



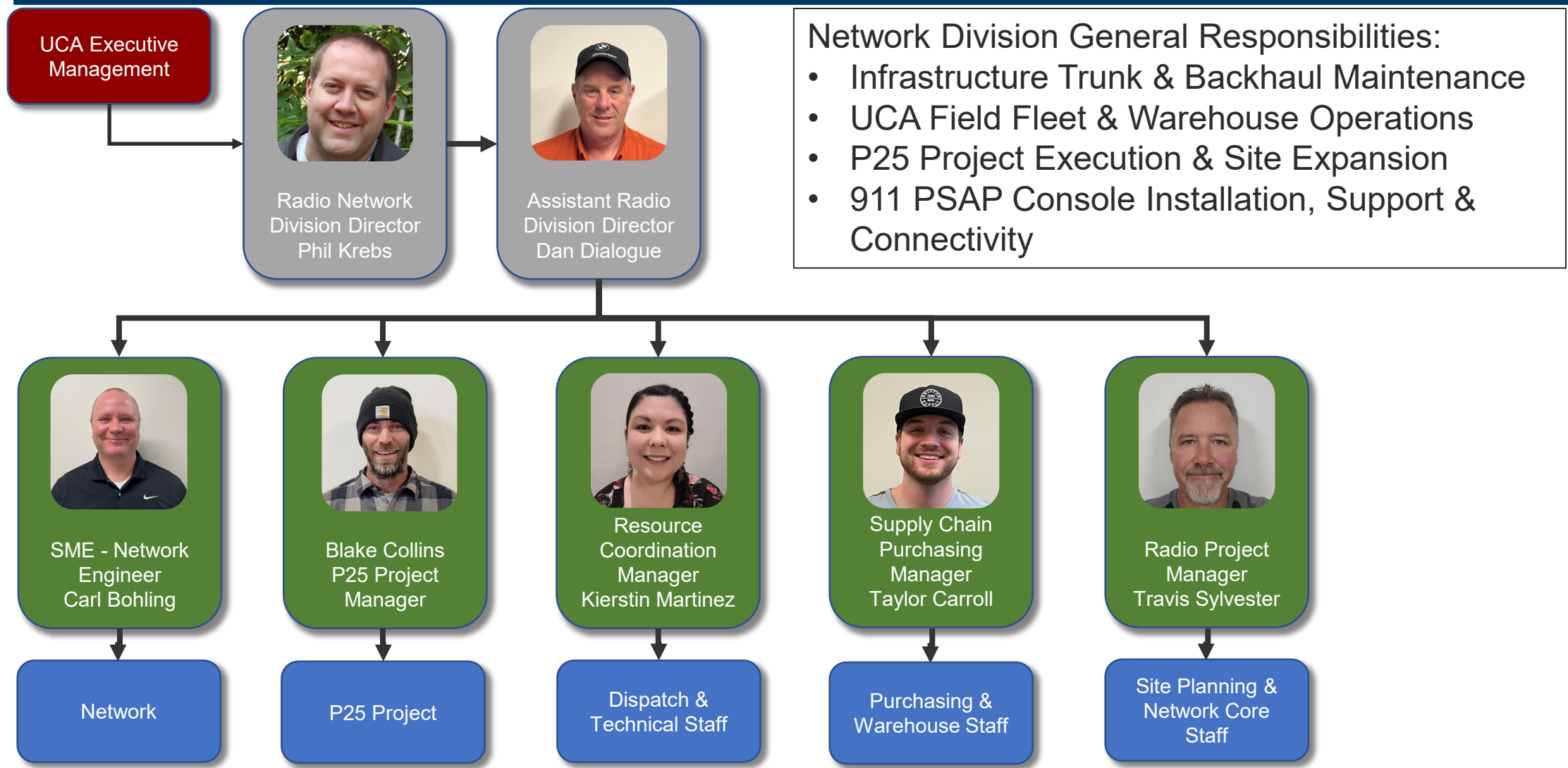
UTAH COMMUNICATIONS AUTHORITY

KEEPING PUBLIC SAFETY CONNECTED

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



Radio Network Division Management

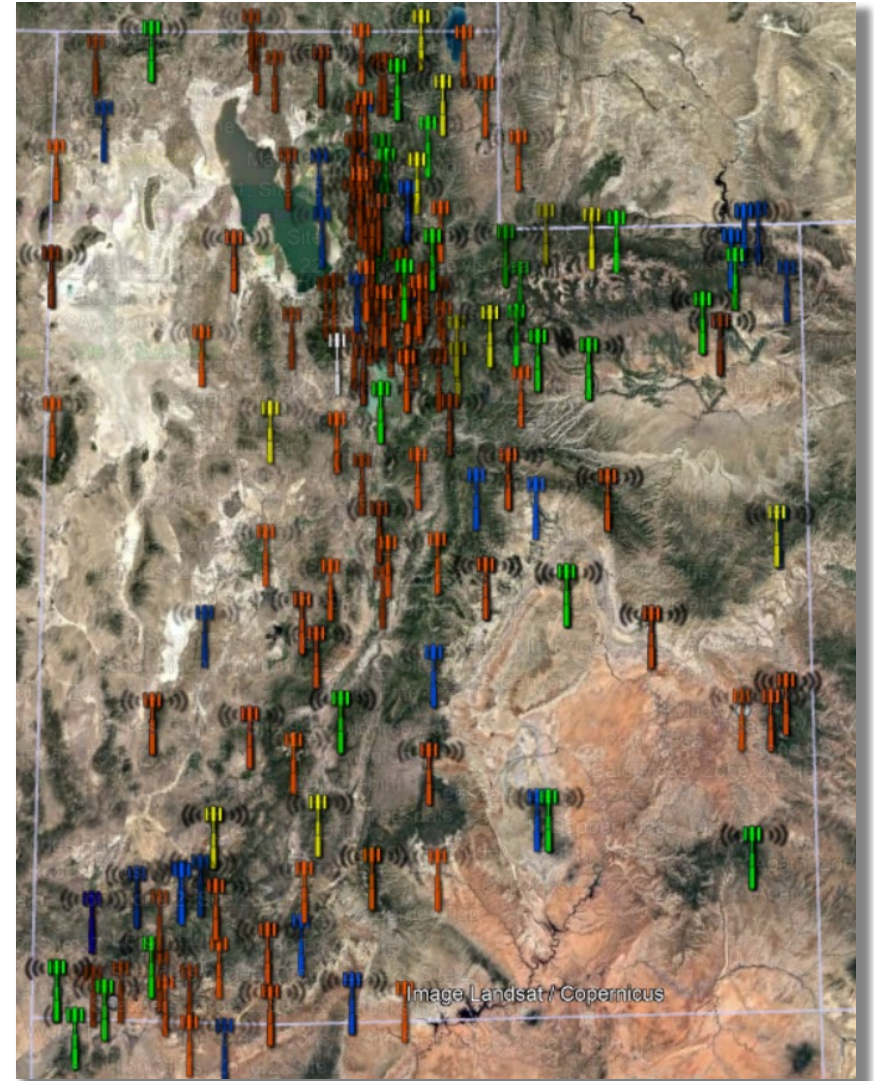


Radio Network Division Staff

 <p>RF Field Technician Curtis Benjamin</p>	 <p>RF Field Technician Michael Bright</p>	 <p>RF Field Technician Matthew Burch</p>	 <p>RF Field Technician Blake Collins</p>	 <p>RF Field Technician Wayne Diamond</p>	 <p>RF Field Technician Chase Mansfield</p>	 <p>RF Field Technician Jim Fresh</p>
 <p>RF Field Technician Dakota Jackman</p>	 <p>RF Field Technician Mike Lindquist</p>	 <p>RF Field Technician Trevor Pollock</p>	 <p>Site Technician Scott Stewart</p>	 <p>Site Technician Jeremy White</p>	 <p>FCC/ Warehouse Janna Gunnell</p>	 <p>Brennan Bullock RF Field Technician</p>
 <p>Resource Fleet Maintenance Coordinator Eric Stradal</p>						

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.



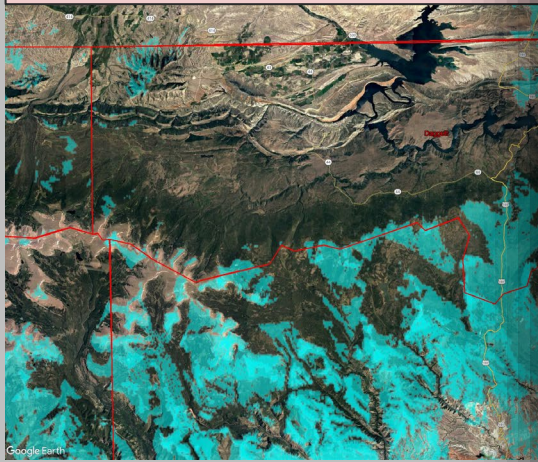
2023-2024 Radio Division Projects

- 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

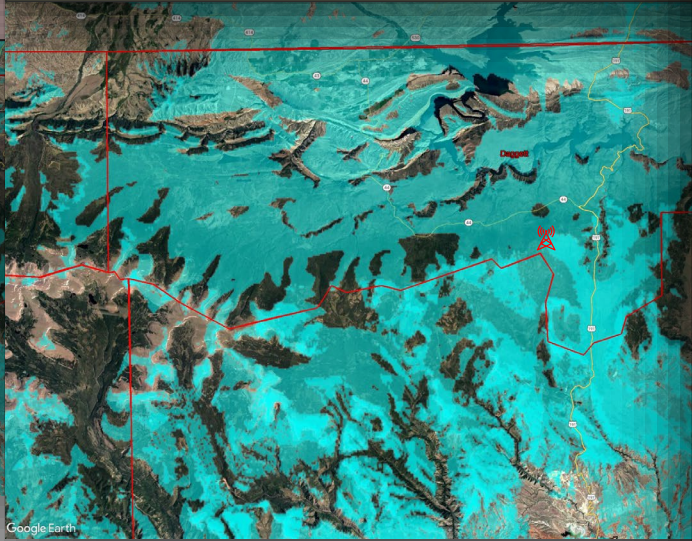


2023 New IR Sites – Daggett County

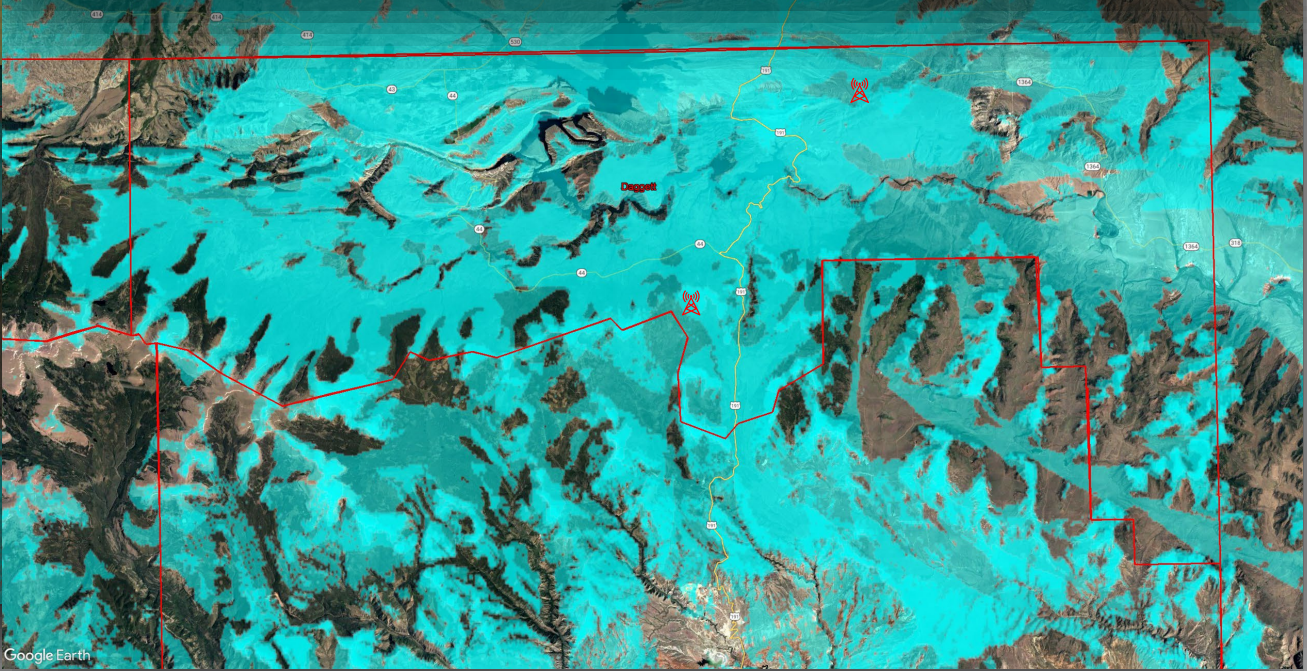
2022
VHF Coverage (Not Shown)
No 800 MHz Trunked Coverage



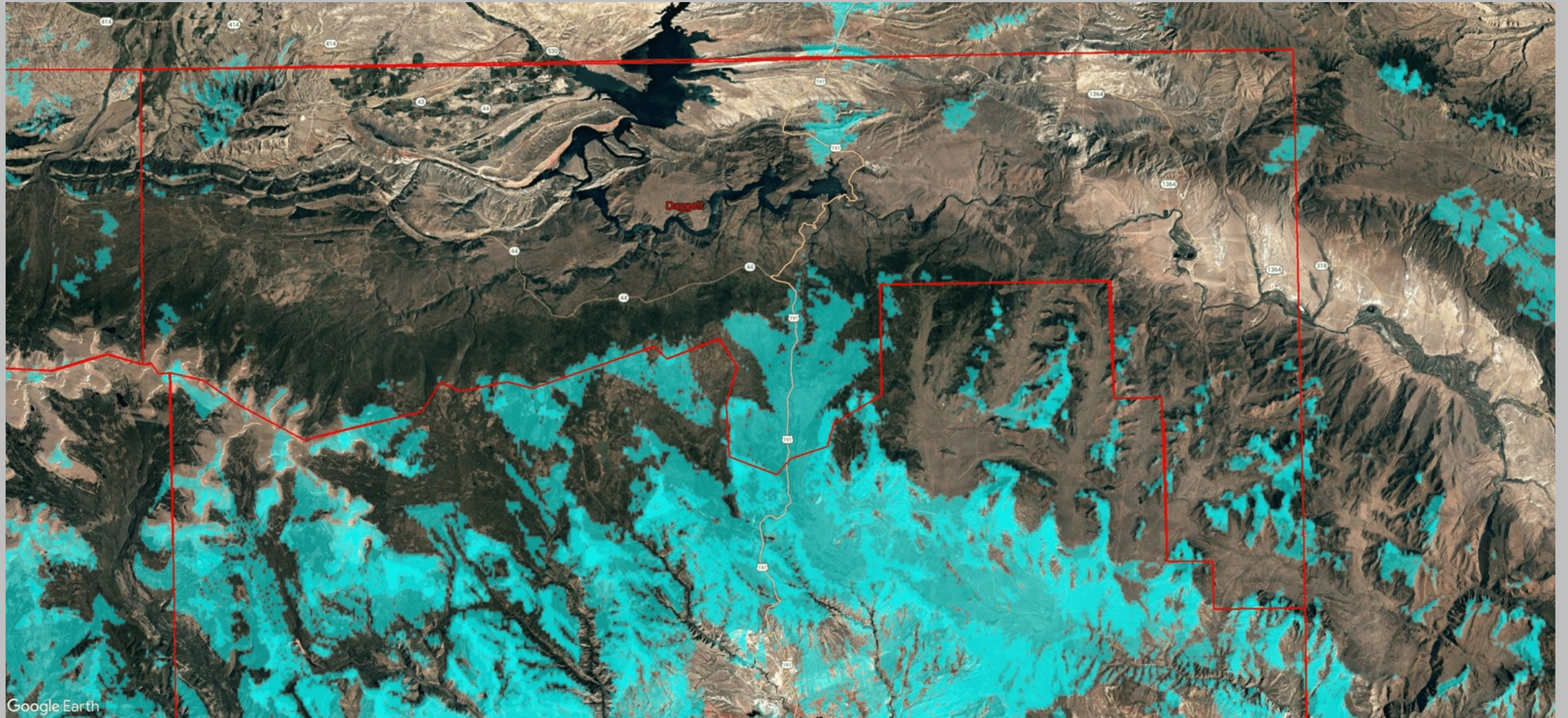
2023
East Park Online – 800 MHz Trunked



2024
East Park + Goslin Online – 700 MHz P25 Trunked
LTE + WiFi Coverage via Be-On (Not Shown)



Daggett County Coverage Loop

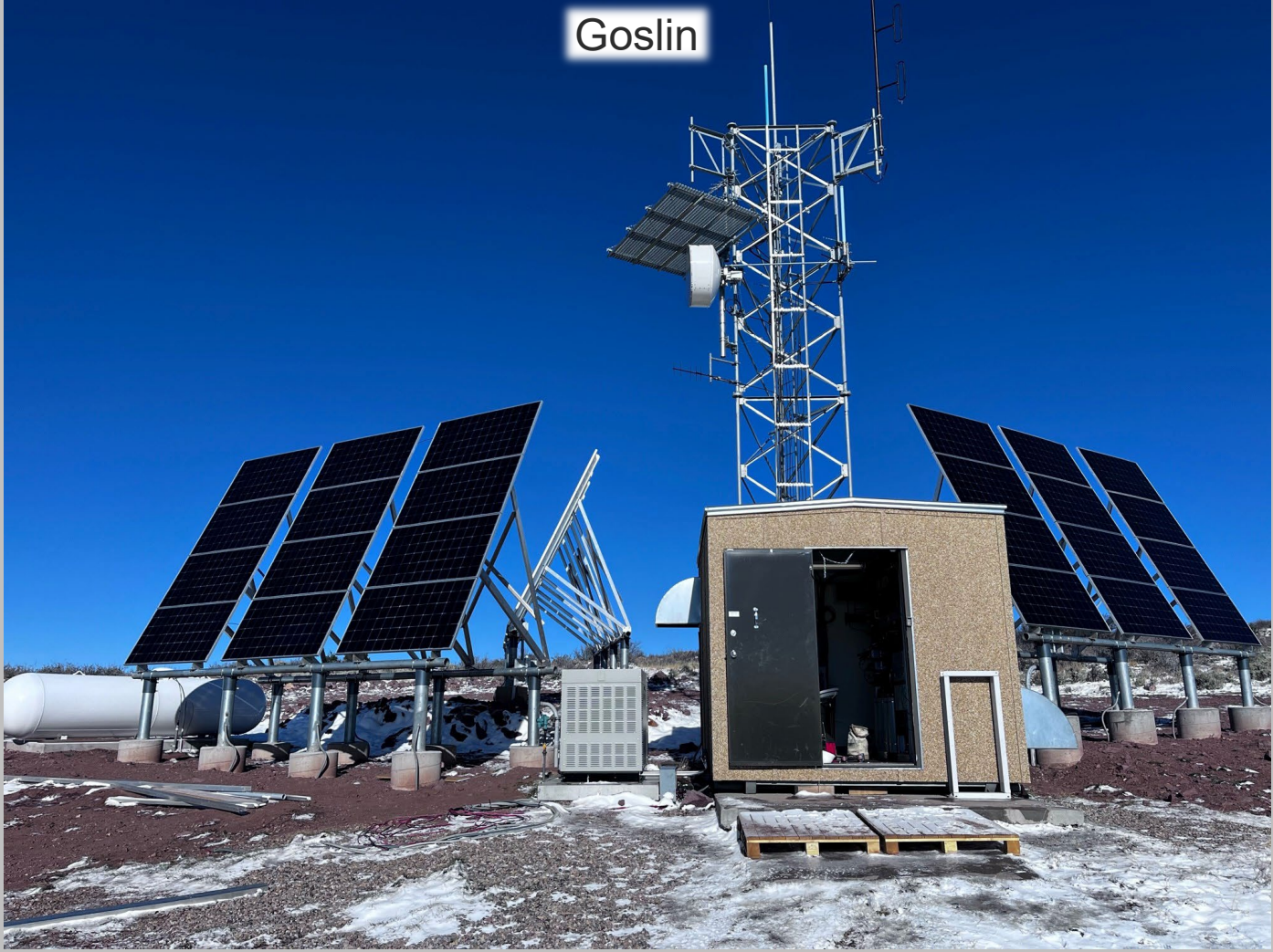


Daggett County

East Park



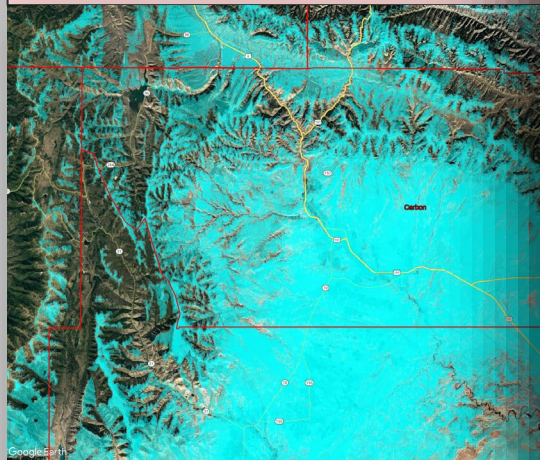
Goslin



2023 New IR Sites – Carbon County

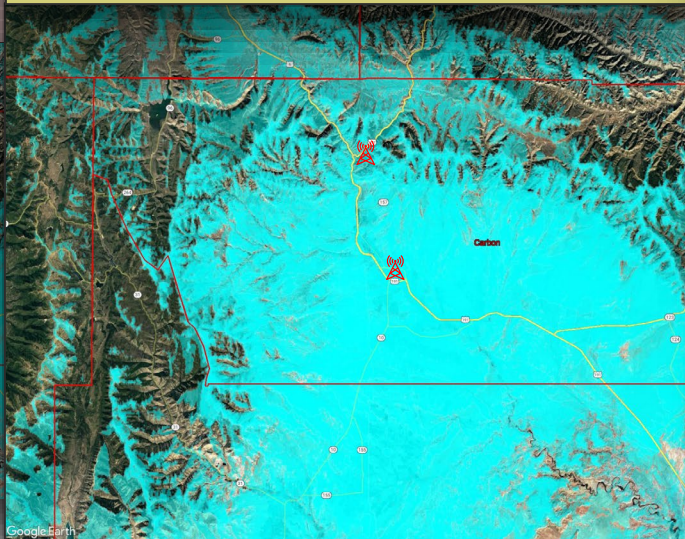
2022

Low receive signal levels in price causing audio problems



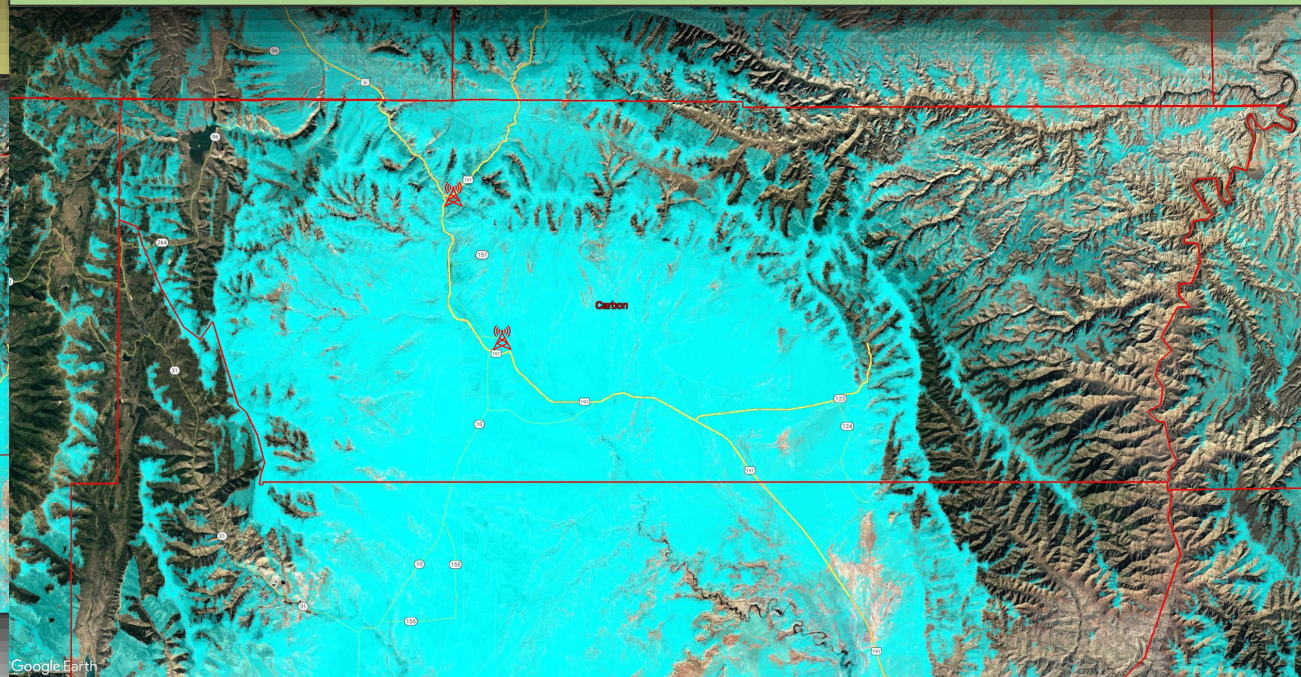
2023

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

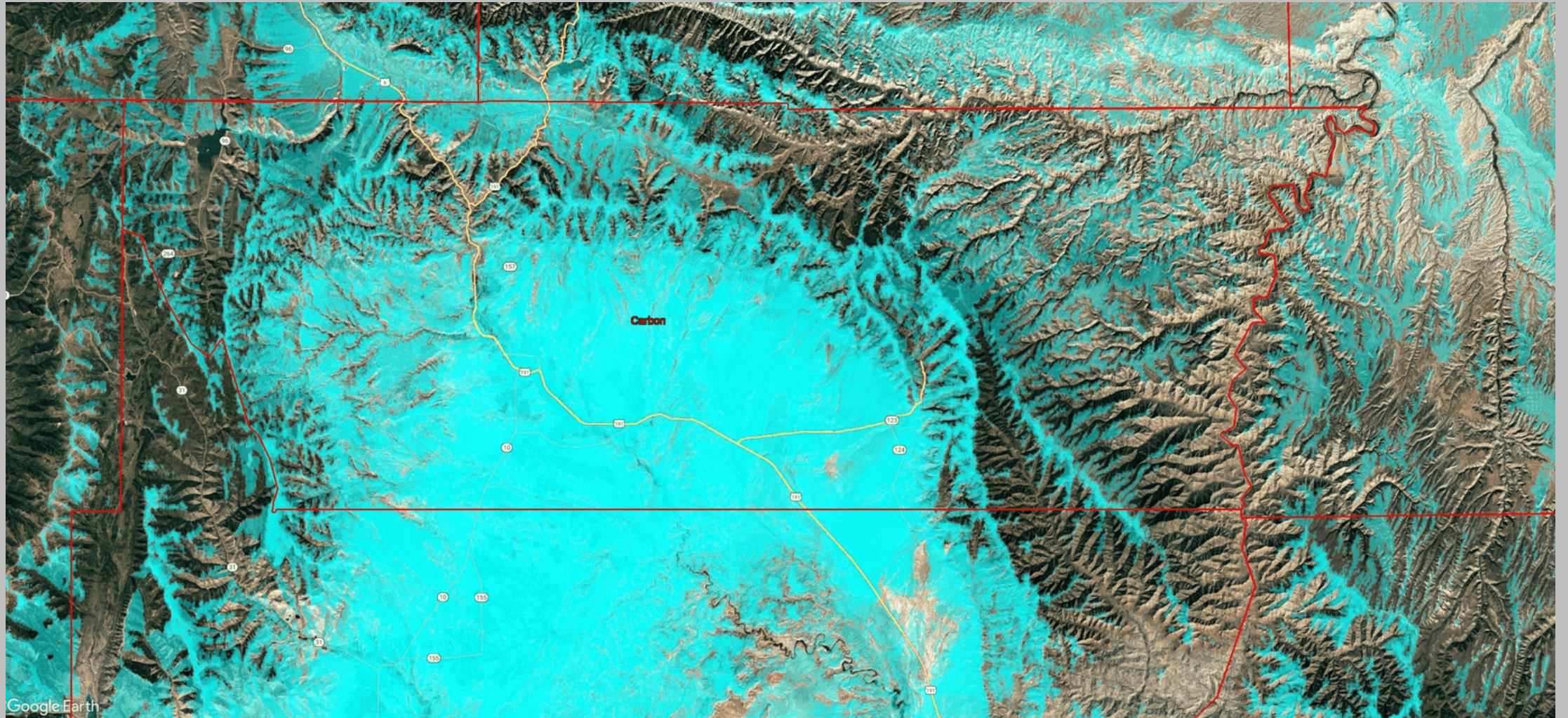


2024

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



Carbon County Coverage Loop

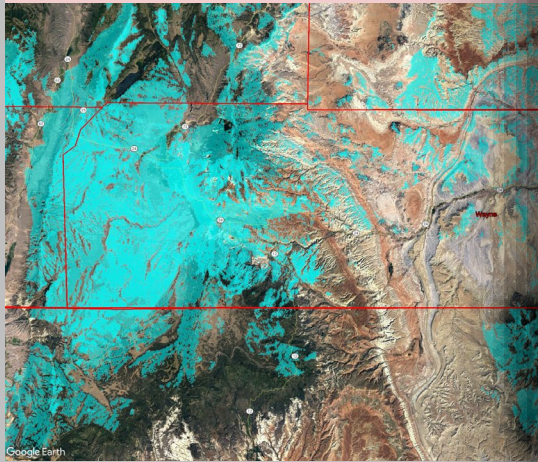


Carbon County

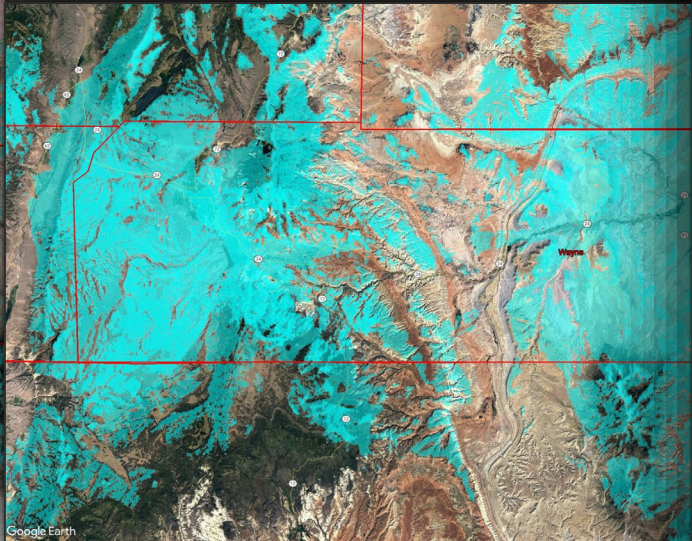


2023 New IR Sites – Wayne County

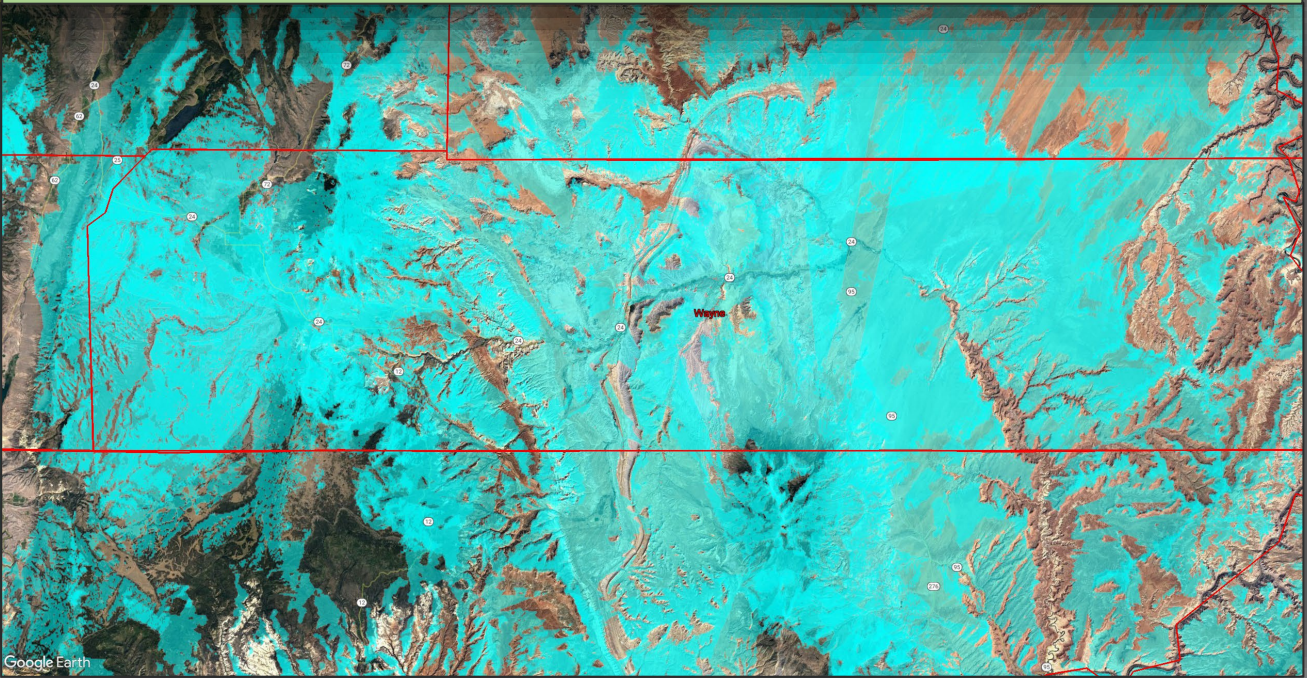
2022
VHF Coverage (Not Shown)



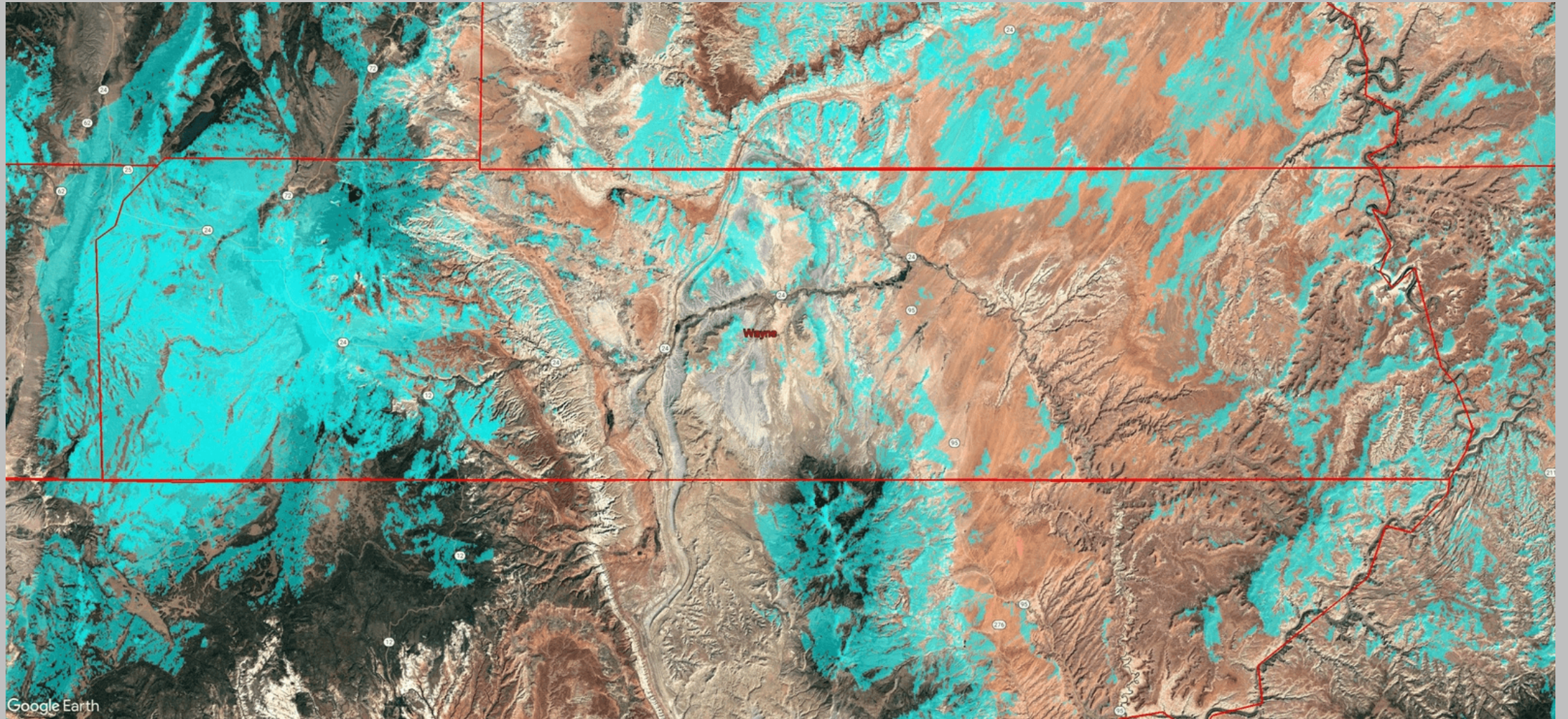
2023
Hanksville – 800MHz Trunked



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



Copper Ridge



South Creek

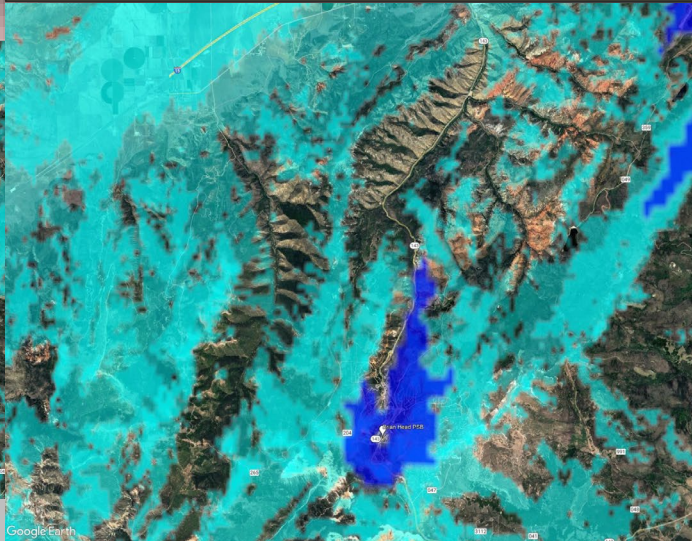


2023 New IR Sites – Brian Head

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 Coverage Loop



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

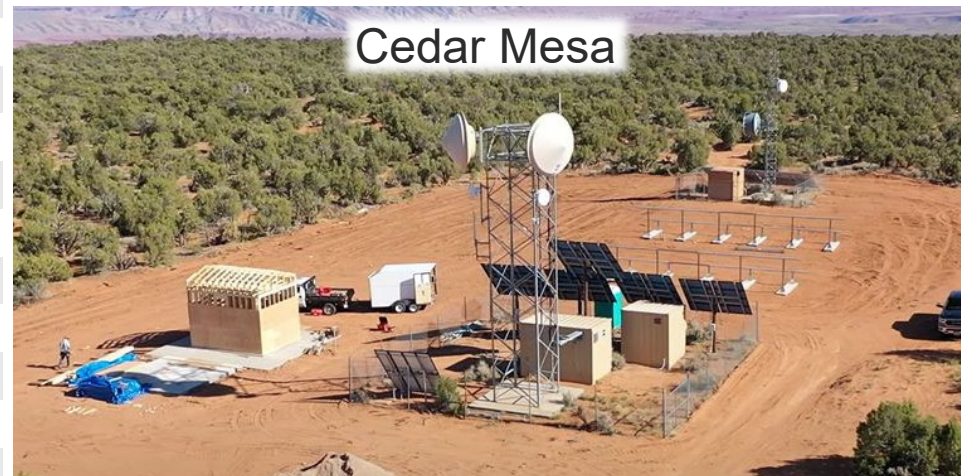
Site	P25 Equipment Install	Optimization
Daniels Summit	Complete	Complete
Dutton	Complete	Complete
UCA Warehouse (New)	Complete	Complete
American Fork	Ready	Ready

- 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
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

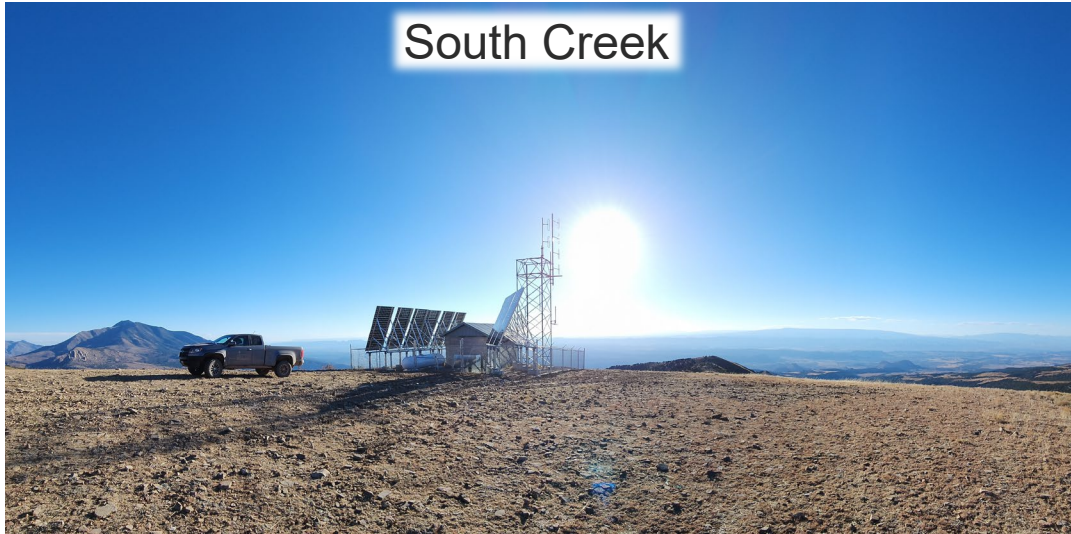
Emery Moore



Top Of Rocks



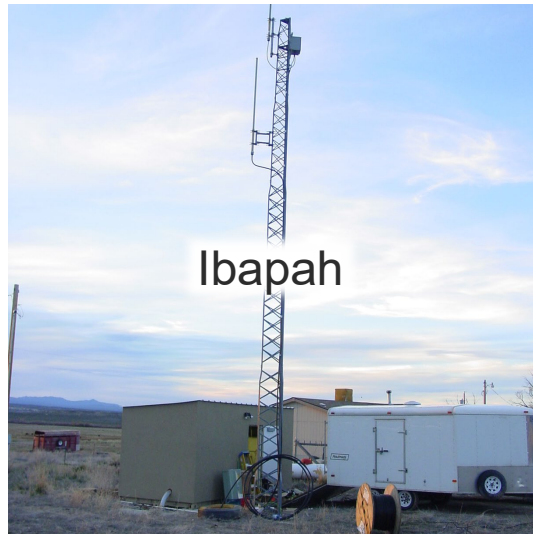
South Creek



Salina Rodeo
Grounds



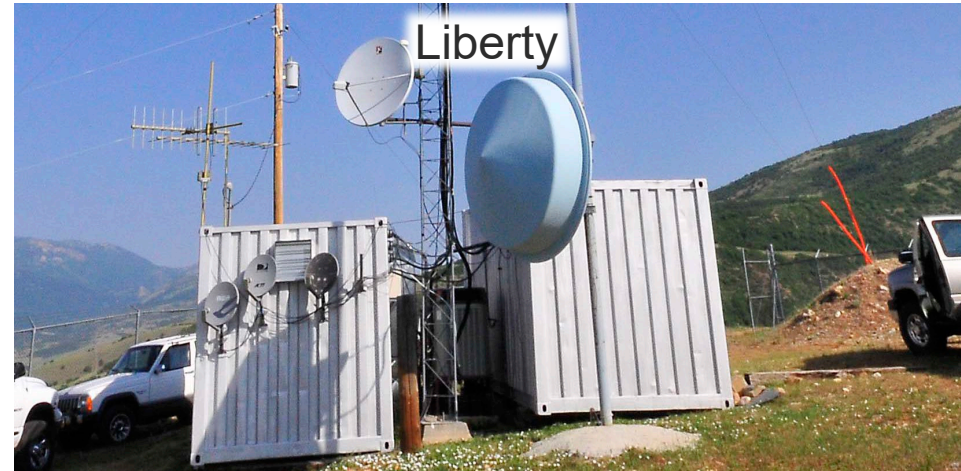
Ibapah



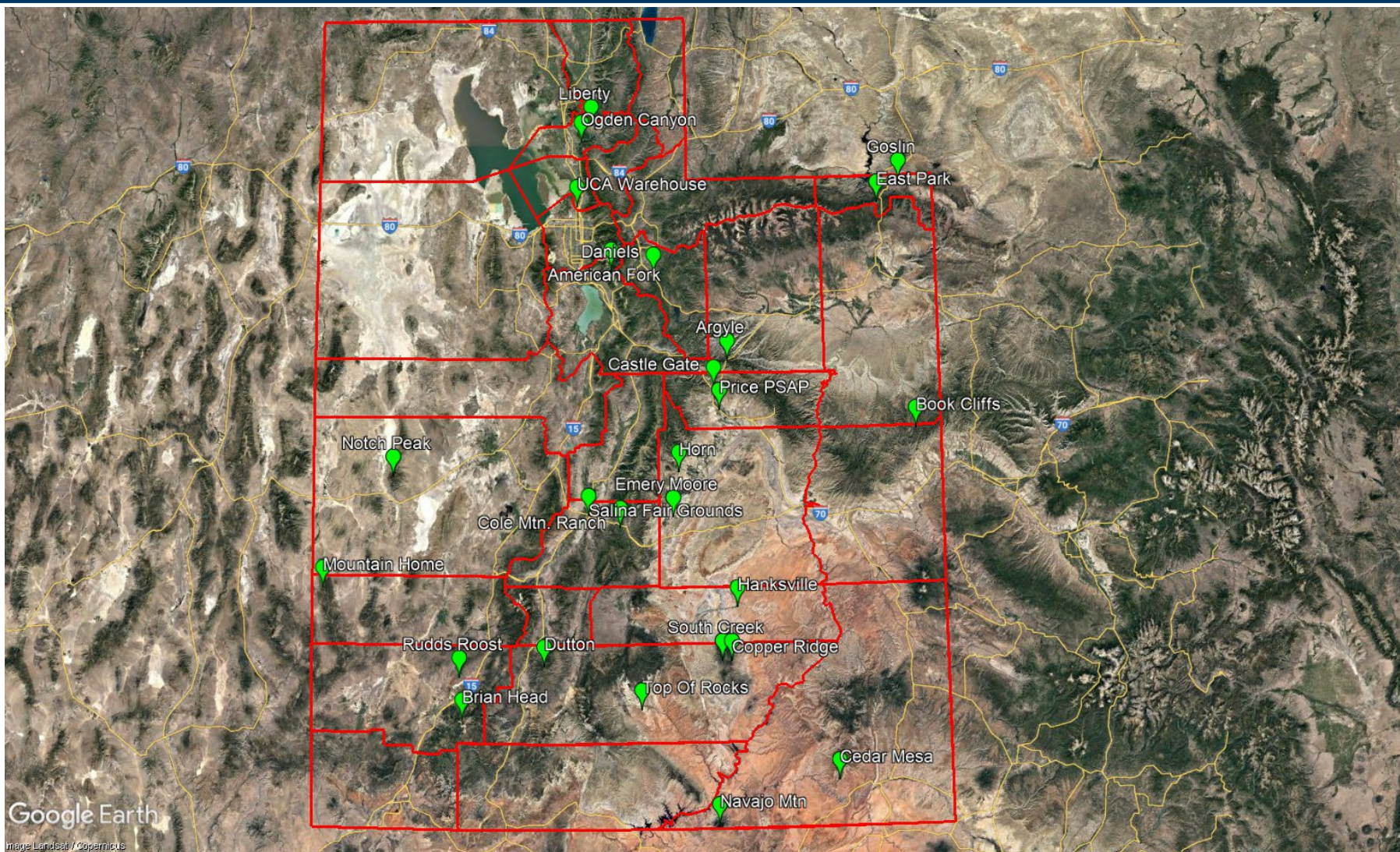
P25 Site Projects Planned For 2024-2025

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

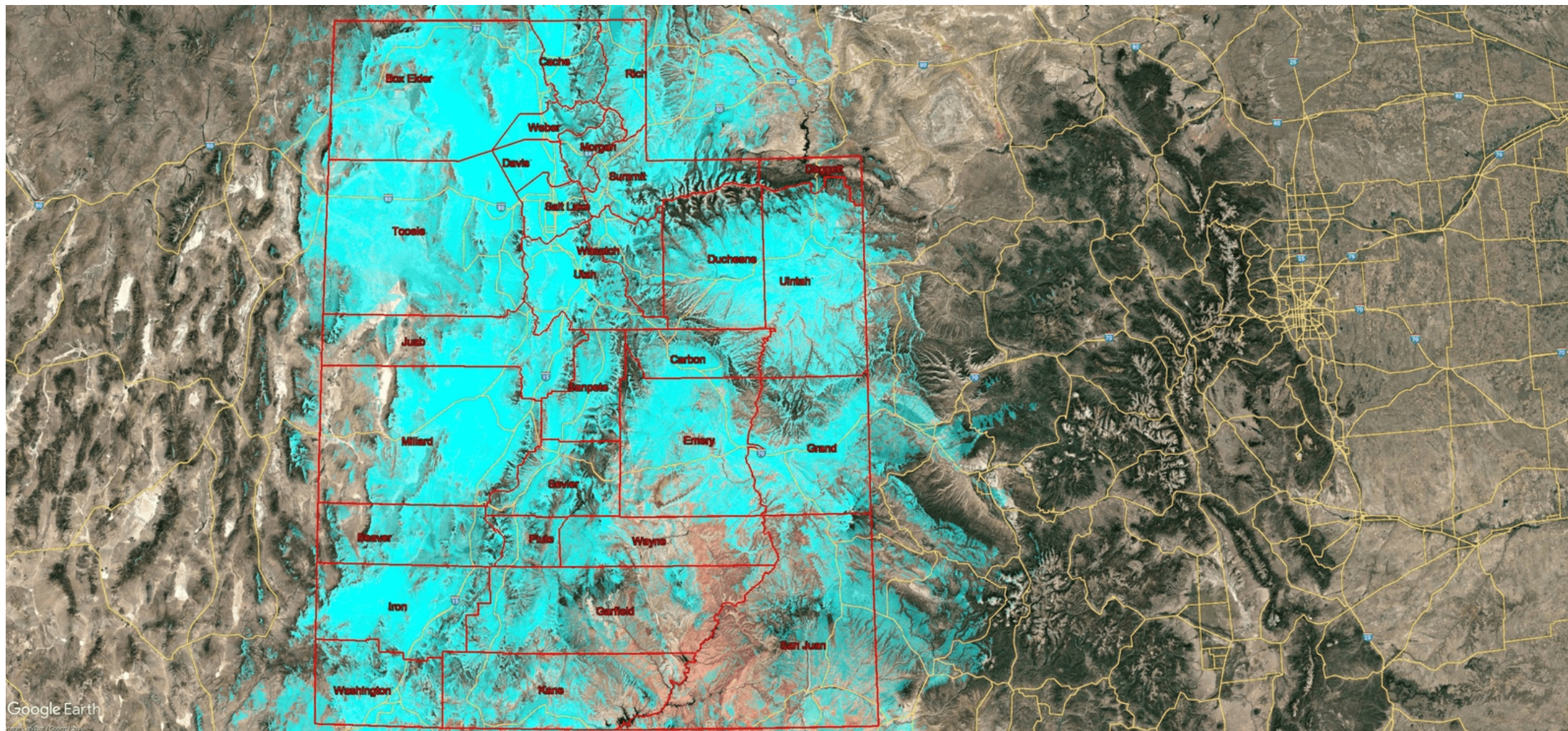
- Solar Panel Upgrades
- Lithium-Ion Batteries
- Inverter Systems
- New Generators
- Ducting
- Roofing
- Grounding
- Concrete
- Propane
- New Shelter



P25 Expansion Sites 2023-2025



P25 Project – Statewide Coverage



PTT Over Broadband LTE and Wi-Fi

Virtual P25 Radio Application

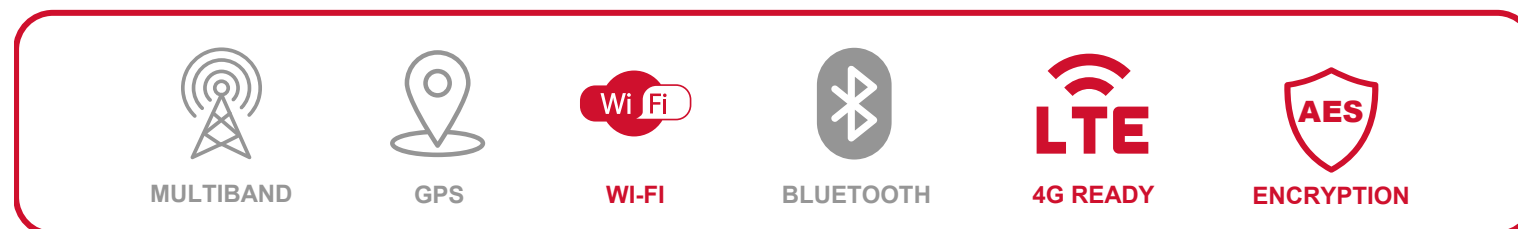
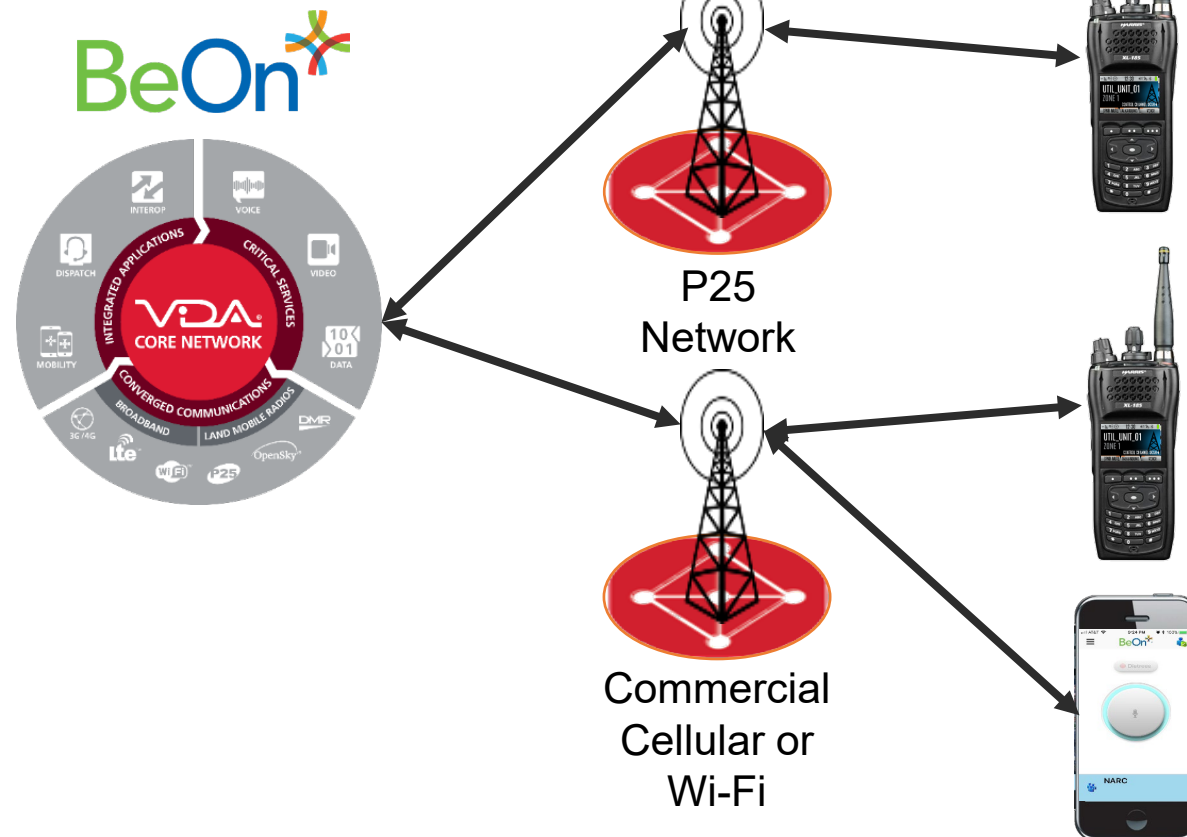
- VoIP based; PTT over LTE & Wi-Fi
- L3H XL platform (Optional Add On)
- Available on Android™, Windows® PC, and iOS™ platforms
- Reduces traffic loading on system
- Supports geographic mapping and utilizes Google® Mapping data

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

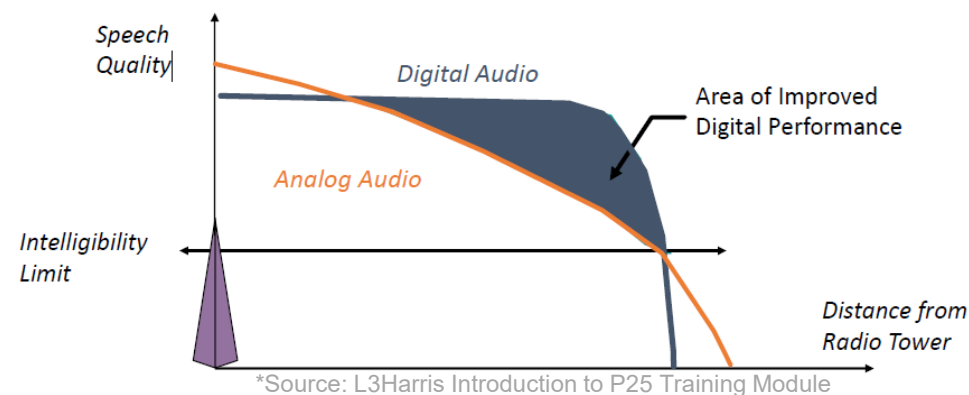
- What is the schedule for cutover both statewide and in my area?
 - A: Starting in Kane County, please attend tomorrow's schedule session:
 - November 8th @2:30 – 3:30 – Cutover: Schedule/What to Expect
- What radios are allowed on the new P25 system?
 - A: P25 equipment from multiple vendors is approved 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) AES 256 (required) Latest Firmware (recommended) RF Tune Up (recommended)
Newly Purchased Radios	P25 Phase II (required) AES 256 (required) Latest Firmware (recommended) 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 7th @ 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



TELENIUM
SPECTRA

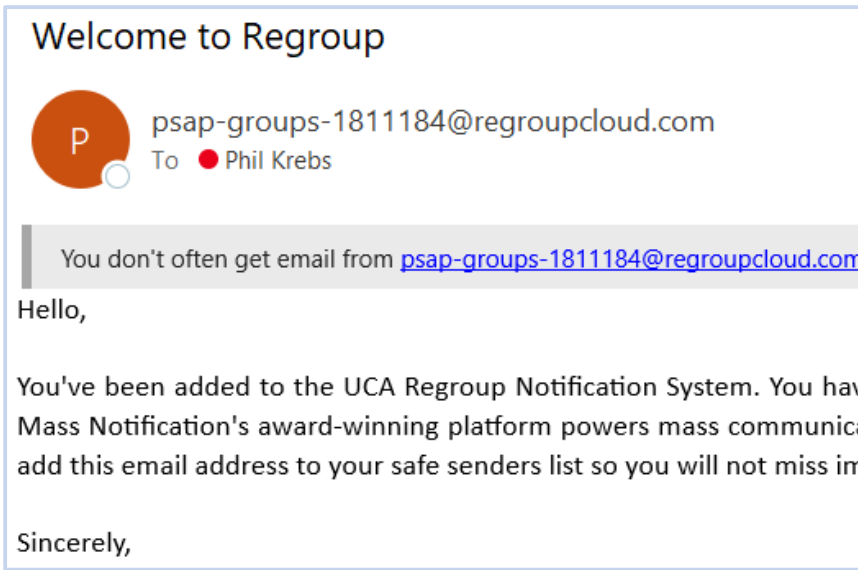




Other 2023 Upgrade Projects

- 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



Other 2023 Upgrade Projects



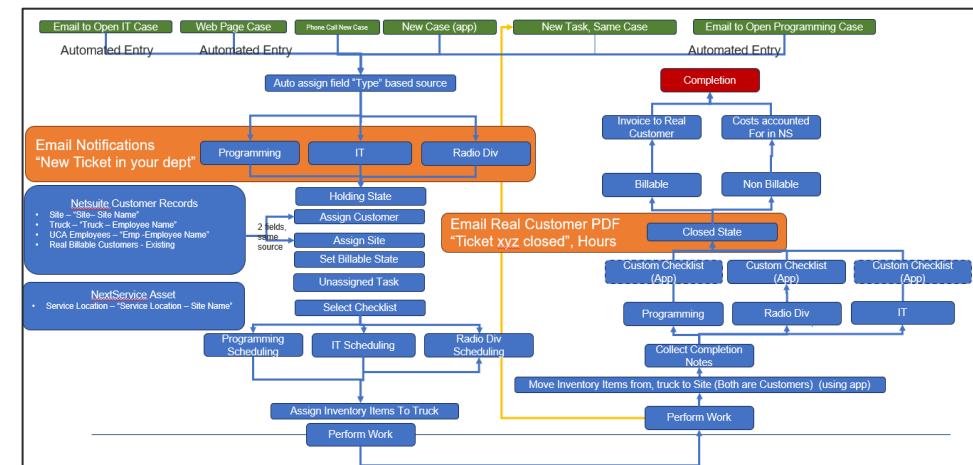
- Updated UCA Ticketing System

- 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

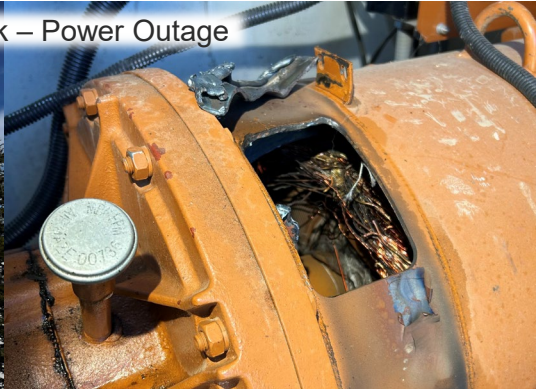
- UCA is launching a planned replacement project for the following asset types:
 - Battery Bank
 - Generators
 - HVAC
 - UPS
 - Rectifiers
 - Shelters
 - Microwave
 - Vehicles
- % of each asset type per year
- Target: 20 year refresh cycle on entire system



Future – ISSI Connectivity with other P25 Systems

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

Winter 2022-2023



Questions?

Phil Krebs

Radio Network Division Director

Cell: (801)931-0717

pkrebs@uca911.org

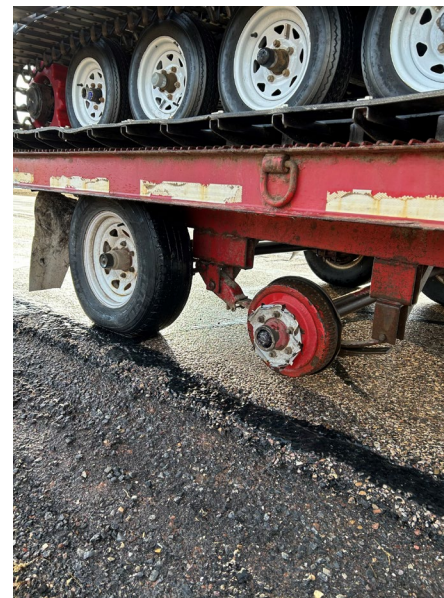
Utah Communications Authority

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

5215 Wiley Post Way, Suite 550

Salt Lake City, Utah 84116

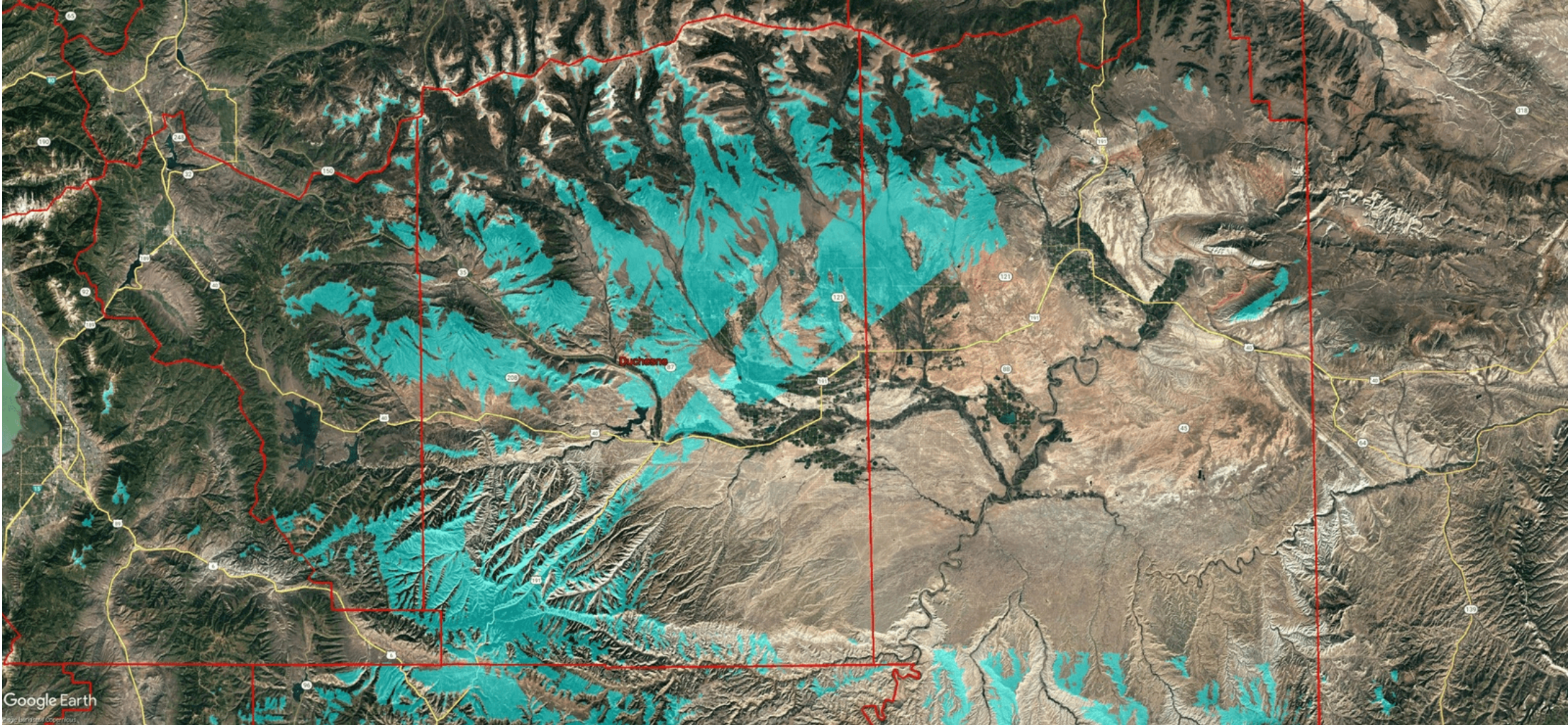


Assistant Radio
Division Director
Dan Dialogue

Backup

Utah Communications Authority

Duchesne Coverage Loop



Emery Coverage Loop

