

Addendum 1

Citizens Broadband Radio Service RFP Questions and Answers

4/25/2022

Below are the questions that were received about the CBRS RFP. The questions were copied verbatim from the documents submitted by the vendors. Only vendor names have been removed if they were included in the question.

1. Would ability to backhaul WiFi in parks using fiber be acceptable?
Our objective is to use City fiber to backhaul CBRS sites to our main data center where possible. All sites listed in the RFP are on fiber (or will be soon).
2. Would bus WiFi be expected to use CBRS backhaul?
Potentially as we build out the network across the city.
3. What is plan for long term total coverage area?
The long-term plan is for complete coverage of the city, but it is understood that it may take several years to accomplish this.
4. CBRS Incumbents and use in area is possible. Is it understood that it could impact operation?
Yes. Further clarification is expected during the design phase of the project.
5. Map layout shows over 2 miles between site 1 and site 2, this could impact roaming between these zones. Is this understood?
Yes.
6. Would use of the fiber also support additional WiFi plans for park and future coverage zones? Comcast has broadband assets that would also could be used to support effort.
The primary emphasis is to use city fiber where possible. Other fiber assets can be considered.
7. What would be the mechanism and plan for public networks? Would logical isolation like VLAN be used or would "city services" and "city public" be separate networks?
Most likely VLAN but will be determined during the design phase.

8. Would public accessible network be WiFi? And would it be required to be backhauled through CBRS? For total coverage, it could be possible to be a hybrid of solutions using both logical and physical separation of Public and Private assets.

Public accessibility would be through WiFi which would be backhauled through a combination of CBRS and direct connection to the city's fiber where available.

9. Is ability to roam from private LTE to carrier public network required day one? This service is based on MOCN technology, requires carrier agreements, and possibly dual sims on devices. Though capable and becoming standardized in industry, this is currently new in the market.

The City currently uses modems with multiple access methodologies. It is hoped that roaming from private to public LTE would be available day one when the appropriate devices are put in place.

10. One solution we might propose comes with 4 or 6 sector antenna options, is that acceptable?

Yes.

11. When discussing Wi-Fi Conversion, it is assumed that this would be a CBRS to WiFi bridge device such as Cradlepoint R500? There is no direction that converts CBRS directly to Wi-Fi. Any questions?

The city currently uses CradlePoint modems, and it is expected to use them or something similar for the Wi-Fi conversion.

12. How many SIMs/devices does Santa Maria expect to support using the proposed network?

TBD assume 100 system wide for the purposes of this RFP.

13. Does the city have a preferred time frame for installation?

As soon as possible after the award based on City and vendor resource availability.

14. Timeline for deployment of services?

See #13 above.

15. Existing Wi-Fi infrastructure (wifi6)? Current hardware model? Manufacturer?

The city offers Wi-Fi in several indoor locations. We use Aruba products.

16. Why has CBRS been selected as the preferred spectrum type?

- a. Has the city considered using carrier grade licensed spectrum augmented with edge technology for this project, which comes at a lower cost, greater reliability and better performance.

The city has chosen CBRS as it's preferred solution for this procurement. Refer to the RFP for strategy and plans.

17. In section 3 Project Description there is mention of the wireless network supporting multiple services and uses cases (i.e. security cameras, IOT, public Wi-Fi); Wanting to confirm if the RFP is only the CBRS network or are the service mentioned in section 3 in scope?

Only CBRS is in scope for this procurement. The other services are given as examples of potential uses of the wireless network.

- a. Is there a listing of manufactures, models, device types of equipment that the CBRS network needs to support? No
- b. Are there additional use cases that are being considered by the city besides the services listed in section 3? Only those if the RFP.

18. Are there specific local vendors or contractors that work within the Section 3 regulations that can be recommended? No

19. Are there any specific training requirements for post deployment management of network (i.e. hours of operations, number of employees to train, locations for training)?

Generally specified in Section 6.4.8. Hours of network operation are 24/7. Maintenance and support training can be conducted at a single location to 8-10 IT staff members.

20. Project Description

- a. Will we be involved in the Wi-Fi design/implementation?

This RFP is focused mainly on the CBRS network. The City may post a separate RFP for Wi-Fi design, if need.

- b. What is the total device count estimate? Breakout per device type (e.g. IOT, AVL, Wi-Fi, 4K Cams, HD cams, handsets, etc.)

Unkown at this time as we are building the initial infrastructure. Assume 300 end devices using the system simultaneously for the purposes of this RFP.

- c. What is the data volume/traffic need estimate?

Unkown at this time as we are building the initial infrastructure.

- d. What are the uptime requirements? (can CBRS only realistically support the use case) 24/7
- e. What level of support is required for Automated Vehicle Location (AVL)? Will 4G CBRS be sufficient? Will vehicles rely on the network 100% or for navigation in general?

Vehicles will use a combination of public and private LTE.

21. Project Elements

- a. (4.1) Must all RAN elements be housed at datacenter, or just core and head-end equipment? I.e. if needed can BBUs be located at cell sites if there is a cost savings or performance gain?
The City is open to evaluating various designs offered by the proposers.
- b. (4.1) What are the expectations to use existing VM infrastructure? Most solutions are largely proprietary, even if some components are virtual or virtually managed.
There are no expectations in particular, the City has capacity on its VM infrastructure and wants to see if it can be utilized in this project.
- c. (4.2 Proposed CBRS Sites 1 & 2) Towers have lots of existing HW. What elevations are available for use by us for any proposed solutions? Will the city of SM provide A&E drawings, site acq, & engineering support (e.g. wind load studies, FAA filings, etc)?
Yes, as needed.
- d. (4.2 Proposed CBRS Sites 3 & 4) Can floor plans and A&E drawings be provided to confirm the ability to roof mount antennas?
Yes, as needed during the project.
- e. Will adequate space/cooling/power be provided for RAN equipment (i.e. call out IT closets in floor plans)? Yes.
- f. (4.2.5) Can we get a polygon of coverage needs?
As this is the first phase of the project, the objective is to provide the best coverage from the identified sites and fill in gaps with later projects.

- i. Where is outdoor coverage required, and at which phases?
- ii. Where is indoor coverage a must?
- iii. Need floorplans/blueprints for any buildings that specifically require coverage.
- iv. Can we get KPI requirements for indoor coverage of any in-scope buildings?
- v. Are there street routes that need (or do not need coverage)?
- vi. Is there is a list of City Parks and recreation spaces (festivals, fairs, gatherings)?
- vii. Can we get individual coverage maps for the CBRS and the Wi-Fi?

22. Wide Area Network Configuration

Average utilization is already at 50%. Will planned fiber growth support the RFP as needed? **Yes.**

- a. Or will we need to provide additional resources to meet the BH requirements? **No.**
- b. Will access to internet be available for SAS registration? **Yes.**

23. Scope of Work

- a. (6.2.2) We will need to know the coverage requirements to complete a propagation map. This will need to include a polygon with both inclusion and exclusion areas (and priority if possible) as well as target KPI's for those areas.
Coverage at this stage of the project is to be a best effort propagation from the identified sites using standard estimating tools.
- b. (6.2.4) Please explain. The SAS will be a 3rd party entity approved by the FCC (e.g. Google, Federated, etc).
SAS access must be included in the design and as part of this project.
- c. Do you have a CBRS PAL? **No.** GAA only? **Yes.**
- d. (6.2.5) Internet access required SAS registration. All other data can be kept local or in the cloud based on final solution. **Yes.**

- e. (6.2.6) Is this in reference to Wi-Fi, or are standard cellular subscribers expected to have access. I.e. must the solution include cellular licensed spectrum in addition to using CBRS? This may prove challenging to overlay with existing cellular coverage on same spectrum.

This will be handled using city Wi-Fi and networking. The item is included to help describe scope and use cases.

- f. (6.2.7) At what levels? Redundancy in the RAN is not standard (even within VZ), but a redundant core is. Redundant core.
- g. (6.2.9) Please explain. The CBRS solution will be LTE, but will not be part of the public cellular LTE network, and will not support hand-offs. I.e. only private SIM devices will have access to the CBRS only network, unless accessing through another bridged AP (such as Wi-Fi).

Where the handoff is necessary, vehicles will be equipped with multiple SIMs.

- h. Can we get a list of locations or maps with icons to show where there will be security cameras? How many cameras? 24x7 streaming? What level of resolution? How much uplink throughput/bandwidth is required?

Not at this time.

- i. (6.2.10) Nearly all RAN components have some manufacturing in China today. We will have to investigate alternative sources.

Use best efforts for this.

- j. (6.4.1) a Detailed BOM can only be completed after a site survey. Is a ROM acceptable at this stage? Yes.

- k. (6.4.7/8) The proposal is for a managed service. Some degree of training will be provided, but how much is the city looking to "own"?

City staff need to be able to support and maintain the system for daily operations.

- l. (6.5.1) This level of detail comes from a lower-level of design pending a site survey and customer supplied requirements requested above. Are there any specific 6-sector needs that we should be aware of (usually capacity driven)?

This item is included for planning and budgetary purposes.

- m. Are there in-building coverage requirements/KPIs? Can outdoor serve indoor indirectly to meet needs, or is a dedicated IB solution required? Or better, can remaining indoor trouble areas be addressed after an outdoor solution is in place to save costs?

The intent is for this project to implement the CBRS component and the Wi-Fi component to be managed by city staff or under a separate agreement.

- n. (6.5.3) Max user support is a function of design. Please provide requirement criteria and use cases.

- i. Are they able to provide the desired service levels, with respect to E2E network availability, application availability and/or latency to support their priority use cases over this private network?

Please provide best estimates based on the information in the RFP.

- ii. (6.8) Is the device support team engaged to support these requests?

- We need clarification from the City of Santa Maria on the intended device types, assumptions for counts per device type and location of fixed end user devices to be able to determine the right solution. Are they able to share priority of use cases they intend to deploy?

Please provide best estimates based on the information in the RFP. Assume 300 end devices using a combination CBRS, Wi-Fi for the purposes of this RFP. The City will provide the Wi-Fi radios in a follow-on phase.

- o. Submission Requirements

- i. Is this RFP for a full turn-key solution, or will the city own some infrastructure construction costs/management?

This is for a turn-key solution as it relates to the RAN and CBRS site equipment.

- ii. Are there any preferred/required vendors we must work with during the life of this project?

No.

p. Proposal Evaluation Procedure

- i. (11.3) What are the explicit mandatory requirements, or is this just the details from sub-section 7?

Subsection 7, plus acknowledged responses to the other sections of the RFP (i.e., Sections 8, 9, 15, 16)

24. Is there a priority of the use cases for the initial deployment in the 4 locations?

Not at this time.

25. Where are the enterprise applications that support these use cases? For example, the video analytics software that analyzes the video streams from the security cameras? Are they located in your data center? Or, in the cloud? How about other applications?

The city manages and supports a hybrid environment with some applications in our data centers and some located in various cloud services.

26. What are the types of AVL? Are these included in the 4-site CBRS network?

The city uses AVL for public safety vehicles, public works vehicles, and transit.

27. Does mobile access voice services (including SMS, etc.)? Or, is access to data only?

For the purposes of this RFP, assume only data.

28. Do you have estimates on the number of devices, smartphones, sensors, etc.? Can you provide estimates during for the initial 4 site deployment and, for year 1, year 2 ...? How many of these are Wi-Fi (or other technologies) enabled? How many of these will connect to the CBRS network directly? This will help us size the core and RAN accordingly.

Please provide best estimates based on the information in the RFP. Assume 300 end devices using a combination CBRS and Wi-Fi for the purposes of this RFP. The City will provide the Wi-Fi radios in a follow-on phase.

29. What are the types of surveillance cameras in use today that need to be supported by the new network - wired/IP cameras, or other network technologies? Are you looking to transition these cameras to the new private wireless network?

This is the first phase of the project with the additional devices to be added later. The city plans to eventually transition services to the wireless network.

30. What type of access will the our network engineers have access to these locations and your data centers? Sometimes our network engineers will need access off-hours for maintenance related activities and network triage, troubleshooting and recovery issues.

Normal business hours with provisions for emergency support when needed.

31. What percentage of the use cases defined in Section 3 are anticipated to move between your CBRS network and commercial LTE networks? Do you expect roaming to other CBRS networks from other organizations?

The percentage is not known at this time but there are approximately 100 vehicles that will potentially be on the system. It is not anticipated that other private CBRS networks will be accessed.

32. Do you have requirements for availability? What is the uptime requirement? 24/7

33. What are the types of surveillance cameras in use today that need to be supported by the new network - wired/IP cameras, or other network technologies? Are you looking to transition these cameras to the new private wireless network?

See #29 above.

34. If there an existing Wi-Fi network infrastructure (Wi-Fi Controller, etc.) that the CBRS network needs to interact with? If yes, what is the type of Wi-Fi network (manufacturer, etc.)? If not, do you expect us to deploy the Wi-Fi network as well?

The city uses Aruba products for its internal Wi-Fi. This RFP does not include deploying the Wi-Fi system.

35. Will there be separate Wi-Fi networks for city usage, city operations (for example, IoT devices, etc.), and citizen?

Yes.

36. Will there be separate Wi-Fi networks for city usage, city operations (for example, IoT devices, etc.), and citizen?

See #35 above.

37. Will City of Santa Maria consider consuming the CBRS network as a managed or partially managed service? Or is a turn-key solution required?

The City prefers a turn-key solution but will consider other methods.

38. Will City of Santa Maria prefer to own and provide the radio spectrum? If not, do you have any recommendation who to work with that serves the area?

The intent is to work with the successful proposer to finalize this.

39. Please advise what Virtual Machine (VM) technology environment do you use?

VMware

40. What is the current ITSM tool used by the City and does the City require an e-Bonding to be setup between the City ITSM and the Respondant's ITSM?

To be determined during the design phase.

41. Are there any local government regulations that stops the respondent from using non-US Network Operation Center (other than Russia and China).

Any regulatory requirement that we need to be aware of?

The City's preference is to have the NOC in the U.S.

42. Do you have a policy on updates and how frequent it needs to be done and what level of approval is needed for major updated

The City's policy requires keeping current with software patches and updates. Critical and security related patches need to be deployed within 3 days or ASAP after testing.

43. What are the required encryption standards

AES 128 or higher AES 256 preferred.

44. Firewall requirements (internal or external).

Both

45. HA is recommended what is the current standard for HA active/active or active/passive

Active/Active but the city will consider either one.

46. What would the connectivity requirements Fiber/ copper

Fiber

47. What bandwidth is required for internet

- The city already has sufficient bandwidth
48. What bandwidth is required for internal
- The city already has sufficient bandwidth
49. Are you planning a user access policy for access, URL filtering, malware scanning, file access, DNS security, DLP, IPS and SSL decryption
- Yes.
50. What your current IAM system is used today
- Active Directory.
51. RFP Section 7.7 requests total fixed price and costs should be itemized separately for each of the 4 proposed locations. Can the City provide more details like as built construction drawings and adjacent building drawings with fiber network connection pointed highlighted?
- Not at this time but during the design phase. All proposed sites have nearby access to the City's fiber network.
52. Is there any leasing required or are all 4 sites owned by the City of Santa Maria? Is Lease or Lease type document expected?
- No leasing is required.
53. Is there Zoning required? If yes, is Zoning typical wireless zoning or will Zoning be fast tracked?
- No zoning is required.
54. Is Permitting typical wireless permitting or will permitting be fast tracked?
- If needed, permitting can be fast tracked
55. Is Regulatory required, NEPA/SHPO Checklist, FAA ETC.?
- Not sure at this time but not expected.
56. Is A&E Design work required? Yes. If yes will the City provide the following:
- Original and most recent as built tower and Building drawings?
As needed.
 - Foundation drawings for tower and buildings?
As needed.
 - Structural calculations for tower and buildings?
As needed.
57. On site 4, is it expected to provide a price for both rooftop and new tower build solution? Yes.

58. Based on the Evaluation Criteria, please elaborate what details the City is looking for in terms of integrating a proposed solution into the City's current network and infrastructure.

Connection to the city's fiber network. Using common technology and monitoring where possible. Standard power configurations in the data center.

59. Does the City have a price template to fulfill for this RFP?

No.

60. Will any municipal buildings be completely connected through CBRS? Yes.

a. If yes, will the location of each building be provided?

Yes, during the design phase.

61. What type of signage will be connected? Text or Video?

Text, graphic (photos, PowerPoint, etc.) and potentially limited video.

62. What type of streetlights will be connected and how many?

TBD.

63. How many cameras will be connected?

TBD.

64. Will the location of the cameras be provided?

The city will assume the responsibility of connecting cameras.

65. What are the specs of the connected cameras?

TBD.

66. What type of traffic control will be connected?

TBD.

67. How many public users would be expected to connect in a park use case?

Assume up to 30 at one time.

68. Is content filtering required?

The city will handle content filtering.

69. How many public users would be expected to connect in a municipal building use case?

Assume up to 10 public Wi-Fi users at one time

70. Is content filtering required?

The city will handle content filtering.