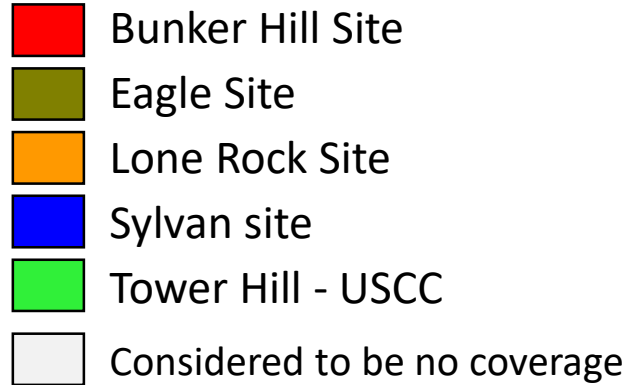


Current Coverage



More accurately compares the existing system coverage to the Options maps, because it reflects in-building coverage.

It does reflect the stronger talk-out (Repeater to Portable) coverage of the existing system. Existing system designs do not provide balanced input and output coverages.

Understanding of Option #1 coverage levels with this design:

90% Street / 60% In-building

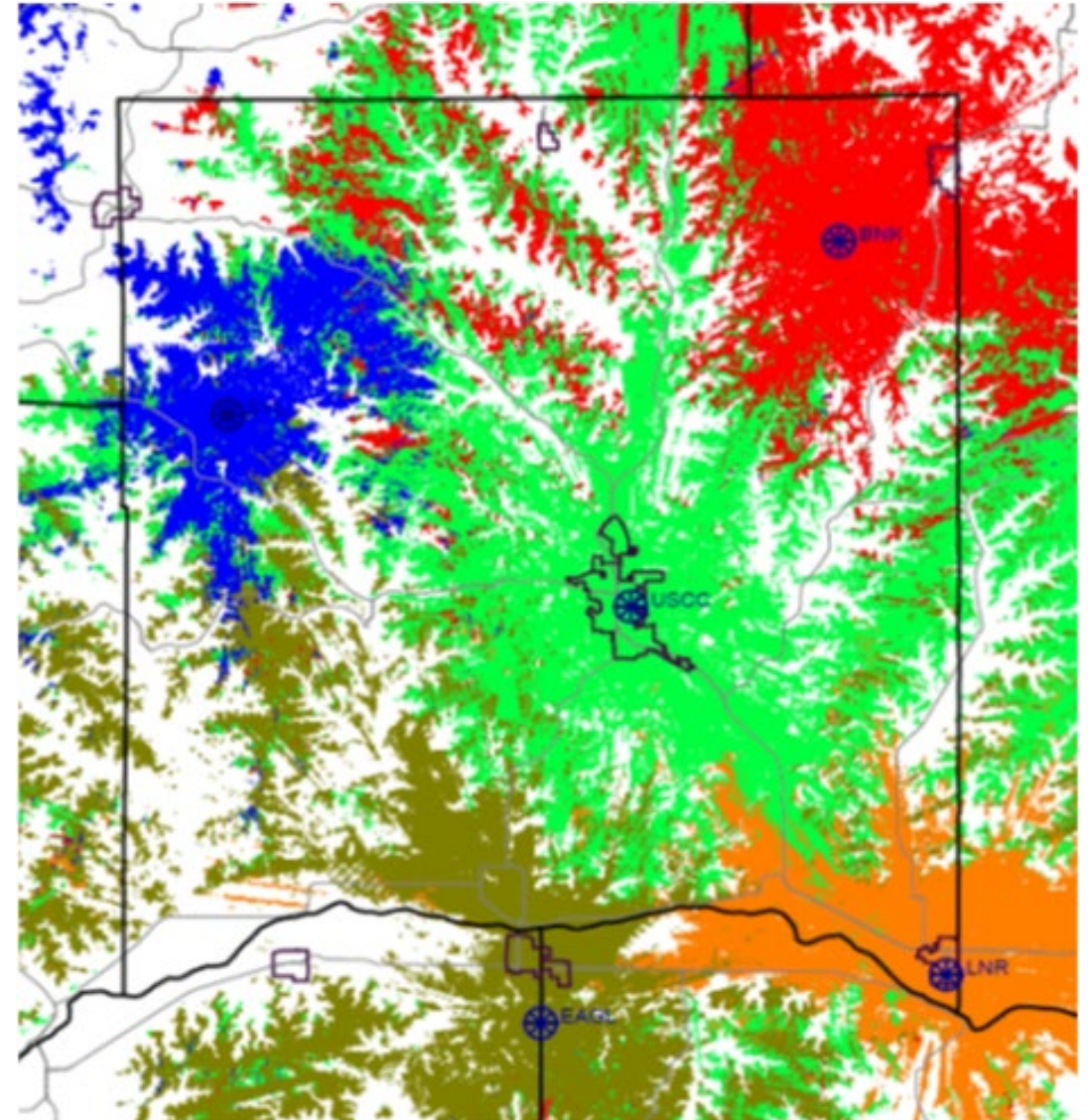
Understanding of Option #2 coverage levels with this design:

95% Street / 70% In-building

Understanding of Option #3 coverage levels with this design:

97% Street / 95% In-building

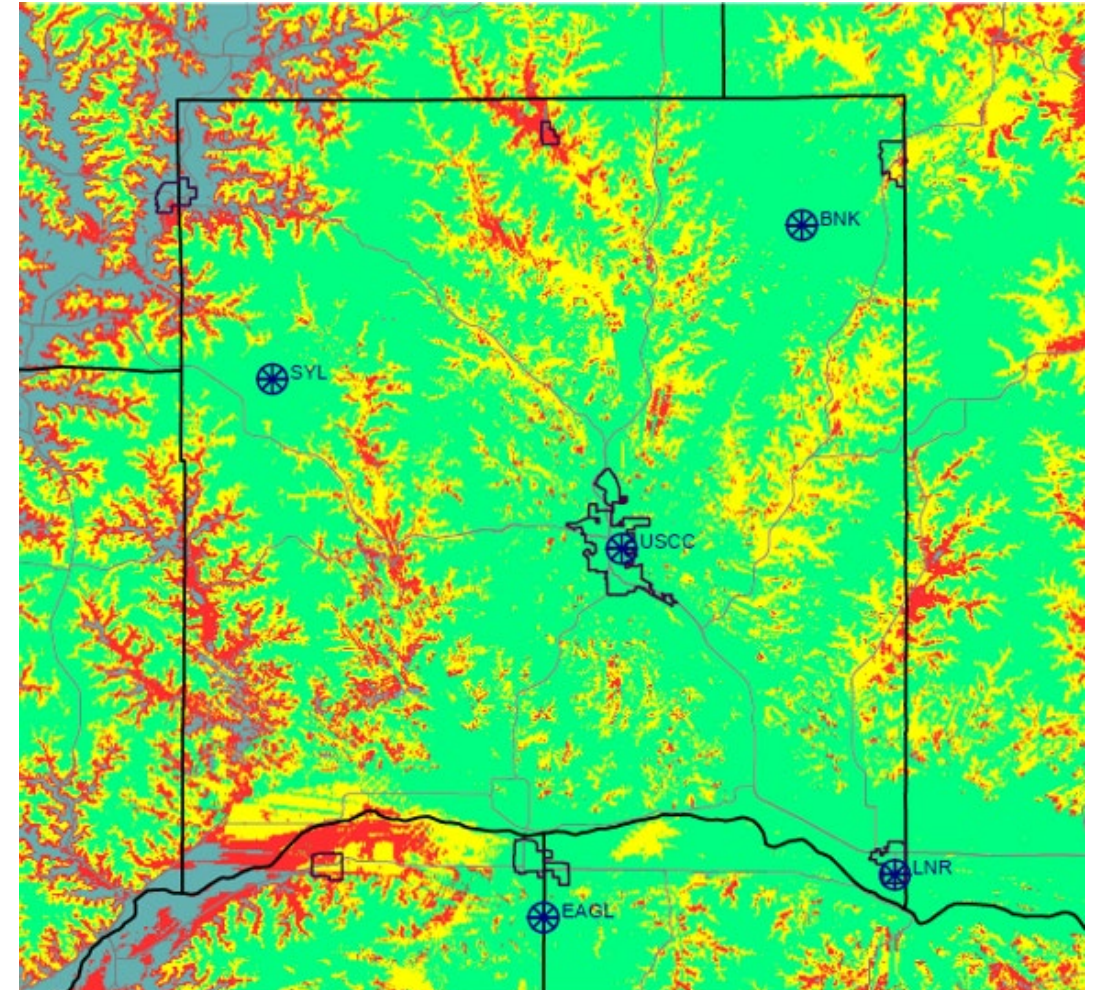
Likely Server Map (in-residential building 8dB)



Current Coverage

- In viewing this map, one must understand that these sites do not function in a simulcast operation. Meaning the user more accurately only receives the coverage from one of the sites as depicted in the Likely Server map.
- This also depicts the stronger talk-out (Repeater to Portable) coverage of the existing system.
- Summary data from this map indicates the existing Richland County system provides 66% coverage levels for Portable talk-out (in residential building 8 dB).
- Summary data from this map indicates the existing Richland County system provides 90% coverage levels for Portable talk-out (Street level).
- One must assume that the user always selects the correct tower site to achieve this level.
- Portable talk-back levels would be considered to have less coverage.

TNCG created map using the same data of the Likely Server map



Option #1 - \$3,280,500 *Estimated*

- ✓ VHF Analog Repeater Stations (x2 per site)
- ✓ Dedicated Paging operation is part of the design
- ✓ Coverage levels are improved Countywide
- ✓ Greenfield site likely needed
- ✓ Voting/Simulcast Controller Systems
- ✓ Transmit/Receive Antenna Systems
- ✓ Transmit/Receive Antenna Combining System
- ✓ Site shelter, grounding and structure enhancements
- ✓ Battery back-48-volt power systems
- ✓ Backup AC generator at all sites
- ✓ Minimal microwave network connection to all site
- ✓ Site and system alarm capabilities
- ✓ Console x2 and associated radio equipment upgrades

This lowest cost option provides for improving operational coverage of the existing design. Using this option would have the County seeking a migration strategy to the extent possible of the existing system.

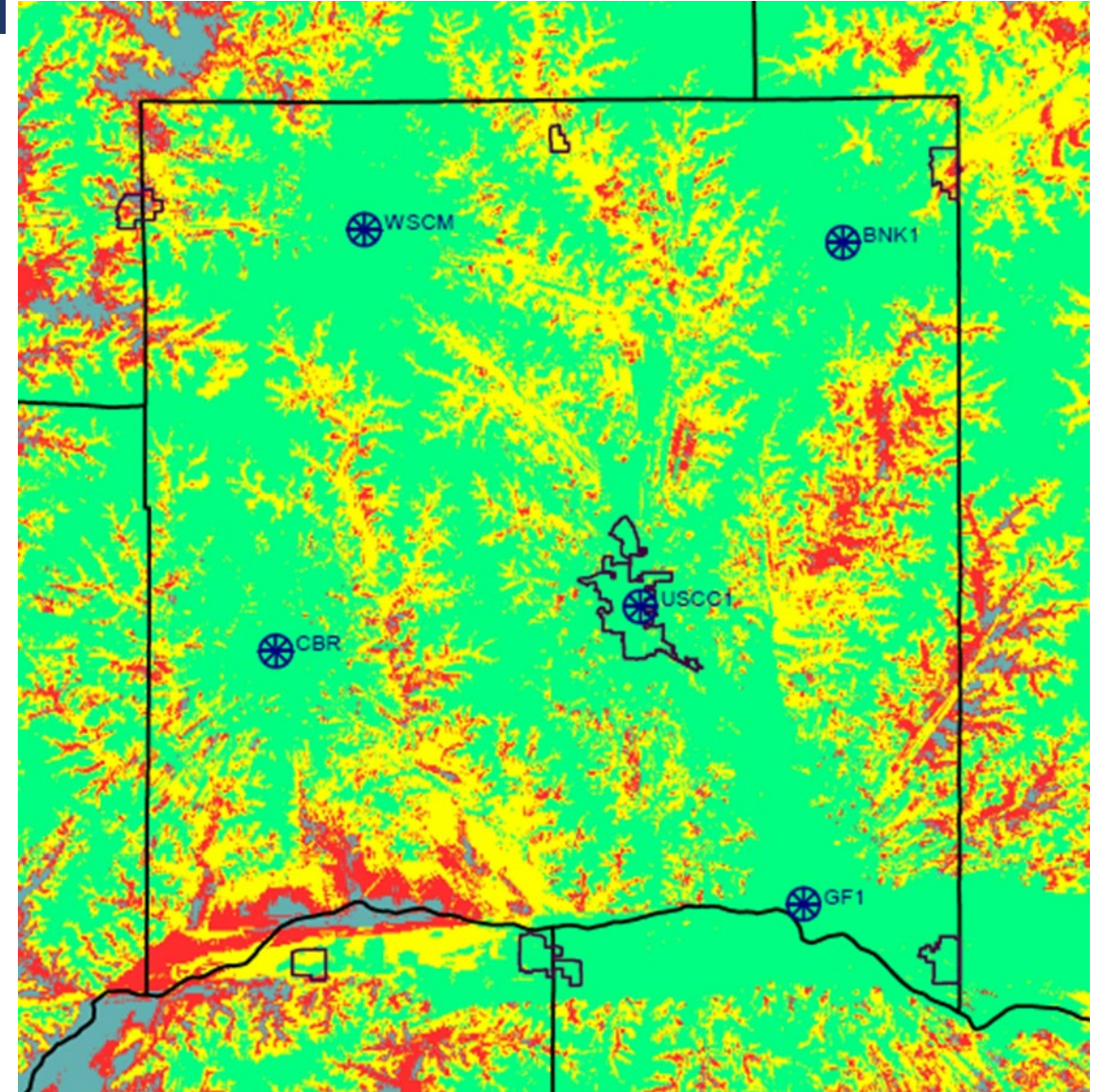
95% countywide coverage levels would not be achieved with this option without design changes and additional cost.

Sites are designed with dedicated shelter space and backup power capabilities (Hardened).

Subscriber equipment has been estimates as part of this possible phased approach with reuse being probable. Likely cost savings of at least \$1M.

Would provide a completed design that may not be able to easily expand coverage levels down the road.

Portable Coverage



Option #2 - \$5,792,000 *Estimated*

- ✓ VHF Digital P25 Repeater Stations (x3 per site)
- ✓ Standalone analog paging base station system
- ✓ Coverage levels improved to 90% on the street portable on the hip.
- ✓ Console x2 and associated radio equipment upgrades
- ✓ Public Safety grade P25 capable subscriber radios
- ✓ Voting/simulcast Controller Systems
- ✓ Transmit/Receive Antenna Systems
- ✓ Transmit/Receive Antenna Systems
- ✓ Transmit/Receive antenna Combining System
- ✓ Site shelter, grounding and structure enhancements
- ✓ Battery back-48-volt power systems
- ✓ Backup AC generator at all sites
- ✓ Microwave ring network connection to all sites
- ✓ Site and system alarm capabilities
- ✓ P25 digital operation with noise-cancelling capabilities, Encryption, etc.

This option seeks to improve the Option #1 design coverage using a digital operation. A migration to P25 operation would provide the County improvements and capabilities of designed system coverage.

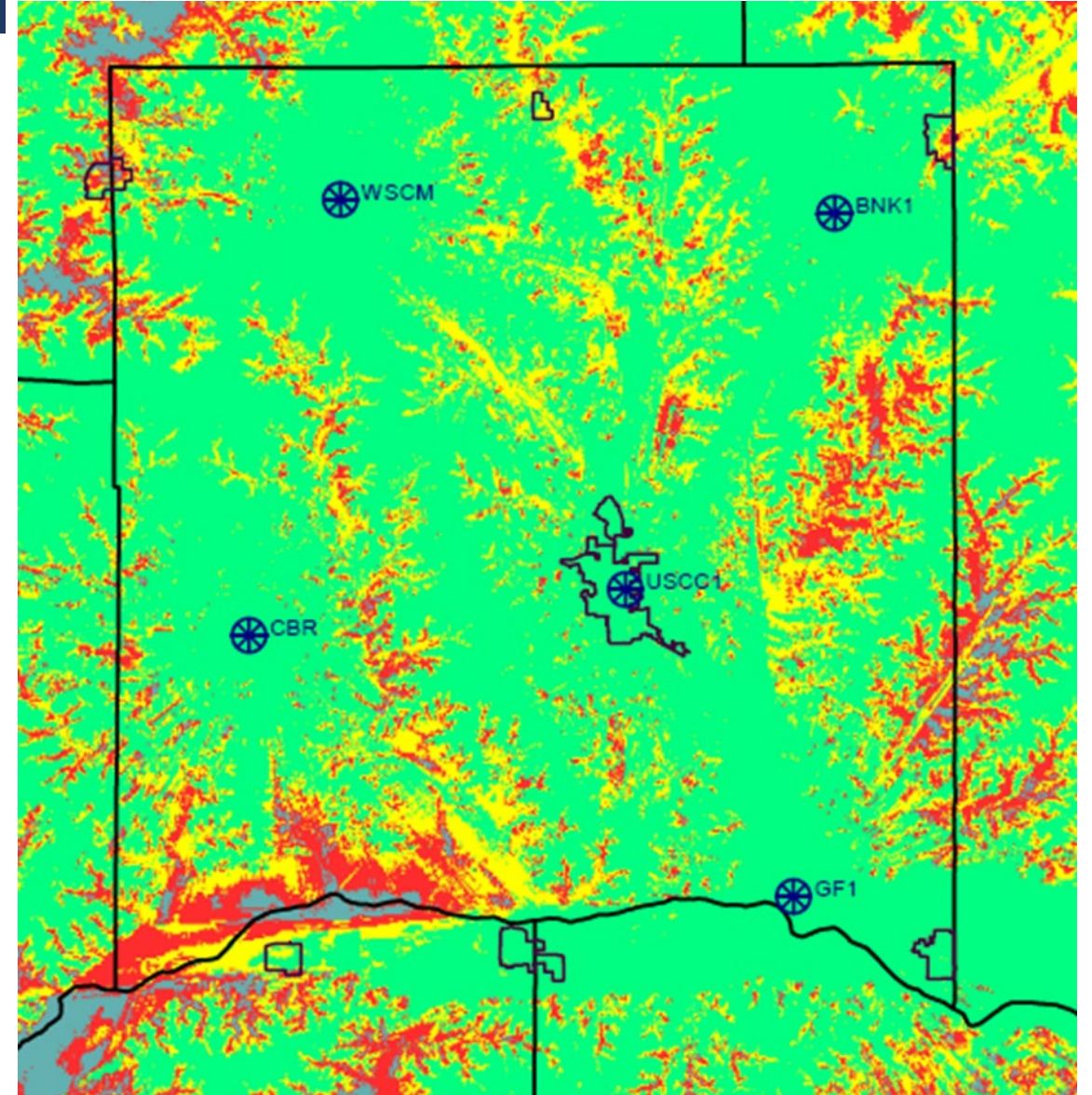
Improvements include new system support of improved P25 capabilities.

Subscriber equipment has been estimated for replacement to provide P25 operations.

Subscriber equipment would support County and WISCOM operations.

Would provide a completed design that may not be able to easily expand coverage levels down the road.

Portable Coverage



Option #3 - \$7,710,000 *Estimated*

- ✓ VHF Digital P25 Repeater Stations (x5 per site)
- ✓ P25 paging operation and subscriber equipment
- ✓ Console x2 and associated radio equipment upgrades
- ✓ Public Safety grade P25 capable subscriber radios
- ✓ Voting/simulcast Controller Systems
- ✓ Transmit/Receive Antenna Systems
- ✓ Transmit/Receive Antenna Systems
- ✓ Transmit/Receive Antenna Combining System
- ✓ Site shelter, grounding and structure enhancements
- ✓ Battery back-48-volt power systems
- ✓ Backup AC generator at all sites
- ✓ Ring topology microwave network connection to all sites
- ✓ Site and system alarm capabilities
- ✓ P25 digital operation with noise-cancelling capabilities, Encryption, etc.

Seeking to meeting in building public safety coverage levels with design.

This option seeks to improve the Option #2 design by adding coverage with additional sites.

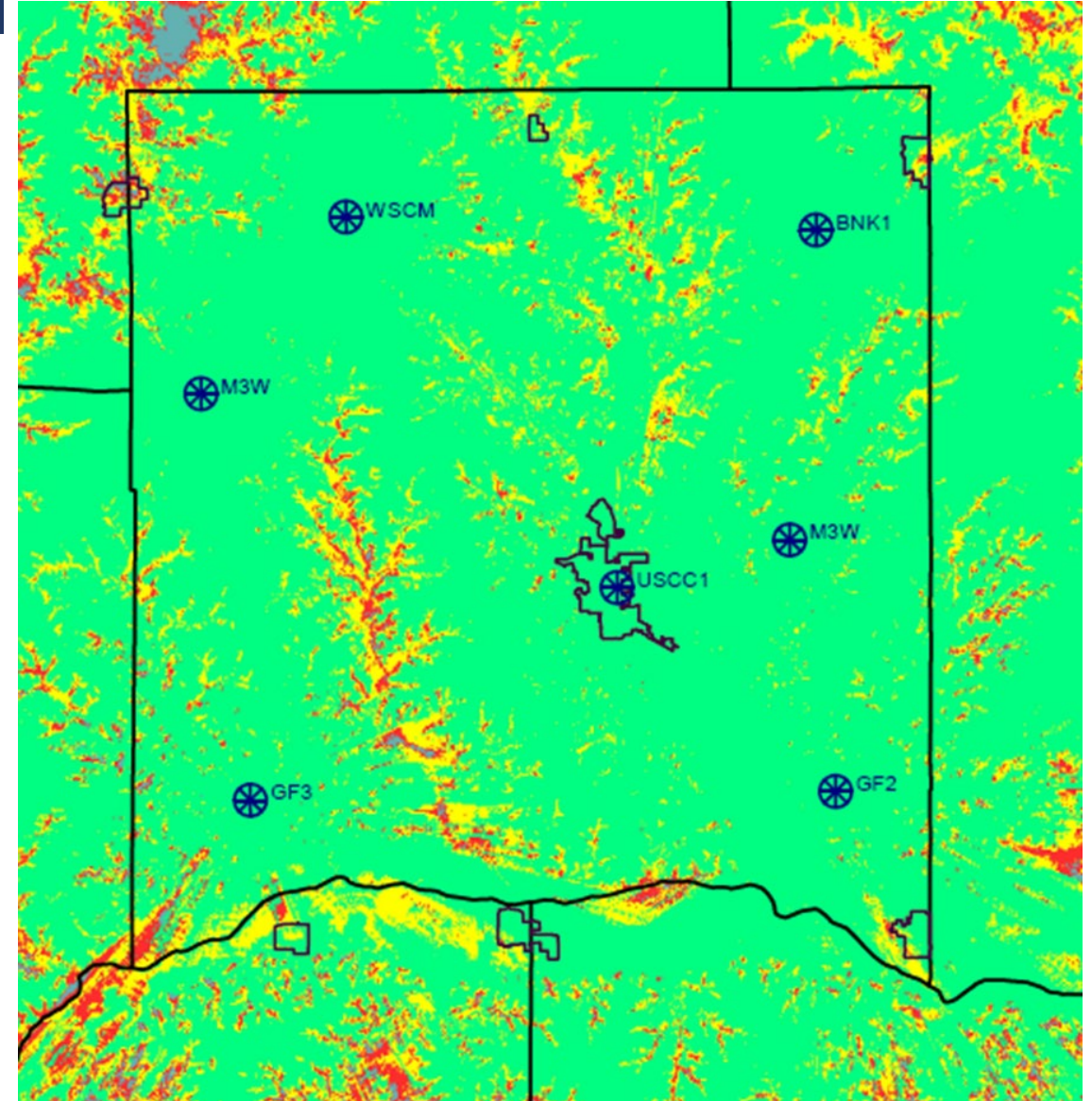
A migration to P25 operation would provide County improvements and capabilities of designed system coverage.

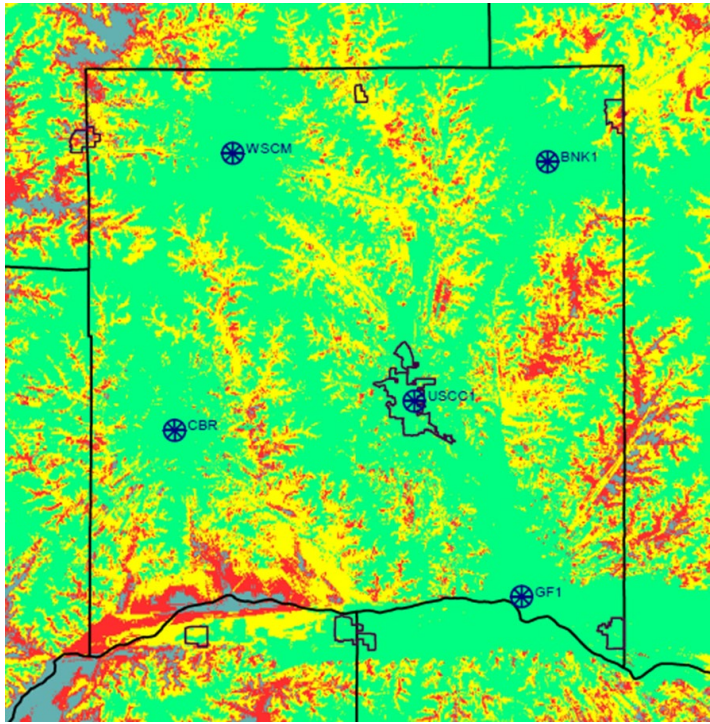
Improvements include new system support of improved P25 capabilities.

Subscriber radio equipment has been estimated for replacement to provide P25 operations.

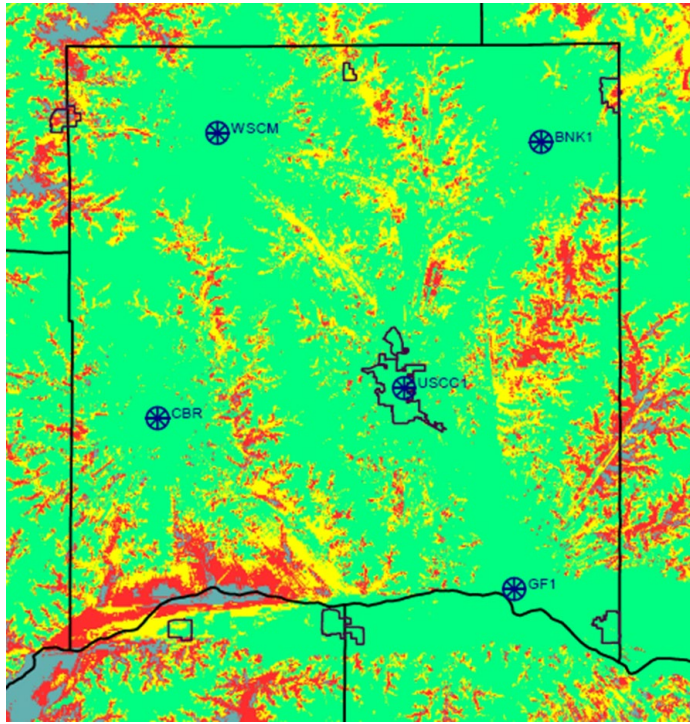
Paging operations is moved to P25 systems and pager equipment replacement is anticipated.

Portable Coverage

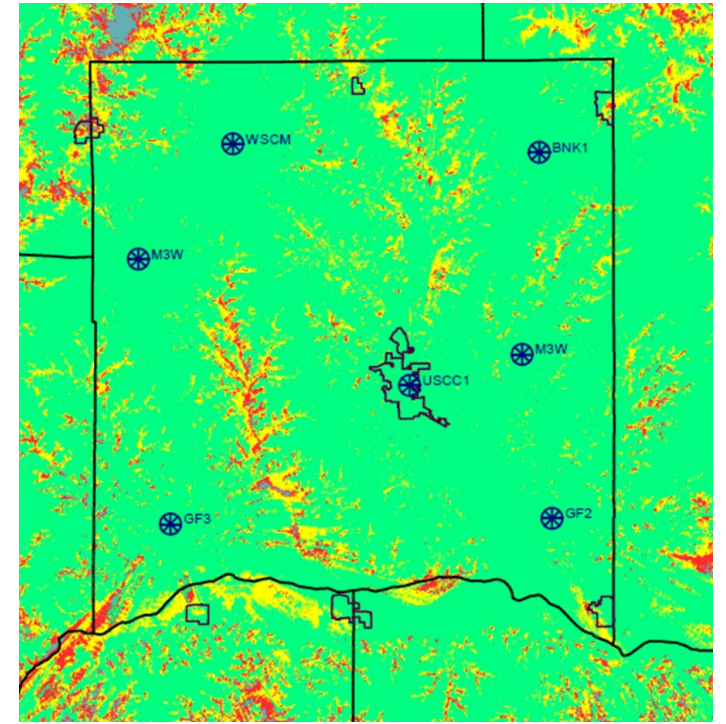




Option #1



Option #2



Option #3

