

City of Seattle
Request for Information
Public-Private Partnership for the Purpose of Providing State-of-the-Art
Wireless Mission-Critical Voice and Broadband Data Capabilities for Public
Safety and General Government

Answers to Questions Received from Potential Respondents

Questions received 01-27-2012

General note: As discussed during the vendor conference on 01-26-2012, we do not expect a detailed design. Rather, we hope that you will provide information about your strategic direction and solutions that address the problems identified in the RFI. Quantities noted below should be considered high-level planning estimates, not exact numbers.

Q: The RFI says that we need to support of minimum of 40,000 users. What is the potential maximum?

A: There are approximately 30,000 land mobile radios in use today on the major public safety radio systems in the region. To accommodate future growth, we want a system that supports at least 40,000 users (that is our estimate of the future maximum).

Q: Do you have any need for a COW (Cell on Wheels)?

A: We do not know how a COW would help us if we deploy a standalone P25 simulcast land mobile radio (LMR) system for mission-critical voice. We also do not know if or how COWs will be used to support mission-critical voice over LTE because detailed requirements and standards have not yet been developed.

Q: If you anticipate one-to-many PTT scenarios, please provide guidance regarding the talk group sizing.

A: Our current LMR systems are capable of supporting 65,000 talkgroups. We don't know what the standard for mission-critical voice on LTE will specify.

Q: The RFI states: "*The System(s) must meet established coverage goals. Coverage needs to include at least 97% of the population in each jurisdiction within the Region. This means that the coverage in each city and county meets this target. The Region has maps showing required coverage and that are available upon request.*" Please elaborate more on your coverage requirements.

A: In general, the desired coverage is:

- 97% coverage in the bounded area¹ of each county
- 97% coverage in each city (all cities should be included within the identified bounded areas)
- 97% coverage along all major roadways (bounded areas should include the following major roads, at a minimum: Interstate 90, State Highway 410, and U.S. Highway 2)

Desired in-building coverage is:²

- Low Density Buildings: 97%
- Medium Density Buildings: 97%
- High Density Buildings: Yes (through two walls)

Q: Is there a list of locations where some sort of an in-building solution or enhancements be needed (small scale or large scale DAS)?

A: No, we do not have a specific list. If in-building solutions are required or recommended to achieve the desired coverage, please provide that information.

Q: Are there any other locations with major coverage concerns such as tunnels, underground buildings, and/or special construction facilities?

A: At SeaTac Airport, coverage reliability should be 97% throughout the entire airport, including buildings and tunnels. This same requirement will apply to the existing transit tunnel through downtown Seattle and to the new SR99 deep bore tunnel.

Q: What are the other performance requirements (e.g. average throughput, latency, etc.)? Are these the same requirements stipulated in the FCC 4th NPRM?

A: Yes. For an LTE broadband wireless data system, we need to meet the requirements stipulated in the 4th NPRM. We also need to meet all subsequent requirements identified in PS Docket No. 06-229, including the recent Order regarding network identifiers (released January 9, 2012).

¹ The bounded area includes the entire geography of each county west of the Cascade Mountain foothill boundary, all cities, and all major roadways. The foothill boundary is defined here as the first topographic contour that exceeds 750 feet of elevation as you travel eastward from Puget Sound.

² Engineers cannot fully predict in-building coverage within a given area. Instead, they design the radio system to provide enough extra signal level at the outside of a building of a given assumed density that there is a strong statistical probability of coverage within buildings of a certain type. Coverage can also be enhanced within a structure through other means such as internal signal amplification systems.

Q: What specific security requirements will the network be designed to? For example, what level of encryption and key management of user access control will be required for the network?

A: The system must support AES encryption. Individual agencies (for example, City of Seattle and King County) need to be able to control their own encryption keys.

Q: Who will negotiate roaming agreements with commercial carriers? If there are charges and changes, how will they be billed?

There would be no roaming if we deploy a standalone P25 LMR system for mission-critical voice. Business arrangements to enable roaming between the national public safety LTE network and commercial carrier networks have not yet been developed. A committee that includes participants from the 21 waiver jurisdictions and various federal partners will be working to address this issue.

We would be interested to learn about the criteria and elements of a national roaming agreement. National carriers have established roaming agreements with other national carriers, and it would help us to understand what needs to happen so we don't need to re-invent the wheel.

Q: The RFI states: "*The wireless system must natively support mission-critical voice capabilities. (Note: This capability is distinguished from Voice-over-LTE (VoLTE), which refers to carrying cellular voice calls and other non-mission-critical voice traffic over an LTE system. It is also distinguished from the use of gateway equipment or other proprietary devices to bridge between LMR critical voice systems and VoLTE services.)*" Please provide additional technical information regarding what is envisioned for a single device for mission critical voice/data. It seems that you are requesting a voice solution that is not VoLTE and that does not rely upon a bridge between LMR and LTE.

A: The National Public Safety Telecommunications Council (NPSTC) Broadband Working Group developed a definition of mission-critical voice³. VoLTE or some bridge technology that patches LMR systems to an LTE network would not meet public safety requirements for mission-critical voice based upon this definition. If, in the future, LTE can support mission critical voice as defined, then we would like to be able to consolidate devices to reduce cost.

Question received 01-20-2012

Q: Do I need to register to attend the vendor conference?

³ See NPSTC Functional Description MCV 083011 FINAL.pdf, available by clicking [here](#).

A: No.

Question received 01-19-2012

Q: Is there an agenda for the vendor conference?

A: Yes. The agenda is now posted on the web site:
<http://seattle.gov/doi/vendor.htm>.

Question received 01-13-2012

Q: It is our understanding that the focus of this submittal is the type of business models supported by the vendor and their recommendations for Seattle. As clearly stated on Page 4 of the RFI (Purpose of this RFI) *"we are issuing this RFI to help us determine which courses of action, including public-private partnerships, are both preferable and feasible and which are not. Therefore, we are seeking responses to this RFI as a means of indicating the technology, business models, operational structures, and other key matters which private partners, including the Respondent, would potentially be willing and able to provide us assuming other conditions were met."*

Since a turn-key design for "The Region" would be difficult to complete due to lack of technical details and time constraints, is it acceptable to provide unit pricing for the different business models listed in Appendix C (Financial Forms)?

A: Yes. For purposes of this RFI, it is acceptable to provide unit pricing for the different business models listed in Appendix C.

Questions received 12-14-2011

Q: Are you aware whether an RFP would be issued for this effort? If so, is there a timeline?

A: The RFI and any future RFP are totally separate efforts. City of Seattle and the REPC will make a decision about any future RFP and its scope at a later date. The timeline will depend upon a number of factors including funding approach.

Q: What funding source would be used for this effort?

A: While some capital and operational funds may currently be available, those funds are nowhere near sufficient for the whole effort. We hope that the responses to the RFI will help us to get some ideas on the overall cost and funding options (Public-Private Partnership).

Question received 12-13-2011

Q: Our proposal team is unable to open the embedded .xls on page 24 of the RFI. Would it be possible to have you send it separately?

A: The financial spreadsheet for Appendix C is posted on the web site: <http://seattle.gov/doi/vendor.htm>. Sorry for any confusion.

Question received 12-12-2011

Q: Is it your intention that we react to the total RFI or that we should only reply to specific parts and/or work together with a partner for the other parts?

A: Either approach is welcome. You may respond to specific parts of the RFI that correspond to your company's expertise or partner with other organization(s) to jointly-submit a response. Please feel free to forward the RFI to other parties who may be interested in receiving it.