



# UTAH COMMUNICATIONS AUTHORITY

## KEEPING PUBLIC SAFETY CONNECTED

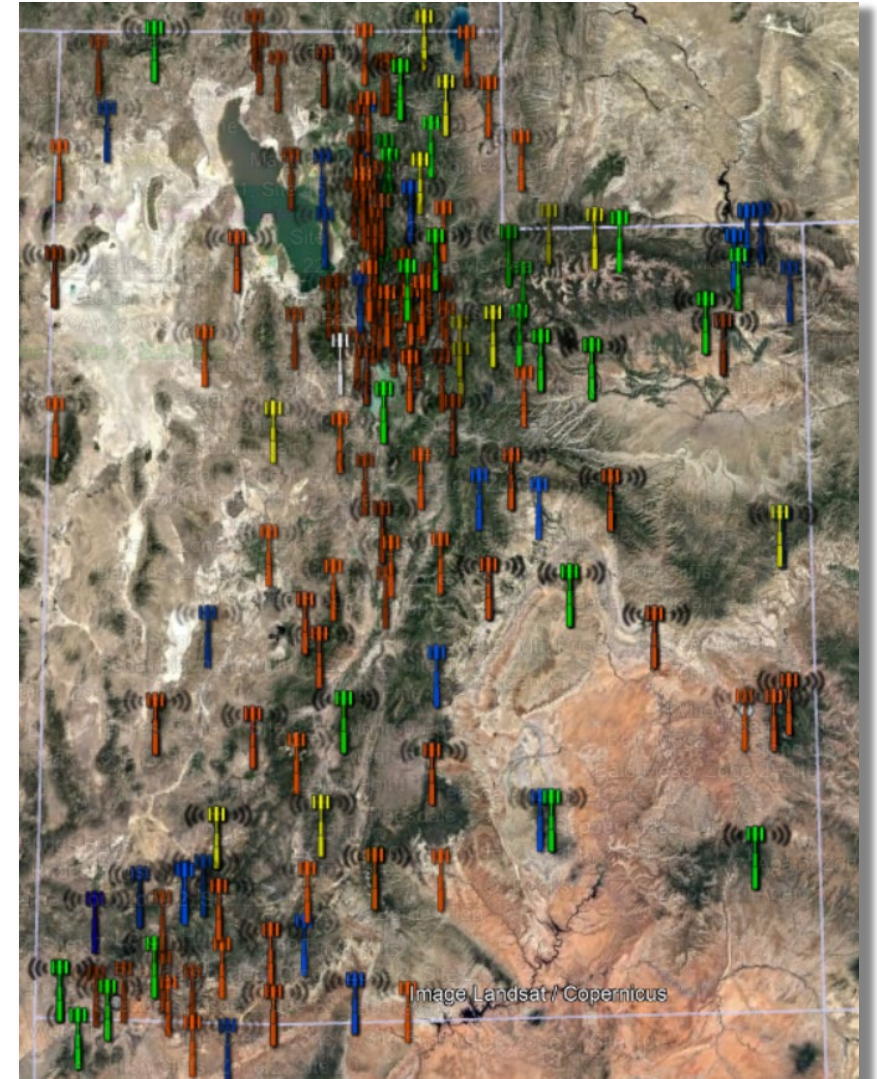
2023 UCA Radio Division Update – Philip Krebs - 11/7/2022





# Radio Division Scope

- 800MHz Trunked Radio - 119 Site Locations  
...and now P25 a trunked radio system co-located
- 800MHz Conventional – 38 Site Locations
- VHF Conventional – 64 Site Locations
- 460 Backhaul paths to move communications through the data cores
- Over 9,000 ancillary support devices
- Fleet of 32 vehicles
- 25,000 sqft Warehouse
- In order to keep a very high percentage of “up-time”, UCA technicians respond 24/7/365 to outages or potential outages.



# 2023-2024 Radio Division Projects

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- 2023 New IR Sites
- P25 Project 2023 Update
  - Sites Completed 2023
  - Sites Planned 2024
  - Sites Projected 2025
  - State Wide Coverage
  - Common Questions and Answers
- Other 2023-2024 Upgrade Projects

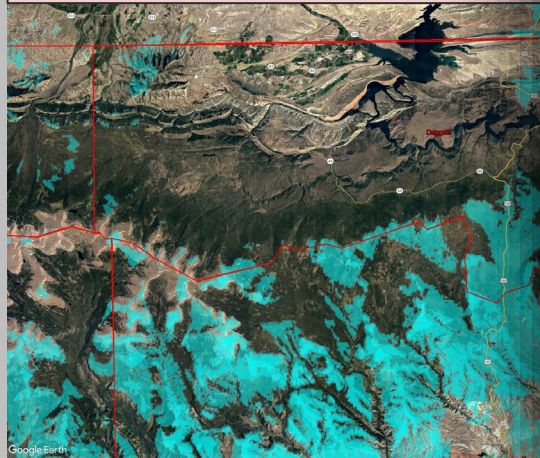




# 2023 New IR Sites – Daggett County

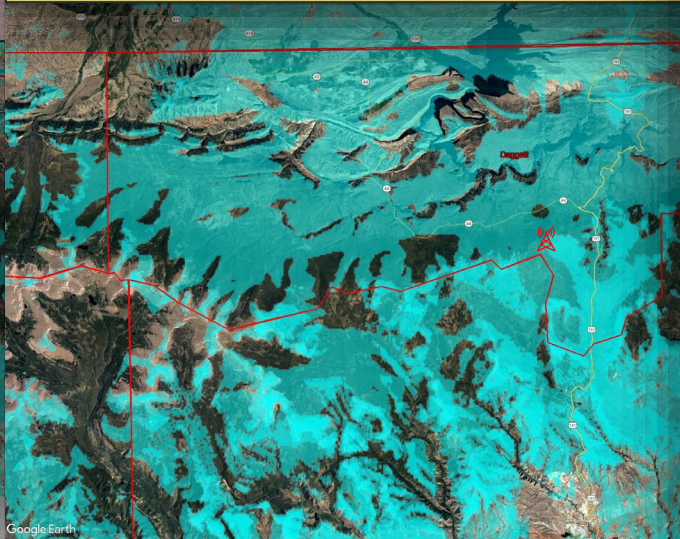
2022

VHF Coverage (Not Shown)  
No 800 MHz Trunked Coverage



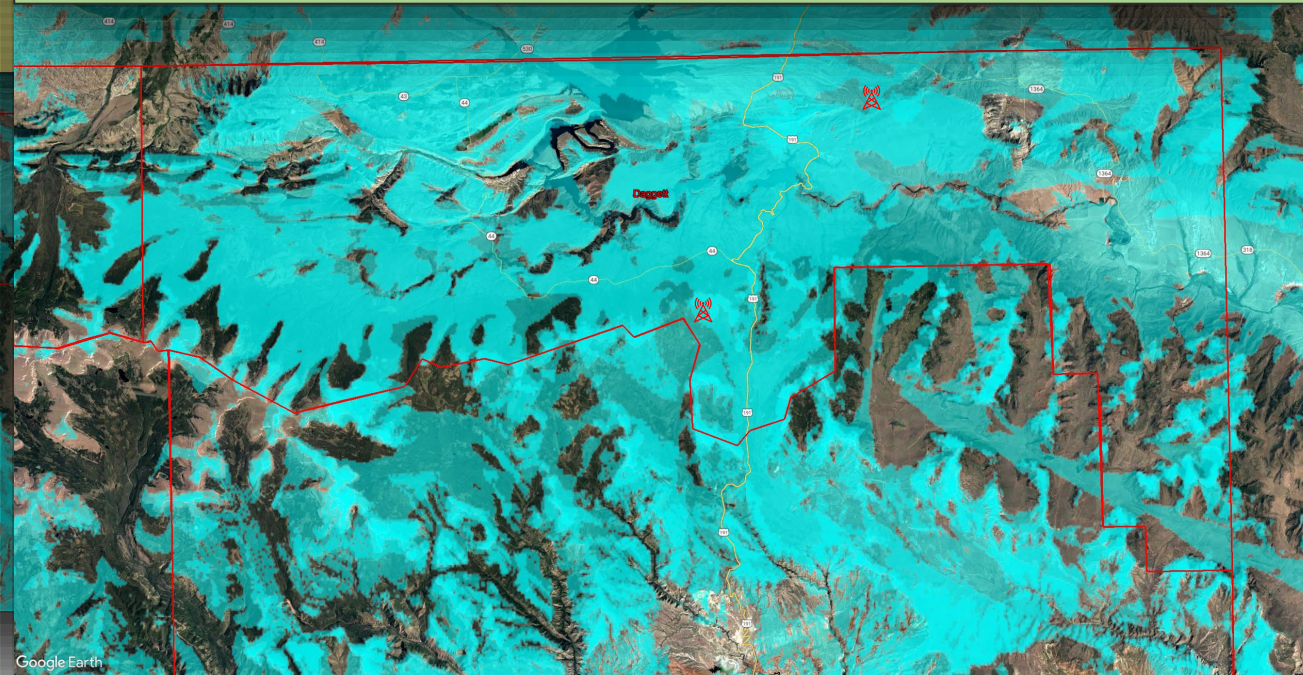
2023

East Park Online – 800 MHz Trunked



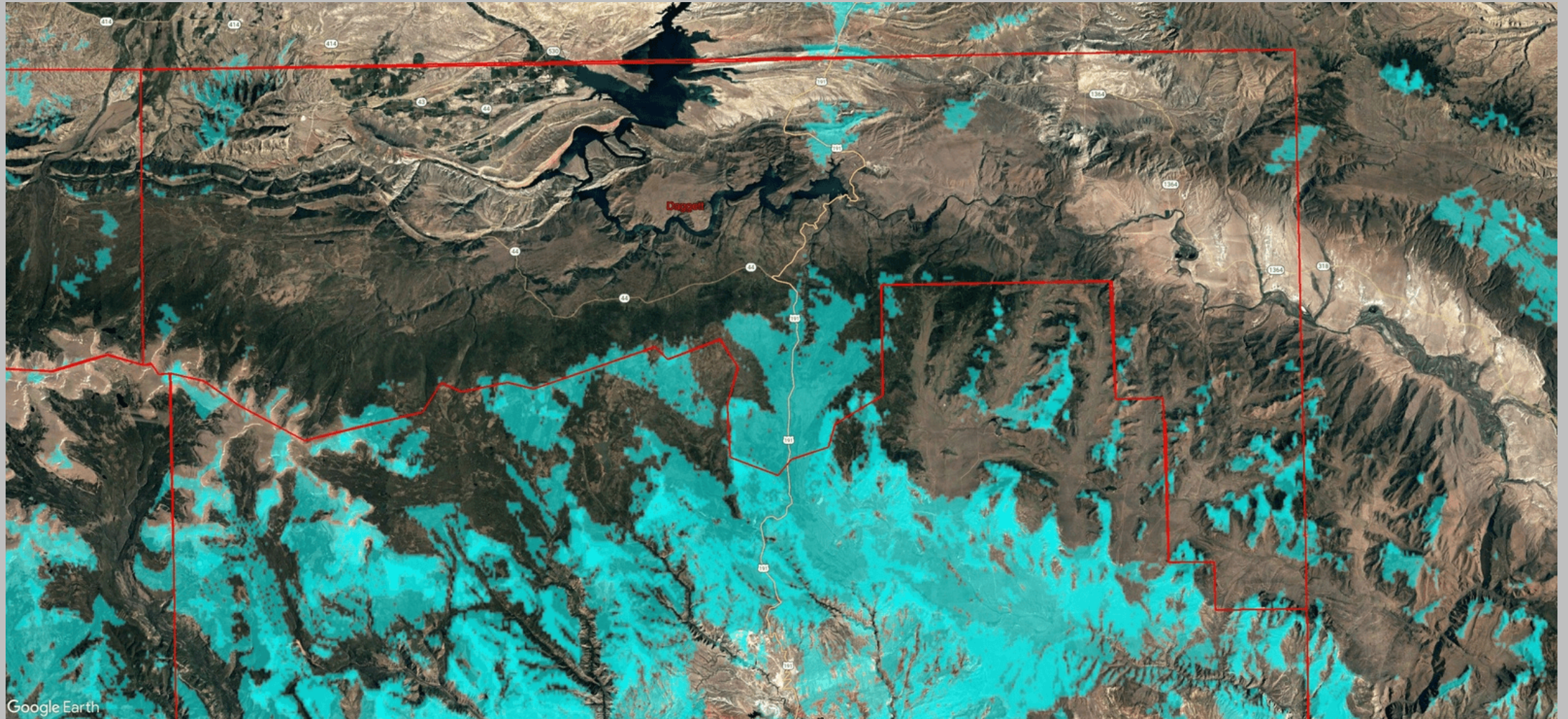
2024

East Park + Goslin Online – 700 MHz P25 Trunked  
LTE + WiFi Coverage via Be-On (Not Shown)





# Daggett County Coverage Loop



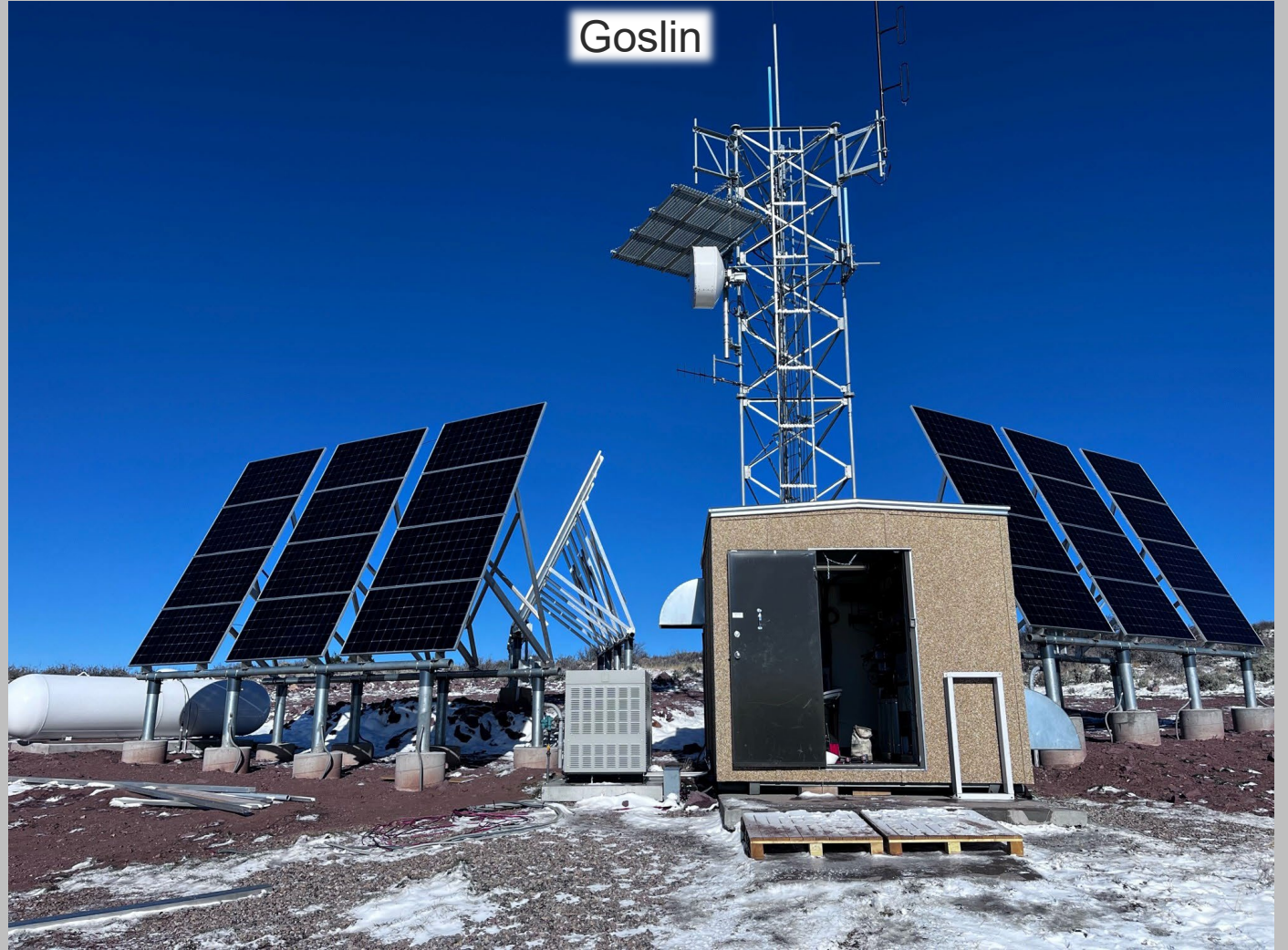


# Daggett County

East Park



Goslin

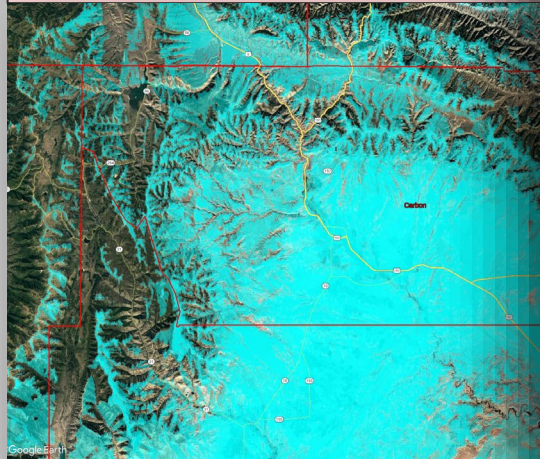




# 2023 New IR Sites – Carbon County

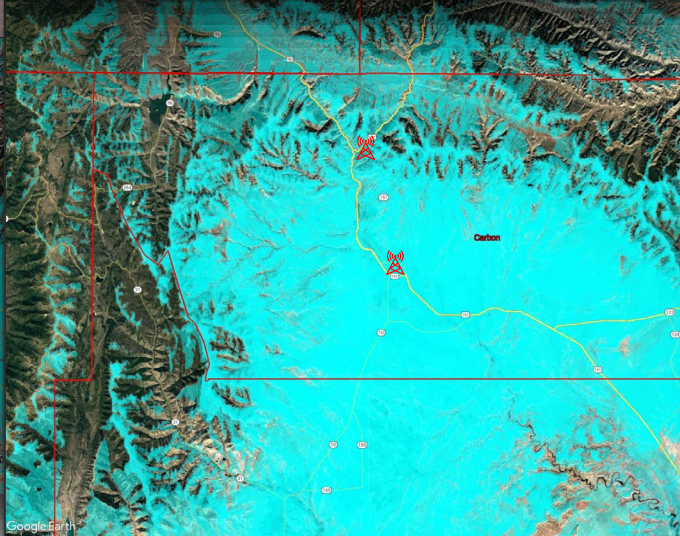
2022

Low receive signal levels in price causing audio problems



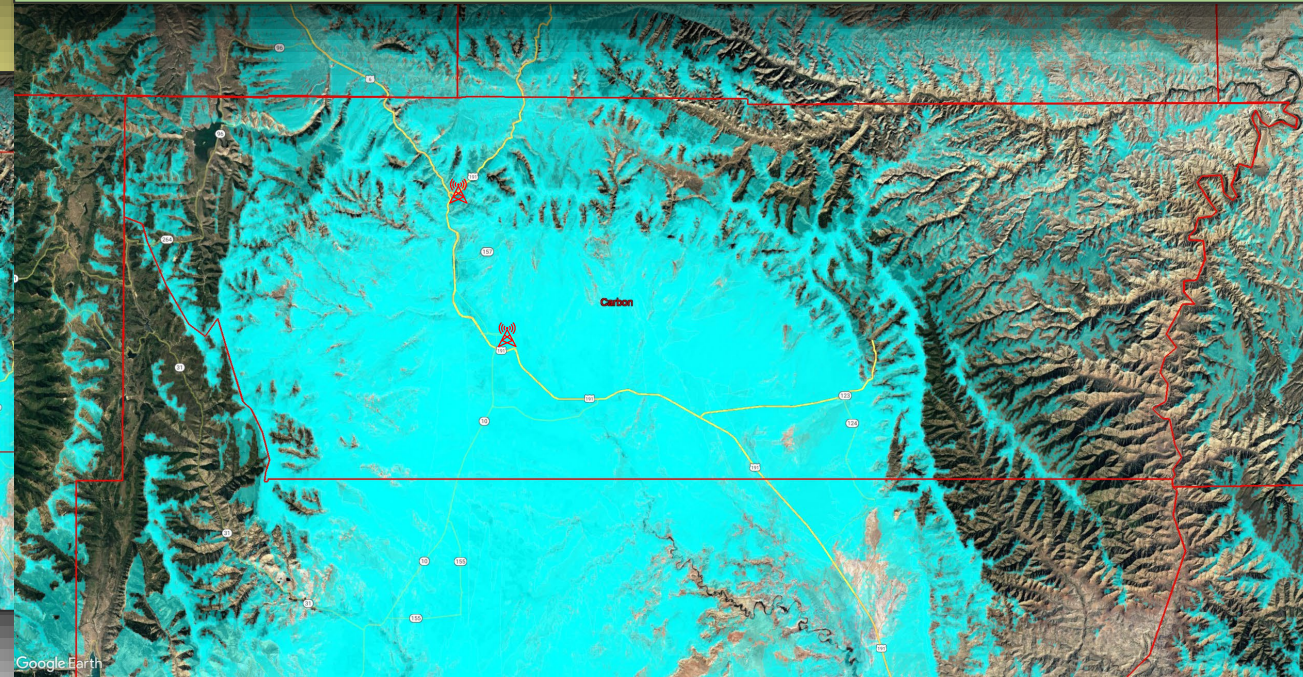
2023

Castle Gate Online – 800MHz Trunked  
Price Dispatch Online – 800 MHz Trunked



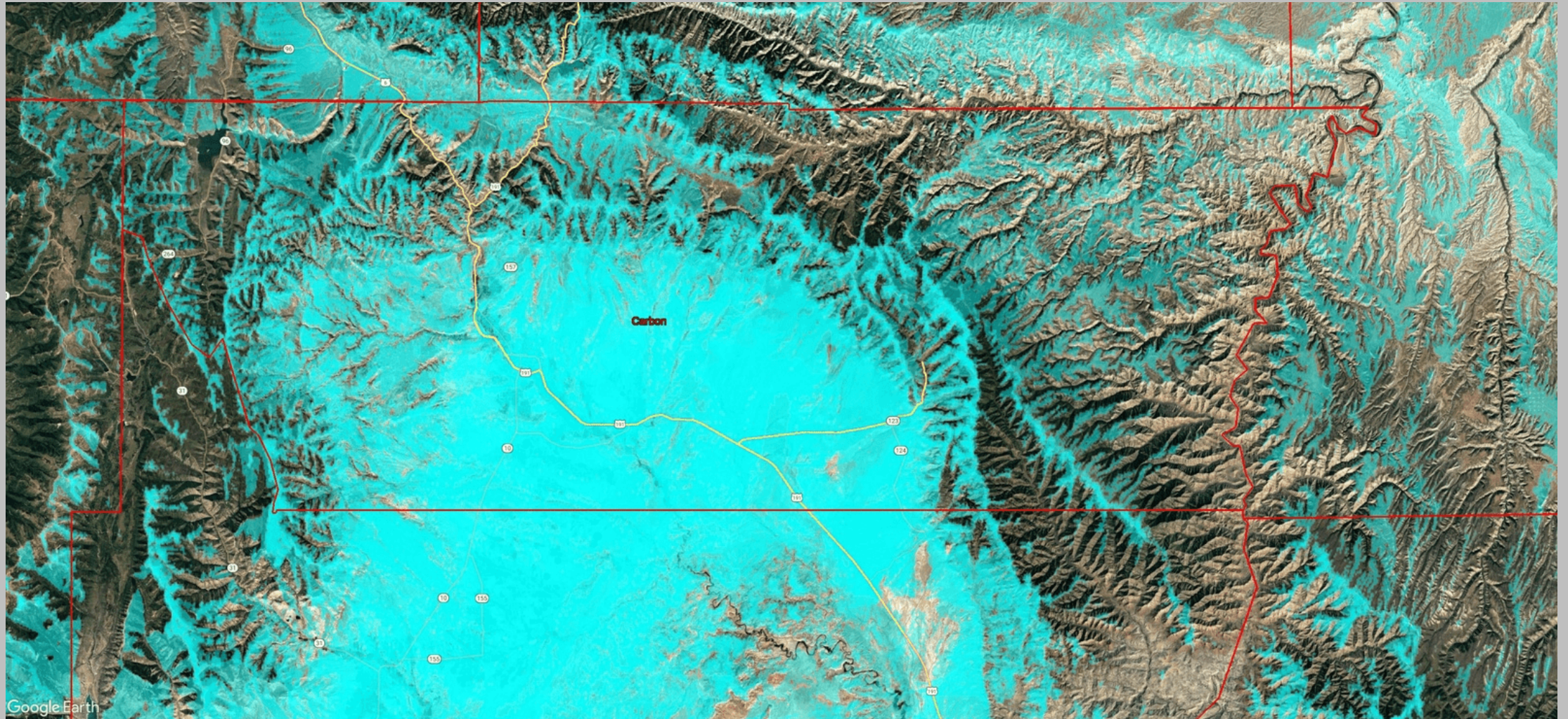
2024

Castle Gate + Price Dispatch Online + Argyle – 700 MHz P25 Trunked  
LTE + WiFi Coverage via Be-On (Not Shown)





# Carbon County Coverage Loop





# Carbon County

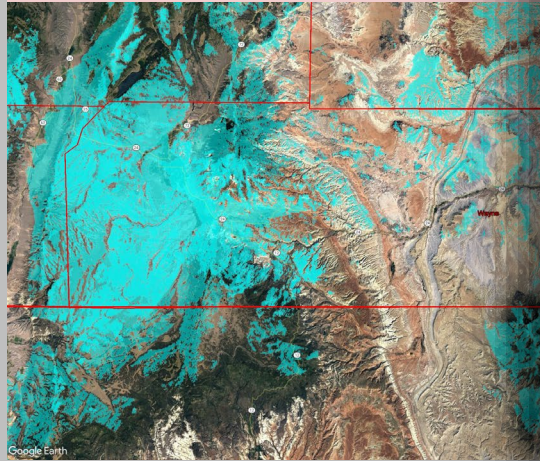




# 2023 New IR Sites – Wayne County

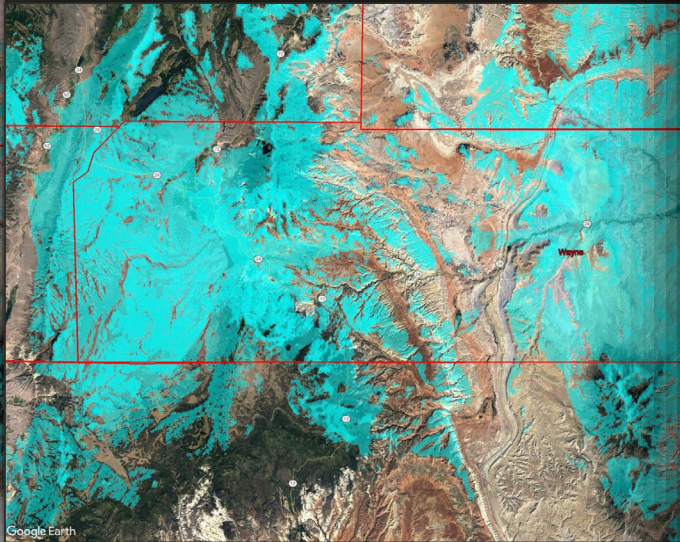
2022

VHF Coverage (Not Shown)



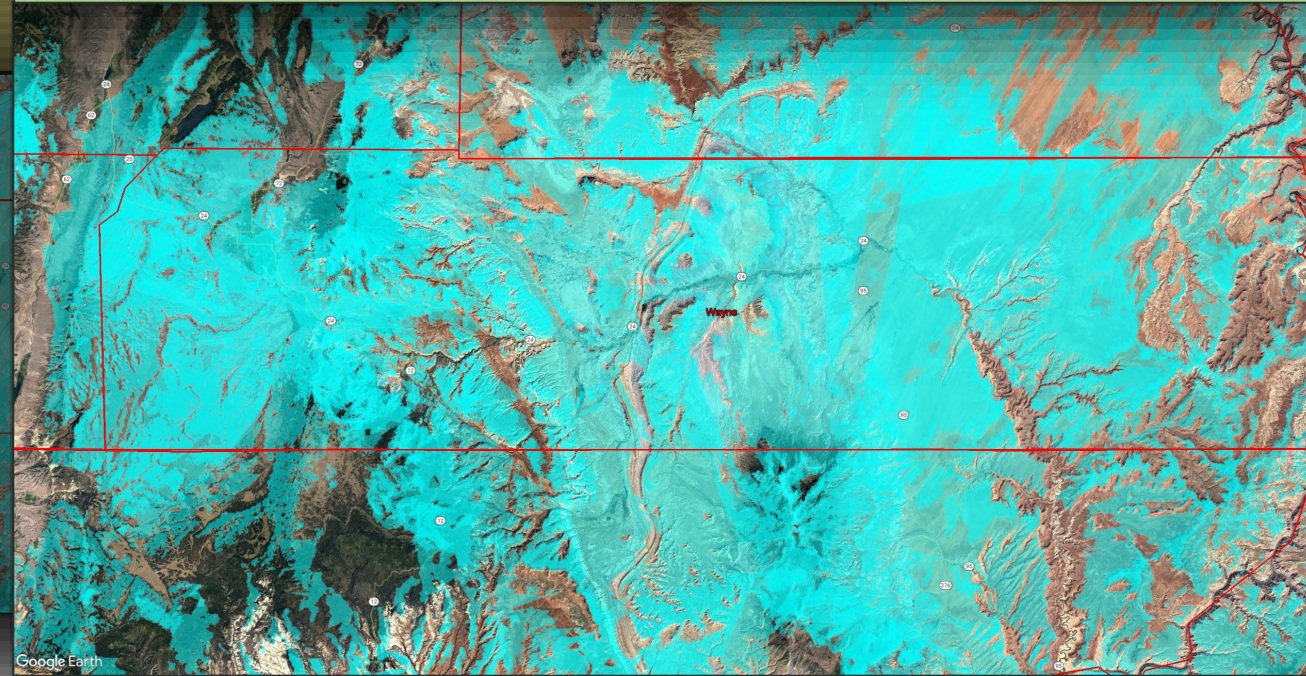
2023

Hanksville – 800MHz Trunked



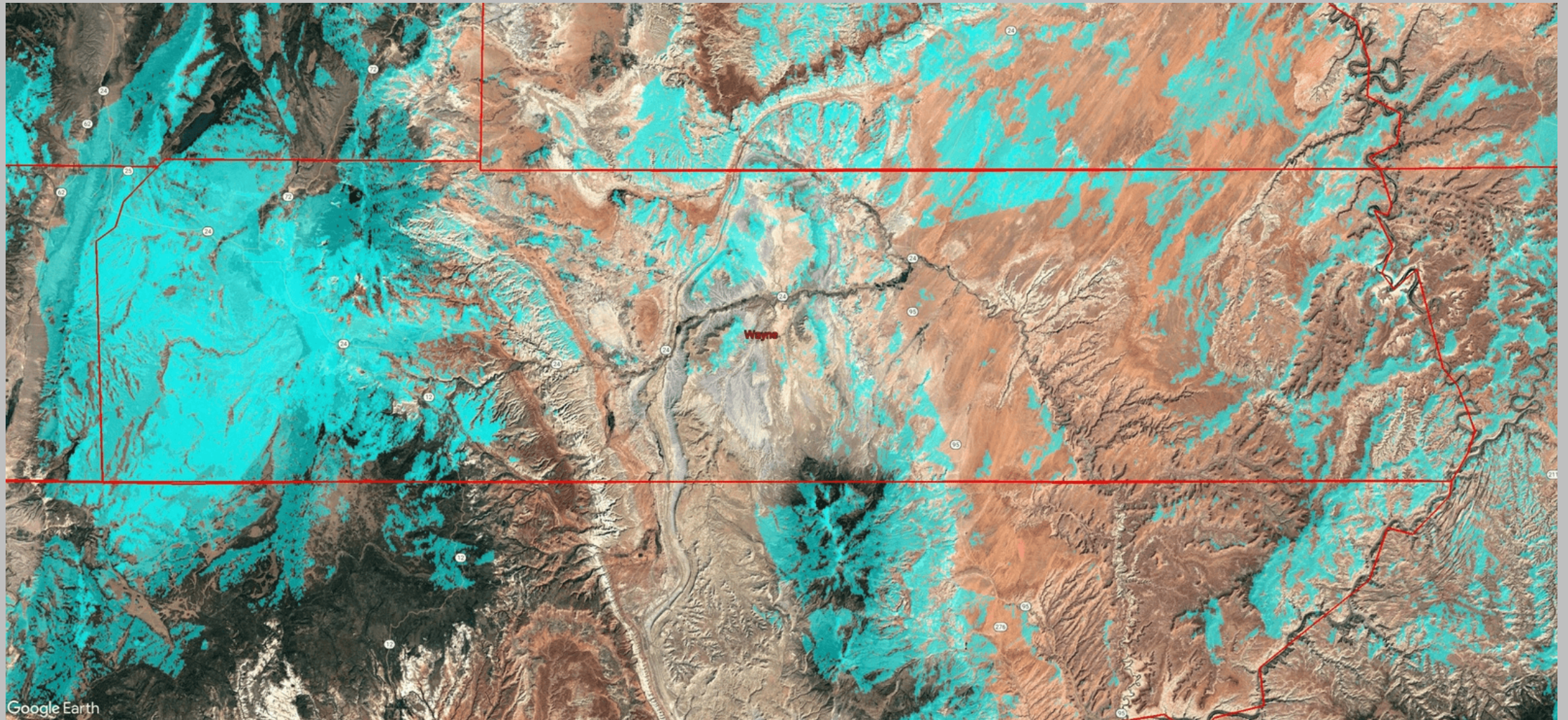
2024

Hanksville + Copper Ridge + South Creek – 700 MHz P25 Trunked  
LTE + WiFi Coverage via Be-On (Not Shown)





# Wayne County Coverage Loop





# Wayne County

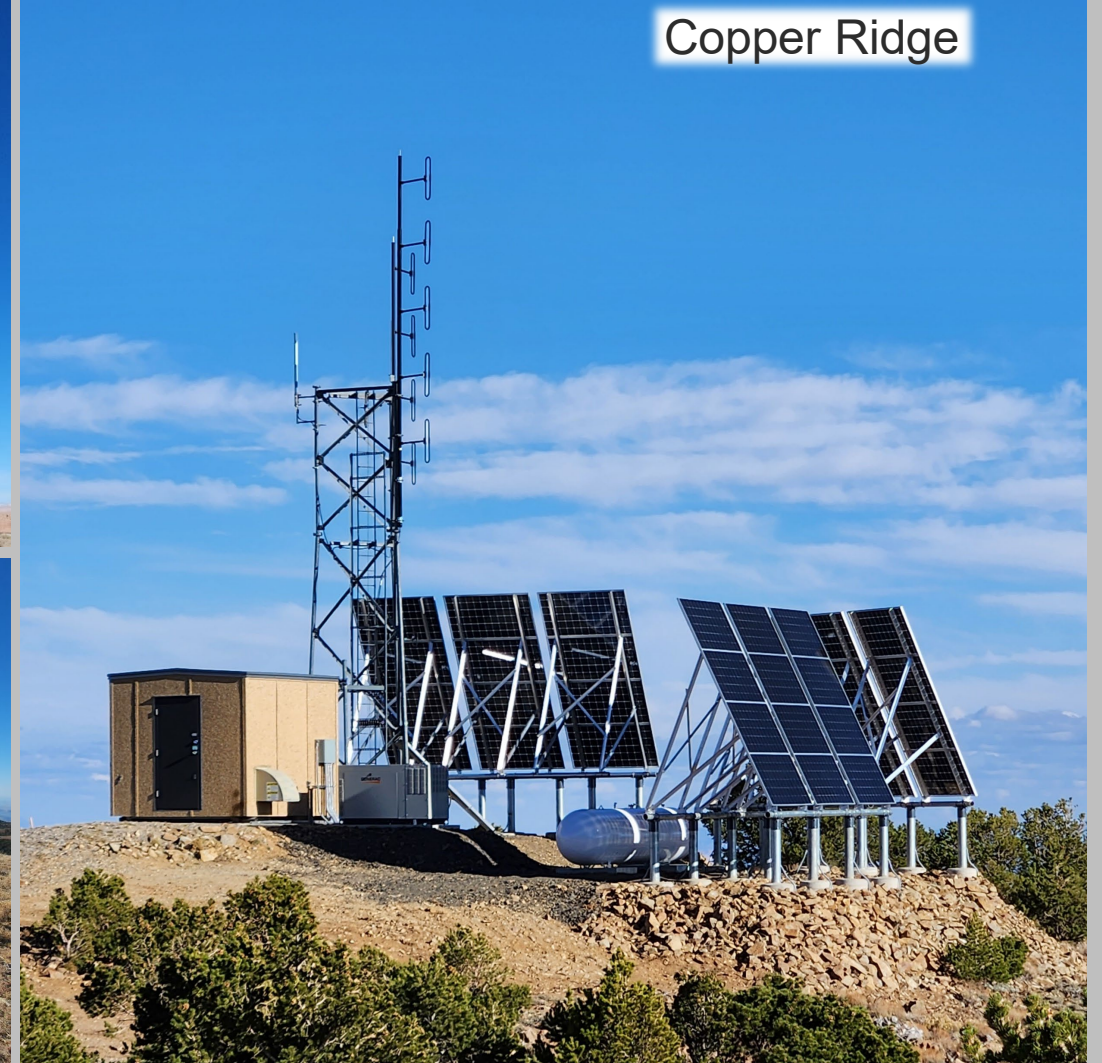
Hanksville



South Creek



Copper Ridge

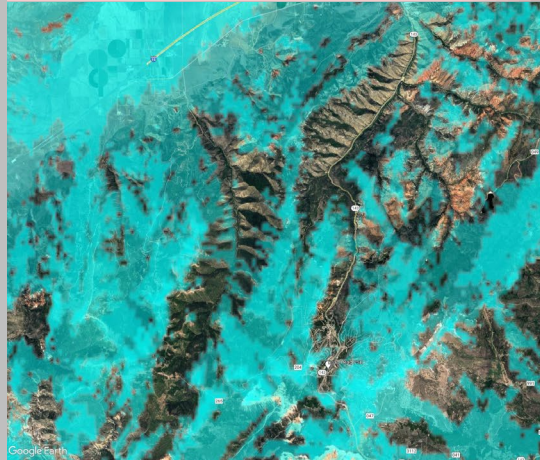




# 2023 New IR Sites – Brian Head

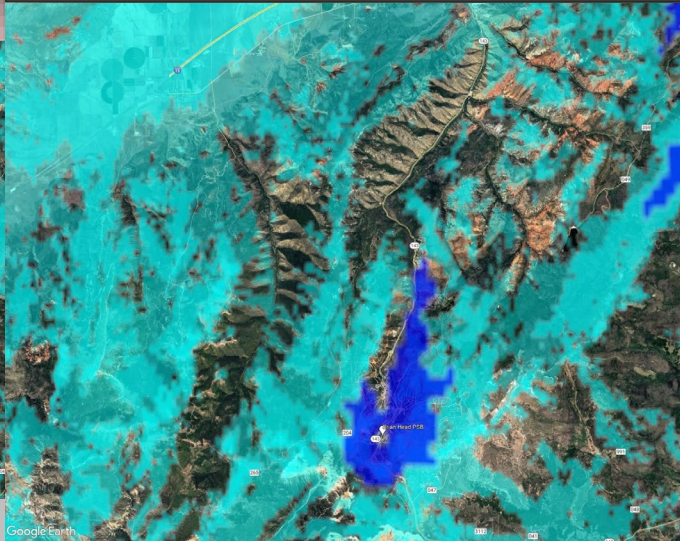
2022

VHF Coverage (Not Shown)  
No 800 MHz Trunked Coverage



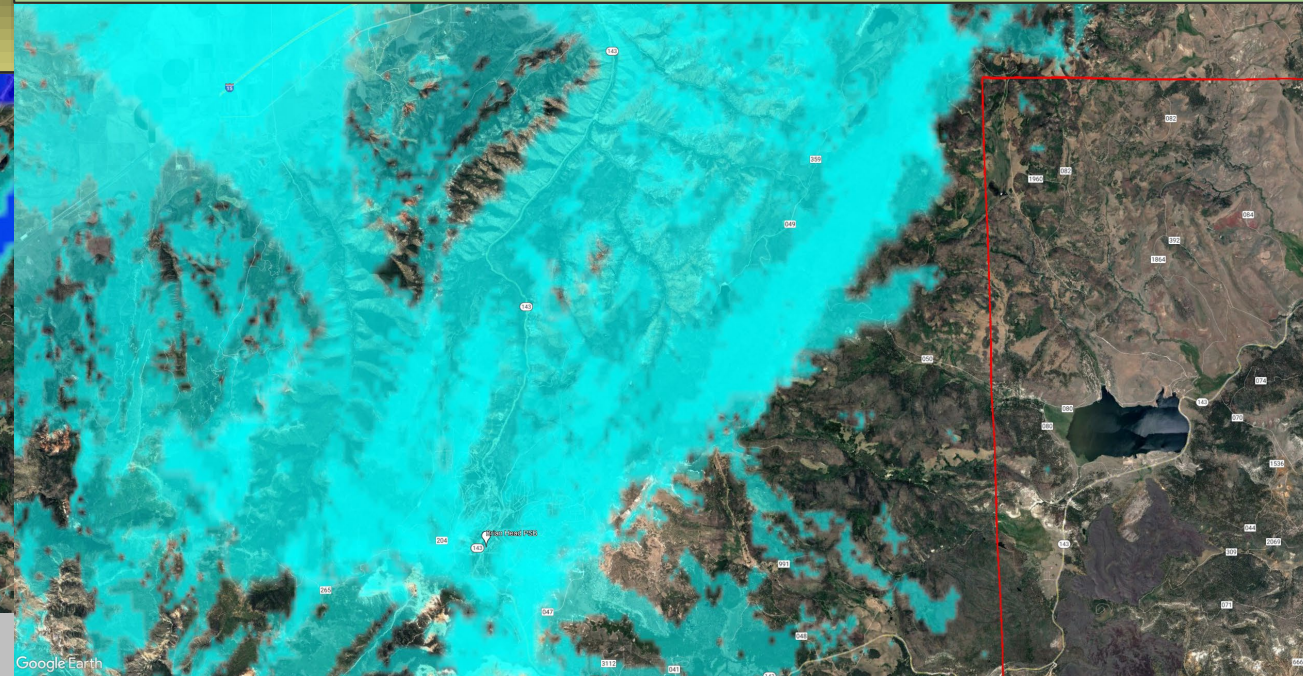
2023

Brian Head – 800 MHz Conventional  
Remote Keyable By Dispatch

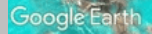


2025

Brian Head – 700 MHz P25 Trunked  
LTE + WiFi Coverage via Be-On (Not Shown)









# Brian Head

Brian Head





# P25 Project 2023 Update

Utah Communications Authority



# 2023 P25 Project Update



L3HARRIS™



Project upgrades 119 existing 800Mhz trunked sites to an APCO P25 Phase II compliant system supplied by L3Harris

- UCA completed Daniels, Dutton, UCA Warehouse, and American Fork P25 remediation projects in 2023
- Router project connecting each site to the radio core completed in 2023
- **Project also adds 25 new sites to the UCA infrastructure**
  - 11 sites required to be live at cutover to maintain current 800MHz footprint
  - 7 sites for the 2024 build season
  - 7 sites for the 2025 build season
- **Project upgrades consoles at Public Safety Answering Points to L3Harris Symphony Consoles**
  - 225 consoles were installed at PSAPs across the state



# P25 Site Projects Completed in 2023

| Site                | P25 Equipment Install | Optimization |
|---------------------|-----------------------|--------------|
| Daniels Summit      | Complete              | Complete     |
| Dutton              | Complete              | Complete     |
| UCA Warehouse (New) | Complete              | Complete     |
| American Fork       | Ready                 | Ready        |

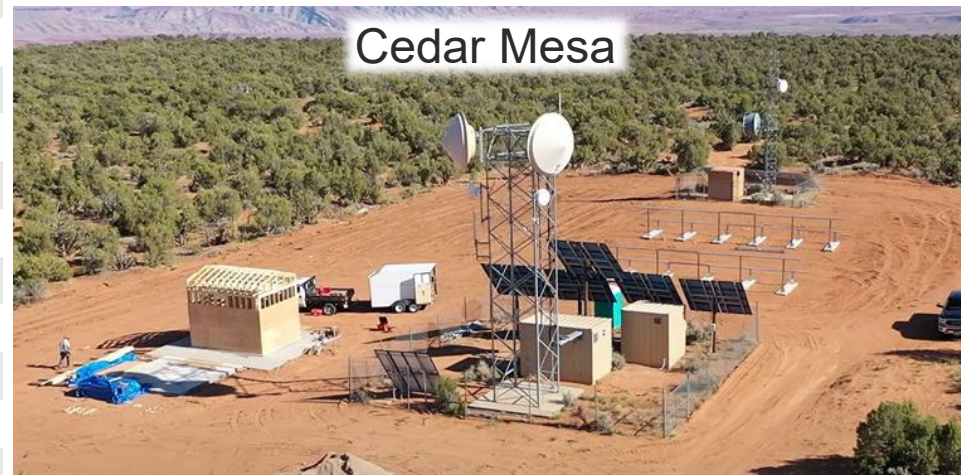
- Solar Panel Upgrades
- Lithium-Ion Batteries
- Inverter Systems
- New Generators
- Ducting
- Roofing
- Grounding
- Concrete
- Propane
- New Shelter





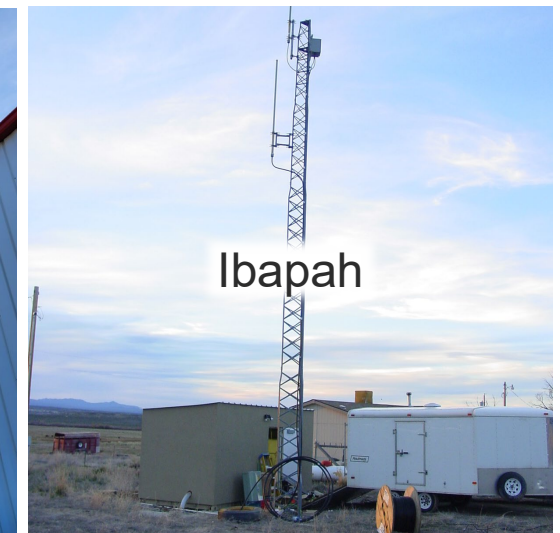
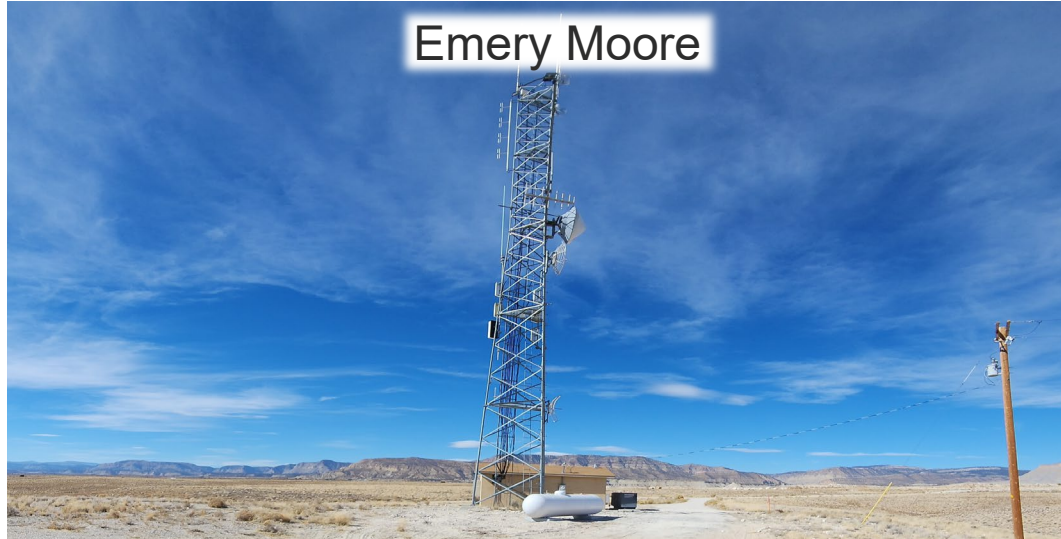
# P25 Site Projects Planned For 2024

| Site                 | County   | Required at P25 |         |         | Equipment Optimization |
|----------------------|----------|-----------------|---------|---------|------------------------|
|                      |          | Cutover         | Install | Ready   | Ready                  |
| Castle Gate (New)    | Carbon   | Yes             | Ready   | Ready   |                        |
| Book Cliffs (New)    | Grand    | Yes             | Ready   | Ready   |                        |
| Hanksville (New)     | Wayne    | Yes             | Ready   | TBD     |                        |
| East Park (New)      | Daggett  | Yes             | Ready   | Ready   |                        |
| Dugway (New)         | Tooele   | Yes             | Ready   | TBD     |                        |
| Top Of Rocks (New)   | Garfield | No              | Ready   | 11/2023 |                        |
| Rudd's Roost         | Iron     | Yes             | Ready   | Ready   |                        |
| Goslin (New)         | Daggett  | Yes             | Ready   | Ready   |                        |
| Copper Ridge (New)   | Garfield | No              | Ready   | 11/2023 |                        |
| South Creek (New)    | Garfield | No              | Ready   | TBD     |                        |
| Cole Mtn Ranch (New) | Sevier   | No              | TBD     | TBD     |                        |
| Argyle (New)         | Duchesne | No              | Ready   | TBD     |                        |
| Price PSAP (New)     | Carbon   | Yes             | Ready   | 11/2023 |                        |
| Horn                 | Emery    | Yes             | Ready   | 11/2023 |                        |
| Ibapah               | Tooele   | Yes             | TBD     | TBD     |                        |
| Salina Rodeo Grounds | Sevier   | Yes             | Ready   | 12/2023 |                        |
| Emery Moore (New)    | Emery    | No              | Ready   | 12/2023 |                        |
| Cedar Mesa (New)     | San Juan | No              | Ready   | TBD     |                        |
| Mountain Home (New)  | Beaver   | No              | TBD     | TBD     |                        |





# Planned For 2024



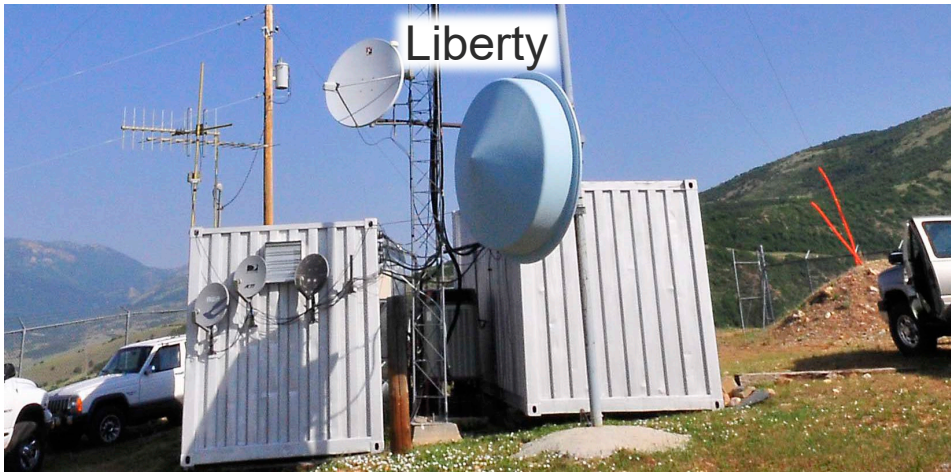


Navajo Mtn.

# P25 Site Projects Planned For 2024-2025

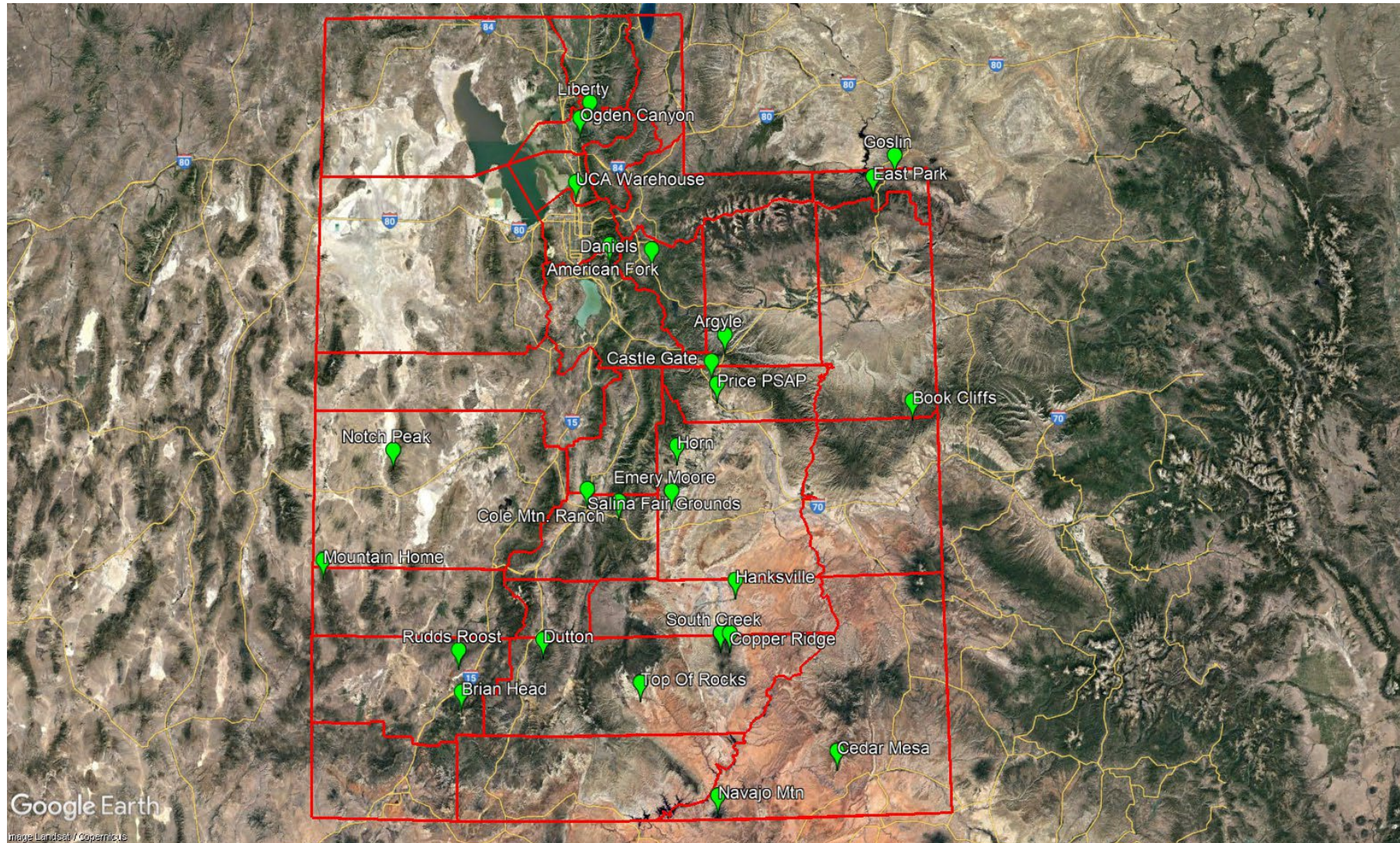
| Name         | County   | Location Secured | P25 Equipment Install | Optimization Ready |
|--------------|----------|------------------|-----------------------|--------------------|
| Brian Head   | Iron     | No               | No                    | No                 |
| Liberty      | Weber    | Yes              | No                    | No                 |
| Navajo       | San Juan | No               | No                    | No                 |
| Ogden Canyon | Weber    | No               | No                    | No                 |
| Notch Peak   | Millard  | Yes              | No                    | No                 |

- Solar Panel Upgrades
- Lithium-Ion Batteries
- Inverter Systems
- New Generators
- Ducting
- Roofing
- Grounding
- Concrete
- Propane
- New Shelter



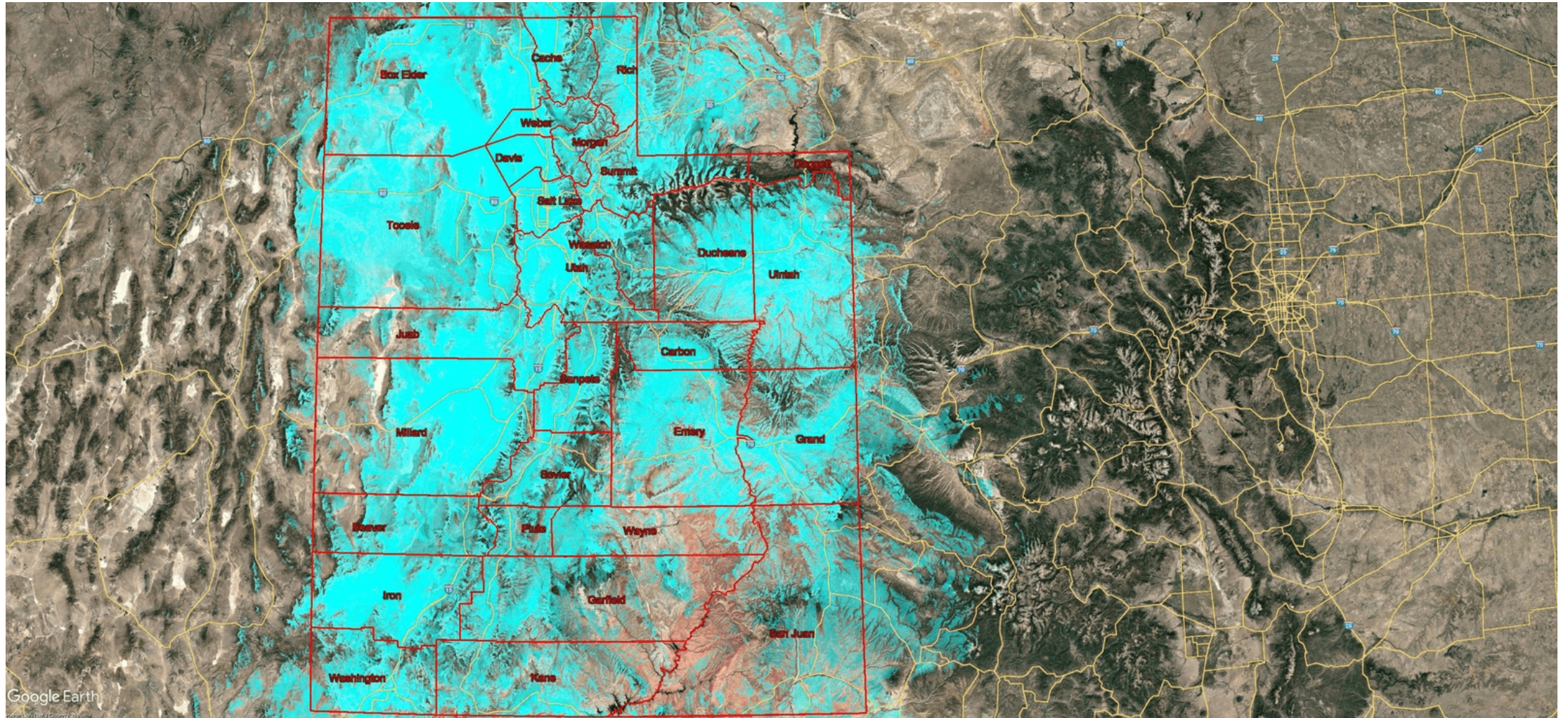


# P25 Expansion Sites 2023-2025





# P25 Project – Statewide Coverage





# PTT Over Broadband LTE and Wi-Fi

## Virtual P25 Radio Application

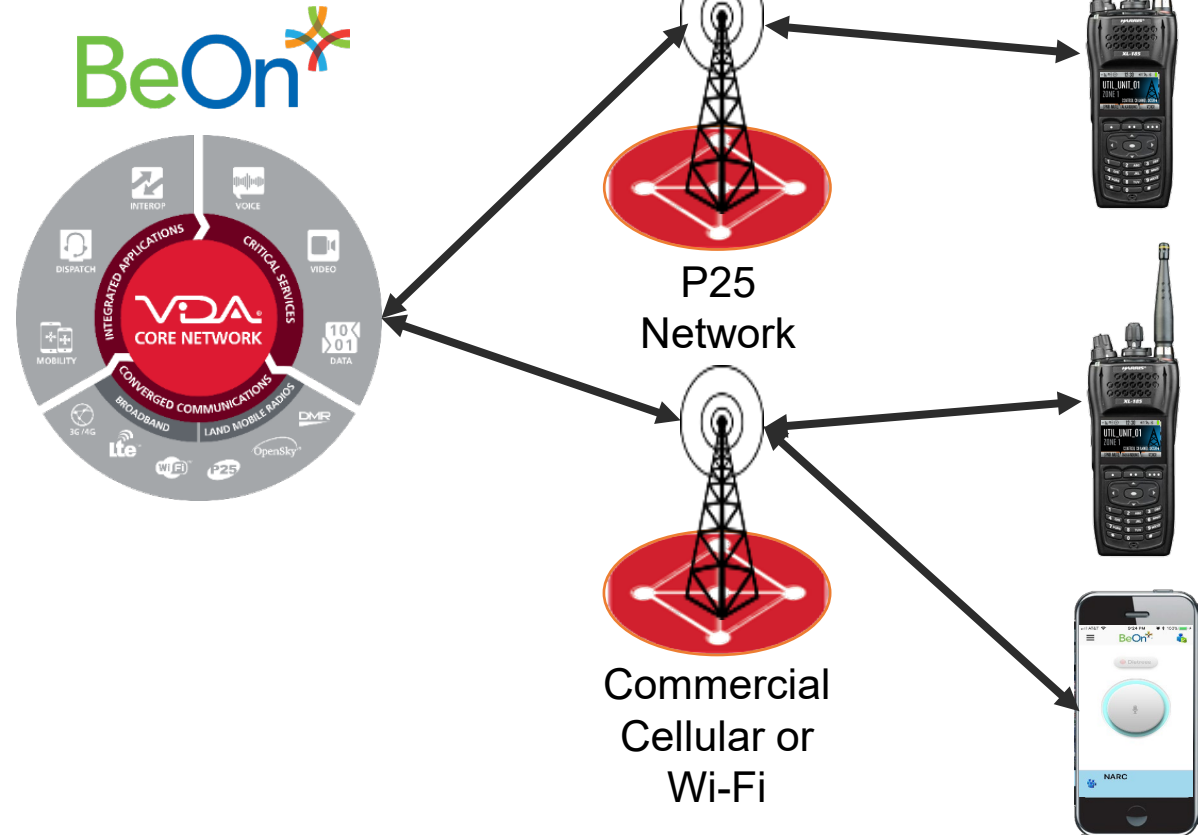
- VoIP based; PTT over LTE & Wi-Fi
- L3H XL platform (Optional Add On)
- Available on Android™, Windows® PC, and iOS™ platforms
- Reduces traffic loading on system
- Supports geographic mapping and utilizes Google® Mapping data

## Coverage Enhancement

- Extends coverage outside the traditional LMR footprint
- Economical supplemental coverage WiFi in place of BDA's
- PTT encrypted comms between smartphones and XL radios

## P25 Based Comms

- End to end AES encryption
- Woven into L3Harris system architecture
- IP encapsulated packets
- No reoccurring monthly fees





# P25 Common Questions and Answers

- What is the schedule for cutover both statewide and in my area?
  - A: Starting in Kane County, please attend tomorrow's schedule session:
    - November 8<sup>th</sup> @2:30 – 3:30 – Cutover: Schedule/What to Expect
- What radios are allowed on the new P25 system?
  - A: P25 equipment from multiple vendors is approved for use.
    - <https://www.uca911.org/file/1b1fd246-7115-40fd-b009-8b74024ee829>
- What features does my radio need to support for now and in the future?

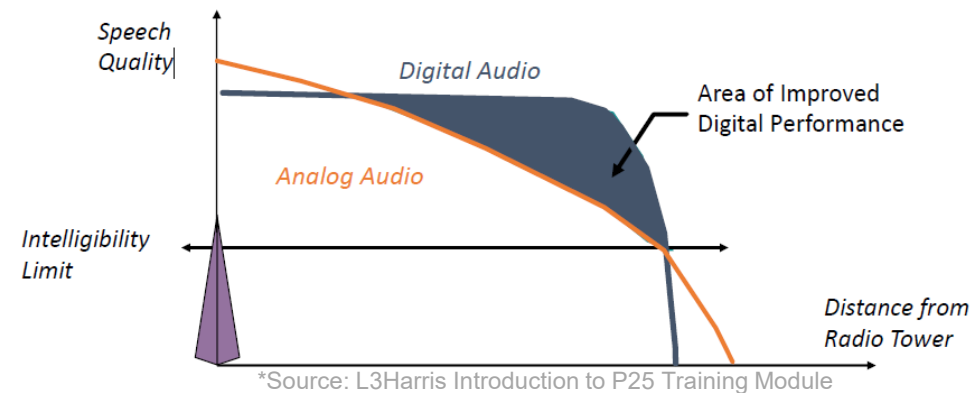
|                        |                                                                                                                        |
|------------------------|------------------------------------------------------------------------------------------------------------------------|
| Existing Radios        | P25 Phase I (required)<br>AES 256 (required)<br>Latest Firmware (recommended)<br>RF Tune Up (recommended)              |
| Newly Purchased Radios | P25 Phase II (required)<br>AES 256 (required)<br>Latest Firmware (recommended)<br>Link Layer Authentication (required) |





# P25 Common Questions and Answers

- Do you anticipate a difference in audio quality with the P25 System?
- Do you anticipate a difference radio coverage with the P25 System?
  - A: Yes different, but not necessarily better or worse than the current system



- Is UCA removing its VHF or Non-Trunked 800MHz resources?
  - A: No, in fact there is a large undertaking to integrate and support these radio resources with P25. UCA will only remove radio resources that are UCA owned and not being used
  - November 7<sup>th</sup> @ 3:15p – 4:00p – VHF – How will they pair with the new P25 system?



# Other 2023 Upgrade Projects

- Statewide Alarm System Upgrade - Notify Technicians
  - Combines environmental alarms and site equipment status in one view
  - Technicians can easily see the statewide status immediately
  - December 2023 Launch





# Other 2023 Upgrade Projects



- UCA Outage Notification Project Complete! – Kierstin Martinez
- Launched in April
- Notifies Stakeholders of Critical Outages in their area
  - Scheduled Outages
  - Emergency Outages
  - Outage Updates
  - Resolution



**\*\*If you are not receiving these site outage emails and believe you should, please email: [kmartinez@uca911.org](mailto:kmartinez@uca911.org)**

## Welcome to Regroup



psap-groups-1811184@regroupcloud.com  
To ● Phil Krebs

You don't often get email from [psap-groups-1811184@regroupcloud.com](mailto:psap-groups-1811184@regroupcloud.com)

Hello,

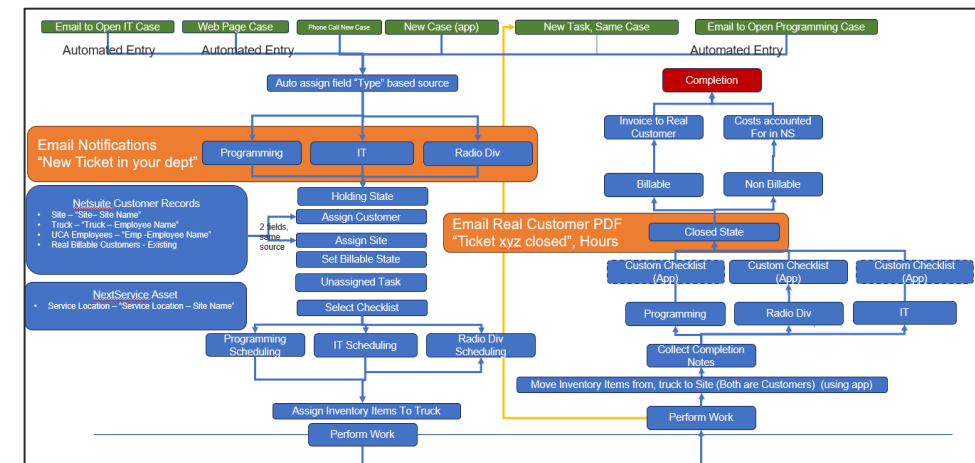
You've been added to the UCA Regroup Notification System. You have been added to Mass Notification's award-winning platform powers mass communication. Please add this email address to your safe senders list so you will not miss important messages.

Sincerely,



# Other 2023 Upgrade Projects

- Updated UCA Ticketing System
  - Improved response to critical outages
  - Improved follow up
  - Easier technician scheduling
  - Improved inventory, asset, labor, cost tracking
  - Creates the ability to identify the most common failure points in our system
- Use by multiple departments within UCA
  - IT
  - Programming
  - Radio Division
  - Vehicle Maintenance





# 2023-2024 - Planned Replacements

- UCA is launching a planned replacement project for the following asset types:
  - Battery Bank
  - Generators
  - HVAC
  - UPS
  - Rectifiers
  - Shelters
  - Microwave
  - Vehicles
- % of each asset type per year
- Target: 20 year refresh cycle on entire system





## Future – ISSI Connectivity with other P25 Systems

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- Idaho
- Wyoming
- Nevada
- 3GGP IWF – Standardized PTT on LTE
- LDS Church
- Hill Air Force Base



# Winter 2022-2023

Book Cliffs - Grounding



Bald Mesa - Microwave



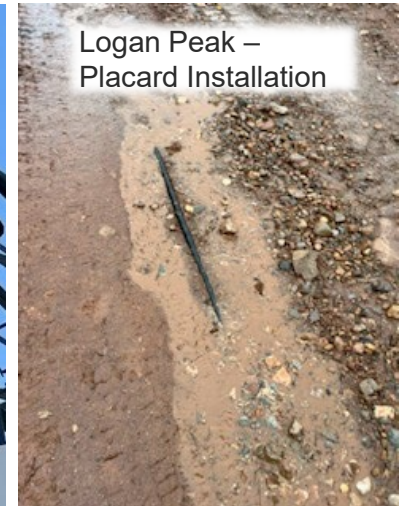
Daniels – Generator Replacement



Clayton Peak – Power Outage



Logan Peak –  
Placard Installation



Antenna Mount & Lightning Rod





# Questions?

## Phil Krebs

Radio Network Division Director  
Cell: (801)931-0717  
[pkrebs@uca911.org](mailto:pkrebs@uca911.org)  
Utah Communications Authority  
5215 Wiley Post Way, Suite 550  
Salt Lake City, Utah 84116



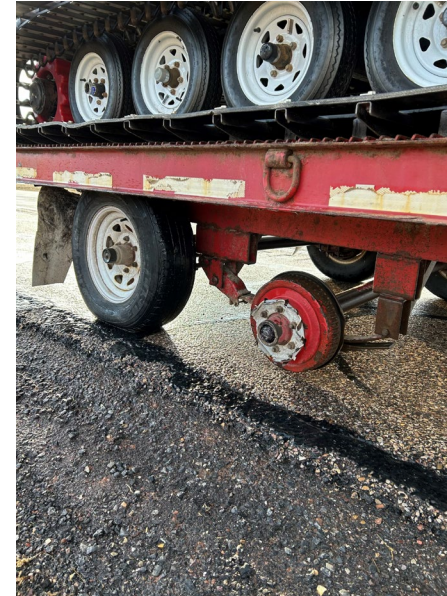
Radio Network  
Division Director  
Phil Krebs

## Dan Dialogue

Assistant Director  
Cell: (801) 840-4200  
[ddialogue@uca911.org](mailto:ddialogue@uca911.org)  
5215 Wiley Post Way, Suite 550  
Salt Lake City, Utah 84116



Assistant Radio  
Division Director  
Dan Dialogue



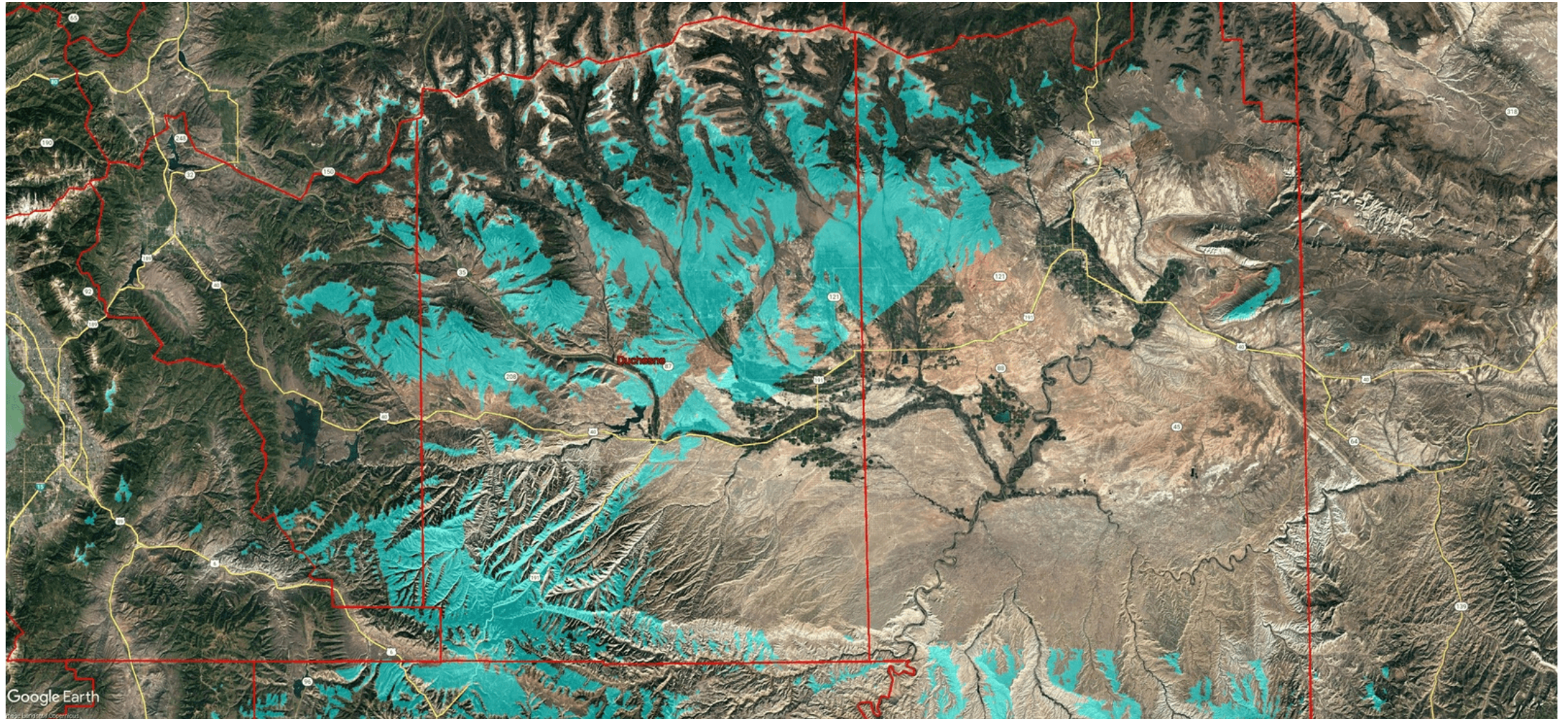


# Backup

Utah Communications Authority



# Duchesne Coverage Loop





# Emery Coverage Loop

