Current Federal Grant Projects

Project 1: Comtech Transition: Project complete.

The most important component of a NG911 system is the ESInet. In 2016 Washington completed the contracting process for a new, statewide NG911-capable ESInet delivered by Comtech. The arduous process of transitioning an entire state to a wholly new network was met with technical, legal and contractual obstacles which delayed the project for over a year and resulted in unanticipated cost increases. Now that the project is back on track, we are half-way through three of the four project phases. We completed the first phase of ESInet core buildout and interconnection with the previous network in early 2018. The second phase of cutting 60 PSAPs over to the new ESInet finished on March 7th, 2019. We are in the third phase of transitioning from the West Automatic Location Information (ALI) database to the new Comtech database. Upon the completion of the ALI transition we will enter the final phase – moving all Originating Service Provider connections from the legacy network to the new ESInet. The project delays pushed out the original completion date and requires the dual-provisioning and operation of two networks for an extended period. The entire project is expected to be complete in January 2020. Grant funds will be utilized for costs associated with the operation of the NG911 ESInet while it is part of a dual system with the legacy network, until the legacy network is shut down and we are operating solely on the NG911 ESInet.

Project 2: GIS Upgrades and Contracted GIS Services

An important element of NG911 is geospatial call-routing and improved location services. Four counties require GIS upgrades in order to be able to take advantage of the Location Validation Function (LVF) and statewide map that will soon be available in the new ESInet. These counties have been using end-of-life software and hardware systems that lack the fundamental capabilities required to manage GIS data in a NG911 environment. They also require GIS consulting expertise that is not immediately available to them to collect, prepare and maintain the data. Upgrading these systems to current technologies will allow the counties and PSAPs to fully realize the benefits of the LVF when geospatial routing is activated on the new ESInet.

- **Project 2a: Lincoln County GIS E20-187**
- **Project 2b: Whitcom County GIS E20-188**
- **Project 2c: Pend Oreille County GIS E20-192**
- **Project 2d: San Juan County GIS E20-191**

Project 3: Statewide Emergency Communications Center Radio Interoperability Project (SERI)

The Policy Routing Function (PRF) in the new ESInet will allow for multiple options in routing and delivering 911 calls, but these features cannot be fully realized if there is no method of getting the

incident information from those calls to Field First Responders and other PSAPs. In order to fully achieve the vision of NG911 in Washington, an essential delivery mechanism for emergency incident data is needed. The Statewide Emergency Communications Center Radio Interoperability (SERI) project will enable PSAPs across the state to communicate with one another via PSAP-dedicated talk groups and allow interconnectivity between PSAPs' radio systems. This ability will be an invaluable benefit in situations where PSAPs need to dispatch for each other; and by utilizing the new ESInet backbone, geographic restrictions that normally hinder the process, would be removed. This is a necessary element in the NG911 environment to communicate 911 call information or emergency incident data between PSAPs and allow the ability to dispatch calls for service to the local responders on the impacted PSAPs radio system. Leveraging PRF and implementing policy routing rules will improve reliability, redundancy, and 911 call processing; allowing for a true comprehensive, statewide continuity of 911 operations plan in the face of potential major disasters such as the Cascadia Subduction Zone earthquake, volcanic eruptions and tsunamis. The SERI project is a two phased event. The first phase will consist of identifying requirements and development of an RFP. There will be a beta test consisting of no less than 10 PSAPs of varying size, location and equipment. Once proven, phase two will implement SERI in the remaining PSAPs.

Project 4: Clark Regional Emergency Services Agency CPE Host/Remote E20-193 (also referred to as the Consortium – CRESA is the subrecipient with TCOMM, Wahkiakum County, and Rivercom as participants)

One of the major advantages of the IP-based technology that NG911 provides is the ability to leverage improved interconnectivity to create efficiencies in the 911 system. A seven-county consortium is seeking to establish a host-remote Call Handling System that would place two (redundant) sets of backroom CPE in geographically diverse locations and utilize the new high-speed ESInet connections to remotely delivery calls to multiple remote PSAPs. This multi-node concept will minimize the number of backroom equipment installations and lower maintenance while allowing enhanced interoperability between the multiple PSAPs. Host remote CPE has been used in Washington on a very limited scale for a small PSAP near the host. This project will include a mix of large, medium and small PSAPs that are not in close geographic proximity. The project will also address a major concern of resiliency in Washington where the Cascadia Subduction Zone threatens the western part of the state, including the heavily populated I-5 corridor. By locating one of the backroom hosts outside of the CSZ impact area, it adds significant resilience to the 911 system against this major earthquake threat. This project aligns with Washington's larger goal of seeking efficiencies and leveraging technological improvements to reduce costs associated with the infrastructure and to improve overall redundancy and resiliency.

Project 5: Cowlitz County Host/Remote E20-186 – CLOSED – not being completed

Accurate and timely dissemination of evolving emergency call details are a critical function of 911. In the NG911 environment we will be able to improve this process and find opportunities for efficiencies by capitalizing on IP-based technologies. This project will utilize MPLS network services via the Washington ESInet, a NG911 technology already in place. Real time data communications will be transported through connectivity of one neighboring county's PSAP (remote) to another neighboring county's (host) CAD system, allowing the two PSAP's and first responders to share the same CAD equipment, direct communications, emergency call details, GIS data, and unit status information all in real-time. This project will add to the current shared regional radio interoperability, establishing full interoperability between Cowlitz and Clark County PSAPs, improving efficiencies, reliability, cost sharing and redundancy. The project will enable real-time communication across the two counties as well as leverage the Portland Dispatch Call Consortium; PDCC; TELLUS platform used by the CAD systems to communicate emergency call information in real-time with several neighboring counties across state borders in Oregon; and ambulance services. This project will utilize current and future NG911 technologies, reduce 911 emergency call transfers, and mitigate interrogation delays between bordering counties enabling a seamless integration with emergency medical services, saving valuable time. Furthermore, this project enhances and expands on several key concepts associated with the functional elements comprising NG911 services – specifically by ensuring that data collected at one PSAP is readily available and shared in real-time with other regional partners from the PSAPs to the first responder in the field.

Project 6: Norcom Real-Time Agency Activity Display and Reporting System (RAADAR) E21-113

Visibility and exchange of event information will be even more critical in the NG911 environment because of the potential increase of information readily available. Real-time Agency Activity Display and Reporting (RAADAR) is a unique and economical tool that will achieve the NG911 goal of full and effective regional information exchange between PSAPs, EOCs, police, fire, and medical agencies throughout the state. It is a customized web-based application that displays near-real time active 911 call information, directly linked to any CAD system. It presents 911 calls in progress in a unified format, with associated call details, and customizable content including automatic vehicle location (AVL), real-time radio and more. RAADAR works with any IP-based system in the state and fills an important gap in current services by overcoming technology silos that block information sharing. RAADAR will make an immediate impact with minimal technology cost. Statewide deployment of RAADAR is a big step in sharing of information and coordination of resources at the state, county and

local levels. RAADAR has been initially tested and implemented in four PSAPS within King County. Grant funding will allow expansion of RAADAR across the state and test its capacity on a much larger scale. RAADAR will serve as a precursor to the Emergency Incident Data Document (EIDD) concept – allowing two or more PSAPs to easily share not only calling party information, but also call details, resource requests and response information to multi-jurisdictional incidents and events.

Project 7: IP CAD to CAD Interface

Accurate and timely dissemination of evolving emergency call details are a critical function of 911. In the NG911 environment we will be able to improve this process and find opportunities for efficiencies by capitalizing on IP-based technologies and leveraging interoperable systems in some of our most rural eastern Washington counties (Stevens, Lincoln and Pend Oreille). This CAD to CAD Interface project would improve interoperability by exchanging real-time call data and automatically populating it without having to utilize additional equipment, hardware or email. This reduces telecommunicator workload, saves time, and increases accuracy and efficiency. This interface uses the National Information Exchange Model (NIEW) to ensure interoperability with both Spillman and non-Spillman CAD systems, along with using Secure Socket Layer (SSL) certificates for security. This project will utilize current and future NG911 technologies, reduce 911 emergency call transfers, and mitigate interrogation delays between bordering counties enabling a seamless integration with emergency medical services, saving valuable time. Furthermore, this project enhances and expands on several key concepts associated with the functional elements comprising NG911 services – specifically by ensuring that data collected at one PSAP is readily available and shared in real-time with other regional partners from the PSAPs to the first responder in the field.

Project 8: Snohomish County CAD-Lite

The ESINet is perhaps the most impactful component of NG911 because of the features and functions that are possible through its use. One in particular is the ability for a PSAP experiencing either a technology/infrastructure problem or a physical emergency that prevents staff from answering 911 calls, to re-route their 911 calls to another PSAP so those calls do not go unanswered. While the ESInet makes this possible, the question has always been "then what?" The receiving PSAP may be able to answer the 911 calls, but then how do those emergencies get relayed back to the home jurisdiction for dispatch? While a small center may be able to establish a voice relay via radio or telephone, that becomes unmanageable for medium/large PSAPs or even small PSAPs during busy periods. The concept of 911 calls re-routing to a backup is undervalued/underutilized because there is no viable answer to the "then what" question. Snohomish County 911 (SNO911) has developed a system that can provide that solution as well as being a back-up to another agency's primary CAD (Computer Aided Dispatch) system. SNO911's CAD-Lite is a secure cloud-based CAD system that

we use for planned and unplanned CAD outages. We would like to extend this system for use in other PSAPs. The ESInet provides the vehicle to reroute 911 calls, and CAD-Lite provides the vehicle for processing those calls so they can be seamlessly received back at the home jurisdiction by any authorized user via a web-connected device, whether it is the 911 staff or responders themselves. Another PSAP could localize it for their own jurisdiction by using their own map layer, type codes, units and other terminology. A localized version will lessen the burden for dispatchers to learn a new system because it will have many of the common terminology and structure of their primary system. Although CAD-Lite is live today, SNO911 is entering a new phase in development that includes a number of improvements, including migration to a "serverless" infrastructure within the AWS Gov-Cloud. One of the key benefits of the serverless infrastructure is new instances of CAD-Lite can be provisioned quickly and relatively easily. This is the first step toward allowing other agencies to configure their own instance of CAD-Lite for their own use.

Project 9: Multi-node Host-Remote CPE

We currently have an approved project for a multi-node CPE project serving multiple Counties/PSAPs and are seeking approval for another on the eastern side of the state. This project would place two (interconnected) sets of CPE in geographically diverse locations and utilize the existing ESInet connections to deliver calls to the workstations in additional PSAPs in multiple Counties. This multi-node concept will minimize the number of backroom equipment installations and lower maintenance while allowing enhanced interoperability between the multiple PSAPs. This project will include a mix of small-to-medium PSAPs and is scalable to include additional PSAPs across the state. This project aligns with Washington's larger goal of seeking efficiencies and leveraging technological improvements to reduce costs associated with the infrastructure and to improve overall redundancy and resiliency.

Project 10: Kitsap County Displaced/Remote Call-taking/Dispatching Solution

If COVID has taught us anything, it is the need to be flexible and take advantage of IP based technologies to successfully execute any mission remotely. This project seeks to deploy technology to allow call takers and dispatchers to work from alternate locations, such as from home, a base camp, a command post, etc., with substantially similar capabilities as if they were working in the PSAP. This phone solution leverages VPN, virtualization, Zetron MaxCT CPE, and the public internet to deliver 911 calls including ANI/ALI, transfer ability, and other core features to remotely located workers. It is sized for Kitsap County 911 operations and designed as an additional backup without full end-to-end redundancy but is scalable with the capability to add additional redundancy. In addition to adding redundancy, scaling up the servers would allow expansion of remote 911 call

taking solution to additional Washington PSAPS. The scope of this project is limited to providing scheduled or emergency call taking functionality in the event of a CPE outage. It would also serve as a proof of concept for CPE sharing outside of our state's host/remote model. The system may be able to be leveraged in the event of a partial ESInet outage depending on the type of outage and alternative internet connectivity capabilities of the participating agencies.