State of Alaska

9-1-1 & Dispatch Consolidation Working Group

Report and Recommendations

August 26, 2020

******DRAFT- VERSION 1*****

9-1-1 & Dispatch Consolidation Working Group

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Executive Summary

Governor Mike Dunleavy established and further defined the 9-1-1 and Dispatch Consolidation Working Group (the "Working Group") with the issuance of Administrative Order 318 ("AO 318") on June 11, 2020. The Working Group consists of ten voting members, and two ex-officio members; all members were appointed by, and serve at the pleasure of, the Governor. The purpose of the Working Group, as stated in AO 318, is:

> "**The 9-1-1 and Dispatch Consolidation Working Group will review and provide recommendations to the Governor on related statewide and regional emergency communications efforts, and develop recommendations for public safety communications policy regarding 9-1-1 and Dispatch Consolidation. The work of the 9-1-1 and Dispatch Consolidation Working Group will be similar to, but not redundant of, the Alaska State Emergency Response Commission (AS 26.23.071). This order does not affect the work of the Alaska State Emergency Response Commission.**"

The Working Group created three subgroups, focused on three major areas, to inform the recommendations and findings in this report: Research and Data, E911, and Public Safety Answering Point (PSAP) Consolidation. To make objective, data driven recommendations, the Working Group, through the subgroups, focused on collection of relevant data, consideration of the proposal by the Department of Public Safety (DPS) to improve 911 service and consolidate PSAP dispatch centers, and explore additional, or alternative, options to improve 911 service throughout Alaska.

There are multiple opportunities the State of Alaska can leverage in the future, including use of the GIS tool that was developed by the Research & Data Subgroup, improved technology,

and capital improvements by telecommunication entities. It is critical to improve cooperation between the telecommunication entities, the multiple PSAP dispatch facilities, and the DPS.

Wireless carriers serving the majority of rural Alaska are ready to move forward on Phase II upgrades over a reasonable timeline. These upgrades can reasonably be expected to be accomplished within five years of the commencement of work. Collaboration should encourage commercial telecommunications carriers to present creative approaches to resolve challenging call delivery scenarios, and should encourage the State of Alaska to explore network demarcation locations that capture existing State network investments to potentially mitigate carrier costs.

The Research and Data Subgroup has not been able to acquire any comprehensive data from DPS, which should have been collected prior to a project of this magnitude. These items include a needs assessment, projected forward planning of the proposed Southern Operations Center, the UAA Justice Department C Detachment staffing study, a comprehensive list of administrative tasks that saturate the patrol troopers, statistical data available on how much time is spent on those administrative tasks, and any work already compiled on interfacing the current State of Alaska maintained databases to streamline processes.

DPS presented no data to support the hypothesis that Alaskans are underserved by inadequate 911 system(s) other than anecdotal accounts of not being able to find lost callers who report to 911. None of the data supplied by DPS indicated this will be solved through the current consolidation proposal. As a result of the lack of specific data provided by DPS, the Research and Data Subgroup created a Geographic Information System (GIS) model as a comprehensive dataset of numerous technological aspects of the State's 911 environment. The dataset, if maintained appropriately, can continue to provide extremely beneficial information to all stakeholders. This GIS model will be an invaluable tool for DPS and decision makers moving forward to evaluate the

infrastructure, common operating picture, as well as potential future opportunities and improvements that can be made. It is critical that the State of Alaska maintain this dataset to inform future decision making.

It is recommended the State of Alaska adopt a policy stating that before significant changes to the 911 system, such as moving from basic 911 to more advanced 911 service, or implementing Phase I/II upgrades, are proposed by the Department of Public Safety and/or the 911 Coordinator, a planning process must be conducted in collaboration with stakeholders such as public safety agencies, telecommunications providers, and other affected parties. The follow items must be outlined in order to responsibly move forward:

1. Roles, responsibilities, accountabilities, and jurisdictions for all stakeholders;
2. projected improvements to 911 service;
3. areas where improvements will be delivered and population affected;
4. necessary upgrades and/or changes to PSAP equipment and staffing, expected life-cycle of equipment, one-time and recurring costs over 10 years and/or the expected life-cycle of the project including upgrades;
5. availability of GIS data and cost to integrate into proposed system, or where no GIS exists, cost to create and maintain; and,
6. necessary upgrades and/or changes to telecommunications infrastructure, expected life-cycle of equipment, one-time and recurring costs over 10 years and/or the expected life-cycle of the project including upgrades.

Reserved for PSAP Consolidation Highlight

The 911 and Dispatch Consolidation Working Group has made significant progress to evaluate the landscape of Alaska 911 calls for service, dispatch needs and operations, as well as identify the data needed to quantify the cost and staffing for these activities. Because of the depth, experience, and productivity of this Working Group and the Subgroups, we recommended

Governor Dunleavy extend the 9-1-1 & Dispatch Consolidation Working Group through December 2021 to fully analyze these issues and develop robust, and detailed, recommendations to improved 911 service and dispatch operations in Alaska.

The Working Group recommends that Governor Dunleavy require the Department of Public Safety to develop and produce baseline technical data, accurate budgeting and staffing information and projections, prior to moving forward with the current 911 & Dispatch Consolidation plan. Failure to provide technical infrastructure capabilities, data driven staffing projections, and realistic budget estimates will put this project in jeopardy. Failure to adequately staff PSAP dispatch centers will likely put the public and officer safety at risk.

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9-1-1 & Dispatch Consolidation Working Group:

Research & Data

The Research & Data Subgroup embarked to fulfill several requests for information by the 911 and Dispatch Consolidation Working Group in accordance with Governor Dunleavy's Administrative Order 318, along with other requests as established by the E911 and Dispatch Consolidation Subgroups. These requests included:

Action Items:

1.) Data sets pertaining to wireless telephone coverage statewide by level of service and provider
2.) Data sets pertaining to mobile broadband coverage statewide by carrier
3.) Data sets pertaining to emergency call routing statewide
4.) Data sets pertaining to population to include
    a. Census block population
    b. Estimated population in underserved 911 areas of the State
    c. Estimated population in areas that appear capable of Phase I and Phase II 911 service but are currently not receiving it
    d. Estimated population in areas that are currently providing Phase I and Phase II 911 service
5.) Data sets pertaining to FirstNet coverage Statewide
6.) Inventory/survey of PSAPs statewide
    a. Populations served
    b. Geographic area served

c. Annual 911 call volumes (attempted, incomplete at this time due to equipment and lack of reporting capability by the designated PSAPs)
d. 911 Systems in place
e. Capability of receiving Wireless Phase I and Phase II 911 data
f. Local carries for wireless and landline phone service

7.) Alleviating administrative workload from frontline DPS patrol Troopers. To identify potential remedies for this goal, the following information was requested:

a. UAA Justice Department C Detachment Staffing Study
b. Comprehensive list of administrative tasks that saturate patrol troopers
c. Any statistical data available on how much time is spent on these tasks
d. Any documentation or work already compiled to interface the APSIN, ARMS, ALVIN databases already maintained by the state to streamline processes

With the assistance of the MatSu Borough 911 Addressing Specialist, the Research and Data Sub Group was able to partner with the statewide telephone carriers, research publicly available data through numerous sources, and compile a comprehensive dataset which was converted into a GIS model. This GIS model can display any number of layers based on the viewers query and provides an amazing visual reference to the current 911 environment of the State. This fulfilled items 1-6 as outlined above.

Item 6 was to construct a survey of statewide PSAPs to take inventory of current 911 answering points throughout the State. This survey was drawn up and executed by members of the subgroup with a remarkably high return rate from the agencies in our scope. This data will be used to enhance the existing GIS model to show both strengths, weaknesses, and opportunities of the State's 911 environment at a glance.

Item 7 remains an outstanding goal of the 911 and Dispatch Consolidation working group identified by Major Chastain. DPS deemed all requested information, relating to this issue, not relevant to the purpose of Administrative Order 318 and was reluctant to provide internal items in a public forum.

Findings:

1. The Research and Data Subgroup has not been able to acquire any comprehensive data from DPS, which should have been collected prior to a project of this magnitude. These items include a needs assessment, projected forward planning of the proposed Southern Operations Center, the UAA Justice Department C Detachment staffing study, comprehensive list of administrative tasks that saturate the patrol troopers, statistical data available on how much time is spent on those administrative tasks, and any work already compiled on interfacing the current State maintained databases to streamline processes.
2. DPS presented no data to support the hypothesis that Alaskans are underserved by inadequate 911 system(s) other than anecdotal accounts of not being able to find lost callers who report to 911. None of the data supplied by DPS indicate that this will be solved through the current consolidation proposal.
3. The provision of a system to be able to obtain meaningful location information from a wireless handset is complex and at times imperfect
4. The carrier's systems found in rural parts of the state are sometimes not advanced, and certain systems are older and do not have the subscriber base to offset the costs of upgrades
5. If the State were to force carrier upgrades, certain carriers would likely file waivers with the Federal Communications Commission (FCC), resulting in lengthy, expensive, and uncertain outcomes.

6. Current delivery of calls from these carriers to the DPS proposed demarcation points would be an extreme cost to the telco or state; the cost of this delivery has not been defined or addressed by DPS regarding responsibility of payment.
7. There are currently no minimum training standards for emergency telecommunications personnel throughout the State of Alaska.
8. There is no clear definition of a Public Safety Answer Point throughout the State.
9. There is currently no authority for the State or any other administrative office to require PSAP functionality or statistical information be collected on an annual basis, therefore, only a partially complete statewide PSAP report was available on functionality, call volumes, or needs assessments. This results in an unclear picture of the State's 9-1-1 environment.
10. Most of the data sets were available and able to be obtained through partnering with local carriers and other entities to compile a single source, comprehensive model in a short time frame.
11. Appearance that the capability for wireless 9-1-1 delivery is available through much of rural Alaska, and delivery of these calls is neither restricted nor dependent on the Department of Public Safety consolidating dispatch centers. Alternatives can include delivery of these calls with device location to more localized PSAPS.
12. There is currently no mechanism in place for unincorporated areas of the State to contribute to associated costs through 911 surcharges.

Research & Data: Recommendations

1. The GIS model developed by the subgroup continue to be enhanced and developed moving forward as a comprehensive dataset of numerous technological aspects of the State's 9-1-1 environment. The dataset, if maintained appropriately, can continue to provide extremely beneficial information to all stakeholders.
    a. Interactive maps have an advantage over traditional paper maps as they provide access to the most up-to-date information and specialized tools for interpreting and retrieving a wide range of information. Interactive maps help to establish a common operating picture and give users access to a variety of data sets with which they can perform their own custom analysis. Maps lend a geographic and spatial component to an otherwise hard to comprehend world of lengthy spreadsheets. A picture really is worth 1,000 words.
    b. The data that comprises the interactive map can be downloaded by future state contractors or staff for a variety of uses, including to repeat this process annually to establish trends. Link to deliverable: https://msb.maps.arcgis.com/apps/webappviewer/index.html?id=f4a67b697f4b48dab0668326d1fc37b6
2. Create a GIS layer, consisting of polygons to represent Emergency Community Names. These can be derived from the already existing Census track block groups as they are clearly the mostly definable areas of our project and the basis for calculating population and service levels. The other source could be utilizing the existing Department of Public Safety geographical patrol areas.

3. State 9-1-1 coordinator maintain annual mandatory response PSAP survey of all designated 9-1-1 answering points Statewide for up-to-date environment, statistics, and PSAP needs across the State.
4. State of Alaska to define a PSAP: during our PSAP survey, we discovered it is evident that some locations are being deemed as a "PSAP" even though the 9-1-1 calls may be ringing into a local health clinic or local government building, but not actually processed by a certified emergency telecommunicator.
5. State of Alaska to develop and institute minimum required training certifications and standards for emergency telecommunicators statewide. This will assist in ensuring standardized 911 call processing, caller location verification, call transfers, and the appropriate use of 911 equipment is consistent statewide. This item molds in with those facilities that are deemed a PSAP as defined through the point above.
6. 911 Surcharge mechanism be enacted on unincorporated areas of the State
7. Uniformity amongst 911 surcharge ordinance language pertaining to incorporated and unincorporated areas of the State.

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Research & Data: SWOT Analysis

Strengths

1. Acknowledging the extreme benefit of collaborating with a highly experienced and knowledgeable group of local subject matter experts to tackle an in depth and highly technical issue relating to public safety emergency call delivery across the State.
2. Construction of a heavily inclusive dataset integrated into an interactive GIS model which provides a clear picture of carrier, broadband, FirstNet, and 9-1-1 call routing State-wide.
3. Most of the data sets were available and able to be obtained through partnering with local carriers and other entities to compile a single source, comprehensive model in a short time frame.
4. Appearance that the capability for proper wireless 9-1-1 call delivery is available through much of rural Alaska.

Weaknesses

1. The Research and Data Subgroup has not been able to acquire any comprehensive data from DPS. These items include a needs assessment, forward planning of the proposed Southern Operations Center, the UAA Justice Department C Detachment staffing study, comprehensive list of administrative tasks that saturate the patrol troopers, statistical data available on how much time is spent on those administrative tasks, and any work already compiled on interfacing the current State maintained databases to streamline processes.
2. DPS presented no data to support the hypothesis that Alaskans are underserved by inadequate 911 system(s) other than anecdotal accounts of not being able to find lost callers

who call 911. None of the data supplied by DPS indicate that this will be solved through the current consolidation proposal.

3. The provision of a system to be able to obtain meaningful location information from a wireless handset is complex and at times imperfect.
4. Some wireless carrier's infrastructure in rural parts of the state are, at times, not advanced, and certain systems are older and lack the subscriber base to offset the costs of upgrades to provide wireless Phase I / Phase II location information.
5. If the State were to force carrier upgrades, the carriers could file waivers resulting in lengthy, expensive, and uncertain outcomes.
6. There are currently no minimum training standards for emergency telecommunications personnel throughout the State.
7. There is no clear definition of a Public Safety Answer Point throughout the State.
8. There is currently no authority for the State or any other administrative office to require PSAP functionality or statistical information be collected on an annual basis, therefore, only a partially complete statewide PSAP report was available on functionality, call volumes, or needs assessments. This results in an unclear picture of the State's 911 environment.
9. There is currently no mechanism in place for unincorporated areas of the State to contribute to associated costs through 911 surcharges.

Opportunities

1. The GIS model developed by the subgroup continue to be enhanced and developed moving forward as a comprehensive dataset of numerous technological aspects of the State's 911

environment. The dataset, if maintained appropriately, can continue to provide extremely beneficial information to all stakeholders.

a. Interactive maps have an advantage over traditional paper maps as they provide access to the most up-to-date information and specialized tools for interpreting and retrieving a wide range of information. Interactive maps help to establish a common operating picture and give users access to a variety of data sets with which they can perform their own custom analysis. Maps lend a geographic and spatial component to an otherwise hard to comprehend world of lengthy spreadsheets. A picture really is worth 1,000 words.

b. The data that comprises the interactive map can be downloaded by future state contractors or staff for a variety of uses, including to repeat this process annually to establish trends. Link to deliverable: https://msb.maps.arcgis.com/apps/webappviewer/index.html?id=f4a67b697f4b48dab0668326d1fc37b6

2. Delivery of 911 calls in rural Alaska is neither restricted nor dependent on the Department of Public Safety consolidating dispatch centers. Alternatives can include partnering with and bolstering local communities to enhance delivery of these calls with device location to more localized PSAPS.

3. Create a GIS layer, consisting of polygons to represent Emergency Community Names. These can be derived from the already existing Census track block groups as they are clearly the mostly definable areas of our project and the basis for calculating population and service levels. The other source could be utilizing the existing Department of Public Safety beat areas.

4. State 911 coordinator maintain annual mandatory response PSAP survey of all designated 911 answering points Statewide for up-to-date environment, statistics, and PSAP needs across the State.
5. State of Alaska to define what a PSAP is. During our PSAP survey, we discovered it is evident that some locations are being deemed as a "PSAP" even though the 911 calls may be ringing into a local health clinic or local government building, but not actually processed by a certified emergency telecommunicator.
6. State of Alaska to develop and institute minimum required training certifications and standards for emergency telecommunicators statewide. This will assist in ensuring standardized 911 call processing, caller location verification, call transfers, and the appropriate use of 911 equipment is consistent statewide. This item molds in with those facilities that are deemed a PSAP as defined through the point above.
7. 911 Surcharge mechanism be enacted on unincorporated areas of the State.
8. Uniformity amongst 911 surcharge ordinance language pertaining to incorporated and unincorporated areas of the State.

Threats

1. Single source authority without involvement, input, and recommendations of necessary stakeholders throughout the State. Inclusive collaboration will open the door to accomplishing many of the goals presented through this Group.
2. Legislative inaction to capitalize upon the opportunities presented through this Group.

E911: Recommendations

1. Recommend the recognition that 911 services in Alaska has advanced markedly in recent years. Prior deficiencies in technical routing of 911 calls have been resolved through diligent, collaborative work by the State 911 Coordinator and telecommunications companies. Today, callers can dial 911 from any connected telephone, and the call will be delivered to an answering point. The dedication of all parties involved in delivering 911 services to Alaskans will ensure the continued evolution of emergency communications systems to bring more advanced, comprehensive 911 services to Alaskans. (unanimous approval)
2. Recommend the Department of Public Safety prioritize the combination of Master Street Address Guides (MSAG) for Automatic Location Information (ALI) database from local jurisdictions across the state, before going live with a consolidated dispatch center, in order to effectively validate the location of the first caller. Validating the location of landline callers via the ALI database is the backbone of 911 and must be functional prior to any dispatch center becoming operational. (unanimous approval)
3. Recommend the Department of Public Safety prioritize the compilation of local, authoritative source Geographic Information Systems (GIS) data, compliant with National Emergency Number Association (NENA) standards, before going live with a consolidated dispatch center. Out of the box solutions for this task exist but represent a significant on-going cost. Whatever solution is chosen it must, 1.) Provide a feedback mechanism whereby data contributors are informed of any errors in their data so that it may be rectified, 2.) Be capable of receiving, reviewing, and incorporating frequent data updates in order for dispatchers to have access to current and accurate information. (unanimous approval)

4. One of the improvements that E911 intends to provide is improved automatic routing of calls to the geographically appropriate PSAP, based on well-maintained and accurate GIS data. This GIS data is a compendium of local address information via MSAG, and commercial cell tower and cell antenna sector information. During a cell phone call, location data is provided in "phases" with each phase providing increased detail about the caller. Typically, a 911 cell call is initially delivered with "Phase 1" location data, which provides only a cell tower identifier. "Phase 2" location data, which gives some degree of triangulated coordinates of the caller, generally doesn't arrive for 10 to 15 seconds after the call is routed. It may take MINUTES for Phase 2 location data to arrive at a dispatch center. This delay has nothing to do with PSAP technology or capacity. It is a result of low-density cell tower coverage in the majority of Alaska. Since cell 911 calls is delivered with Phase 1 info, it is typically not possible to guarantee that they are properly routed to the "Local" PSAP because cell tower coverage nearly always overlaps jurisdictional boundaries. As a result, a policy must be established to determine how cell calls will route when jurisdiction cannot be determined during call initiation. (unanimous approval)
5. In recognition of challenges of delivering 911 calls from rural Alaskan Public Switched Telephone Network (PSTN) networks and cell locations, we recommend that the State of Alaska produce an inventory of connectivity which is relevant to establishing a cost-effective boundary between the vast PSTN and a future statewide Emergency Services IP Network. In recognition that in the state of Alaska, telephony is both a commercial enterprise and in many respects a public service, the State of Alaska must take a collaborative approach to establishing demarcation points for 911 call delivery.

Collaboration should encourage commercial telephony carriers to present creative approaches to resolve challenging call delivery scenarios, and should encourage the State of Alaska to explore network demarcation locations that capture existing State network investments to potentially mitigate carrier costs. (unanimous approval)

6. Recommend that the points of demarcation between the Public Switched Telephone Network (PSTN) and the State's Emergency Network be established in such a manner that transport of 911 calls to the State's PSAPs are clearly identified before any Phase II requests or State PSAP consolidation occurs. Connectivity must be identified in detail, including technical design, initial cost, recurring costs, and realistic timeline for deployment of the network. (unanimous approval)
7. Recommend the State of Alaska adopt a policy stating that before significant changes to the 911 system such as moving from basic 911 to more advanced 911 service, or implementing Phase I/II upgrades, are proposed by the Department of Public Safety and/or the 911 Coordinator, a planning process must be conducted in collaboration with stakeholders such as public safety agencies, telecommunications providers, and other affected parties. This collaboration will include, but not be limited to identification of:
    a. Roles, responsibilities, accountabilities, and jurisdictions for all stakeholders;
    b. projected improvements to 911 service;
    c. areas where improvements will be delivered and population affected;
    d. necessary upgrades and/or changes to PSAP equipment and staffing, expected life-cycle of equipment, one-time and recurring costs over 10 years and/or the expected life-cycle of the project including upgrades;
    e. availability of GIS data and cost to integrate into proposed system, or where no GIS exists, cost to create and maintain;

f. necessary upgrades and/or changes to telecommunications infrastructure, expected life-cycle of equipment, one-time and recurring costs over 10 years and/or the expected life-cycle of the project including upgrades;

g. connectivity requirements including type of connection, capacity, end points, and cost over 10 years; and,

h. alternatives, including opportunities to participate in existing 911 services in a region. These opportunities may offer the chance to take advantage of advanced 911 capabilities, if interoperability or other forms of cooperation are possible.

The goal of the collaborative process is to provide improved 911 services without undue negative impacts to any stakeholder. At no time should changes to the 911 system result in diminishment of levels of 911 service. This planning process may be conducted within the forum of the 911 and Dispatch Consolidation Working Group and a Statewide 911 Advisory Board. (unanimous approval)

8. Recommend the State 911 Coordinator report to the Commissioner of the Department of Commerce, Community, and Economic Development. This will support the 911 Coordinator in objectively coordinating between the many stakeholders involved in delivering 911 services. The current structure places the 911 Coordinator under the authority of the Department of Public Safety, which limits the Coordinator's objectivity and impacts opportunities for collaboration with other stakeholders. (majority approval)

9. Recommend the 911 and Dispatch Consolidation Working Group be continued for at least one year to function as a Statewide 911 Advisory Board. The existing working group has an un-matched level of expertise across stakeholder groups and members have spent considerable time familiarizing themselves with 911 services across disciplines. Extending this working group offers a unique opportunity for it to serve as a forum for collaboration

and identify additional opportunities for improving 911 services in Alaska. (unanimous approval)

10. Recommend the State support regional 911 Advisory Boards which will include representatives from all local stakeholders to identify concerns and opportunities to improve services within their region. These would be volunteer boards, similar to the Matsu E911 Advisory Board, and would provide consistent opportunities for collaboration and coordination within each region, with the 911 and Dispatch Consolidation Working Group or other Statewide Advisory Board, and with the State 911 Coordinator. (unanimous approval)
11. Give PSAPS and E911 jurisdictions the ability to determine their geographic service area regardless of geopolitical boundaries and collect surcharge revenue from connected devices within that service area, providing there is no overlap with existing E911 jurisdictions which are already assessing an e911 surcharge. (unanimous approval)
12. In addition to wireline and wireless subscriber fees collected by the carriers, include a mechanism for PSAPS and E911 jurisdictions to collect surcharge revenue on end user prepaid wireless charges from point of sale locations within the PSAP or E911 jurisdictions service area. (unanimous approval)
13. In addition to wireline and wireless subscriber fees collected by the carriers, include a mechanism for PSAPS and E911 jurisdictions to collect surcharge revenue on interconnected VoIP services. (unanimous approval)
14. Modernize the E911 surcharge statutes to acknowledge the mechanisms needed to deliver 911 calls. (unanimous approval)

E911: SWOT Analysis

Strengths

1. The 911 and Dispatch Consolidation Working Group is an invaluable resource. The working group has a unique composition across stakeholder groups with an un-matched level of expertise. The members have invested substantial time familiarizing themselves with 911 services across disciplines.
2. 911 services in Alaska have advanced markedly in recent years. Prior deficiencies in technical routing of 911 calls have been resolved through diligent, collaborative work by the State 911 Coordinator and telecommunications companies. Today, callers can dial 911 from any connected telephone and the call will be delivered to an answering point. The dedication of all parties involved in delivering 911 services to Alaskans will ensure the continued evolution of emergency communications systems to bring more advanced, comprehensive 911 services to Alaskans.

Weaknesses

1. A lack of statewide, authoritative geographic information systems (GIS) data. Recommend the Department of Public Safety prioritize the compilation of local, authoritative source Geographic Information Systems (GIS) data, compliant with NENA standards, before going live with a consolidated dispatch center. Out of the box solutions for this task exist but represent a significant on-going cost. Whatever solution is chosen it must, 1.) Provide a feedback mechanism whereby data contributors are informed of any errors in their data so that it may be rectified, 2.) Be capable of receiving, reviewing, and incorporating frequent data updates in order for dispatchers to have access to current and accurate information.

2. Multiple Master Street Address Guides (MSAG) have not been combined to support a statewide system. Recommend the Department of Public Safety prioritize the combination of Master Street Address Guides for Automatic Location Information (ALI) database from local jurisdictions across the state, before going live with a consolidated dispatch center in order to effectively validate the location of the first caller. Validating the location of landline callers via the ALI database is the backbone of 911 and must be functional prior to any dispatch center becoming operational.
3. Lack of policy to determine routing of cell calls to the appropriate jurisdiction where adjacent PSAP service areas may not align with telecommunications infrastructure. One of the improvements that E911 intends to provide is improved automatic routing of calls to the geographically appropriate PSAP, based on well-maintained and accurate GIS data. This GIS data is a compendium of local address information via MSAG, and commercial cell tower and cell antenna sector information. During a cell phone call, location data is provided in "phases" with each phase providing increased detail about the caller. Typically, a 911 cell call is initially delivered with "Phase 1" location data, which provides only a cell tower identifier. "Phase 2" location data, which gives some degree of triangulated coordinates of the caller, generally doesn't arrive for 10 to 15 seconds after the call is routed. It may take MINUTES for Phase 2 location data to arrive at a dispatch center. This delay has nothing to do with PSAP technology or capacity. It is a result of low-density cell tower coverage in the majority of Alaska. Since cell 911 calls is delivered with Phase 1 info, it is typically not possible to guarantee that they are properly routed to the "Local" PSAP because cell tower coverage nearly always overlaps jurisdictional boundaries. As a

result, a policy must be established to determine how cell calls will route when jurisdiction cannot be determined during call initiation.

Opportunities

1. Wireless carriers serving the majority of rural Alaska are ready to move forward on Phase II upgrades over a reasonable timeline. These upgrades can reasonably be expected to be accomplished within five years of the commencement of work.

   Alaska is served by many wireless carriers, ranging from local carriers to nationwide providers. Their networks are diverse and reach some of the most remote places in Alaska. Hundreds of rural communities are served by Alaska's wireless carriers, so the scale of a Phase II upgrade is massive and it is critical that sufficient time to complete the task be built in to any 911 improvement project.

   There will be limits to Phase II deployment. Certain networks are unable to be upgraded to Phase II without complete replacement, which is not feasible at this time. In many other locations wireless service is provided with a single cell tower which will not allow Phase II location information to be delivered.

   The COVID-19 pandemic has created limits on travel which is necessary for Phase II upgrades. Many rural communities have restricted travel so it is extremely difficult to send technicians to villages. Also, the loss of commercial air service to many villages due to the Ravn bankruptcy has increased the time needed to travel. In many cases charter flights are now required, drastically increasing costs. The status of the pandemic must be considered in planning processes.

   Phase II location information from a carrier will not provide value unless a Public Safety Answering Point (PSAP) is capable of receiving the data so it is important to align

timelines for the capabilities of both wireless network and PSAP. A collaborative process must be created to identify the varying capabilities of each rural network and a reasonable timeline for delivery of Phase II location information.

2. In recognition of challenges of delivering 911 calls from rural Alaskan PSTN networks and cell locations, we recommend that the State of Alaska produce an inventory of connectivity which is relevant to establishing a cost-effective boundary between the vast PSTN and a future statewide Emergency Services IP Network. In recognition that in the state of Alaska, telecommunications is both a commercial enterprise and in many respects a public service, the State of Alaska must take a collaborative approach to establishing demarcation points for 911 call delivery.

   Collaboration should encourage commercial telecommunications carriers to present creative approaches to resolve challenging call delivery scenarios, and should encourage the State of Alaska to explore network demarcation locations that capture existing State network investments to potentially mitigate carrier costs.

3. Recommend that the points of demarcation between the PSTN and the State's Emergency Network be established in such a manner that transport of 911 calls to the State's PSAPs are clearly identified before any Phase II requests or State PSAP consolidation occurs. Connectivity must be identified in detail, including technical design, initial cost, recurring costs, and realistic timeline for deployment of the network.

4. Recommend the State of Alaska adopt a policy stating that before significant changes to the 911 system, such as moving from basic 911 to more advanced 911 service, or implementing Phase I/II upgrades, are proposed by the Department of Public Safety and/or the State 911 Coordinator, a planning process must be conducted in collaboration with

stakeholders such as public safety agencies, telecommunications providers, and other affected parties. This collaboration will include, but not be limited to identification of:

a. Roles, responsibilities, accountabilities, and jurisdictions for all stakeholders;
b. projected improvements to 911 service;
c. areas where improvements will be delivered and population affected;
d. necessary upgrades and/or changes to PSAP equipment and staffing, expected life-cycle of equipment, one-time and recurring costs over 10 years and/or the expected life-cycle of the project including upgrades;
e. availability of GIS data and cost to integrate into proposed system, or where no GIS exists, cost to create and maintain;
f. necessary upgrades and/or changes to telecommunications infrastructure, expected life-cycle of equipment, one-time and recurring costs over 10 years and/or the expected life-cycle of the project including upgrades;
g. connectivity requirements including type of connection, capacity, end points, and cost over 10 years; and,
h. alternatives, including opportunities to participate in existing 911 services in a region. These opportunities may offer the chance to take advantage of advanced 911 capabilities, if interoperability or other forms of cooperation are possible.

The goal of the collaborative process is to provide improved 911 services without undue negative impacts to any stakeholder. At no time should changes to the 911 system result in diminishment of levels of 911 service. This planning process may be conducted within the forum of the 911 and Dispatch Consolidation Working Group and a Statewide 911 Advisory Board.

5. Opportunity to increase communication and collaboration amongst the emergency communications stakeholders. Recommend the State 911 Coordinator report to the Commissioner of the Department of Commerce, Community, and Economic Development. This will support the 911 Coordinator in objectively coordinating between the many

stakeholders involved in delivering 911 services. The current structure places the 911 Coordinator under the authority of the Department of Public Safety, which limits the Coordinator's objectivity and impacts opportunities for collaboration with other stakeholders.

6. Recommend the 911 and Dispatch Consolidation Working Group be continued for at least one year to function as a Statewide 911 Advisory Board. Extending this working group offers a unique opportunity for it to leverage the work already completed and continue to serve as a forum for collaboration and identify additional opportunities for improving 911 services in Alaska.
7. Recommend the State support regional 911 Advisory Boards which will include representatives from all local stakeholders to identify concerns and opportunities to improve services within their region. These would be volunteer boards, similar to the Matsu E911 Advisory Board, and would provide consistent opportunities for collaboration and coordination within each region, with the 911 and Dispatch Consolidation Working Group or other Statewide Advisory Board, and with the State 911 Coordinator.
8. Give PSAPS and E911 jurisdictions the ability to determine their geographic service area regardless of geopolitical boundaries and collect surcharge revenue from connected devices within that service area, providing there is no overlap with existing E911 jurisdictions which are already assessing an E911 surcharge.
9. In addition to wireline and wireless subscriber fees collected by the carriers, include a mechanism for PSAPS and E911 jurisdictions to collect surcharge revenue on end user prepaid wireless charges from point of sale locations within the PSAP or E911 jurisdictions service area.

10. In addition to wireline and wireless subscriber fees collected by the carriers, include a mechanism for PSAPS and E911 jurisdictions to collect surcharge revenue on interconnected VoIP services.
11. Modernize the e911 surcharge statutes to acknowledge the mechanisms needed to deliver 911 calls.

Threats

1. Difficulties in communication and collaboration between stakeholders. Several changes recommended under "Opportunities" would help to improve this problem.

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9-1-1 & Dispatch Consolidation Working Group:

PSAP Consolidation

***** Section Reserved Pending 8/18 Meeting *****

PSAP Consolidation Recommendations:

PSAP Consolidation SWOT Analysis

Conclusion

**This section reserved pending recommendations from the PSAP Consolidation Subgroup to formulate a complete conclusion. **