



Building a Community Broadband Platform: Lessons Learned from Success in Northern New Mexico

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- Partnering with regional entities to expand mobile / cellular
 - Example: Partnering with Kit Carson to leverage fiber deployment for mobile / cellular improvement and expansion in region
- Provide
 - Network-based services
 - Communications Consulting
 - Infrastructure development

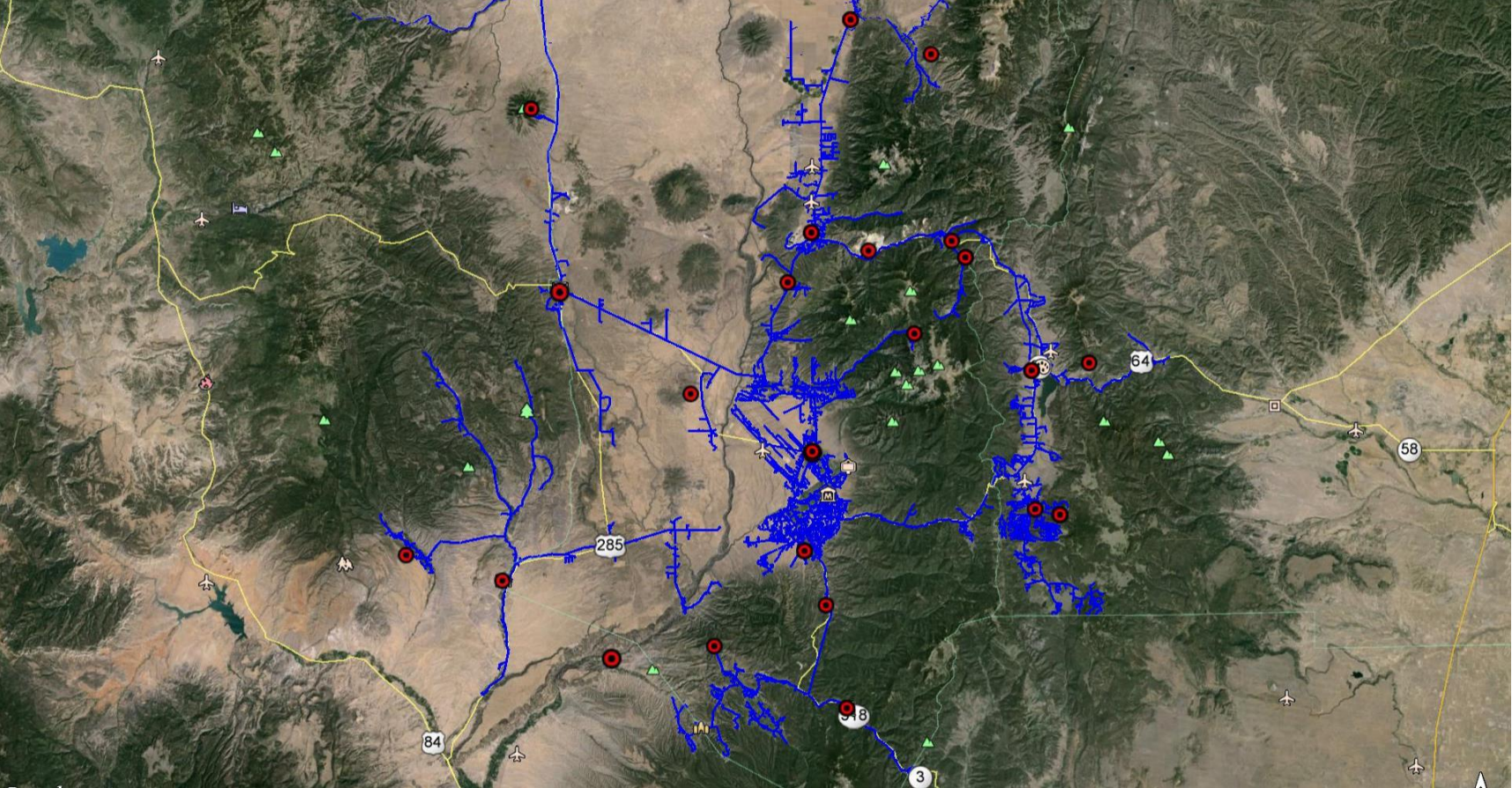
Why mobile / cellular?

- It is expected
- Mobility
- Safety
- Capacity – alternative or enhancement to wireline
- Coverage – fill in the gaps and extend the range of fiber
- Continuity – high availability

Through our partnership with Kit Carson, we have...

- Deployed thousands of fiber route miles
- Included cell sites in fiber build plan
- Constructed fiber to / near most sites
- Built a “carrier-class” network
- Transport to Cell Carrier serving switch for region
- Lit many cell sites and in process of lighting many more
- Enabling cellular 4G services in region

Connecting the cell sites in region

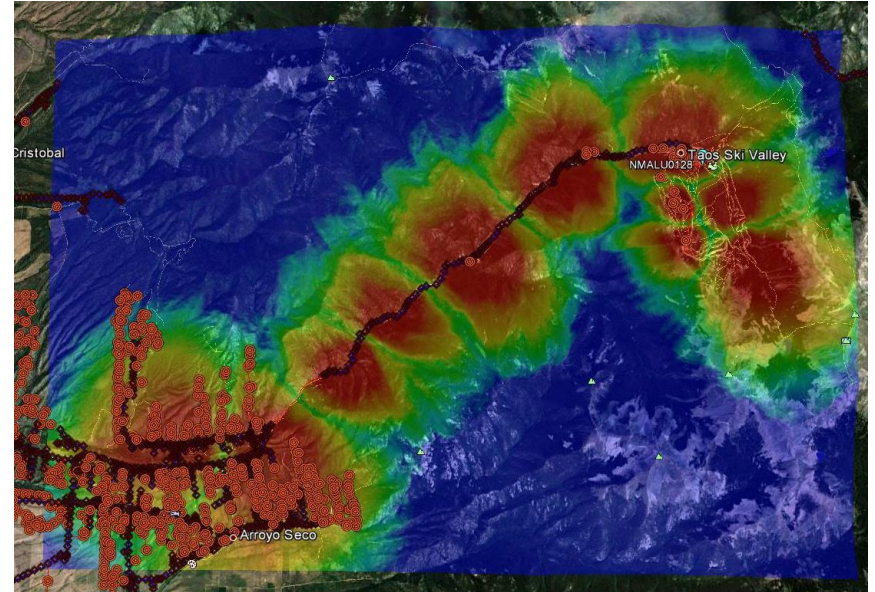


Specific example, Village of Taos Ski Valley

- Terrible cell site performance, very low KPI's
- Very poor reliability...multi-hop MW solution prone to reliability issues on multiple levels
- Coverage limited...power turned way down due to poor backhaul
- Capacity limited...dropping calls and data sessions
- Users “screaming” for better service
- Safety issues

Following extensive planning, engineering...

- Cell site at village performing at very high level
- Carrier able to launch 4G service
- Able to handle peak capacity during winter ski season
- In process of improving service for other cell providers
- Offers a “broadband” service where it did not exist before



Lessons Learned

- Include mobile / cellular in your plan early
- Prioritize - you cannot do everything, know where to spend to get the most
- Know your regional communications assets (e.g. cell sites)
- Working with cell carriers can be complicated and very time consuming
- Make it easy for cell carriers to deploy services in your region
- Need to transport (backhaul) traffic back to carrier switch



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