



WILLIAMSON COUNTY EMERGENCY COMMUNICATIONS



RADIO TOWER SYSTEM PLAN-2011

Radio System History

- GT was the first 800MHz agency in WC- 1996
- WC & RR joined GT and created "CWICS"- 1997
- CP had built their own 800MHz system but joined CWICS in 2003
- By 2005, CWICS had four (4) radio tower sites- Prime Site (GT), #2 (CP), #3 (LH), #4 (THR)
- The system was analog and nearing end-of-life
- VHF & UHF was still in use by multiple agencies
- Interoperability was difficult at best
- In-Building radio coverage was restricted to areas directly around tower sites

CWICS 4-Tower System 2005



MOTOROLA

Williamson County, TX

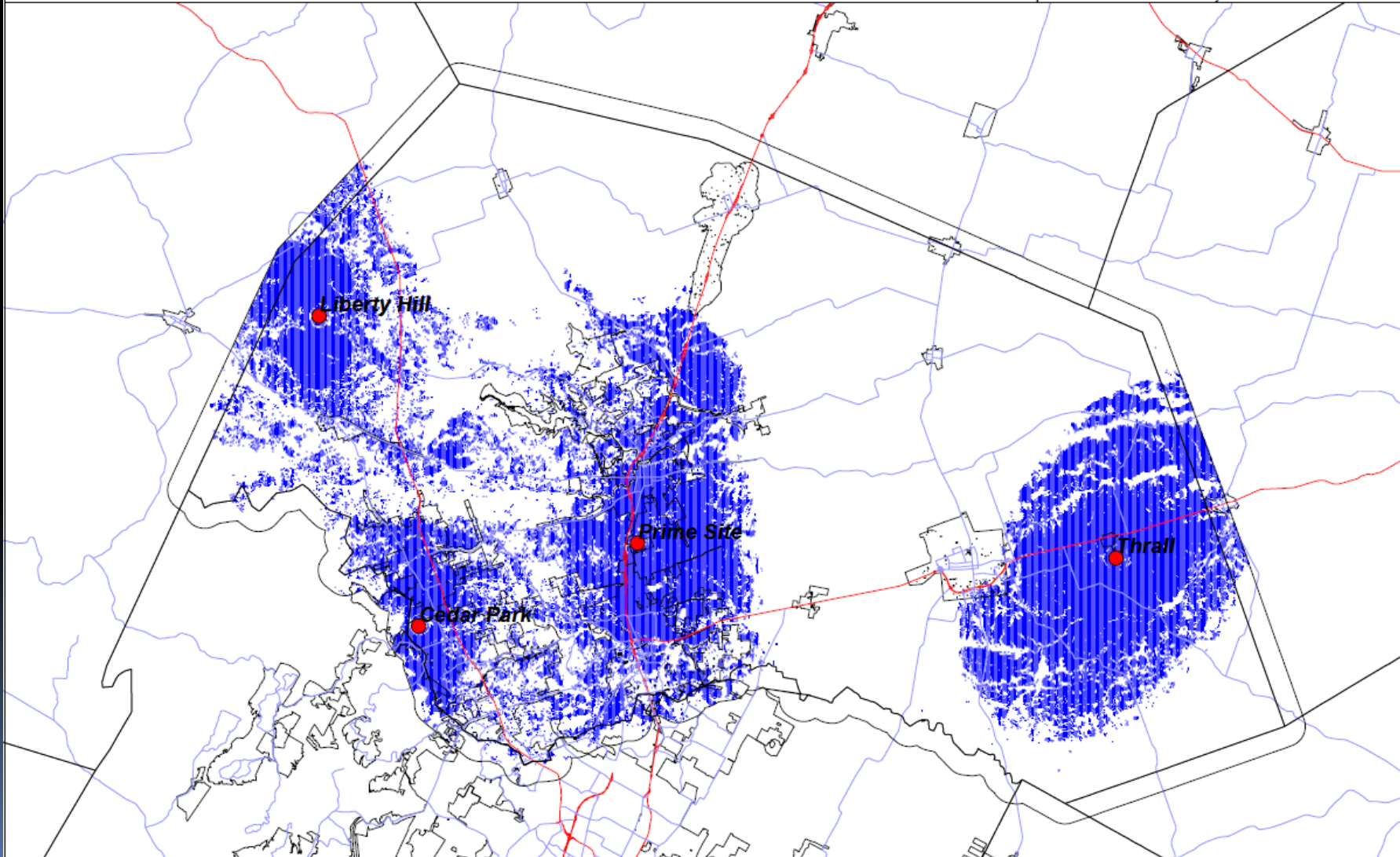
800 MHz ASTRO 25

4 Site Simulcast System Coverage

Portable XTS 2500 On Hip, Swivel Case, 1/2-wave Whip

20dB In-Building Loss, DAQ 3.4

95% Roundtrip Covered Area Reliability



Radio System History

- WC partnered with the COA and applied for a DOJ grant to upgrade from analog to digital and created the Greater Austin-Travis County Regional Radio System "GATRRS"
- \$6M award- WC received \$5.5M and paid \$1.85M in matching funds
- Total Infrastructure Budget: \$7.35M
- Grant ONLY provided a 1:1 replacement of existing equipment. It did not cover enhancements, upgrades, or improving coverage
- Project successfully completed: January 22, 2008

Radio System History

- In addition to the \$1.85M matching funds, WC purchased \$4.2M of new digital field radios
- CWICS was dissolved and the WCRCs was created in 2008 following the digital conversion
- This ILA gave the county sole ownership of the system; but placed the burden of capital improvements on the county for all users
- The Florence area was known to have a coverage deficiency which the digital conversion would not resolve
- A temporary analog site was built in Florence to provide in-building coverage in 2009
- The new Florence digital site was completed in 2009 which corrected the coverage issues in that area

Current RCS 5-Tower System



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800 MHz ASTRO 25

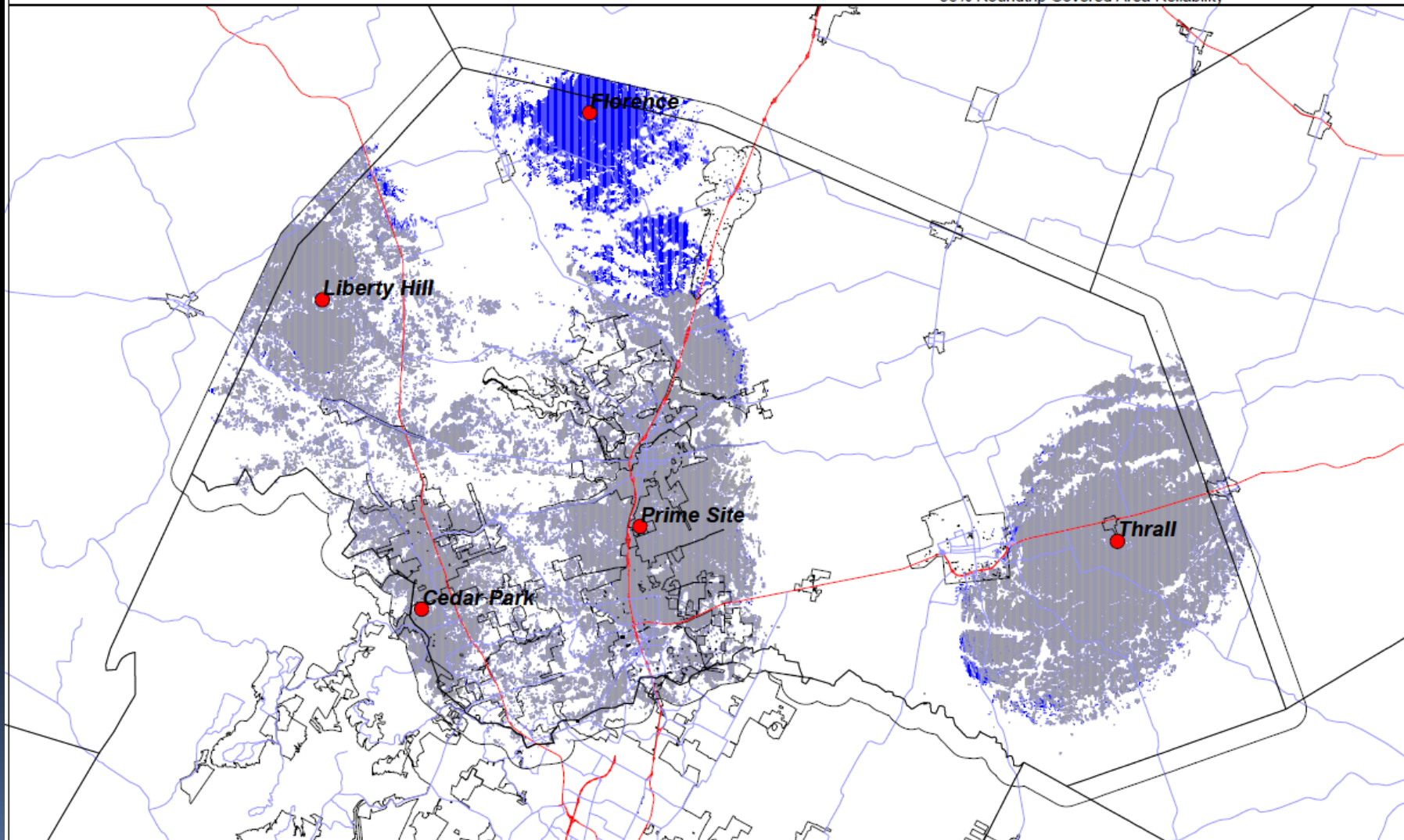
4 Site Simulcast System Coverage (Gray)

Over 5 Site Simulcast System Coverage (Blue)

Portable XTS 2500 On Hip, Swivel Case, 1/2-wave Whip

20dB In-Building Loss, DAQ 3.4

95% Roundtrip Covered Area Reliability



Current System Status

- 5 Tower Sites do not provide adequate in-building coverage county-wide
- Several “dead spots” exist in open areas as well as on portable (hand-held) radios
- NW GT and SE RR were identified by many agencies and further proven with studies to need the additional radio tower coverage
- WC has negotiated and approved a 2-site contract for these two sites (GT site requires a lease)

7-Site Proposal



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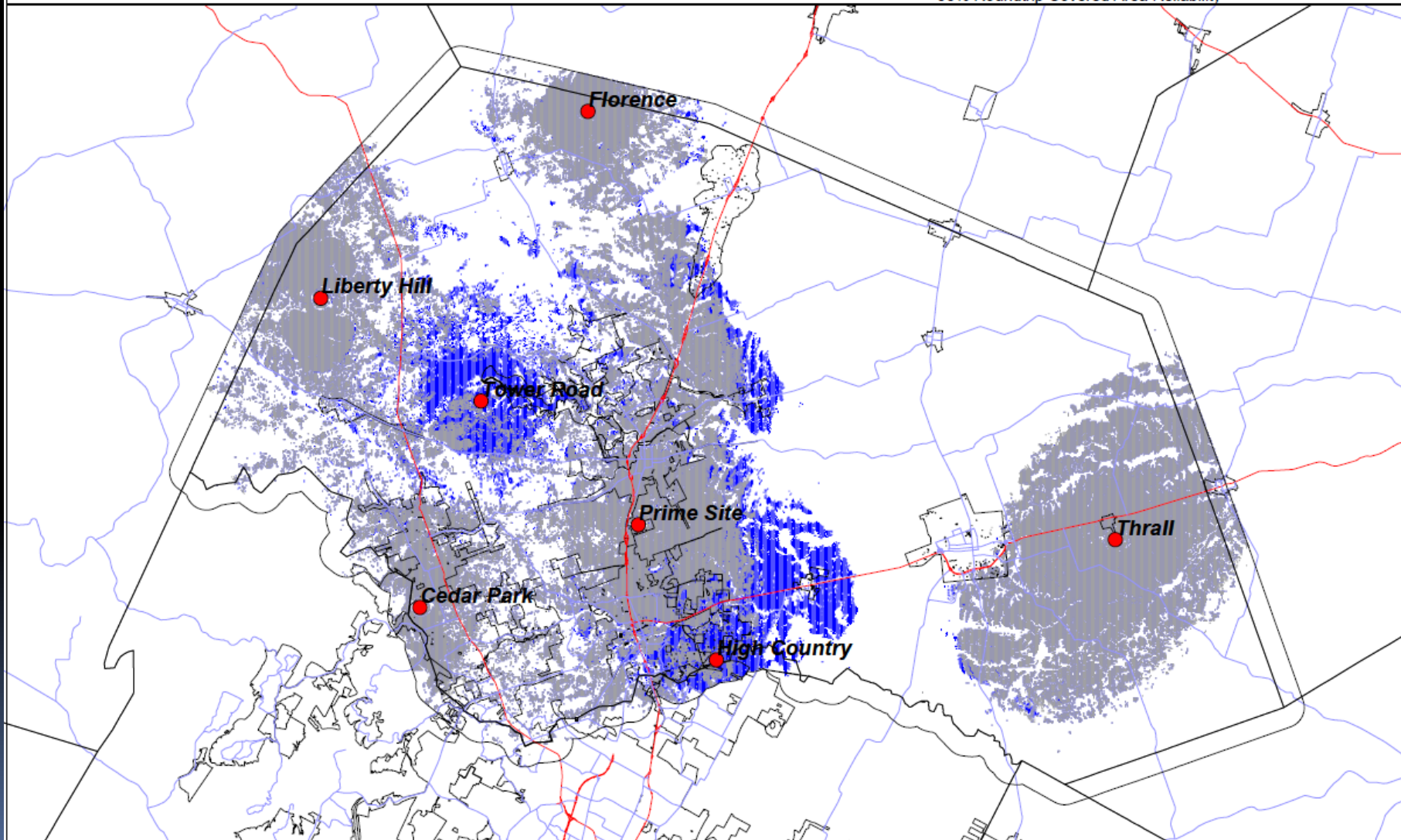
5 Site Simulcast System Coverage (Gray)

Over 7 Site Simulcast System Coverage (Blue)

Portable XTS 2500 On Hip, Swivel Case, 1/2-wave Whip

20dB In-Building Loss, DAQ 3.4

95% Roundtrip Covered Area Reliability



Granger Site Proposal

- NE WC has a large “dead spot”
- An existing tower has been identified that is for sale
- WC has negotiated a purchase price and land lease for this property and tower
- Future development to full functionality is planned
- Lease is revenue neutral due to existing commercial customers on tower
- The Granger Tower completes the current tower projects under negotiation

Granger Site Coverage



Williamson County, TX

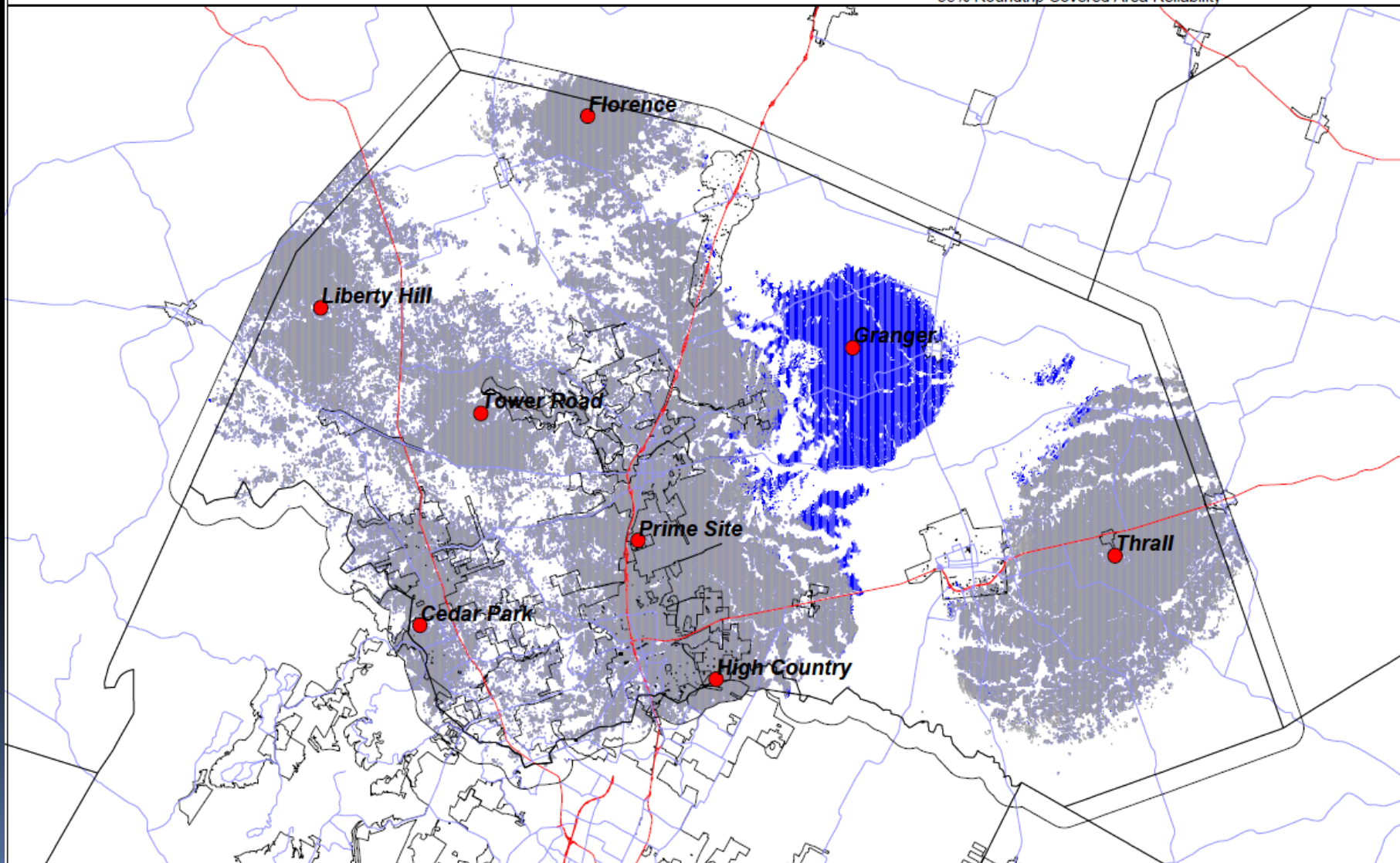
800 MHz ASTRO 25

7 Site Simulcast System Coverage (Gray)

Over 8 Site Simulcast System Coverage (Blue)

Portable XTS 2500 On Hip, Swivel Case, 1/2-wave Whip
20dB In-Building Loss, DAQ 3.4

95% Roundtrip Covered Area Reliability



RCS Future Build-Out Plan

- Even after the three current towers are completed, there are many “dead spots” remaining where portable radio coverage is marginal or non-existent
- The complete build-out consists of adding 7 additional sites
- These could be a combination of built or leased sites based on availability and budget
- Final build-out calls for a total of 15 fully functional digital radio tower sites across the county
- In comparison, Travis County has 17 sites

RCS Final Build Out



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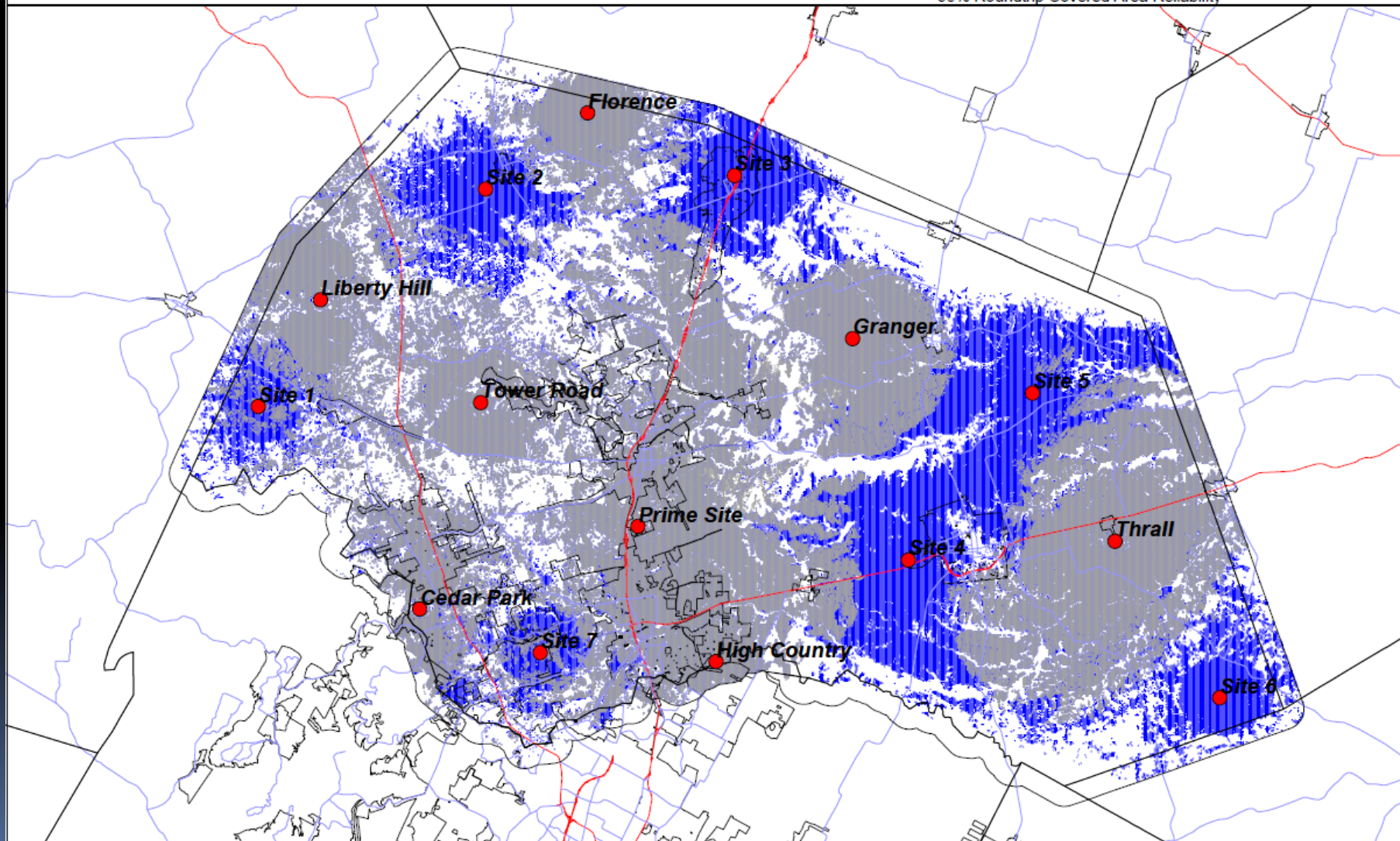
800 MHz ASTRO 25

8 Site Simulcast System Coverage (Gray)

Over 15 Site Simulcast System Coverage (Blue)

Portable XTS 2500 On Hip, Swivel Case, 1/2-wave Whip
20dB In-Building Loss, DAQ 3.4

95% Roundtrip Covered Area Reliability



RCS Final Build Out Summary

- The NW GT & SE RR sites have been identified as problem areas by field agencies and corroborated with engineering studies- they should be completed next according to the plan
- The Granger site is available now and should be purchased for future development- revenue neutral
- These 3 sites are already funded by an existing TAN with an executed Motorola contract in place- land lease approvals are all that is required to begin construction
- The additional 7 sites have not been prioritized for order of development- additional field and engineering studies will be performed in the future as construction growth continues across the county

RCS Final Build Out Summary

- Due to fiscal constraints, we may never have “100%” in-building coverage
- Out-of-vehicle or portable radio functionality is critical to the safety of all first responders
- However, with each new tower site, we reduce the risk factor to the public and our emergency service providers

Questions?



Williamson County, TX

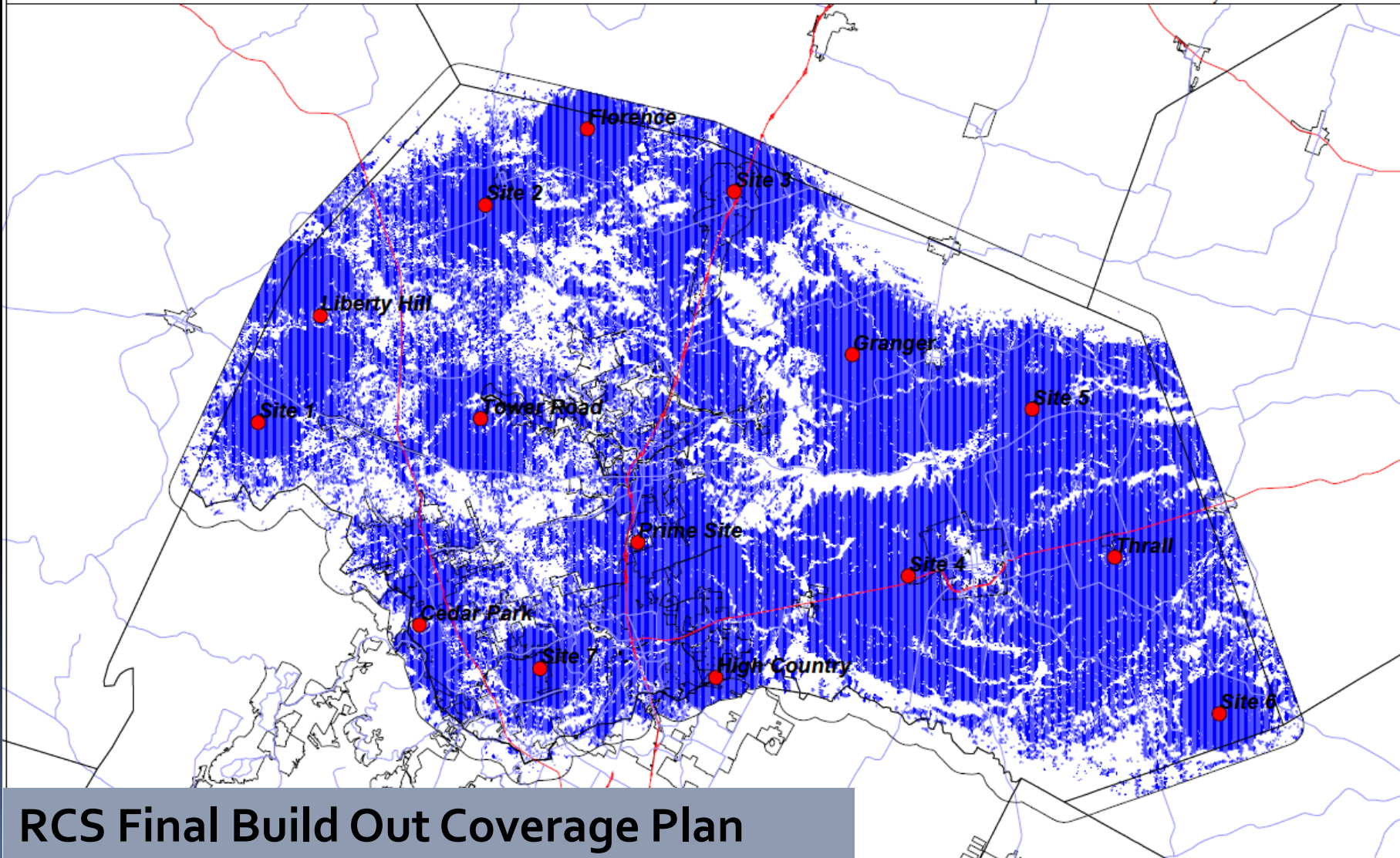
800 MHz ASTRO 25

15 Site Simulcast System Coverage

Portable XTS 2500 On Hip, Swivel Case, 1/2-wave Whip

20dB In-Building Loss, DAQ 3.4

95% Roundtrip Covered Area Reliability



RCS Final Build Out Coverage Plan