

DISTRICT OVERVIEW

WHAT IS THE COLUMBIA 9-1-1 COMMUNICATIONS DISTRICT?

C911CD is the sole public safety 9-1-1 answering point and dispatch center for all public safety agencies based in Columbia County, Oregon. The District also serves small adjacent portions of Clatsop and Multnomah Counties. The District is an Oregon special district formed under Oregon Revised Statutes Chapters 198 and 403. The District is governed by a Board of Directors elected from five geographic zones within Columbia County. The Directors serve at large and select their President, Vice President, Secretary and Treasurer. The Board governs with the participation of a statutory Advisory Committee consisting of appointed executives from each law enforcement, emergency medical, emergency planning and fire service based in the county. The Board appoints five citizen members to the annual Budget Committee.



The Columbia 9-1-1 Communications District provides 9-1-1 call-taking, dispatching and nonemergency communications services for seven law enforcement agencies and five fire districts – including emergency medical dispatch for four fire district owned ambulance services and one private ambulance. In addition, the District provides a variety of communications support activities for several other public and private entities in the county. The District owns and maintains the dispatch center facilities and the county-wide public safety communications system, including the narrowband Very High Frequency (VHF) 8 channel simulcast voice radio system, Ultra High Frequency (UHF) mobile data system, the microwave backbone and associated remote facilities.

THE FIRST TWENTY YEARS OF THE DISTRICT:

In 1989, Columbia 9-1-1 Communications District was the second emergency communications district formed in the State of Oregon, originally named Columbia County Emergency Communications District. This formation allowed for the consolidation of all emergency communications under one Special District, that had previously been done by individual agencies or Central Dispatch that had operated out of St. Helens Police Department. The District's first operating levy was passed in 1990, providing one year of operating funds. The District operated for the next ten years utilizing carryover funds from the previous organizations, the 9-1-1 excise tax, and a permanent property tax which was passed by the voters at \$0.010 per \$1000 assessed value in 1992, plus small user fees for specific services. In 1992, radio antenna sites began to be established across the county to enhance emergency communications for first responders.

NEED FOR NEW FACILITY AND ESSENTIAL UPGRADE TO EQUIPMENT:

The District was faced with inadequate operational space, rising activity levels and ineffective equipment, the District sought a five-year local option levy to fund a new facility and an upgrade to equipment, which the voters supported in November 1998. The District designed a functional prefabricated modular facility which it began using in November 1999. The new facility not only offered adequate work space but allowed for expansion if the District had a future need for additional space.

In 2000, the District implemented CAD, which interfaces with the 9-1-1 phone system, provides responder recommendation and offers mapping for locations where emergency services are requested. Although completely new technology, the staff learned quickly and realized a new level of proficiency in dispatching first responders.

CONGRESSIONAL EARMARK SECURED FOR NEW COUNTYWIDE PUBLIC SAFETY RADIO SYSTEM AND MICROWAVE BACKBONE:

The public safety agencies the District serves and other partners, including the Chambers of Commerce and CEPA, teamed up with Congressman David Wu, Senator Gordon Smith and Senator Ron Wyden to seek federal funding for replacement of the public safety radio system.

The District was awarded \$1.4 million dollars in grant funds to replace our county-wide public safety radio system in 2001 and the long process of radio upgrade began, finally becoming operational in 2004.



MOBILE DATA BACKBONE MADE POSSIBLE WITH HOMELAND SECURITY GRANT:



The District applied for and received a grant of \$94,154 in fiscal year 2003-2004 to assist in the installation of a mobile data backbone, a \$200,000 project that went on line in February 2005. The mobile data system provides a means of exchanging secure (nonaudible) information between dispatcher and field units and maximizes radio channel efficiency by reducing audible transmission congestion as activity levels grow.

Individual departments are responsible for purchase and maintenance of mobile units on the system, while the District maintains the backbone and data hardware and software. St. Helens Police Department, on behalf of all county agencies, plus several individual departments, applied for and received grants for equipment needed in patrol and fire apparatus to use the system. In 2006 the District added the capability for police vehicles to get drivers license photos over this system. Mapping was implemented in 2007 and automatic vehicle location (AVL) in 2008.

The District completed an intergovernmental agreement to share mobile data backbone use with public safety providers based in Cowlitz County, Washington for the purpose of promoting interoperability, maximizing use and sharing in maintenance and future upgrade costs. This agreement ended in 2013 as most agencies in Cowlitz County moved away from a private network and began using tablet style devices on public networks.

CONTINUED VOTER SUPPORT:

The District, although being extremely conservative spending tax dollars, continued to need the local option levy for operations and growth. The District has listened to the need of the citizens and first responders as our message was shared throughout the County, and the District was pleased to see the renewal of our operating levies meet with a 70.3 percent voter approval in 2004, a 70.0 percent voter approval in 2008 and an 85 percent voter approval in 2013.

FACILITY SECURITY ENHANCEMENTS:

The District was awarded grant funds in 2005 from the federal Homeland Security Critical Infrastructure Protection Program to upgrade facility security. As the sole answering and dispatch point for all emergency services in Columbia County, the Columbia 9-1-1 facility is designated as an essential facility. In 2013 Oregon State Police (OSP) operating as the inspecting agency for the Federal Bureau of Investigation (FBI), began to enforce new CJIS Security Policy. This new enforcement has placed new security access requirement on the District including upgrading door lock access, training and who is allowed access into the District facilities.

RADIO SYTEM ENHANCEMENT: CLATSKANIE MOUNTAIN

The District was awarded \$510,826 in grant funding through the Public Safety Interoperable Communications (PSIC) Grant program in May 2008 for the development of this site in partnership with the SRP formerly Oregon Wireless Interoperability Network (OWIN). The site, which was fully operational on August 18, 2010, replaced the Benson Point site, providing much better county saturation and coverage. The site consists of a used radio building the District purchased in 2007, a new tower and a generator. It has full microwave, voice and data radio capabilities, has been equipped with a video security system and has become a vital part of the District's radio system.



FACILITY EXPANSIONS:

In 2004, the Major Incident Control Center (MICC) module was added to the District facility, this was the second phase of the 9-1-1 facility upgrade authorized by voters in 1998. The center is a multi-purpose facility equipped with up to 20 telephone extensions, 5 outside phone lines, data ports, audio-visual equipment and other tools to allow it to function in a variety of capacities to support operations and public information during major incidents when multiple agencies must coordinate effective response.



During 2010-2011, in order to better meet the needs of the users, the District funded an Information Services Technician position and brought the mapping function, that had previously been outsourced, in-house. Faced with limited office and work space, the District completed the third phase to the facility, which consisted of three additional modules. The addition accommodates workspace for geographic information and facilities systems personnel, meeting space for staff, as well as storage and provides space, at current construction costs, for future needs. The modular unit was funded through diligent multi-year saving that allowed us to make improvements without obtaining debt.



RADIO SYTEM ENHANCEMENT: GREEN MOUNTAIN



In early 2013, the State of Oregon finished construction of a brand new site at Green Mountain in Kalama, Washington. This site, and the resulting relationship with the State, is another strong indicator of the value of partnerships.

Columbia 9-1-1 was allowed access to the site for location of critical communications equipment for voice and data. Location of equipment at Green Mountain is part of a reciprocal agreement that allows the State of Oregon to place equipment at our radio site at Clatskanie Mountain. The move to Green Mountain provides much better radio and data coverage for the St. Helens area up to Rainier with particular improvement on Highway 30. It also made vast improvements to the areas around Deer Island, Goble and Fernhill. This move also allowed the District to move away from an expensive lease agreement with Clark County 9-1-1 at the Goose Hill site in Woodland.

MOBILE DATA SYSTEM IMPROVEMENTS:

In the first major upgrade to the Mobile Data system and prior to his retirement in April of 2013, St. Helens Police Chief Steve Salle was able to secure a homeland security grant to purchase new computer equipment to be used in vehicles. Many of the agencies were using equipment from the initial deployment of Mobile Data in 2005 which by 2013 had lasted well beyond intended lifecycle. Most police agencies have switched to the use of I-pads due to the development of many applications that support public safety. Columbia 9-1-1 also invested in this partnership to upgrade some of our systems to support the use of the I-pads. These I-pads have resulted in a decrease in power consumption in the vehicle, less maintenance costs and a dramatic reduction in the initial cost of equipment. The CAD application for the I-pad is updated regularly and has provided the officers with ability to view calls, view status of other units and maintain all previous functions as with the older computers.

TELEPHONE SYTEM REPLACEMENT:

The District tracks our mission critical and support equipment for effectiveness, efficiency and life span capabilities. During the 2014-2015 fiscal year, the District budgeted for the replacement of two major systems. In each case, the District has carefully evaluated the useful life of each system and has maximized the investment to its greatest potential. All available uses of each system were recognized prior to replacement.

The District's 9-1-1 phone system was last replaced in 2006. Most hardware components were no longer in production and the software could not be updated. The system was truly long past its recommended life cycle. The State Office of Emergency Management (OEM) provides this equipment by way of the 9-1-1 excise tax. The District entered into an agreement with OEM to install a new 9-1-1 telephone system in November of 2014. This new system offers many of the same basic features as the previous system along with some improvements and upgrades. Our new system is considered to be "NG Ready" which will require some software upgrades to adapt to the next generation of 9-1-1 contact options. This replacement also allowed the District to make changes to the 9-1-1 telephone circuits in response to the growing number of wireless calls coming into 9-1-1. The District receives about 70 percent of all 9-1-1 calls from wireless devices. By making changes to the telephone circuits, we reduce the likelihood of a busy signal when multiple 9-1-1 calls are received at the same time.



Due to a change in the way that the OEM interprets equipment purchases, the District was required to purchase its first administrative phone system. These systems had previously been purchased by OEM as part of, or connected to, the 9-1-1 phone system. The administrative phone system includes all office and conference areas and allows for increased productivity due to its interaction with the District's computer network and email systems. The new system also integrates to the 9-1-1 phone system for the ability to talk to the operations floor and for call transferring. Efficiencies were also realized by making changes to the architecture of the incoming phone lines and circuits.

RECORDING SYSTEM REPLACEMENT:

The District operates and maintains a system of recording radio channels, emergency telephone circuits and some administrative telephone circuits. Oregon archive and retention rules require that the District maintain these recordings for a minimum of 7 months. The last upgrade of this system was in 2009 and like many systems; operates every day, 24 hours per day. The District completed a competitive purchasing process in 2014 and selected the system offered by our current vendor, Voiceprint International. The new system was installed in February of 2015. This system is used most every day by administrative staff to produce records for the District Attorney in case preparation, for officers to use to complete reports, records requests by the public and for use as a performance tool.

RADIO SYSTEM EVALUATION:

A final report was presented to the District in May of 2015 providing an overview of the Districts' county-wide radio communications system. Mark Pallans of Pallans & Associates responded to a District issued RFP for a comprehensive audit of our radio communications system. The proposal was accepted and work was completed over a 4-month time frame. The information from the report guides the District as work starts on system improvements and adjustments. The report provides a basic analysis of the communications system and recommends any improvements. The report is not intended to be a technical guide as those details will be vetted out in-depth on a case-by-case basis. The critical issue facing our system is the ability for field users to have consistent and clear communication when using a portable radio in the field. The report confirmed our understanding and belief of this limitation. Since late summer of 2015 the District team has been working on site analysis, frequency search, equipment research and planning efforts on three sites under consideration to improve performance in the south county region.

RADIO SYSTEM ENHANCEMENT: HAVEN ACRES

The evaluation by Pallans & Associates identified some areas of the county where portable radio operation could be improved. The Haven Acres project was in process prior to the start of the evaluation however, it was noted and included in the report. The site at Haven Acres is a receive site that enhances the reception of portable radio users. These radios are lower powered than a radio mounted in a vehicle. They have shorter antennas and are impacted by multiple factors. The addition of a low elevation receive site is intended to capture that portable radio signal and then broadcast it back through the system to dispatch and other users. Noticeable improvement has been obtained in the area around Haven Acres.

VIDEO SECURITY UPGRADE:

In 2016, the District completed a comprehensive replacement of most security camera equipment at the District office. Older aging analog cameras were replaced with newer IP based cameras. This enhancement provided additional coverage in areas that were not previously monitored. Servers were added for storage of the data along with network adjustments to allow for viewing of cameras internally on multiple networks. The District maintains strict adherence to our safety concerns.

COLUMBIA ALERT NETWORK:

In 2000, the Columbia Emergency Planning Association (CEPA), made up of local industries, public safety agencies and other local government and community members, partnered with the District to contract with a high-speed emergency landline based outcall system to use in notification of the public in case of need to evacuate or shelter in place due to chemical accident or other emergency situation.

In 2016, Columbia 9-1-1 has assumed ownership and management of this service. The District will continue with cost sharing agreements with various businesses and agencies as well as Columbia County. C911CD initiates the notifications and pays for the enhanced 9-1-1 data base, which includes nonpublished landline telephone numbers used for call notifications. The District also manages special call-out lists and self-registries for cell phones and other alternative contact information. This new system will allow new opportunities for our partners and staff that our previous system did not allow.

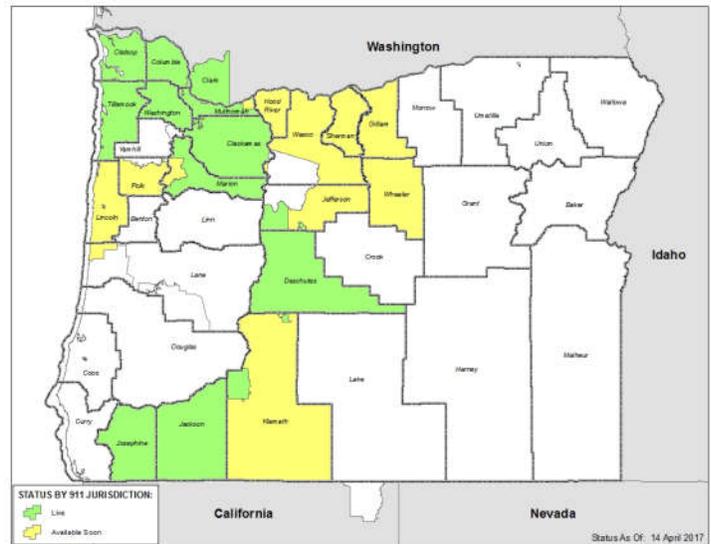
RADIO SYSTEM ENHANCEMENT: FREQUENCY ACQUISITION AND INTERFERENCE MITIGATION

As the next step in the work to improve the Districts Radio and communications system, Pallans and Associates was commissioned to work on two key areas that were outlined in the report from 2015. Our communications system is heavily dependent on the use of frequencies that are managed by the FCC. In our county, we use frequencies that are part of the Very High Frequency (VHF) band. We use this frequency because of the very diverse terrain in our county and the relatively low cost of operation when compared to other technologies. One of the obstacles that we face is the availability of individual frequencies. Pallans and Associates completed exhaustive searches with Federal, State and Tribal agencies to find frequencies that were compatible for our use. This included extensive research and testing. The purpose of this work was to find frequencies that reduce interference from outside sources. This segment of our work was completed in March of 2017 with the acquisition of 8 new frequencies, that combined with our existing frequencies will allow us to use the frequencies more efficiently.

We also identified several situations where other agencies use of the same or nearby frequencies has an impact on our operations. Efforts are under way to reduce or eliminate those sources of interference. For example, we are working with the Port of Portland to find alternate frequencies that they can use to activate equipment to keep the runways clear of birds during the migratory season. These "bird cannons" use one of our radio frequencies to sound an alert that scares the birds off the property.

TEXT TO 9-1-1:

In response to developing concerns around the region and our nation, C911CD implemented technology that allows for the receipt of text messages for 9-1-1 requests. The implementation of this technology was part of a pilot project that was funded by the 9-1-1 Program from the Office of Emergency Management. The funds were provided from the account that collects the .75 cent tax on all phones in Oregon that are capable of dialing 9-1-1. The project was in direct response to the advancing implementation in Washington State of a Next Generation 9-1-1 network. In Washington State, Clark County in particular, callers will soon be able to send texts, photos and videos to 9-1-1 by means of a new statewide network. Oregon will have the same network at some point, but is several years away. With Clark County being part of the Regional Disaster Preparedness Organization and a long-standing partner with the 9-1-1 centers in the greater metro area, it was important to the Oregon agencies to develop technology that would complement what was happening in Clark County. The regional 9-1-1 centers are very concerned about disparate service offerings since many citizens are served by multiple 9-1-1 agencies.



The pilot project includes the 9-1-1 centers in the Oregon counties of Washington, Multnomah, Clackamas, Columbia and Clatsop. The City of Lake Oswego 9-1-1 center is also included. Due to the overwhelming success of the pilot project, many other areas of the state are implementing the same technology. The attached map shows the capability across Oregon as of March 29, 2017. Green counties are live, the yellow counties are in progress of implementation and the white counties do not currently offer Text to 9-1-1 service.

REGIONAL PARTNERSHIP FOR COMPUTER AIDED DISPATCH (CAD):

In 1999, the District purchased the first Computer Aided Dispatch (CAD) system. The CAD system is a software solution that is used for the fundamental purposes of entering data from callers who are requesting services and to track the resources that respond to those requests. This system is the primary tool used by our staff to complete many of their job tasks. A CAD system is a very complex system that has many features available to our staff and to field users. In addition to the tracking of calls and resources, the CAD system provides report and data collection, allows for remote connections for other users to access the data and incorporates connections from other systems which allow the dispatcher to have a broad range of features available to them to complete their jobs.

Increasing frustration from rising maintenance costs and change of our current vendor's vision resulted in C911CD's desire to explore options for our CAD system. Due to the complexity of the systems and limited marketplace, looking for a new CAD system is an exhaustive and expensive process.

In April of 2014, the 9-1-1 centers in Washington County, Clackamas County and the City of Lake Oswego entered into an IGA to form the Metropolitan Area Joint CAD System (MAJCS) partnership. It established the common purpose of the partnership, the funding model, the governance structure, and the acquisition and billing processes for replacement of each of their current CAD systems. After a lengthy start and a delay in their project, they approached C911CD with information and an offer to join the regional project.

In June of 2016, after careful research and deliberation, C911CD decided to join the partnership and become the fourth 9-1-1 center on the project.

C911CD has been active in preparation to switch to the new system with all four of the other 9-1-1 centers. We are expecting to begin using the new system in February or March of 2018. This project allows C911CD to utilize the newest computer technology and the latest industry standards for this type of software system at a much reduced cost to join and creates a vast network of support. C911CD would not have been able to afford a system of this quality without the regional effort.

RADIO SYSTEM ENHANCEMENT: PISGAH HOME

With the ongoing research to improve our radio system, we identified that certain physical location changes may be needed. As part of our effort to improve coverage in the Scappoose area, we identified the site at Pisgah Home Road to be a critical need. This is a site that C911CD previously used prior to the new radio system in 2003. Extensive testing of portable reception in the Scappoose area proved that this site should be used once again. This property is owned by Weyerhaeuser and C911CD successfully negotiated a long-term lease for the property. Due to our existing relationship and lease at Clatskanie Mt, this process for the Scappoose site was very easy to arrange.



The existing site equipment was purchased from Day Wireless and will require considerable renovation to bring the site up to industry standards. C911CD will utilize one of the shelter buildings and will erect a new three-leg self-supporting tower that will meet federal requirements. The current towers do not have the capacity for equipment that we will require and did not pass inspection. The initial plans call to move the equipment currently at the Bald Hill site to the Pisgah Home site when it is operational.