated such that the NG9-1-1 network is operationally focused on their mission. PSAPs will be responsible for engaging with their county GIS support organization(s) to maintain quality geospatial data required for the operation of the NG9-1-1 network. PSAPs must coordinate with the MESB to configure changes to the NG9-1-1 network. PSAPs will be accountable to provide the information required by the ECNSP when they begin an upgrade or replacement of PSAP applications that affect call delivery or any other applications that are utilizing the NG9-1-1 network for connectivity. During the transition, and on an on-going basis, PSAPs must report issues with call delivery, routing, and location information.

During the transition Metro Region PSAPs will:

- Work individually and collectively with the MESB to plan, schedule and execute an orderly transition to NG9-1-1
- Be responsive to requests for information and input prior to and during the transition
- Be engaged stakeholders that participate in the transition planning process and are vested in the outcomes for the region
- Champion PSAP operational requirements to drive the technology decisions made in the transition to NG9-1-1
- Communicate plans and activities that could impact the operation of the PSAP NG9-1-1 systems or the NG9-1-1 network. Examples might include buying a new CAD system or moving into a new building

NG9-1-1 ECNSP(s)

The NG9-1-1 ECNSP(s) will be required to deliver a NG9-1-1 network that meets the technical specifications of the MESB, which will be developed in conjunction with the PSAPs. The ECNSP(s) will be required to support the transition of MESB PSAPs from legacy to NG9-1-1 and for maintaining the NG9-1-1 network to ensure that 9-1-1 service is available 99.999 percent of the time.

During the transition, the ECNSP(s) will:

- Coordinate with the MESB to plan, schedule and execute an orderly transition to NG9-1-1
- Work individually and collectively with MESB PSAPs throughout the transition
- Migrate and cutover individual MESB PSAPs from the current network to the new NG9-1-1 network
- Transition location data from current processes and platforms to those used for NG9-1-1, coordinating with originating service providers, as well as MESB and its PSAPs
- Coordinate and facilitate changes at the PSAP related to the operation of the NG9-1-1 network
- Provide 24x7x365 operational support to MESB PSAPs for the NG9-1-1 network

The figure below provides a visual representation of the roles and responsibilities involved in the migration to NG9-1-1. A successful transition will require the coordination and cooperation between and among these entities.

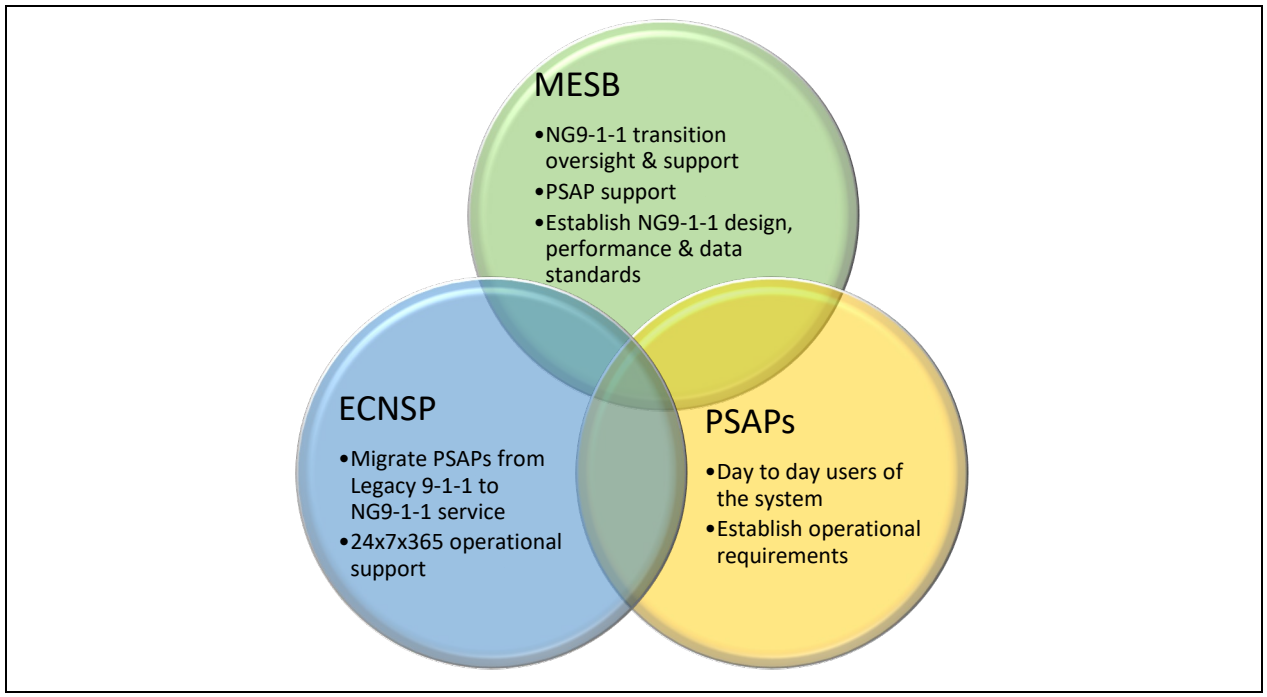

Figure 2 - NG9-1-1 Transition Roles and Responsibilities Diagram

2.3 2021 MESB PSAP Assessment Report Findings Relevant to NG9-1-1 Transition

In preparation for the planned transition to NG9-1-1 in 2022 and beyond, the MESB commissioned an assessment report of the MESB regional PSAPs in Q4-2021 to provide a current analysis of 9-1-1 and PSAP operations across the MESB region. A key objective of that report was to establish a 9-1-1 technology baseline to use for planning and to inform specific MESB NG9-1-1 RFP requirements. The data gathered during the report is also used here to focus and guide the completion of this MESB NG9-1-1 Transition Plan. The specific findings from the survey report include the following:

Assessment Report Finding	Planning Implications
1. The anticipated level of upgrades to systems and equipment necessary for MESB PSAPs to transition to full NG9-1-1, i3 operating capability is low to moderate from a PSAP cost, training and major equipment change out perspective.	• Assuming a transition to full NG9-1-1 capability occurs within the next 12 to 24 months (2023 – 2024) • Schedules are critical • Coordination is critical • Practice Risk management and apply sound project management methodologies at all times during the transition.
2. All MESB PSAPs will require some level of upgrade to transition away from the current 9-1-1 system provided	• Require Call Handling Equipment (CHE) upgrades be incorporated into the overall network deployment and PSAP cutover schedule from the

Assessment Report Finding	Planning Implications
under contract with Lumen to a system that fully supports the NENA NG9-1-1 i3 specification	new ECNSP
3. Staffing in a NG9-1-1 environment will require different skill sets like cybersecurity and networking or social media and texting. Personnel costs could be impacted by specialized skill sets or from the increased reliance on accurate data like GIS which will require an increase in maintenance activities.	• Establish a training subcommittee to periodically review new training requirements and cross jurisdictional training opportunities as the transition to NG9-1-1 occurs.
4. The MESB PSAPs are well prepared for the transition to NG9-1-1 as evidenced by the level of investment in technology, applications, resources and funding committed to public safety across the MESB region in addition to specific 9-1-1 funding from ECN	• Think regionally, act regionally, buy regionally. • Economies of scale, interoperability and consistency should drive regional decision making related to the continued investment in public safety and NG9-1-1 technologies in the region.
5. As more integration occurs across the MESB region on applications like Computer Aided Dispatch (CAD) and CHE the more efficient the MESB PSAPs will become at operating as one logical entity at the systems level. Examples include CAD to CAD interoperability, hosted CHE and alerting applications	• Think regionally, act regionally, operate regionally. • Leverage existing common applications and platforms in order to maximize new NG9-1-1 capabilities
6. The MESB PSAPs will benefit from a diverse, scalable, redundant NG9-1-1 system that delivers data and information about and from emergency events (calls, data and supplemental information)	• Impacts to policy, procedure, and training • New policies will need to be developed to take full advantage of NG9-1-1 capabilities
7. Once the NG9-1-1 system is operational, the MESB region will have the ability to prepare alternative arrangements, agreements including mutual aid for the PSAPs.	• Develop mutual aid agreements that enhance the operational polices of the PSAPs to aid in how each PSAP interoperates and shares NG9-1-1 information and/or systems where appropriate
8. The NG9-1-1 system will provide for a common approach for Cybersecurity across all MESB PSAPs in addition to the current local efforts. This will enhance the ability to recognize, divert or isolate DDoS, TDoS and intrusions that can compromise the entire operation.	• Develop a MESB Regional PSAP focused Cybersecurity plan • Establish new security policy and procedure as necessary to enable the NG9-1-1 transition
9. Establish a centralized monitoring and reporting capability that can manage all operational components within the NG9-1-1 network Service Level Agreement (SLA) and maintain service integrity across all MESB PSAPS.	• Establish this capability for the MESB PSAPs within the MESB. • Establish an MESB PSAP help desk function that supports and coordinates on behalf of the PSAPs. • Ensure consistent monitoring and management of the services provided (ESInet, Hosted Call Handling, GIS, Telecommunications, Radio, CAD, Recording, etc.) and quick resolution of any problem or trouble with the associated provider.

These findings and conclusions will be incorporated into the transition plan detailed in Section 3 below.

3 MESB NG9-1-1 Transition Plan

The transition to NG9-1-1 will be completed in a phased approach that will allow the PSAPs to use the ESInet and NG core services as they are operationally ready. The MESB PSAPs transition to NG9-1-1 is dependent on and subject to the results of the Q1-2022 MN-ECN RFP process that is anticipated to conclude by Q1-2023. That process will identify a single ECNSP vendor or multiple ECNSP vendors that will become part of the planning and scheduling of specific tasks and actions during the transition.

Specifically, the new ECNSP vendor(s) will play a role in planning, coordinating and transitioning all MESB PSAPs to a new NG9-1-1 end state system as envisioned by the Q1-2022 RFP requirements developed in cooperation between the MN-ECN and the MESB.

Regardless of the schedule established by the new ECNSP vendor(s), transitional milestones are identified for planning purposes and will need to be completed in order to transition from the current system to a new system achieving end state NG9-1-1. Additional planning, actions and activities may become evident as the Q1-2022 ECN RFP process completes by Q4-2022. The milestones presented below are derived from the planning elements identified in Section 2.1 above.

The MESB NG9-1-1 transition plan milestones can be used to measure progress and focus actions and activities of the region over the next 24 months. The milestones are as follows:

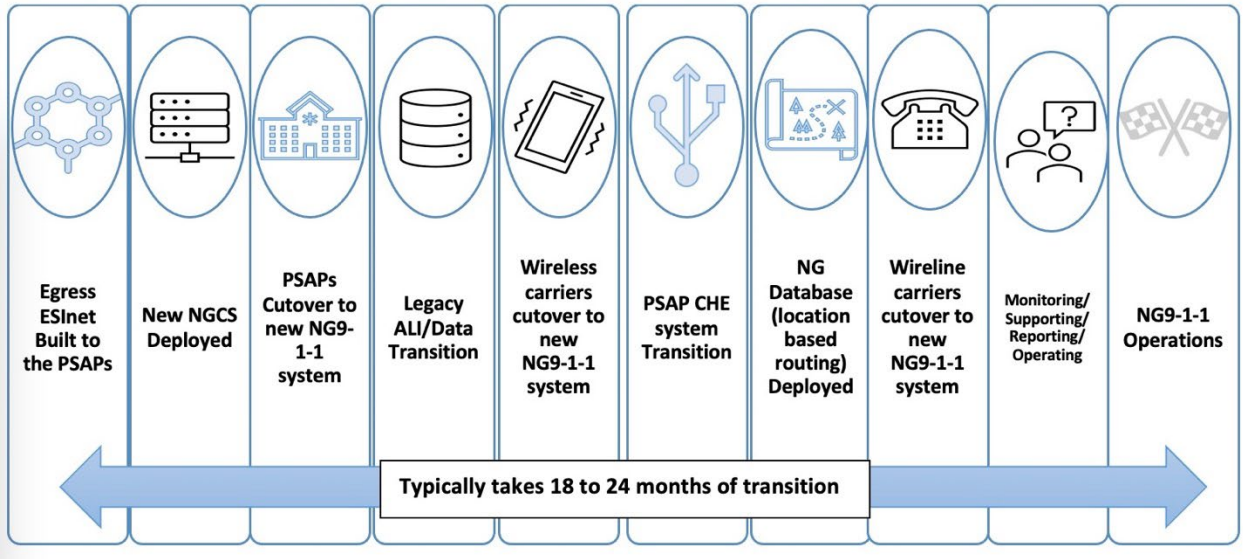

Figure 3 - NG9-1-1 Transition Milestones

3.1 NG9-1-1 Transition Sequencing and Schedule

NG9-1-1 Transition does not follow a straight line. The transition milestones listed above are displayed in order from left to right but that does not mean they must be completed in a sequential order. The first

few milestones will need to be completed before the latter milestones can be achieved. Final sequencing will be determined in coordination with the new ECNSP.

The sequencing and scheduling of the transition will follow this basic timeline

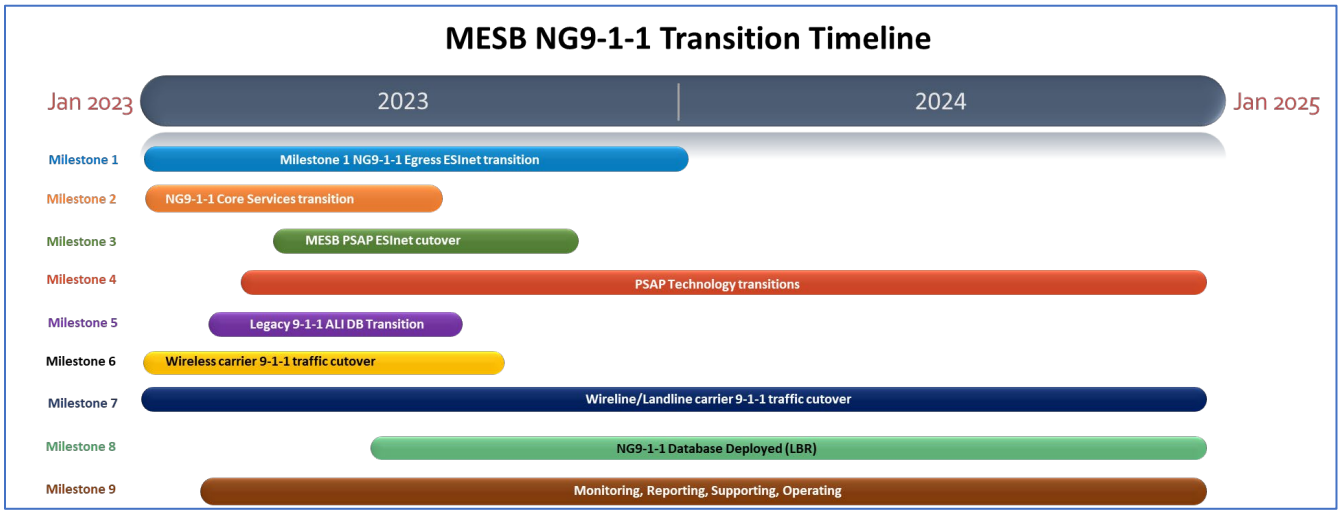

Figure 4 - MESB NG9-1-1 Transition Timeline

3.2 MESB NG9-1-1 Transition Plan

MESB NG9-1-1 Transition Plan	Start	Finish	Coordination Points
Milestone 1 NG9-1-1 Egress ESInet transition	**1/1/2023**	**6/30/2023**	**MESB, MESB PSAPs, ECN, ECNSP-egress**
NG9-1-1 Egress ESInet transition is focused on establishing managed and secure ESInet connectivity to the MESB PSAPs and the PSAP CHE. The end result/outcome is to establish new 9-1-1 call paths from the new NG9-1-1 network to the MESB PSAPs. Milestone 1 is the foundational milestone that serves as a prerequisite for later transition milestones to be achieved. Milestone 1 is heavily dependent on the results of the current Q1-2022 ECN NG9-1-1 RFP award. All MESB PSAPs will be impacted by this milestone. This section identifies the actions and activities required of the MESB and the MESB PSAPs in order to facilitate the orderly completion of Milestone 1			
Transition project management - Egress Network	**1/1/2023**	**6/30/2023**	**MESB, MESB PSAPs, ECN, ECNSP-egress**
MESB supports the planning and coordination required to implement new ESInet Services to all MESB PSAPs as part of the transition to NG9-1-1. This involves the buildout of networks and installation of equipment throughout the region and at the PSAPs in 2023.			
MESB Coordination with Egress Network ECNSP	**1/1/2023**	**6/30/2023**	**MESB, MESB PSAPs, ECN, ECNSP-egress**
Discuss and coordinate Egress ESInet architecture considerations of the MESB PSAPs	**1/1/2023**	**1/31/2023**	

MESB NG9-1-1 Transition Plan	Start	Finish	Coordination Points
Discuss and coordinate Egress network failover specific to the MESB region	1/1/2023	1/31/2023	
Establish network security policies specific to the MESB region	1/31/2023	3/31/2023	
Determine remote access support requirements of the PSAPs	2/1/2023	1/31/2023	
Discuss and coordinate 9-1-1 Call/Traffic Flow Requirements specific to the MESB region	2/1/2023	3/31/2023	
Discuss and coordinate Egress network traffic routing and re-routing for the MESB region	3/1/2023	5/31/2023	
Coordinate connectivity to MESB PSAPs, align to statewide PSAP cutover schedule	4/1/2023	6/30/2023	
Coordinate PSAP site visits, power requirements, rack space, align to statewide schedule	2/1/2023	4/30/2023	
The configuration of the ESInet will be a constantly changing infrastructure that will require that all configuration information is documented and updated as the ESInet grows and evolves			
Establishing a formal change process that The MESB and the PSAPs can use to manage changes to the NG9-1-1 service during the duration of the contract.			
Session Initiation Protocol (SIP) delivery of Traffic	1/1/2023	6/30/2023	
Milestone 2 NG9-1-1 Core Services transition	1/1/2023	6/30/2023	MESB, MESB PSAPs, ECN, ECNSP-core
Milestone 2 ensures that the NG core service functional elements are implemented to support further migration to NG9 1 1. This transition is typically completed in two parts. One part is the NG core and turn up of the functional elements that create the NG9 1 1 capabilities that can be delivered to the PSAP. The second part is the migration of PSAPs from current services to the new NG9-1-1 core services.			
Transition project management - NGCS	1/1/2023	6/30/2023	MESB, MESB PSAPs, ECN, ECNSP-core
The MESB supports the planning and coordination necessary to transition the MESB PSAPs to the new ECNSP core services. Including the testing and validation of services prior to PSAP cutover to full operations on the new system	1/1/2023	6/30/2023	
Planning and coordination for MESB PSAP call handling equipment to ECN NGCS functional elements	3/1/2023	5/31/2023	
Verify functional element deployment and testing results with ECNSP prior to migration of MESB PSAPS	5/1/2023	6/1/2023	
Establish schedule with ECNSP for MESB PSAP cutover	4/1/2023	5/31/2023	
Coordinate operational readiness testing and acceptance testing with ECNSP and MESB PSAPs	5/15/2023	6/1/2023	
Certify test results and document configuration management data	6/15/2023	6/30/2023	
Coordination with Inteliquent - Ingress network	1/1/2023	6/30/2023	

MESB NG9-1-1 Transition Plan	Start	Finish	Coordination Points
Discuss and coordinate legacy ALI database operations for MESB region	1/1/2023	3/31/2023	
Prepare and submit geodata and legacy ALI information to ECNSP for MESB PSAPS	4/1/2023	5/31/2023	
Participate in testing of LIS/LDB functionality with ECNSP	4/1/2023	5/31/2023	
Conduct an Originating Service Provider (OSP) Assessment - Conduct a regional assessment to identify the local OSPs and determine their ability to directly connect to the ESInet.	1/1/2023	3/31/2023	
Establish workflow for ALI and geodata maintenance with ECNSP and OSP	4/1/2023	6/1/2023	
Coordinate training of database maintenance operations / tools with MESB region	5/1/2023	6/1/2023	
Coordination with ECNSP - NGCS	1/1/2023	6/30/2023	MESB, MESB PSAPs, ECNSP-core
Verify NGCS configuration with ECNSP and coordinate communication with MESB PSAPs	1/1/2023	1/31/2023	
Establish timeline and project plan for MESB PSAP cutover	1/1/2023	1/31/2023	
Coordinate cutover with ECNSP and MESB PSAP's	4/1/2023	5/31/2023	
Milestone 3 MESB PSAP network cutover	4/1/2023	8/31/2023	MESB, MESB PSAPs, ECNSP-core, ECNSP-egress
The MESB supports the MESB PSAPs in the planning and coordination needed for the successful cutover from answering 9-1-1 calls on the old system to answering 9-1-1 calls on the new system. This will take place in coordination with the new ECNSP and the other PSAPs of greater Minnesota. Dates represented here are valid in terms of durations, but the actual start and end dates will be dependent on a larger cutover schedule controlled by the new ECNSP.			
Coordination with new ECNSP – Egress Network	4/1/2023	8/31/2023	MESB, MESB PSAPs, ECNSP-core, ECNSP-egress
Coordinate call flow testing between ECNSP and MESB PSAP's (legacy, NG, transfers, etc.)	4/1/2023	6/30/2023	
Certify acceptance of ECNSP operational testing results	6/1/2023	7/1/2023	
Discuss ECNSP cutover process and coordinate planning with ECNSP and MESB PSAP's	4/1/2023	6/1/2023	
Establish timeline and project plan for MESB PSAP cutover	4/1/2023	4/30/2023	
Develop rollback plans for MESB PSAP's with ECNSP as part of pre-cutover	7/31/2023	8/31/2023	
New system transition coordination	6/1/2023	6/30/2023	MESB, MESB PSAPs, ECNSP-core, ECNSP-egress
Conduct outreach on transition to ECNSP NG system with all MESB PSAP's	6/1/2023	6/30/2023	

MESB NG9-1-1 Transition Plan	Start	Finish	Coordination Points
Collect individual MESB PSAP operation policies, procedures, agreements and data to be followed during transition and cutover to share with ECNSP	6/1/2023	6/15/2023	
New system PSAP cutover testing coordination and scheduling	6/15/2023	8/31/2023	MESB, MESB PSAPs, ECNSP-core, ECNSP-egress
Coordinate call flow testing between ECNSP and MESB PSAP's (legacy, NG, transfers, etc.)	6/15/2023	8/1/2023	
Certify acceptance of ECNSP operational testing results	8/1/2023	8/15/2023	
Milestone adjustment as needed based on ECN timeline	4/1/2023	6/1/2023	MESB, MESB PSAPs, ECNSP-core, ECNSP-egress
Participate as a stakeholder during the ECNSP NG system rollout on behalf of MESB PSAPs	4/1/2023	6/1/2023	
Milestone 4 PSAP technology transition	3/1/2023	12/31/2024	MESB, MESB PSAPs, ECNSP-core, ECNSP-egress
The MESB supports the planning, coordination, actions and activities necessary to manage the changes that will occur at the MESB PSAPs during the transition to NG9-1-1, especially as they relate to CHE systems			
Transition project management - MESB PSAP Technology Changes	3/1/2023	12/31/2024	MESB, MESB PSAPs, ECNSP-core, ECNSP-egress
Coordinate and communicate with MESB PSAPs on specific PSAP technology changes taking place during the transition to NG9-1-1 related to the Call Handling Equipment (CHE)	3/1/2023	7/1/2023	
Develop an MESB PSAP upgrade plan based on known/planned changes to PSAP CHE systems taking place during the transition to NG9-1-1	7/1/2023	8/31/2023	
Establish an MESB PSAP upgrade schedule. May need to align this with the ECN project schedule	9/1/2023	9/30/2023	
Transition changes at the PSAP will require coordination with other PSAP vendors like CAD, radio console, electrical	9/30/2023	12/1/2023	
Consider aligning PSAP upgrade schedules with the MESB PSAP cutover schedule established in Milestone 3	10/1/2023	12/1/2023	
Manage the MESB PSAP CHE upgrades and modifications	3/1/2023	12/31/2024	
Milestone 5 Legacy 9-1-1 ALI Database transition	2/1/2023	5/31/2023	MESB, ECN, Inteliquent, ECNSP-core

MESB NG9-1-1 Transition Plan	Start	Finish	Coordination Points
ALI database transition to the ESInet / NG9-1-1 core will require coordination with PSAPs that may already have an ESInet and NG9-1-1 core services. The State ESInet may allow for some ALI database services to be consolidated and provide redundancy. Each PSAP will need to be "audited" independently to determine which ALI services can be migrated. This type of ALI audit is typically done as part of the development of a Location Information Server (LIS).			
Transition project management - MESB ALI Database Data Transition	**2/1/2023**	**5/31/2023**	**MESB, ECN, Inteliquent, ECNSP-core**
The MESB supports the planning, coordination, actions and activities necessary to manage the migration of 9-1-1 call related data from the old system to the new system. This allows the MESB PSAPs to transition to full operation on the new system	**2/1/2023**	**5/31/2023**	
MESB coordinates the 9-1-1 call data transition of MESB PSAPs in preparation for cutover to the new NG9-1-1 ECNSP	**2/1/2023**	**4/1/2023**	
MESB coordinates with the new NG9-1-1 ECNSP to implement new 9-1-1 call data update procedures for the regional PSAPs	**3/1/2023**	**5/1/2023**	
MESB coordinates with MESB PSAPs and the new ECNSP on data formats, data availability and initial data loads necessary for cutover to the new system	**3/1/2023**	**5/1/2023**	
MESB coordinates with MESB PSAPs and the new ECNSP on the validation and ongoing maintenance of 9-1-1 call related data for the regional PSAPs	**5/1/2023**	**5/31/2023**	
MESB coordinates data transition with Inteliquent on behalf of the MESB PSAPs	**3/1/2023**	**5/1/2023**	
Milestone 6 Wireless carrier 9-1-1 traffic cutover	**1/1/2023**	**6/30/2023**	**MESB, ECN, Inteliquent, ECNSP-core**
MESB will help coordinate the transition of carriers to the NG9-1-1 System. During transition, collaboration with each PSAP will be necessary to ensure that PSAP services, particularly call handling, are implemented to support the delivery of 9-1-1 calls across the NG9-1-1 platform. Doing so will allow call transfer between PSAPs and others.			
Transition project management - MESB Wireless 9-1-1 call traffic cutover	**1/1/2023**	**6/30/2023**	**MESB, ECN, Inteliquent, ECNSP-core**
the MESB supports the MESB PSAPs in the cutover of wireless 9-1-1 call traffic from the old system to the new system in coordination with the Ingress ECNSP Inteliquent and the wireless carriers serving the MESB region	**1/1/2023**	**6/30/2023**	
MESB coordinates with MESB PSAPs and Inteliquent for any necessary Letters of Agency/Authorization required to legally facilitate the transition of wireless 9-1-1 traffic	**4/1/2023**	**5/1/2023**	
MESB coordinates with MESB PSAPs and Inteliquent for the testing of wireless carrier 9-1-1 traffic from the old system to the new system	**5/1/2023**	**6/30/2023**	
MESB coordinates with MESB PSAPs and Inteliquent for the migration of wireless carrier 9-1-1 traffic from the old system to the new system	**6/29/2023**	**6/30/2023**	
Milestone 7 Wireline carrier 9-1-1 traffic cutover	**1/1/2023**	**12/31/2024**	**MESB, ECN, Inteliquent, ECNSP-core**

MESB NG9-1-1 Transition Plan	Start	Finish	Coordination Points
Wireline carrier transition is defined as the process of migrating all existing OSPs to direct connections to the ESInet and migrating the 9-1-1 service onto the ESInet. OSPs include those providing 9-1-1 service to PSAPs that may be integrated into the state system			
Transition project management - MESB Wireline 9-1-1 call traffic cutover	**1/1/2023**	**12/31/2024**	**MESB, ECN, Inteliquent, ECNSP-core, ECNSP-egress**
the MESB supports the MESB PSAPs in the cutover of wireline 9-1-1 call traffic from the old system to the new system in coordination with the Ingress ECNSP Inteliquent and the wireline carriers serving the MESB region	**1/1/2023**	**12/31/2024**	
MESB coordinates with MESB PSAPs and Inteliquent for any necessary Letters of Agency/Authorization required to legally facilitate the transition of wireline 9-1-1 traffic	**1/1/2023**	**7/31/2023**	
MESB coordinates with MESB PSAPs and Inteliquent for the testing of wireline carrier 9-1-1 traffic from the old system to the new system	**8/1/2023**	**12/31/2023**	
MESB coordinates with MESB PSAPs and Inteliquent for the migration of wireline carrier 9-1-1 traffic from the old system to the new system	**1/1/2024**	**12/31/2024**	
Milestone 8 NG9-1-1 Database Deployed (LBR)	**6/1/2023**	**5/31/2024**	**MESB, ECN, Inteliquent, ECNSP-core, ECNSP-egress**
The MESB supports the MESB region and the MESB PSAPs in preparing for and deploying additional data capabilities in the region as the transition to NG9-1-1 continues. Location Based Routing (LBR) focuses on the transition to geographic based location data used for 9-1-1 call routing in the NG9-1-1 system			
Transition project management - Geodata normalization / synchronization	**6/1/2023**	**12/31/2024**	**MESB, ECN, ECNSP-core, ECNSP-egress**
Identify Primary MESB PSAP stakeholders for NG9-1-1 Geodata transformation and support	**6/1/2023**	**6/30/2023**	
Establish communication strategy for all MESB PSAP stakeholders with ECNSP Geodata service	**6/1/2023**	**7/31/2023**	
Finalize the development of GIS dataset requirements for MESB PSAPs	**7/1/2023**	**9/1/2023**	
Invest in GIS training	**6/1/023**	**12/31/2024**	
Develop GIS for PSAP guidance documents and adopt PSAP mapping standards	**7/1/2023**	**9/1/2023**	
Determine scope of effort for MESB PSAP activities to modify data to ECNSP Geodata service standards	**8/1/2023**	**10/31/2023**	
Coordinate with MESB PSAP stakeholders for geodata, GIS and LBR transition activities	**11/1/2023**	**5/31/2024**	
Transition project management - Spatial Interface	**6/1/2023**	**12/31/2023**	**MESB, ECN, ECNSP-core, ECNSP-egress**
Determine scope and effort for training MESB PSAPs on the use of the SI tools to manage and maintain GIS data	**6/1/2023**	**6/30/2023**	
Validate the Schema supported by ECNSP for geodata in the SI	**6/1/2023**	**7/31/2023**	

MESB NG9-1-1 Transition Plan	Start	Finish	Coordination Points
Coordinate ECNSP rollout of SI to MESB PSAPs	8/1/2023	12/31/2023	
Participate in the training of MESB PSAPs on the SI	11/1/2023	2/28/2024	
Establish testing and final approval of SI functions to MESB PSAPs	3/1/2024	5/31/2024	
Transition project management - Discrepancy / error handling	1/1/2024	3/1/2024	MESB, ECN, ECNSP-core, ECNSP-egress
Identify the ongoing requirements for discrepancy correction, reporting, and editing	1/1/2024	2/28/2024	
Modify GIS based workflows at the MESB PSAPs to accommodate the SI capabilities as necessary to support ECNSP	1/1/2024	3/1/2024	
Transition project management - LBR Testing	3/1/2024	5/31/2024	MESB, ECN, ECNSP-core, ECNSP-egress
Participate in testing and turn up of LBR with ECNSP	3/1/2024	4/1/2024	
Validate testing of LBR at the MESB PSAPs (legacy, NG, CAD, mapping, etc.)	4/1/2024	5/31/2024	
Transition project management - Maintenance	1/1/2024	6/30/2024	MESB, ECN, ECNSP-core, ECNSP-egress
Establish maintenance and management workflows using GIS based tools for all MESB PSAPs	1/1/2024	6/30/2024	
Milestone 9 Monitoring, Reporting, Supporting, Operating	4/1/2023	12/31/2024	MESB, ECN, ECNSP-core, ECNSP-egress
Many PSAPs currently have monitoring and management functions delivered through an existing provider. The new ECNSP vendor will be responsible for the transition from the current monitoring and management function to the new ESInet and NG9-1-1 System. As a result, the ECNSP will be required to support a framework for PSAPs as their contracts require.			
Transition project management - Reporting system deployment	4/1/2023	10/31/2023	MESB, ECN, ECNSP-core, ECNSP-egress
Identify MESB PSAP specific reporting system requirements	4/1/2023	7/31/2023	
Coordinate with ECNSP to establish reporting system requirements for MESB PSAPs	5/31/2023	7/31/2023	
Document MESB PSAP specific features that may be needed (individual PSAP differences)	5/31/2023	7/31/2023	
Determine data storage and retention expectations for MESB PSAPs	5/31/2023	6/30/2023	
Validate data collection of MESB PSAP reporting elements and system logging features	7/1/2024	12/31/2024	
Participate in reporting system implementation and deployment at MESB PSAPs	8/1/2023	12/31/2024	
Transition project management - Customization	6/1/2023	10/31/2023	MESB, ECN, ECNSP-core, ECNSP-egress
Determine the ability of the reporting system for customized reporting	6/1/2023	7/31/2023	

MESB NG9-1-1 Transition Plan	Start	Finish	Coordination Points
Coordinate custom reporting features based upon MESB PSAP expectations with ECNSP	**7/31/2023**	**12/31/2023**	
Transition project management - Testing	**10/31/2023**	**12/31/2023**	**MESB, ECN, ECNSP-core, ECNSP-egress**
Perform testing of canned reports, ad hoc reports and available tools	**10/1/2023**	**11/31/2023**	
Validate testing of reporting system	**10/31/2023**	**12/31/2023**	
Transition project management - Training	**10/1/2023**	**12/31/2024**	**MESB, ECN, ECNSP-core, ECNSP-egress**
Document and review NG9-1-1 system training requirements at the MESB PSAPs and coordinate the delivery of training with the ECNSP	**10/1/2023**	**4/30/2024**	
Identify and close training gaps	**10/1/2023**	**11/1/2023**	
Conduct an internal needs analysis to assess gaps in staff skillsets and seek training to augment the current knowledge base	**10/1/2023**	**10/15/2023**	
Develop NG911 training requirements and establish a curriculum	**10/1/2023**	**12/31/2023**	
Conduct NG911 internal and external training as may be necessary	**10/1/2023**	**12/31/2024**	
As more types of digital media become available to public safety telecommunicators, training on how to process these calls and the different technologies will need to be developed	**10/1/2023**	**12/31/2024**	
Certify completion of training with MESB PSAPs	**10/1/2023**	**12/31/2024**	
Customer Support Services	**1/1/2024**	**12/31/2024**	**MESB, ECN, ECNSP-core, ECNSP-egress**
Determine the Customer Support framework from ECNSP	**1/1/2024**	**3/31/2024**	
Identify the prioritization, time scale and escalation strategy for ECNSP	**4/1/2024**	**7/31/2024**	
Review the customer support strategy with MESB PSAPs	**8/1/2024**	**11/30/2024**	
Ongoing review of customer support system	**11/30/2024**	**12/31/2024**	
Service Management	**1/1/2024**	**11/30/2024**	**MESB, ECN, ECNSP-core, ECNSP-egress**
Review Service strategy, Operation, Transition, and ongoing improvement tools utilized by ECNSP	**1/1/2024**	**3/31/2024**	
Participate in the training and education of ECNSP service management and SLA delivery to the MESB PSAPS	**4/1/2024**	**7/31/2024**	
Review all SLA items regularly with ECNSP and MESB PSAPs	**8/1/2024**	**11/30/2024**	
System administration	**1/1/2024**	**12/31/2024**	**MESB, ECN, ECNSP-core, ECNSP-egress**
Establish MESB PSAP trouble reporting / ticketing and input to the customer service system	**1/1/2024**	**3/31/2024**	
Document the customer service system operation and train the MESB PSAP on how to create an incident, event or ticket	**4/1/2024**	**7/31/2024**	

MESB NG9-1-1 Transition Plan	Start	Finish	Coordination Points
Develop a plan with the ECNSP for how troubles are reviewed, addressed and corrected	**8/1/2024**	**11/30/2024**	
Establish a notification process to document when a ticket has been resolved / closed	**11/30/2024**	**12/31/2024**	
Information Assurance	**1/1/2024**	**11/30/2024**	**MESB, ECN, ECNSP-core, ECNSP-egress**
Establish a plan with ECNSP to ensure information is protected in transit, and at rest throughout the system	**1/1/2024**	**7/31/2024**	
Create a Regional cybersecurity plan to address cybersecurity threats and vulnerabilities as a region.	**1/1/2024**	**4/1/2024**	
The plan should address network monitoring so that there is increased visibility and transparency to the MESB and the PSAPs.	**1/1/2024**	**4/1/2024**	
As part of the planning process, third-party audits of MESB PSAP systems, networks, and facilities should be required as well as regular reviews of security policies and procedures.	**1/1/2024**	**4/1/2024**	
Ensure Confidentiality, Integrity and Availability are maintained across the system	**8/1/2024**	**11/30/2024**	

3.3 Additional MESB NG9-1-1 Transition Plan considerations

3.3.1 NG9-1-1 Transition Governance

- Update MESB governance documents to clarify NG9-1-1 requirements, policies, etc.
- Updates should address cybersecurity, call routing, operations, data maintenance, quality assurance/quality improvement (QA/QI) and training
- Solicit feedback from PSAP stakeholders to identify and prioritize what requirements, policies, and best practices they seek to establish for NG9-1-1
- Engage the TOC and consider establishing subcommittees to help develop new NG9-1-1 requirements, policies, and best practices
- Formalize committee charters and missions
- Engage stakeholders already serving in governing bodies like the TOC 9-1-1 subcommittee in planning and coordination

3.3.2 Cybersecurity

- Utilize DHS-CISA and NIST security standards documents to create a plan to address cybersecurity threats and mitigate vulnerabilities as a region
- Include industry standards and best practices for PSAPs to apply to protect the ESInet and other PSAPs
- Develop a strategy for improving network monitoring that provides a regional snapshot of situational awareness related to the MESB PSAPs with better insight on outages or disruptions.

3.3.3 Staffing

- Identify and close staffing gaps
- Develop a succession plan to ensure continuity of operations at the MESB
- Cross-train staff members and/or provide training that helps build their depth of organizational Understanding

3.3.4 Continuity of Operations Plan (COOP)

- Develop a regional COOP plan
- Engage the region to develop a comprehensive COOP plan template for PSAPs that aligns with Federal Emergency Management Agency (FEMA) continuity communications recommendations, including an annual review process
- A COOP plan outlines the steps necessary to maintain operational capacity during a localized or region-wide disruption of normal operations.
- The key objectives for any COOP plan should include actions to:
    - Minimize disruption to normal PSAP operations and 9-1-1 service levels
    - Mitigate, to the extent possible, the effects of disruptive events to the PSAPs and the Region
    - Minimize the fiscal impacts of disruptive events to the PSAPs and the Region
    - Prepare PSAP and MESB staff to implement emergency procedures
    - Establish or define alternate methods to continue 9-1-1 service delivery regionally
    - Provide for the efficient and timely restoration of PSAP and regional operations
- The COOP plan should be responsive to known, emerging and immediate threats.
- The plan should cover all operational levels, include a succession plan, and be scalable from single PSAP, to multiple PSAPs to the entire region for varying durations and degrees of impact.

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4. Tools to Manage the Transition to NG9-1-1

This section provides specific examples of tools and management practices designed to aid the MESB and the MESB PSAPs in the transition to NG9-1-1. Successful transition will be supported by implementing tools and best practices in the following areas:

1. Project Management
2. Risk Management
3. Change Management
4. Testing, Acceptance, Verification and Validation

4.1 Project Management

911 Authority recommends managing the transition to NG9-1-1 using industry best practice and methodologies aligned with the Project Management Institutes (PMI) approach to project management for the efficient and diligent execution of this vital project. The project should commence with an initialization ('kick-off') meeting. During the kick-off meeting, clarify the ECNSP project goals and objectives with the MESB PSAPs and primary stakeholders. Using this approach, a transition plan can be documented for the MESB PSAPs as the baseline and schedule. Consideration should be given and or plans developed around the following areas:

- Project management plan
- Stakeholder management plan
- Communications plan
- Schedule / Timeline
- Schedule management plan
- Resource management plan
- Change management plan
- Risk management plan
- Proposed Site by site implementation/work plan
- Acceptance testing and service validation plan

The Project Plan will be referred to on a regular basis during the transition phase of the project to ensure that implementation is completed in a timely fashion. Any changes to the ECNSP schedule and work plan that impact the MESB PSAPs must be communicated to the MESB stakeholders through the agreed upon change management process. The Project Plan shall clearly define the milestones attributable to the MESB PSAP migration timeline and clearly identify when the transition from ECNSP network implementation into service management occurs.

- **Project Work Plan** – A project work plan provides a detailed approach for the MESB PSAPs to follow in the transition to NG9-1-1, with specific tasks, timelines and deliverables broken out by transition milestone and scheduled in a timely manner. Organized in this manner, the work plan identifies the specific tasks necessary to successfully prepare for and complete each milestone, the resources assigned to each task, and other pertinent information such as the anticipated occurrence of on-site meetings

- **Baseline Project Schedule** – Use the transition plan to develop an initial project schedule based on the current understanding of the transition scope and review it during the kick-off meeting for acceptance as the baseline through which the project will be measured. The baseline schedule should be managed in MS Project (or other acceptable format) and will identify all known project phases, tasks, and work packages. The transition plan provides a preliminary project timeline to illustrate the current understanding of the transition project.

An additional recommended management tool to use for the purposes of delineating roles and responsibilities during the transition is to use what is known as a RACI Matrix. The RACI acronym stands for "Responsible, Accountable, Consulted, and Informed."

Responsible: Responsible designates the task as assigned directly to this role (or group of people). The responsible role is the one who does the work to complete the task. Every task should have at least one responsible person and could have several.
Accountable: The accountable role delegates and reviews the work involved in a project. Their job is to make sure the responsible person or team knows the expectations of the project and completes work on time. Every task should have only one accountable person and no more.
Consulted: Consulted provide input and feedback on the work being done in a project. They have a stake in the outcomes of a project because it could affect their current or future work.
Informed: Person who will be updated on decisions and actions during the project.

An example of the high level RACI matrix for the MESB transition plan is provided below. Population of the RACI matrix would be baselined on the NG9-1-1 system and service requirements established by the Q1-2022 NG9-1-1 RFP as incorporated into the final contract with the new ECNSP.

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NG9-1-1 Transition Roles and Responsibilities Example Responsibility (RACI) Matrix R= RESPONSIBLE; A= ACCOUNTABLE; C= CONSULTED; I= INFORMED	MESB or in some cases ECN	ECNSP vendor(s)	MESB PSAPs
Overall Project Key Responsibilities			
Program Sponsor	A	R	C
Program Management	A	R	C
Project Management	R	A	C
Feature and System Acceptance	A	R	C
Contract Administration and Engagement	R	A	C
Example Network and Technical Requirements			
ESInet Services			
Implemenation of ESInet	I	A	C
Coordination with existing 911 Service Provider	I	A	C
Pre-Cutover Activities OSP	I	A	I
ESInet cutover with OSPs	I	A	I
ESInet traffic - OSP and Ingress	I	A	C
NG Core Services	I	A	I
Cutover of NG Core Functional Elements	I	A	I
ESInet Traffic - NG Core Services	I	A	I
Pre-Cutover Activities PSAP	C	A	C
ESInet cutover with PSAPs	C	A	C
ESInet traffic - PSAP and Egress	C	A	C
ESInet Testing and Acceptance process	C	A	C
ESInet Testing and Acceptance confirmation	C	A	R
Migration of Traffic to ESInet	C	A	C
ESInet Continuity of Operations plan	I	A	C

Figure 5 - Example NG9-1-1 Transition RACI Matrix

4.2 Risk Management Process

Because the MESB PSAPs are the primary users of NG9-1-1 services delivered by the ECNSP, the PSAPs will be instrumental in ensuring that the ESInet and NG9-1-1 core services meet their operational requirements. Transition to a new system always carries risk. Risks may arise at any point during the transition and will affect PSAPs more so than others. That being the case, the MESB and the PSAPs they serve play an important role with respect to minimizing transition risks. MESB and the PSAPs will need to collaborate with the ECNSP to manage and minimize risks throughout the process. PSAPs will be required to assist with:

- Risk identification, assessment, and review
- Risk documentation and identification of triggers
- Risk prioritization
- Risk response planning
- Risk management

- Risk mitigation

An example risk management matrix is provided below.

Risk Management Matrix (Risk Register)													
Project	Project title here							Project #	Project # here				
Project manager	Project manager name here							Sponsor	Sponsor name here				
Project artifacts	Location of project documents here							Updated	Date of update here				
ID	Risk Description	Probability	Impact	Detectability	Importance	Category	Trigger Event/Indicator	Risk Response and Description	Contingency Plan	Owner	Status	Date Entered	Date to Review
1	What is this risk?				0		What act or event initiates either the risk occurrence or precipitates the response strategy?	How will you respond to this risk and what actions will you take to match that response?	If the risk becomes a reality, what will you do in response, as a backup, or alternative/ workaround?	Who monitors this risk?			
2					0								
3					0								
4					0								
5					0								
6					0								
7					0								
8					0								
9					0								
10					0								

Figure 6 - Example Risk Register

4.3 Change Management Process

To effectively prepare for potential changes to the NG9-1-1 System, a change management process must be developed early, prior to transition. Changes are sure to occur during implementation and after transition. A formal change management process provides an assurance that changes are documented, coordinated, evaluated, prioritized, planned, tested, approved, and implemented as planned. During implementation and transition Change management may follow a typical waterfall or static process. Once transition has occurred and services are being delivered, the focus of Change management may change to accommodate how operational services are managed and maintained through the implementation of any change. PSAPs will work in conjunction with MESB to manage changes to their PSAP operations, and the ESInet. PSAPs will identify the changes required in accordance with the three primary types of change and coordinate the process of completing the change with the Vendor. Typically, three types of changes can occur:

- Standard Change
- Normal Change
- Urgent/Emergency Change

The MESB will collaborate with each PSAP to create and monitor change requests with the ECNSP and provide support for documentation of changes as required. Change management contains multiple

perspectives to be effective. From the MESB perspective, the initial focus is on the NG9-1-1 transition and the creation of the infrastructure to support the PSAPs. For the PSAPs, the change management process becomes an essential management function that each PSAP uses to arrange the network to suit its individual missions and goals. The following diagram / swim lane shows the breakdown by role and responsibility during the change management process.

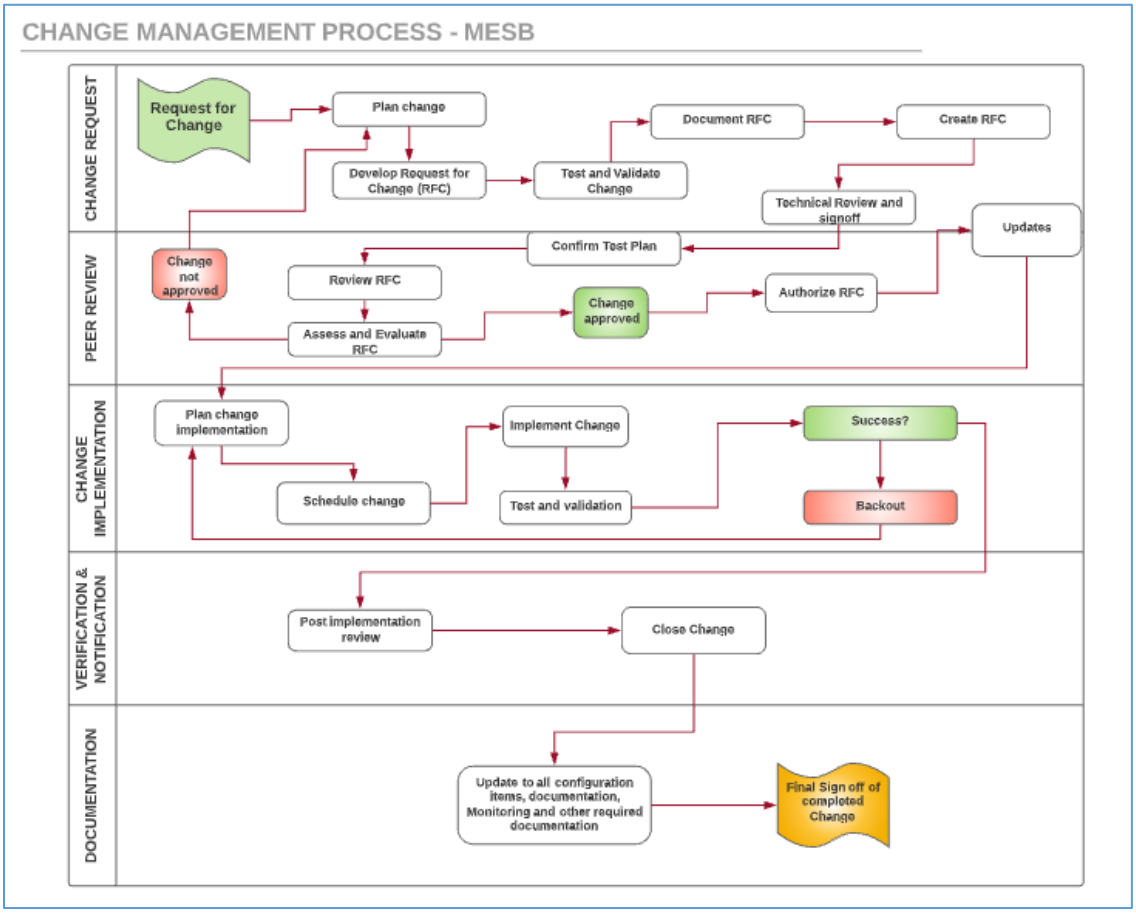

Figure 7 - Change Management Process

Plan and Establish Change Management Structure

- Identify the change, stakeholders and document the outcomes desired by making the change.
- Evaluate the impact of the change on the component projects and subsidiary project plans
- Prioritize the change using the program scope document, program management plan, governance structure and any subsidiary plans
- Determine impact of the change on the project execution, and if the service is in operation; the evaluate the risk of the change on all services to reduce the potential of a risk trigger
- Identify the cost of the change
- Document the change and provide recommendations that can aid in the acceptance process

- Prepare and test the changes prior to implementing and document the results to aid in the approval process
- Develop and manage a change log to ensure that planned, unplanned – and emergency changes are tracked.
- Ensure that the system delivered and all project documentation reflects all changes that occurred during implementation and track to the system and services installed (which may be different than what was proposed)
- Complete an update to the system documentation and configuration management database documenting what has changed across the system.

4.4 Testing, Acceptance, Verification and Validation

The MESB and the MESB PSAPs will need to be prepared for service testing as the transition to a new NG9-1-1 system takes place. Testing will evolve to cover many topics and areas that could impact operations at the PSAPs while some aspects will remain transparent to the PSAPs. Generally speaking, all testing and service validation done on the new system will involve 9-1-1 test calls to the PSAPs. Any testing coordinated by the MESB should focus on use cases. Examples are provided in the diagrams below.

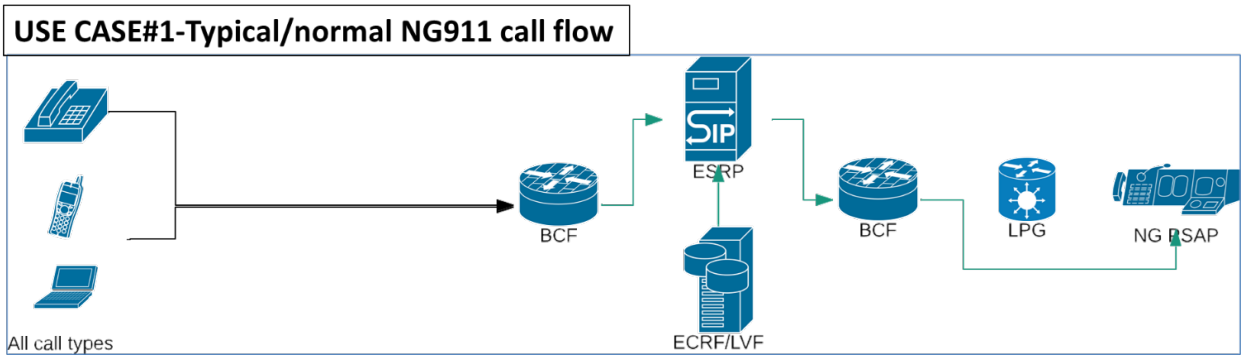

Figure 8 - Example 9-1-1 Test Call Use Case

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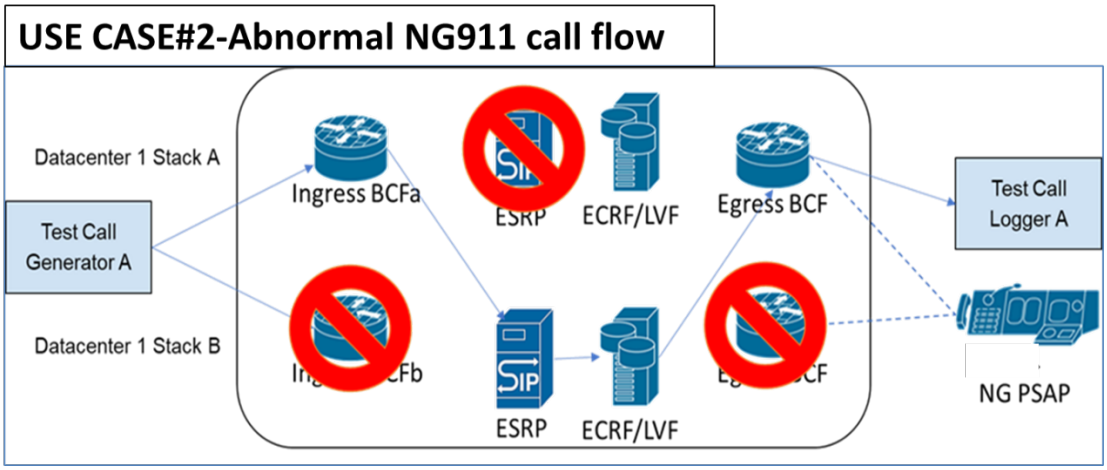

Figure 9 - Example 9-1-1 Call Failure Use Case Example

Additional Testing Considerations:

- Establish performance baselines in relation to the RFP requirements, industry and national standards, and metrics
- Improve compliance with the service objectives and the service level agreements
- Decrease and minimize risks while increasing the overall risk tolerance of the NG9-1-1 system
- Improving incident management and continuity of operations

a. Agree on methodology and framework
b. Develop expected results
c. Develop testing Method Of Procedure (MOP)
d. Develop draft Test Plan
e. Develop Final Acceptance Test Plan (ATP)
f. Finalize testing schedule

4.4.1 PSAP Acceptance Test Plan Elements

The following identifies areas of consideration for the MESB and MESB PSAPs in developing an acceptance test plan relative to the new NG9-1-1 system and services. This list is not meant to be all inclusive but is representative of areas that will be impacted during the transition to a new NG9-1-1 system or the deployment of new NG9-1-1 services as part of a new NG9-1-1 system.

1. User Interface
    a. Workstation tools
2. Machine-to-Machine Interface
    a. PSAP systems to Network elements
    b. PSAP systems to PSAP systems (can be internal, or PSAP to PSAP)
    c. Network Element to Network Element
        i. Call processing functions
        ii. Call delivery functions

   iii. Location systems
   iv. Text-to-(and from) 911
   v. Logging systems
   vi. Recording systems
3. Call Answering functions
   a. Routing
   b. Call Control
   c. Traffic management
   d. Call functions (bridge, park, transfer, etc)
   e. Additional PSAP features
4. PSAP specific services
   a. Time-of Day and Day-of Week Decisions
   b. Scheduled Service Events
   c. User Interaction
   d. Timers
   e. Time-of-Day Routing
5. Call Services
   a. ANI Delivery
   b. ALI Delivery
   c. SIP location delivery
   d. Call indicators
      i. Ring
      ii. CAD alert
      iii. Visual Call waiting message Waiting
      iv. Call Waiting Features
6. Automatic Call Distributor (ACD)
7. Management Functional Areas
   a. Account Management
   b. Configuration Management
   c. Fault Management
   d. Performance Management (SLA)
   e. Security Management
   f. Applications and Functions
      i. Public Emergency Services
      ii. Enhanced 911/NG911
      iii. Call trace
8. Electronic Bonding
   a. Trouble administration and escalation
9. System Reliability and Quality Criteria
   a. Reliability and Quality Criteria
   b. Network element redundancy
   c. Transport Systems

d. Management Systems

4.4.2 Test Preparation

Test preparation and planning for the transition to NG9-1-1 will help document the expected results of the system that can then be compared to the actual results when using the new system. Many of these tests will be performed in the lab setting and within a controlled environment. Tests will be selected that will effectively test the primary components that make up the ESInet and NG9-1-1 system. The results of those tests will validate that the system is configured properly and meets requirements. In addition to testing the primary components of the ESInet, other tests must be prepared to verify the transmission and delivery of calls and data across the configuration. Following are verification tests that should be conducted by the ECNSP and the MESB PSAPs during the transition to the new NG9-1-1 system.

1. Network Routing Testing
    a. Primary
    b. Alternate
    c. Defaults
2. 9-1-1 Call Voice and Data Testing
3. Text to 9-1-1 Testing
4. NG9-1-1 Core Function Testing
    a. BCF/Security
    b. ECRF/LVF/Data
    c. ESRP/Routing
    d. LNG
5. Policy Routing Function Testing
6. Originating Service Provider Testing
    a. Inbound
    b. Outbound
    c. LIS/LDB
    d. ALI/Data
    e. MSAG
7. PSAP System Cutover Testing
    a. Hosted CHE
    b. Non-Hosted CHE
    c. CAD interface
    d. Logging / recording
    e. Statistics
8. Failover, Disaster Recovery and Contingency Testing
9. Reporting/Logging/Monitoring

Verification and Validation of Testing

Test procedures should be applied as agreed upon to verify and validate the NG9-1-1 service, software, and system from a capability, functionality, and application basis. Following are the suggested documentation requirements associated with testing procedures related to the transition.

- Document all test results and any additional findings.
    - Note any findings deemed not applicable or not desired.
    - Note any fixes performed by the Vendor and ensure that the fixes are documented.
    - Note any findings deemed as false positives.
    - These results and findings may lead to a change request or other potential configuration modifications prior to transition.
    - In addition, regression testing will need to be done in the event the modifications do not meet the desired specifications.
- Document the control mechanisms as needed to a scorecard or list.
- Document test limitations.
- Determine that all components, system functions, and services provided are operational and conduct functionality checks after completion of assessment.

- Nothing Follows -

Metropolitan Emergency Services Board
9-1-1 Technical Operations Committee
Network Report
May 12, 2022

Agenda Number 6.C.

NG9-1-1 ESInet:
The NG9-1-1 ingress system implementation is underway. Work continues for the MESB and ECN on the RFP(s) for NG9-1-1 core services, 9-1-1 system egress connectivity between the core services and the PSAP, and a 9-1-1 Control Center. The RFP will be posted in May of 2022.

Workload Sharing/CAD2CAD
The MESB continues to focus on giving our PSAPs better continuity-of-operations (COOP) options as well as enabling workload sharing for the PSAPs that are interested in working together. Winbourne is working on updated governance, technical requirements, statement of work, and investment summary documents. The workgroup plans to share draft versions of these documents with the 9-1-1 TOC at the May meeting.

9-1-1 Network Highlights - Lumen

- Apr 12th- We monitored link-state bounces on the .02 member of the CUG A circuit bundle at St. Patrol- Roseville between 09:05-09:20. Trouble isolated to a deteriorating office card in the local C.O. and was replaced to eliminate the bounces.

End of report.

Metropolitan Emergency Services Board
9-1-1 Technical Operations Committee
9-1-1 Data Report
May 19, 2022 Meeting

1. **Importance of GIS for 9-1-1:** PSAP managers are strongly encouraged to assist their GIS counterparts in communicating to key decisionmakers and county leadership what a **vital role GIS has to their current and future PSAP operations**. Geospatial datasets provide foundational data for PSAP CAD/mapping systems and future NG9-1-1 core services, as well as support many other non-public safety uses that are important to cities and counties.

2. **AT&T Mobility Location Based Routing:** On 5/11/22, AT&T Mobility announced to PSAPs their intention to implement Location Based Routing (LBR) nationwide. Rather than existing cell-sector routing, LBR routes wireless 9-1-1 calls to a PSAP based on upon the handset-derived location. This allows for more precise routing of wireless calls, particularly near PSAP borders, helping to reduce the need for PSAP-to-PSAP call transfers. On behalf of metro area PSAPs, MESB has reached out to AT&T for specifics on their service offering and rollout method/plan. It is anticipated that the service will be similar what is currently in place in the metro region with T-Mobile 9-1-1 calls.

3. **Regional Data QA/QC:**
   a. MESB continues to review results from the metro regional data for **NG9-1-1 data validations** conducted internally at MESB and through GeoComm's Data Hub. These reviews result in outreach to the county GIS contacts for recommended data remediations.
   b. **Proactive 9-1-1 call location audits** continue for the 10-county region using ALI retrieval logs and the metro regional road centerline, address point, and MSAG data. This process has been helpful in identifying needed VoIP service provider data remediations, as well as some address point additions.

4. **Metro Regional GIS-derived MSAG transition:**
   a. ***Complete****:* Chisago County, Dakota County, Anoka County, Eden Prairie, St Louis Park, Edina, Bloomington, Ramsey County, Isanti County, Hennepin Sheriff, MAC Airport, Fort Snelling, Scott County
   b. ***In preparation stage at MESB****:* Carver County; Sherburne County

5. **Statewide GIS Data Standards:**
   a. The GAC Standards Committee has put the draft **polygon standard for the exchange of 9-1-1 emergency service boundaries** (PSAP, ESZ/ESN, and response agency) out for a 90-day public review through 7/31/22.
   b. The NG9-1-1 Committee will be coordinating the circulation of a proposed domain list of **normalized/standardized response agency names** to be used in the GIS data. This is needed for the statewide polygon standard. PSAPs will be asked to review that list and confirm that all agencies they dispatch for are included and there are no significant concerns with the proposed naming that would be used in the GIS data. A similar domain list of PSAP names will also need to be finalized.

6. **ECN 1Spatial Project:** ECN, MnGeo and 1Spatial are currently working on development of NENA attribute validations, the process for data submission to the enterprise database, and statewide validations to check county submissions against adjacent counties.

7. **RapidDeploy RadiusPlus mapping system:** The statewide pilot project of RapidDeploy's cloud-based Radius Plus ALI Mapping product is focused on standing up and configuring the tenants, as well as working with PSAPs for the installation and network connectivity for the EDG devices which transmit ALI

information to the cloud. The Ramsey County PSAP tenant will serve as the MESB region's initial deployment, with lessons learned applied to the remainder of the metro PSAPs. The regional GIS data is ready to be submitted to RapidDeploy/GeoComm for the hosted map services that are part of the project.

8. **Greater Fort Snelling area:** MESB is continuing to work with representatives from the Airport and Hennepin Sheriff's Office PSAPs to refine a GIS polygon layer that visually represents the response coverage in the greater Fort Snelling area. The information was previously carried in the master Response Jurisdiction spreadsheet maintained by the stakeholders. When complete, MESB will make an ESRI file geodatabase of the data available as a resource. Any stakeholder who wishes to use the polygon layer in their CAD or mapping system as a dispatch aid may do so. MESB will not be involved in actual implementation of the data in CAD. The data will also be able to be used as a communication tool among stakeholders.

ONGOING ACTIVITIES

9. **Wireless Cell Sector/Routing Data:** MESB processes wireless routing updates for all carriers on behalf of the metro PSAPs. Should PSAPs want the routing for a specific cell sector or 9-1-1 call reviewed, just email ***mesbgis@mn-mesb.org*** and MESB staff will investigate.

10. **Regional GIS Data Aggregation:**
    a. ***Road Centerline and Address Points:*** The MetroGIS/Met Council processes regional road centerline and address point dataset updates nightly to the MN Geospatial Commons website. Each metro county's most recent centerline and address point data that has been uploaded to the portal and passed validations is included in the regional datasets. The regional road centerline and address point datasets comply with the current MN Geospatial Advisory Council (GAC) data standards.
    b. ***Boundary Polygons:*** MESB maintains the regional PSAP, ESZ, MSAG community, law, fire, and EMS boundary polygon layers in coordination with the PSAPs. These datasets are updated as boundaries change or at a minimum of quarterly. Mobile Positioning Center, Text Control Center, and VoIP Positioning Center vendors are directed to the MN Geospatial Commons for downloads of metro's PSAP boundary polygons.

11. **Regional Data Viewer:** PSAPs are encouraged to use the 9-1-1 dataviewer developed by MetroGIS/Met Council to view the geospatial data county GIS departments consider valid & current for regional 9-1-1 use. (https://www.metrogis.org/projects/9-1-1-Data-Viewer.aspx.)

Location-Based Routing Wireless 9-1-1 Launch

AT&T is the first carrier to launch location-based routing to automatically transmit wireless 9-1-1 calls to the appropriate 9-1-1 call centers on a nationwide basis. Through this new "Locate Before Route" feature from Intrado, AT&T can quickly and more accurately identify where a wireless 9-1-1 call is coming from using device GPS and hybrid information to route the call to the correct 9-1-1 call center, also known as public safety answering point or PSAP.

With location-based routing, a device can be located and routed within 50 meters of the device location. Prior to this launch, wireless 9-1-1 calls were routed based on the location of cell towers, which can cover up to a 10-mile radius. This can cause delays in emergency response, especially when a call is made within PSAP border areas where state, county or city boundaries overlap.

Location-based Routing Wireless 9-1-1 Reactive Q&A

Q: Practically speaking, what does this mean for folks who are in an emergency and calling 9-1-1?
A: This means when people call 9-1-1 from their wireless device, emergency services can locate the call faster and more accurately and route it to the appropriate 9-1-1 call center for emergency response.

With location-based routing, when a wireless call can be located and routed within 50 meters of the device location. Traditionally, emergency calls were routed based on the location of cell towers, which can cover up to a 10-mile radius. This can cause delays in emergency response, especially when a call is made within PSAP border areas where state, county or city boundaries overlap.

Another way to put it – traditionally, the distance 9-1-1 calls can be located and routed is up to 176 football fields and location-based routing brings that down to about half a football field.

For the general consumer, they won't notice a difference when location-based routing is deployed. However, when an emergency happens and they call 9-1-1, the technology behind the scenes will work faster and more accurately than the previous technology.

Q: What does this mean for 9-1-1 telecommunicators and dispatchers who work at the 9-1-1 call centers?
A: With location-based routing, AT&T can quickly and more accurately identify where a call is coming from to route calls to the correct 9-1-1 call center. For 9-1-1 telecommunicators and dispatchers, this means less 9-1-1 call transfers. This is critical especially in an emergency when moments matter most.

Those who operate 9-1-1 call centers won't need to take any action or make any changes with location-based routing. Once it's launched in each region, it will automatically work.

Q: When will this be available in my area?
Location-based routing for wireless 9-1-1 calls will be available nationwide June 27, 2022. See below for full schedule:

Date	LBR Updated	State
Monday, May 2, 2022	Run 1 -NW	AK, CO, HI, ID, MT, OR, WA, WY, Guam
Monday, May 9, 2022	Run 2 - MW 1	KS, IL, IA, MN, ND, MO, NE, SD
Monday, May 16, 2022	Run 3- MW 2	IN, TN, KY, MI, OH, WI
Monday, May 23, 2022	Run 4 - NE	CT, DE, DC, ME, MD, MA, NH, NJ, NY, PA, RI, VT, VA, WV
Monday, June 6, 2022	Run 5 -SW	AZ, CA, NV, NM, UT
Monday, June 13, 2022	Run 6 - South	TX, AR, LA, OK
Monday, June 27, 2022	Run 7 - Gulf	GA, NC, SC, AL, FL, MS, PR, VI

Q: In December 2020, T-Mobile announced location-based routing for wireless 9-1-1 calls. How is this different from T-Mobile's announcement and is this truly a first-ever launch of location-based routing?
A: AT&T is the first wireless carrier to launch location-based routing that works with **all 9-1-1 call centers nationwide**, whether they're operating under older technology or NextGen 9-1-1. We're paving the way with an innovative solution that no other carrier is providing today. Other location-based routing technology currently in the market only work with NextGen 9-1-1 technology.

While it's crucial for all PSAPs to become equipped with Next Generation 9-1-1 services, we're not there as an industry. Until we get there, location-based routing is the right solution for more accurate and faster call routing to improve emergency response times.

We recognize that speed and accuracy are critical especially in moments that matter most. AT&T launched location-based routing to improve emergency response times and also accomplished a long-standing FCC policy goal.

Another key difference with our launch, is that it will automatically work when it's deployed in each region. No action required from consumers or 9-1-1 call centers. And once the roll out is complete at the end of June, location-based routing for AT&T wireless customers will be available nationwide.

Q: Is this going to require any new training or certification for local 911 operators?
A: No new training or certification required. Once location-based routing is active, it will automatically work.

Q: Is there any aspect of this project that used federal or local funding, and how much was that?
A: No Federal or State funding was used to provide Location Based Routing.

Q: Can you tell us more about specific ways in which this can help first responders act more quickly or helped any people receive help faster?

A: Traditionally, wireless 9-1-1 calls were routed based on the location of cell towers, which can cover up to a 10-mile radius. Even though this is more granular in urban areas, the cell tower boundaries don't align with PSAP boundaries. This can lead to calls being routed to the incorrect PSAP based on your actual location and may delay the emergency response. With location-based routing, AT&T can identify the 911 caller within 50 meters where a wireless 9-1-1 call is placed. This helps reduce the need for call transfers by routing the call to the correct 9-1-1 call center and dispatch first responders to the right location faster.

Q: Can you explain how using GPS and hybrid technology work to more accurately locate a wireless device?
A: When a 9-1-1 call is placed from a mobile device, hybrid location uses multiple sensors on the device to locate it through different sources. These sources include GPS, WiFi, Bluetooth, pressure from the atmosphere, and orientation relative to gravity. The sensors on the device will use the most reliable information from these sources to provide the most accurate location, whether indoors or outdoors. This helps avoid common issues with just GPS, which can avoid the common issues of GPS like inability to provide location when traveling in a tunnel or losing track of location when in a city.

Q: Are there any privacy/safety concerns around using cellular data for 9-1-1? How does AT&T protect consumer data?
A: The handset location used for Location Based Routing is only used when a caller places a 9-1-1 call. A 9-1-1 caller's location is only shared with public safety professionals at the PSAP and the data is delivered via dedicated links to the PSAP. The data does not traverse the open internet.

Q: Does this mean AT&T can track my location? And will it now be easier for others to track me?
A: No, the location processing is not used for tracking purposes and is only triggered when a caller places a 9-1-1 call. The location data is only shared directly with the public safety professionals at the PSAP and never traverses the internet and this data cannot be used by AT&T or others to track individuals.

Q: In the event an outage occurs, how is location-based routing impacted?
A: There may be limited instances where Location Based Routing may be impacted by an outage, in which case, 9-1-1 calls would continue to route via traditional technology with cell tower-based routing.

Q: Why is this gap just now being filled?
A: The wireless industry has been working on this issue for a long time and it was only recently that location estimates from handset were available quickly enough to not delay the 9-1-1 caller from reaching the PSAP.

Q: Is this guaranteed to work on all AT&T mobile devices? And what about on Cricket devices?
A: Location-Based Routing should work on the vast majority of Apple and Android devices but may not work on other operating systems. This includes both AT&T postpaid, prepaid, and Cricket devices. In the event that location data from the handset is not available for some reason, the routing will default to using cell tower-based routing information.

Q: What steps have been taken by AT&T to prevent 9-1-1 outages?

A: AT&T is constantly looking at our 9-1-1 architecture to identify any potential weakness, which could lend to a potential outage. Between AT&T and Intrado, we have physical servers in geographically diverse data centers to safeguard against catastrophic events and natural disasters. Resiliency and reliability are a constant focus of our teams not only in our current network architecture but in the architectures being developed for tomorrow's technologies and services.

Q: Is Intrado's LBR technology available to other carriers? And if so, when will it be launched?
A: Given the longstanding collaboration of innovation between AT&T and Intrado, AT&T is currently the only carrier with whom Intrado is rolling out this technology.