

**ADDITIONAL
AGENDA ITEMS
FOR
AUGUST 11, 2015
CITY COUNCIL
MEETING**

Clackamas 800 Radio Group

11300 SE Fuller Rd

Milwaukie, Oregon 97222

(503) 780-4806

July 14, 2015

To: Seth Atkinson, Bryan Cosgrove, Bill Elliott, David Frasher, Gene Green, Dan Huff, Chris Jordan, Scott Lazenby, Bill Monahan, Rick Robinson, Jolene Morishita, Jason Tuck, Don Krupp, Laurel Butman

Cc: C800 Board Members

From: Leslie Taylor, Chair C800
John Hartsock, Manager C800

RE: Replacement of the Clackamas Public Safety Communications System

Thank you to those of you who participated in the briefing Laurel Butman and I provided on the Clackamas Public Safety Communications System Replacement project during the July 6th City Manager meeting. The discussion was helpful and identified areas of concern for C800 member organizations, and other county stakeholders. The following is supplementary information on the project as well as some additional details on mobile/portable or "subscriber" radios. I have also attached a "Frequently Asked Questions" document.

At the September 2, 2015 C800 Board Meeting, the C800 Board will be voting to approve the current consensus of recommended project parameters, see below. This is to finalize the C800 Bond Measure request to present to the Clackamas County Board of Commissioners for placement on the May 2016 ballot. The C800 Board will need unanimous approval of all the Partners to approve development and expansion of the system as is codified in the Intergovernmental Agreement.

John Hartsock, C800 manager, Ron Polluconi, WCCCA Technical Services Supervisor, or Leslie Taylor, current C800 Board Chair, can assist in presentations or future stakeholder briefings.

Public Opinion:

C800 has completed an electronic public opinion focus group in June, which helped outline the project approach. Last week a quantitative survey was completed (a 20 minute, n=400 survey) among likely May 2016 voters in Clackamas County. The final report and analysis on the survey is not yet available but raw data shows a 62% favorable vote after some education on the issue.

Subscriber Radios:

A number of City Managers voiced concerns about not including the cost of subscriber radios in the bond, as this is a considerable local expense. For a bit of background, the C800 Executive Committee for the Project, after much deliberation, determined that the infrastructure or backbone of the system should be included in the bond. But the subscriber radios should not be included and remain an individual agency responsibility. Or to compare it to a transportation system – the roads are the infrastructure and provided for everyone; but the cars are an individual responsibility.

The Executive Committee considered it very important to not exceed the 10¢ per thousand of assessed valuation on the 15 year bond. The cost of adding the digital subscriber radios would have added \$12 million to the total cost or an additional 2.5¢ per \$1,000 of assessed valuation. Further, some of agencies have already acquired the new digital radios through grant dollars and local expenditures.

Once the C800/WCCCA replacement system is operational in FY 2018/2019 the subscriber radios should be Project 25 **phase II** digital capable, with the over the air programming feature, as a minimum to allow the system design to fully deliver the enhanced operation. Some existing radios already meet this standard. At a minimum to facilitate cut over from the existing system to the new system all radios must be Project 25 **phase I with** the over the air programming feature.

The phase II digital design expands available radio resources to the dispatcher and end user to minimize system busies at a substantially lower cost than a phase I design. When analog or phase I digital subscriber radios operate on a phase II system they take twice the resources as a phase II radio. Think of it as utilizing one channel in a phase II operation but utilizing two channels in a phase I or analog operation. Other system features and amenities are also lost when not utilizing phase II subscriber radios on the new system.

The new system will accommodate analog (as many are today) or Project 25 digital phase I or phase II capable (as some are today) subscriber radios. This will allow C800 users to continue to interoperate with surrounding jurisdictions such as City of Portland and the balance of Multnomah County, Clark County Washington, which will be Project 25 Phase I digital initially, and other jurisdictions.

WCCCA and C800 have secured additional discounts for their users in the amount of 5% to 13% over WSCA pricing on the subscriber radios from Motorola, if that is the vendor utilized. The pricing is based on a group purchase, enhanced by combining the C800 and WCCCA users. The larger the quantity the better the price.

The first round of this purchase option is now open and the orders need to be submitted by August 15, 2015 for a delivery in October 2015 and payment in November 2015. A second round is anticipated in the spring of 2016, a third round in the fall of 2016, a fourth round in 2017, and a final round in early 2018.

The goal is to have all the radios Project 25 **phase II** by mid-2018 to be ready for the cut over to the new system.

Current C800 Board Consensus of project scope and cost:

OPTION 4 -

A new P25 digital radio system, including the associated microwave transport system that has equal coverage and performance to the current system and maintains current interoperability. Further it expands coverage: a) to meet "portable on the hip" usage; b) to improve in-building usage; c) and provides expanded coverage particularly in south Clackamas County as outlined in radio user surveys - Clackamas Drainage, Lolo Pass. Excludes subscriber radios which remain an agency responsibility.

Definition: A like for like replacement with the addition of five additional sites to make up for the performance difference between analog and digital. *Note: The current system is designed around mobile coverage and in the urban areas "portable at the head" coverage.* Addition of six additional sites for expanded coverage at Mt Hood and the Clackamas drainage in South County. Addition of one additional site for the portable at the hip coverage and the addition of two additional sites for enhanced in building coverage (total of fourteen added sites). This will provide the complete system upgrade and expansion as outlined by the Regional Radio Partnership grant study refined and delineated by C800 / WCCCA staff.

ADDITIONAL INCLUDED FEATURES:

SMART Phone Application to allow access to utilize the C800 communication system. Though not recommended for mission critical use due to the availability and reliability of the cell networks it is an excellent option for reducing non-critical subscriber radios for administrative, off duty, nonpublic safety personnel, or volunteer use. It offers a way to extend the existing infrastructure for some users without having to purchase a \$5000 subscriber radio.

Replace Current Paging System to provide an 800 MHz paging solution to upgrade the current outdated technologies, reduce maintenance, minimize CAD interfaces, and improve performance.

Post Warranty support for a 10 year extension of manufacture warranty support for the communication system.

System refresh – Equipment and Software Upgrades to every 2 years for a ten year period to upgrade equipment and keep software current.

Total Cost As Proposed: \$53,592,500 // 10¢ per \$1,000 of assessed valuation for 15 years or an average homeowner cost of \$2.09 per month or \$25 per year.

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Frequently Asked Questions About the Replacement of the Clackamas County Public Safety Communication System

July 16, 2015

Why Does the Public Safety Communication System Need to be Replaced?

There are 5 primary reasons why the communication system requires replacement:

1. **End of Life** – The existing analog radio system components are already beyond their end of life/end of support or will become unsupported by the vendors as of December 2017 or the “End of Life”. (See question #2 below for additional information.)
2. **Transition to Digital Technology** - Whether its smart phones, TV’s, or public safety radios the industry and the technology they invent and market has converted to digital. In order to meet nationally recognized APCO interoperable standards for Public Safety Communications, the future, and current equipment is all based upon current digital technologies.
3. **Interoperability** – *The ability of public safety responders to share information via voice and data communications systems, on demand, in real time, when needed, and as authorized.* See question # 7 below for additional information.
4. **Population Growth** - With the population growth over the last 20 years in Clackamas County, additional radio coverage is required.
5. **System Coverage** - The existing communication system has limited coverage or service along Hwy 26 in the Mt Hood area and up the Clackamas drainage from Estacada south. Further “in building” radio coverage to key buildings like schools, hospitals, retail centers, and large office buildings must be improved.

What do we mean by “End of life”?

The existing analog radio system is early 1990's technology and the components have either become or will become unsupported by the vendors as of December 2017. "Unsupported" means that replacement parts will be increasingly difficult to find due to the manufacturer's no longer supporting the product lines and the diminished availability of refurbished parts. The radio vendor no longer can guarantee that the existing analog radio system can be repaired when an unsupported component or assembly fail. In addition, many of the engineers and system technology experts in the radio industry are either focused on newer digital technology or have retired. The ability to find knowledgeable individuals to support the existing analog radio system is becoming increasingly difficult.

The current system has experienced an increasing number of system component failures that have only been mitigated due to the tenacity of the technicians. These failures have forced the technicians to search on-line auction sites and third-party vendors in efforts to obtain replacement parts or cannibalize other system parts or borrow parts from neighboring public safety jurisdictions. A failure in one of the major components would severely impact the overall operation of the public safety radio system, limit system usage in terms of availability, and

reduce or eliminate coverage in much of the geographical area now served. Replacement of key components with the new technology will take considerable time disabling the system for as much as 6 months with an emergency purchase in place... it should be noted that this will be a very expensive upgrade/replacement as it will be unplanned and unscheduled.

This would also jeopardize the ability of emergency responders to communicate efficiently, effectively, and - ultimately – field unit and citizen safety. A failure during a major incident or disaster like the Clackamas Town Center shooting would severely limit live saving communications.

Who does the communication system serve?

The communication system serves the majority of law enforcement and fire/EMS agencies in Clackamas County. The replacement system will allow all agencies countywide to utilize the same system.

Who else does the system serve beyond public safety?

The system also serves various public works departments, schools, Hospitals, Ambulance and EMT services and other public users to ensure coordinated voice and data communications (interoperability).

Were other types of technologies looked at besides digital two-way radios?

Yes, many systems were considered, among them fiber optics, satellite phones, ham radios, cell phones and Terrestrial Trunked Radio (TETRA), the system widely used in Europe but not in North America. These systems were excluded for a variety of reasons; the most common being high cost, instability under stress and the inability to give priority to emergency service providers.

What other agencies have made this upgrade to digital and how did they fund it?

Other Digital systems that have been or are in the process of upgrading in nearby jurisdictions:

Oregon:

- City of Portland – Bonds
- Frontier (Gilliam/Sherman/Wheeler) - Operating Funds / Tax revenue from Wind farms
- Lane County - Bond
- Benton County - Bond
- Linn County - Bond
- TriMet – Bond
- Rogue Valley Transit - Bond
- Salem (RFP) - TBD
- Deschutes County (RFP) - TBD
- ODOT / OSP - Legislature

Washington State:

- Washington State Patrol – Operating Funds
- Peirce County - Bond
- Peirce County Transit - Bond
- Tacoma - Bond
- King County – Bond
- Port of Seattle - Bond
- City of Seattle - Bond
- City of Spokane – Bond

Idaho

- Ada County (City of Boise) – Bond
- Idaho State Patrol - Bond
- Kootenai County - TBD
- Bond Canyon County - Bond

What's interoperability?

The ability of public safety responders to share information via voice and data communications systems, on demand, in real time, when needed, and as authorized. Public safety communications can occur only when the communications paths (frequencies, equipment and signaling) are compatible. Interoperability is an important issue for law enforcement, firefighting, EMS, and other public health and safety departments, because first responders need to be able to

communicate with one another during wide-scale emergencies. C800 first responders do this many times per month with joint responses to fires and traffic pursuits among other things.

This all became evident during the Sep. 11, 2001 attacks and multiple other disasters, many agencies cannot exchange information because they operate widely disparate hardware that is incompatible. The State and Federal governments post September 2001 require all public safety entities to have interoperability. The current systems are not capable of this.

Will the new radio system be interoperable?

Interoperability depends on agreements between jurisdictions about how they will communicate and operate together. C800 has current agreements and will be entering into additional ones to insure interoperability with adjacent systems such as: Washington County / City of Portland/Multnomah County; Clark County Washington; Columbia County; Marian County; Yamhill County; Hood River County; Oregon State Police and ODOT; FBI and other federal agencies.

How many radio sites are there?

There are 10 existing sites in Clackamas County and 14 new sites will be added.

How many police / fire / EMS radios are there?

Clackamas County public safety users have 4,025 portable, mobile, and data radios.

Who are WCCCA and C800?

The Washington County Consolidated Communication Agency (WCCCA), and the Clackamas 800 Radio Group (C800), both ORS 190 organizations (Government Joint Ventures); each owns and operates the public safety communications system serving their respective counties. The WCCCA/C800 partnership is comprised of all the public safety providers within Washington and Clackamas counties with the exception of the City of Milwaukie, Hoodland RFPD, and Colton RFPD. Its mission is to provide public safety radio and data communications for the member agencies.

WCCCA and C800 formed a partnership to combine the systems for greater efficiencies and interoperability of public safety communications. WCCCA manages and maintains the combined system.

Who will manage and maintain the new upgraded system?

When the radio project is complete, the new system will be managed by WCCCA Technical Services who currently manages and maintains the system.

If we wait, won't the technology get less expensive as more jurisdictions will have implemented replacements?

This premise certainly has proven to be true within some technology fields – a smart phone is introduced with a \$500 to \$800 price tag and 2 years later it's sold for \$50. With Few exceptions Smart Phones as subsidize by a contract with the service provider that has amortized the difference between the handset cost and the consumer price in the monthly contract costs. Once the customer has paid that subsidy off the amount used to pay off subsidy is now 100% profit to the cellular provider. This is not a model that fits Public Safety.

Unfortunately public safety communications equipment has a limited market and this condition does not happen. There is some reduction in price from initial introduction to actual production runs but that has already happened to this equipment.

We do see significant discounts when large quantities are ordered at one time with portable and mobile radios. This project is for infrastructure equipment however and unless radios are coupled with the infrastructure substantial discounts are very unlikely... especially in low volumes.

If we wait, won't the federal government come to the rescue?

Unfortunately no.

The existing system has been able to utilize over \$5M in federal grants but the bulk of those opportunities are no longer available. The Federal and State Home Land Security grants are still sometimes available but are in small denominations and have generally been awarded to multiple jurisdictions for equity versus a large infrastructure project. Most often these have been in the form of matching funds not fully funded federal initiatives.

If we don't upgrade in a timely manner, what would happen?

The equipment in our infrastructure ranges from 4 to 20 years old. Most of this equipment has reached or is rapidly reaching end of life and/or end of support. The manufactures have generally set December of 2017 as a final date.

As it will take up to 3 years to select suppliers, construct new communications sites, and install new equipment we are most likely to be at a risk of non-recoverable failures well into our new system construction cycle. The longer we delay the longer we remain at a level increasing risk of catastrophic failure.

As our equipment moves beyond end of life and/or end of support our ability to maintain and or replace this equipment becomes difficult and potentially impossible.

The following is a report of a recent failure on the Portland system which is of the same vintage system and equipment which the City is in the process of replacing.

PORTLAND, Ore. (KOIN 6 April 17, 2015) – For several hours Thursday, emergency responders throughout Multnomah County were operating on backup systems after experiencing a “radio system failure,” city officials confirmed.

“We really couldn't communicate with each other,”

Gresham police responded to the radio failure by having all patrol officers return to the station where they were partnered up. The department only responded to high priority calls and told officers not to “self-generate” calls,

Portland Fire & Rescue spokesperson said during the radio failure, all units were “recalled to their respective stations unless they were out on calls.” He said non-essential radio traffic was limited, and the fire bureau used backup radio channels as needed.

Communications Manager, Kelly Ball, said “the current radio system is made up of aging infrastructure and we have been working on a radio system replacement and upgrade project since 2011. This new system will build in redundancies to reduce the likelihood of system failures. The replacement project began when a \$50 million dollar bond measure passed in 2011. Motorola signed a contract to begin replacement in 2013 and the work is about 50% complete. The system is scheduled to be fully operational by June 2016.”

Our system is experiencing an ever increasing number of operational issues or failures due to age in one form or another. WCCCA's technical staff has fortunately been able to respond quickly and avert the same kind of outage Portland suffered. As they say “it's only a matter of time” however.

We have experienced the same kind of failures but have been able to respond to them quickly to reduce the impact. We have had 3 Central Site Controller related outages since August of this year. Fortunately for C800 the impact has been to WCCCA users thus far.

Failure of end of life and/or end of support equipment will more than likely be unrecoverable and then require a large, unplanned expenditure and extended delays to restore service that might be as long as 6 months or more.

Communications Technology continues to evolve towards an Open Standards architecture (P25). This allows for multi-supplier compatibility as these Open Standards are embraced. This is driving down radio costs to some degree but meeting public safety standards demand higher costs.

As adjacent cities (Portland / Vancouver), counties, and states and the federal government adopt these new technologies and transition to digital our ability to communicate with them will be reduced or totally eliminated.

Where today we have a model of interoperability in the Portland metropolitan region, i.e. we easily talk between systems, as Portland and Clark County, Washington transition to digital we will lose that ability for our first responders to interoperate as they do daily today.

Communication System Reliability:

The reliability of mission-critical public safety communications infrastructure during day-to-day public safety operations and during man-made and natural disasters is crucial to saving lives and property and to protecting the public during an emergency;

The public safety communications infrastructure of Clackamas County is rapidly aging, outdated and at severe risk of failure. Further it requires extensive maintenance to support continuing functionality and to accommodate evolving technology;

The adopted Interoperable policies and standards by the Federal Communications Commission and the State of Oregon along with an aging infrastructure requires replacement of the countywide public safety communications infrastructure;

The deteriorating condition of our public safety communications systems is of continuing concern because it is critical to the safety and well-being of the residents of Clackamas County who depend upon lifesaving communications systems used by first responders;

It is in the public interest of the citizens of Clackamas County to plan for improvement of the public safety communications infrastructure to ensure long-term stability and functionality as communications systems technology evolves.

RESOLUTION NO. 1061

CITY OF GLADSTONE, OREGON

A Resolution Submitting to the Registered Voters of the City A Referral Approving the Gladstone City Council's Authority to Incur Debt to Finance and Construct a New City Hall and Police Station that is Projected to Cost more than \$1,000,000

WHEREAS, two citizen-initiated Gladstone Charter amendments, Measure 3-394 and Measure 3-395, were approved by City voters during the May 15, 2012 primary election; and

WHEREAS, Measure 3-394 states the City shall incur no debt in financing any public project except through the issuance of municipal bonds by bond measure duly approved by a majority of voters in a regularly scheduled election set forth in ORS 221.230 or special election; and

WHEREAS, Measure 3-395 states unless approved by a majority of the voters in a regularly scheduled election set forth in ORS 221.230, or special election, no public building shall be constructed by or for the City if such construction will require the actual or reasonably projected expenditure of \$1,000,000, or more, from existing City funds or current or future City revenues, including those of any of its departments, service districts or agencies. In calculating whether the project will involve the actual or reasonably projected expenditure of \$1,000,000 or more, the calculation shall include the fair market value of any real estate to be utilized or committed to the project, based on current market appraisal performed by a certified real estate appraiser; and

WHEREAS, The City Council has reviewed options for a new City Hall and a new Police Station; and

WHEREAS, the City Council desires voter approval for the City Council to authorize the incurrence of debt for new City Hall and Police Station projects, through the issuance of municipal bonds and expenditure of certain City Funds that will cost more than \$1,000,000.

The City of Gladstone Resolves as follows:

SECTION 1. An election is hereby called for the City of Gladstone, Clackamas County, Oregon, for the purpose of submitting to the legal voters of the City the following:

QUESTION: Shall Gladstone authorize the construction and incurrence of debt to finance new civic buildings each projected to cost over \$1,000,000?

SECTION 2. Tuesday, November 3, 2015, is hereby designated the date for holding the election for the purpose of voting on the measure as stated in Section 1, which election will be by mail-in ballot in the City of Gladstone, Clackamas County, Oregon.

SECTION 3. The precincts for said election shall be and constitute all of the territory included within the corporate limits of the City of Gladstone.

SECTION 4. The ballot title certified by the City Council shall be:

CAPTION: Authorization to construct and incur debt to finance Civic Buildings

QUESTION: Shall Gladstone authorize the construction and incurrence of debt to finance new civic buildings each projected to cost over \$1,000,000?

SUMMARY: This measure authorizes the Gladstone City Council to incur debt by issuing municipal bonds to finance and construct a new Gladstone City Hall and a new Police Station. The buildings will be constructed on separate parcels.

Funding sources:

- Urban Renewal Agency funds - \$4.8 million (current account balance)
- Sale of certain City properties - \$3.0 million (estimate)
- State Revenue Sharing funds - \$890,000 (current account balance)
- Long-term debt – City will incur \$3,000,000 in debt to be repaid using future Urban Renewal Agency funds.

Estimated budget for the project would be \$4.0 million for the City Hall and \$7.2 million for the Police Station. This includes money to design, construct, finance, and acquire property for both buildings.

There are no new taxes associated with this proposal.

SECTION 5: In compliance with the Gladstone Municipal Code and state law, the City Recorder is authorized to submit an impartial explanatory statement for the Clackamas County Voters' Pamphlet on behalf of the City.

SECTION 6: The City Recorder shall take all steps on behalf of the City as necessary to carry out the intent and purposes of this resolution in compliance with state and local law including but not limited to publishing the ballot title as provided by state law, publishing notice of the measure as required by Chapter 4.04 of the City of Gladstone Municipal Code and filing this measure with Clackamas County Elections Division.

SECTION 7: This resolution is effective immediately upon adoption by the City Council.

ADOPTED this 11th day of, 2015.

ATTEST:

8-3

Domonic Jacobilis, Mayor

Jolene Morishita, Assistant City Administrator

Date

Date

8-4

