911 Grant Program
PERFORMANCE CLOSEOUT REPORT

RECIPIENT & AWARD INFORMATION

1. Recipient Organization Name & Address:
Washington State Military Department
20 Aviation Drive, MS: TA-20
Building 20
Camp Murray, WA 98430

2. Federal Award Number: 69N3761930000091WA0
3. Award Period of Performance: August 9, 2019 - March 31, 2022

4. Federal Award Total: $2,862,056.00
5. Recipient Match Total: Required: $1,908,037.33 Actual: $4,465,562.80

1. PROJECT GOALS
Please describe the goal(s) you established in your grant application or project plan. What did you plan to achieve by the end of the grant period of performance (August 9, 2019 to March 31, 2022)? Example: The goal of my 911 grant-funded project was to upgrade CPE for half of the PSAPs in the State (60 PSAPs total).

The overall goal of this 911 grant funded project was to address critical elements in our ability to transition to NG911 including transitioning to a new, fully NG911 capable Emergency Services IP Network and focusing on individual PSAPs and their ability to connect to and utilize NG911 technology. The original plan included six projects with four additional projects added in 2021.

The goals of the individual projects are listed in the attachment.

2. PROJECT MILESTONES
Please describe key project implementation milestones achieved during the grant period of performance (August 9, 2019 to March 31, 2022).

See attachment.
3. CHALLENGES AND LESSONS LEARNED
Please describe any project implementation challenges you faced throughout the grant period of performance and how your approach and timeline was impacted by these challenges. Describe specific lessons learned from designing and implementing your grant-funded project.
See attachment.

4. FUTURE NG911 IMPLEMENTATION
Please reflect on any future needs to successfully implement NG911. What challenges do you anticipate in order to complete your overall State or Tribal NG911 implementation plan (beyond your grant-funded project)?
See attachment.
5. 911 GRANT PROGRAM-WIDE ACCOMPLISHMENTS

The purpose of the 911 Grant Program is to support the transition of PSAPs and their interconnecting 911 network and core services; to facilitate migration to a digital, IP-enabled emergency network; and adoption and operation of NG911 services and applications.

For 5a.- 5i. of the 911 Grant Program accomplishments below select:
- YES for each accomplishment your project(s) achieved (in any capacity).
- NO for each accomplishment your project(s) strived to achieve but was ultimately unsuccessful.
- N/A for each accomplishment that is not applicable to your project(s). (For example, if you did not use grant funds for any cybersecurity-related activities, you would mark N/A for 5c. “identify cybersecurity vulnerabilities”).

<table>
<thead>
<tr>
<th>5a.</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did the 911 Grant Program help your State or Tribal jurisdiction transition to NG911?</td>
<td>☑</td>
<td>☐</td>
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</tbody>
</table>

If YES, describe how you know the grant helped to accomplish this program-wide goal for your State/Tribe. If NO, describe the challenges and why the goal could not be accomplished.

We were able to implement several critical upgrades. 11 out of 13 planned projects were completed.

<table>
<thead>
<tr>
<th>5b.</th>
<th>YES</th>
<th>NO</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did the 911 Grant help to train and prepare telecommunications and/or public safety professionals for the implementation of NG911?</td>
<td>☑</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

If YES, describe how you know the grant helped to accomplish this program-wide goal for your State/Tribe. If NO, describe the challenges and why the goal could not be accomplished.

Some training for new systems was accomplished but other training had to be postponed or eliminated due to Covid.
<table>
<thead>
<tr>
<th>5c.</th>
<th>YES</th>
<th>NO</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did the 911 Grant help to identify cybersecurity vulnerabilities?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If YES, describe how you know the grant helped to accomplish this program-wide goal for your State/Tribe. If NO, describe the challenges and why the goal could not be accomplished. We did not have any cybersecurity projects.</td>
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<thead>
<tr>
<th>5d.</th>
<th>YES</th>
<th>NO</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did the 911 Grant help your State or Tribal jurisdiction to access or improve GIS data?</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>If YES, describe how you know the grant helped to accomplish this program-wide goal for your State/Tribe. If NO, describe the challenges and why the goal could not be accomplished. 4 projects were directly relating to improving GIS data in smaller rural counties.</td>
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<thead>
<tr>
<th>5e.</th>
<th>YES</th>
<th>NO</th>
<th>N/A</th>
</tr>
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<tbody>
<tr>
<td>Did the 911 Grant help your State or Tribal jurisdiction to migrate PSAPs to an IP-enabled emergency network?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If YES, describe how you know the grant helped to accomplish this program-wide goal for your State/Tribe. If NO, describe the challenges and why the goal could not be accomplished. Our major state project was to complete the transition to an ESINet.</td>
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<td></td>
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</tbody>
</table>
### 5f.

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<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>N/A</th>
</tr>
</thead>
</table>

**Did the 911 Grant help your State or Tribal jurisdiction to adopt NG911 equipment, services and applications?**

If YES, describe how you know the grant helped to accomplish this program-wide goal for your State/Tribe. If NO, describe the challenges and why the goal could not be accomplished.

Multiple projects were completed for new equipment, services, and applications.

### 5g.

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>N/A</th>
</tr>
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</table>

**Did the 911 Grant increase the ability for PSAPs to share caller data or facilitate automatic call transferring and processing by other 911 call centers?**

If YES, describe how you know the grant helped to accomplish this program-wide goal for your State/Tribe. If NO, describe the challenges and why the goal could not be accomplished.

Several projects were completed that facilitated this.

### 5h.

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<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>N/A</th>
</tr>
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</table>

**Did the grant help prepare PSAPs to transition to NG911 that otherwise would have remained at a legacy 911 service level?** Please indicate below if any of these counties were located in rural or underserved areas.

If YES, describe how you know the grant helped to accomplish this program-wide goal for your State/Tribe. If NO, describe the challenges and why the goal could not be accomplished.

Several projects were completed in rural areas that otherwise would not have had funding.
5i. Did the grant help achieve any other NG911 accomplishments other than those listed above? For example, did your grant-funded project result in the completion of a state NG911 plan or readiness assessment?

- [ ] YES
- [X] NO

If YES, describe how you know the grant helped to accomplish this program-wide goal for your State/Tribe. If NO, describe the challenges and why the goal could not be accomplished.

All of our projects were related to the accomplishments listed above.

6. 911 GRANT-FUNDED ACTIVITIES & PROJECT METRICS

In the following section, please identify the metrics you established and tracked to assess program implementation for your grant-funded activities. The following table also includes commonly identified metrics examples for activities conducted under the grant.

If your grant included any of the Activity Categories listed below, please provide a response for the Program-Wide Common Metrics Example(s) or any other metric your agency established and tracked for the grant-funded activity.

If your grant-funded activity and related data metrics are not represented in the Activity Categories below, please use the OTHER space provided and indicate the Activity Category, your established metrics and the quantity or percentage achieved during the grant period of performance (August 9, 2019 to March 31, 2022).

<table>
<thead>
<tr>
<th>Activity Category</th>
<th>Quantity or Percentage of Metric</th>
<th>Program-Wide Common Metrics Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cybersecurity</td>
<td>0</td>
<td>Number of cybersecurity assessments completed</td>
</tr>
<tr>
<td></td>
<td>[Quantitative]</td>
<td>Your Established Metrics</td>
</tr>
<tr>
<td></td>
<td>[Percentage]</td>
<td></td>
</tr>
<tr>
<td>Cybersecurity</td>
<td></td>
<td></td>
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<tr>
<td>Cybersecurity</td>
<td></td>
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<tr>
<td>Activity Category</td>
<td>Quantity or Percentage of Metric</td>
<td>Program-Wide Common Metrics Example</td>
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<tr>
<td>-------------------------</td>
<td>----------------------------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>NG911-Focused Training</td>
<td>153</td>
<td>Number of telecommunicators and other public safety personnel trained</td>
</tr>
<tr>
<td>NG911-Focused Training</td>
<td>32</td>
<td>Number of training courses conducted</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Your Established Metrics</td>
</tr>
<tr>
<td>NG911-Focused Training</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NG911-Focused Training</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activity Category</td>
<td>Quantity or Percentage of Metric</td>
<td>Program-Wide Common Metrics Example</td>
</tr>
<tr>
<td>GIS Data</td>
<td>64</td>
<td>Number of PSAPs operating with enhanced GIS data</td>
</tr>
<tr>
<td>GIS Data</td>
<td>4</td>
<td>Number of counties improving GIS data</td>
</tr>
<tr>
<td>GIS Data</td>
<td>95 %</td>
<td>Percentage of State operating with upgraded GIS data</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Your Established Metrics</td>
</tr>
<tr>
<td>GIS Data</td>
<td></td>
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<tr>
<td>GIS Data</td>
<td></td>
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<tr>
<td>Activity Category</td>
<td>Quantity or Percentage of Metric</td>
<td>Program-Wide Common Metrics Example</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------------------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Equipment Upgrades</td>
<td>14</td>
<td>Number of PSAPs that received NG911 compatible equipment</td>
</tr>
<tr>
<td>Equipment Upgrades</td>
<td></td>
<td>Number of workstations using upgraded equipment</td>
</tr>
<tr>
<td>Software or Application Upgrades</td>
<td></td>
<td>Number of software or application licenses issued</td>
</tr>
<tr>
<td></td>
<td>Quantity or Percentage of Metric</td>
<td>Your Established Metrics</td>
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<tr>
<td>Equipment Upgrades</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Software or Application Upgrades</td>
<td>16</td>
<td>Number of PSAPs that received NG911 software or application licenses</td>
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<td></td>
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<tr>
<td>Activity Category</td>
<td>Quantity or Percentage of Metric</td>
<td>Program-Wide Common Metrics Example</td>
</tr>
<tr>
<td>ESInet Migration</td>
<td></td>
<td>Number of PSAPs migrated to an ESInet</td>
</tr>
<tr>
<td>ESInet Migration</td>
<td></td>
<td>Number of counties migrated to an ESInet</td>
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<tr>
<td>ESInet Migration</td>
<td>100%</td>
<td>Percentage of the State migrated to an ESInet</td>
</tr>
<tr>
<td></td>
<td>Quantity or Percentage of Metric</td>
<td>Your Established Metrics</td>
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<tr>
<td>ESInet Migration</td>
<td>97</td>
<td>Number of Originating Service Provider connections moved from legacy network to new ESInet</td>
</tr>
<tr>
<td>Activity Category</td>
<td>Quantity or Percentage of Metric</td>
<td>Program-Wide Common Metrics Example</td>
</tr>
<tr>
<td>---------------------------</td>
<td>----------------------------------</td>
<td>-------------------------------------------------------------</td>
</tr>
<tr>
<td>Next Gen Core Services</td>
<td>66</td>
<td>Number of PSAPs operating live on Next Gen Core Services</td>
</tr>
<tr>
<td>Next Gen Core Services</td>
<td>39</td>
<td>Number of counties operating live on Next Gen Core Services</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Your Established Metrics</td>
</tr>
<tr>
<td>Planning for NG911 Readiness</td>
<td></td>
<td>Number of readiness assessments or surveys completed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Your Established Metrics</td>
</tr>
<tr>
<td>Planning for NG911 Readiness</td>
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<td></td>
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<tr>
<td>Planning for NG911 Readiness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activity Category (OTHER)</td>
<td>Quantity or Percentage of Metric</td>
<td>Metrics</td>
</tr>
<tr>
<td>Location Records</td>
<td>Approx. 2.8 million</td>
<td>Number of records transitioned from legacy database to new NG911 database</td>
</tr>
</tbody>
</table>
Certification: I certify to the best of my knowledge and belief that this report is correct and complete for performance of activities for the purposes set forth in the award documents.

Printed Name and Title of Authorized Certifying Official:
Adam Wasserman, State 911 Coordinator

Signature of Authorized Certifying Official:

June 21, 2022

Telephone: 253-512-7468

Email: adam.wasserman@mil.wa.gov
1. PROJECT GOALS

The goals of the individual projects are listed below:

- **Project 1 ESInet transition:** Transition from West Automatic Location Information database to new Comtech database and move all Originating Service Provider connections from the legacy network to the new ESInet.
- **Project 2 GIS upgrades and contracted GIS Services:**
- **Project 2a Lincoln County:** Contract GIS Services to compile and standardize GIS data, edit GIS data, fix discrepancies, and coordinate with neighboring counties.
- **Project 2b Whitcom:** Upgrade GIS hardware, software, and data to fully support required NG911 services
- **Project 2c Pend Oreille County:** Create, improve and quality check the Next Generation 911 GIS Datasets that are critical to call routing and locating in NG911.
- **Project 2d San Juan County:** The goal of implementing Managed Services in San Juan County is to update existing legacy software, and streamline maintenance and upgrade tasks for the Spillman CAD and mapping modules. Updates will be processed faster, encounter fewer errors, and reduce the person hours needed through optimization and automation. Staff time will be freed to facilitate GIS data integration with the State and other counties. Using Managed Services dispatchers will be able to use the latest tools and techniques to quickly and effectively analyze and route calls. Successful completion of this project will ultimately lead to completion of better call routing for first responders, and the ability to complete addressing on areas of the county which have no addresses at all (on some populated islands no addresses exist at all).
- **Project 3 Statewide ECC Radio Interoperability (SERI):** Leverage PRF and implement policy routing rules for statewide radio interoperability.
- **Project 4 Multi-County Host-Remote CPE Project:** Completion of NG911 host/remote upgrade project providing necessary update to NG911 software and hardware for a geographically diverse Internet Protocol (IP)-based call handling, Private Branch Exchange (PBX) and Management Information System (MIS) Reporting Network. The network will be composed of two host agencies – CRESA and TCOMM that have hub IP-based call handling, PBX and MIS equipment and software connected via the State of WA ESInet, as well as remote locations at Wahkiakum County, RiverCom and WA State Patrol Vancouver. The project will include replacement of all NG911 hardware and software for all participating locations to include new servers, network equipment, workstations and other ancillary equipment.
- **Project 5 Host-Remote IP CAD Project:** Utilize MPLS network services to connect remote PSAP to neighboring host CAD system.
• **Project 6 Real-time Agency Activity Display and Reporting System (RAADAR):** Leverage NG911 IP-based technology to increase interagency and interdisciplinary response effectiveness through data sharing.

• **Project 7 IP CAD to CAD:** Provide CAD to CAD connection between Stevens, Lincoln, and Pend Oreille counties

• **Project 8 CAD Lite:** Implement Cad-lite Server-less program

• **Project 9 Multi-Node CPE:** To install NG911 Call handling equipment that establishes two geo redundant interconnected host agencies (one on the west side and one on the east side of Washington State,) which utilize the existing ESINet to deliver calls to both the host agencies as well as additional workstations at other PSAPS (remote connections.) The goal is to deliver the same, if not better, quality of 911 call sessions while effectively reducing the equipment infrastructure needed to gain the desired result.

• **Project 10 Displaced Call Taking:** Increase the redundancy, scalability, and capacity of Kitsap 911’s Remote 911 system. Demonstrate the ability to provide emergency call taking functionality to other Washington PSAPs in the event of a scheduled or emergency 911 phone outage.

### 2. PROJECT MILESTONES

The milestones of the individual projects are listed below:

• **Project 1:**
  - Completed transition from legacy ALI database to new database
  - Moved all Originating Service Provider connections from legacy network to new ESINet

• **Project 2a:**
  - Updated GIS Layers
  - Performed Quality Control

• **Project 2b:**
  - Purchased Software and Hardware (GIS workstation and large format monitor, workstation software, GIS Server Software
  - Installed and Tested Equipment
  - Migrated GIS and tabular data from Sql Server Express 10.3 Geodatabase to Sql Server 10.7 Geodatabase
  - Loaded best available data into ArcGis to validate address points.
  - Built interface and scripts to process Open Street Map
  - GeoComm resolved approximately 1500 address points
  - Approximately 700 address points field checked

• **Project 2c:** The NG911 Federal Grant Project allowed Pend Oreille County to create, validate, and improving data to enhance emergency call routing and locating, and fully bring the data into compliance with current NG911 standards. New datasets and information were also created to enhance our overall NG911 compliant portfolio by going beyond the minimum NG911 data requirements. By creating, improving, and adding to current and additional NG911 compliant datasets we enhanced the ability of rapid and efficient call locating and routing to assist with effective and reliable interoperability across inter-jurisdictional and
interdisciplinary emergency communications organizations. The following datasets were enhanced as a result of this project:

- Driveway and gate/obstruction mapped and digitized (100%)
- Road Centerline digitized, mapped, and data schema enhanced (100%)
- Address Point mapped, verification completed, conducted cleanup, and data schema enhanced (100%)
- Mapped trails, recreation sites, camp sites, etc. in an effort to improve emergency locating (95%)
- Mapped building footprints to assist in locating, officer safety, situational awareness, disaster response, etc. (95%)
- Mapped critical facilities and infrastructure (95%)

- **Project 2d:** San Juan County 911 completed these GIS upgrades from Classic GeoBase to Geovalidation, Flex CAD Mapping and Flex Mobile Mapping. Additionally, Spillman was updated for the deployment of Managed Services. All objectives have been completed. This was very useful for reducing the workload on GIS/911 staff.
  - Replaced obsolete and deprecated CAD mapping software
  - Streamlined GIS data update process
  - Used Managed Services and Geovalidation to ensure data accuracy and integrity
  - Provided faster update cycles by having the data QA/QC’ed on the front end
  - Reduced person hours needed to update CAD mapping data
  - Enhanced symbology for more information with less screen clutter for call takers
  - Used industry standard Motorola/Spillman Geovalidation/CAD Mapping, ArcGIS Server, ArcSDE and Geodatabases for fail-over at the EOC and outside the County with other PSAPs
  - Eliminated the Linux platform and use one common platform (Windows) to speed disaster recovery, backups, and server maintenance

- **Project 3:** This project was not completed.

- **Project 4:**
  - Successful installation of central equipment and workstation equipment completed for all PSAPs and CRESA backup location
  - Successful training of technical and dispatch operations end users completed for all PSAPs.
  - Successful cutover to new system for all PSAPs
  - Completion of payment of all Solacom milestone invoices for all PSAPs

- **Project 5:** This project was not completed.

- **Project 6:** While statewide connections were not completed multiple agencies were onboarded, processes were improved, redundancy of the RAADAR system was completed.
  - Submitted Charter
  - Confirmed participating PSAPS and developed implementation plan
  - Standardized basic shared data
  - Installed redundant RAADAR servers
  - Created an installation schedule
- Completed installations
- Submitted expansion plan.

- **Project 7:** Provided software and technical support to provide a three county connectivity so that 911 information can be shared directly.

- **Project 8:**
  - CAD Lite v2.0 has been fully developed and will be deployed as soon as SNO911 and ValleyCom 911 staff are ready for the transition. Version 2.0 includes a significant amount of workflow fixes, new features, and redesign. This new version has greatly expanded the functionally of the CAD Lite system.
  - Cadlite.org is now hosted within AWS Gov Cloud and the redesign to serverless architecture is complete. This provides dynamic scaling based on load to account for increased demand as needed.
  - Once training is complete the cadlite.org domain will be pointed to the new V2.0 system and all traffic will be directed to the new version.
  - DevBlock delivered the needed information and tools for ingesting ValleyCom 911 data into the appropriate instance within cadlite.org. ValleyCom 911 has provided several key data sets to SNO911 for review and manipulation. Once the data has been prepped, DevBlock will push the configuration into the ValleyCom 911 instance of cadlite.org. This will allow ValleyCom 911 to manage calls for service according to their own processes.
  - The RapidSOS interface has been fully tested within the sandbox environment and functions as specified. As soon as cadlite.org traffic is repointed to the V2.0 system, RapidSOS will be functional within cadlite.org.

- **Project 9:** Project concept was drafted followed by an interlocal agreement (ILA) adopted by the participating counties for the purpose of implementing an NG911 shared equipment installation. The ILA was specifically drafted so that each agency was responsible for their own acquisition and procurement of equipment instead of one sole entity. Design of the project was drafted, and equipment was ordered. Once equipment arrived it was staged for installation. Install occurred and a brief testing and soak in period occurred followed by a very quick cut over.

- **Project 10:**
  - Upgraded and purchased additional hardware to convert Kitsap 911’s remote 911 virtual server backend to a fully redundant model capable of supporting all remote 911 virtual workstations in a hot standby architecture capable of being deployed across multiple geodiverse locations.
  - Upgraded and purchased additional hardware to convert Kitsap 911’s virtual server storage area network to a fully redundant model capable of supporting all remote 911 virtual workstations in a hot standby architecture capable of being deployed across multiple geodiverse locations.
  - Secured a mutual aid partner to assist with testing the ability to provide emergency call taking to another PSAP at Kitsap 911’s location.
  - Increased capacity of the remote 911 virtual workstation server backend and storage area network to support additional virtual 911 phone consoles to be used by mutual aid partners.
- Delivered a fully configured redundant virtual server back end which has been tested to ensure full hot failover and redundancy, a fully configured redundant storage area network for the virtual workstation images which has been tested to ensure full hot failover and redundancy, and multiple virtual 911 phone consoles which have been tested by a mutual aid partner and found to provide sufficient functionality to receive and answer 911 calls from their jurisdiction.

### 3. CHALLENGES AND LESSONS LEARNED

- Training due to staff shortages and covid-19 restrictions proved to be difficult and largely had to be scrapped.
- Address point validation proved to be more difficult and expensive than expected. It was a struggle to get all points validated with the limited ancillary data available; however, site visits and further investigative work eventually were able to validate nearly all points (99.6%)
- Take time to make your data schema as close to perfect as possible.
- Changes 'mid-stream' are difficult and time consuming.
- Automating the data update process through ModelBuilder/Python takes time but worth it overall.
- Converting to ArcGIS Pro platform added increased complexity and required troubleshooting for ModelBuilder.
- We were unable to complete the Statewide Emergency Radio Interoperability project. Before requesting grant funding, it would have been more efficient to have a detailed project plan, rather than a great concept.
- Having four very diverse PSAP operations and the way each handles calls is a challenge for any single vendor to meet each individual PSAPs needs and expectations
- Identifying a very clear notification and feedback process for when there is a failure at one of the locations or to the network as a whole. This was something we needed to go back to the vendor to define and set measurable expectations.
- While we had hoped that using the same vendor for the multi-county host remote CPE as the State uses for the ESINet that it would enhance communications and cooperation between the two services, that has not always been the case. Several times wanted changes were held-up as the two services tried to work things out between the ESINet Services and the CPE services.
- Political issues sometimes hindered the timely completion of milestones.
- Changes in personnel required time to get new staff up to speed on projects.
- The primary challenge for the RAADAR project was availability of staff at each PSAP to complete necessary work to either a) have an appropriate backup/reporting server to connect to or b) support connectivity, user testing and user training.
- It was a challenge to coordinate different counties schedules, current staff shortages, and other issues.
- Ask more questions to the vendor, including implementation check lists. We really didn’t get full details of what was needed for compatibility between the counties’ existing software.
• Ensure subrecipients are aware of best practices/federal requirements to pass-through funding.

• Have several contingent projects ready to go if additional funding becomes available.

• On CAD-Lite project, the primary CAD system was upgraded to a newer version in the first week of March. Unfortunately, this upgrade did not go very well, and all available staff were focused on post upgrade issues. This caused some delay in testing the V2.0 payload.

• On CAD-Lite project, The ValleyCom 911 CAD system is dated and does not provide easy access to data. ValleyCom 911 has provided all that they can, and additional needs will likely require their CAD vendor to assist.

• One of the biggest challenges that occurred was the communication between the call handling equipment vendor and the carrier vendor. This delayed the project by a significant amount, almost a month, before testing began to occur which pushed everyone back closer to the deadline ensuring we were up and running successfully.

• One of the other challenges was not having a complete picture of the anomalies that would occur for the agencies that were refreshing equipment but going from a standalone system to a shared system and what those global realities were with the system.

• It would have been nice to have more time to ensure we had adequate checks and balances in place in order to avoid road bumps in the implementation process.

• The Remote 911 system leverages the public internet (via VPN) to allow call takers and dispatchers to work from locations other than the PSAP. In December and January Kitsap 911 had a COVID outbreak at their facility along with employees with non-COVID illnesses. Many of these employees were contagious but otherwise able to work. The number of concurrently ill employees threatened to impact our service levels and we nearly had to deploy our admin and technical staff to work the dispatch floor and to “close” dispatch consoles in order to maintain core operations. Fortunately, we were able to leverage remote kits to allow our potentially contagious and high risk employees to work from home and to further spread out the employees working in the building. This was a great success. However, the volume of people working remote uncovered challenges inherent in using “best effort” quality ISPs and home networking equipment. Momentary network disruptions that have minimal impact on things like zoom calls can create major obstacles in emergency situations. While we anticipate further refinements of our tools to allow for continued work from home remote scenarios our local backup strategy will likely rely on heavier use of government and commercial facilities as remote workplaces. Either way, the remote 911 project has demonstrated that we have a viable cost-effective mechanism for deploying a geodiverse backup strategy and for ongoing remote work options.

• The initial mutual aid test with Columbia County was only partially successful. The plan was to use the ESINet to route a Columbia County 911 call to Kitsap 911 and have it automatically rerouted back to Columbia County where it would be answered using a remote kit connected to our CPE. Due to configuration errors on the ESINet provider’s side the Columbia County 911 call was not able to be
isolated into the mutual aid queue in our CPE, requiring manual intervention at our PSAP to re-route the call. The ESI\Net provider was unable to complete on the fly rerouting so further testing was delayed. We were ultimately able to complete a full test successfully. We need better control of our ESI\Net rerouting options, and the NOC needs to be able to complete on the fly route changes in time critical situations. (Note- Columbia County is planning to leverage our remote 911 tech to remain fully operational during an upcoming CPE upgrade).

4. FUTURE NG911 IMPLEMENTATION

- Several datasets that would be an enhancement to the NG911 data have been identified and work will continue on include: mapping of critical infrastructure, building footprints and remote campgrounds.
- Continued GIS support to be able to supply the updated data in the required format, in the required time frame. GIS is the cornerstone upon which Next Generation 911 depends, and without continued support specifically for GIS new challenges to full implementation will be difficult to overcome.
- Statewide Emergency Radio Interoperability
- The next upgrade for the multi-county host remote project will be the implementation of integrated text-to-911 for RiverCom. This will allow RiverCom the ability to provide Text-to-911 service for the first time to their community. The other three PSAP are currently providing Text services through other means. Once RiverCom has added this service the other three PSAPs will look to transition to integrated Text.
- We have had inquiries from other PSAPs who may want to join the multi-county host remote system. We would like to make sure the system as it exists will have the bandwidth and be robust enough to handle additional traffic before we look at adding another PSAP.
- The current multi-county host remote system only has the ability to work off of two redundant cores. In order to increase resilience and geo-diversity we would like to explore a system that can work seamlessly with three (3) cores. We believe that this would be more robust and provide much better disaster recovery option than the current model.
- Without a mandate, policy, or other strong impetus to prioritize the work, PSAPs may not ever connect, and the loss of state-wide interagency data sharing will be unavailable.
- A list of desired vetted projects if further funding becomes available.
- Further training for employees.
- Time is a key component. If one has the proper amount of time any other obstacle can be overcome or remedied.
- We need better control of our ESI\Net rerouting options, and the NOC needs to be able to complete on the fly route changes in time critical situations.