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# A Statewide Broadband Transportation Network

New Mexico Department of Transportation

Presentation to the New Mexico Transportation Infrastructure Revenue Subcommittee
November 29, 2021

# DOT's Need for Statewide Connectivity

**This network is a foundation to the future of transportation and more**

**A statewide broadband transportation network accommodates DOT asset connectivity needs and supports the future with reliable and affordable connectivity**

- Intelligent Transportation Systems (ITS)
- Automated Traffic Signal Operations and Performance Measurement
- Connected and Autonomous Vehicles
- Advanced Infrastructure Monitoring
- Freight Movement
- Video Surveillance/Security
- Ports of Entry

**Connectivity to:**

- Patrol Yards
- District Offices
- Project Offices
- Permanent Traffic Counters
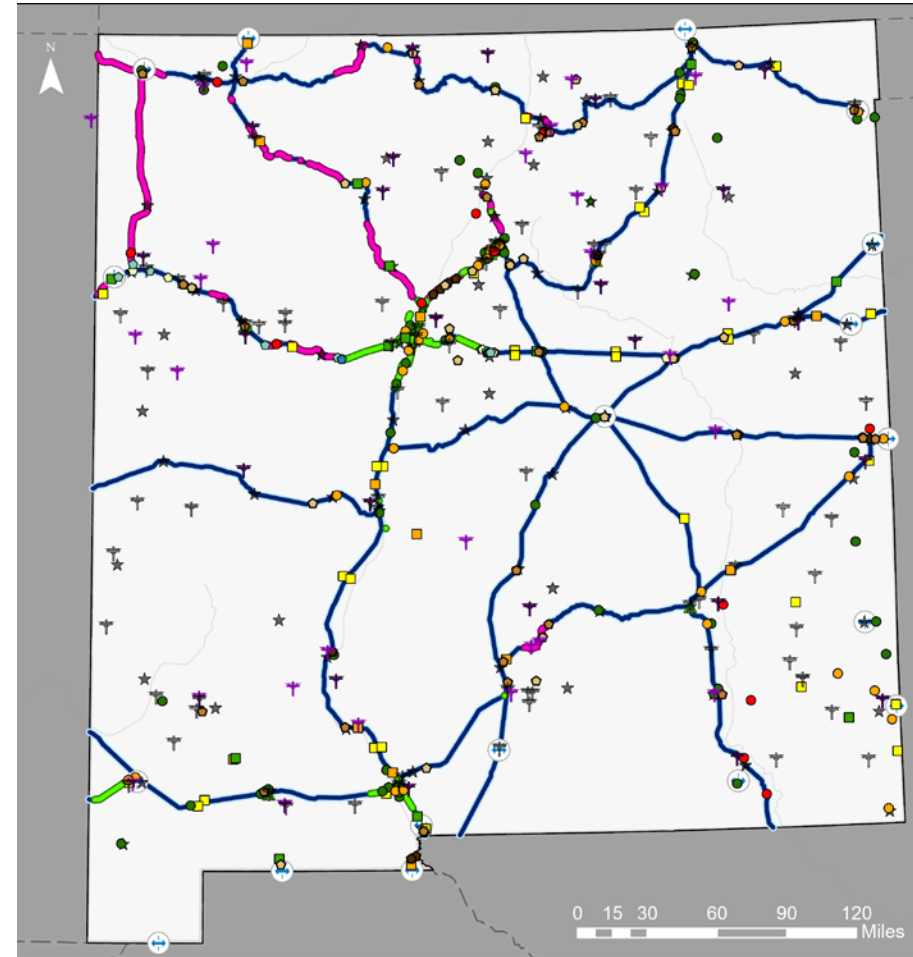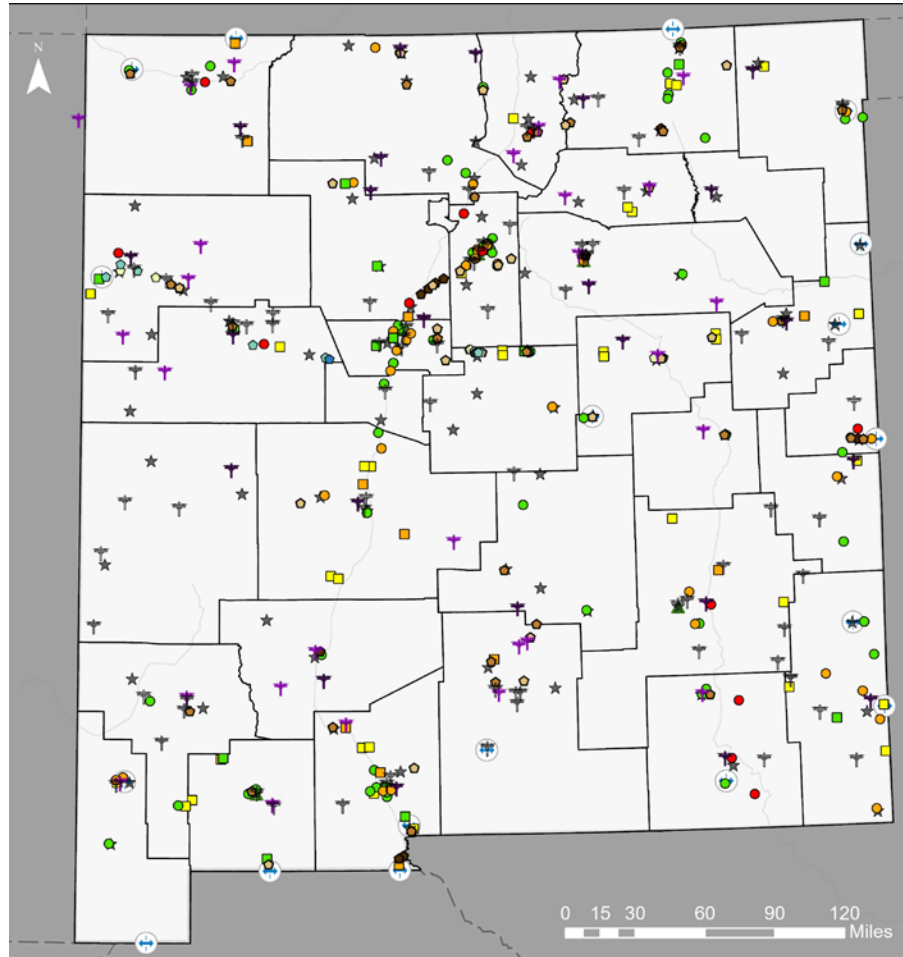- WIMS Stations
- CCTV
- DMS
- RWIS

# Connectivity for DOT Assets

# DOT Can Build and Operate a Statewide Transportation Network

**A network built by DOT will be reliable, robust, and cost-effective**

- DOT has been building and operating fiber optic segments to support operations and asset connectivity since 2005

- DOT is the steward of the most important component in a middle mile network: New Mexico state roadway right-of-way (ROW)

- DOT manages the permit process and thus has visibility to all infrastructure in state ROW

- DOT has a history of successful ROW access coordination with tribal entities, political subdivisions, and private industry
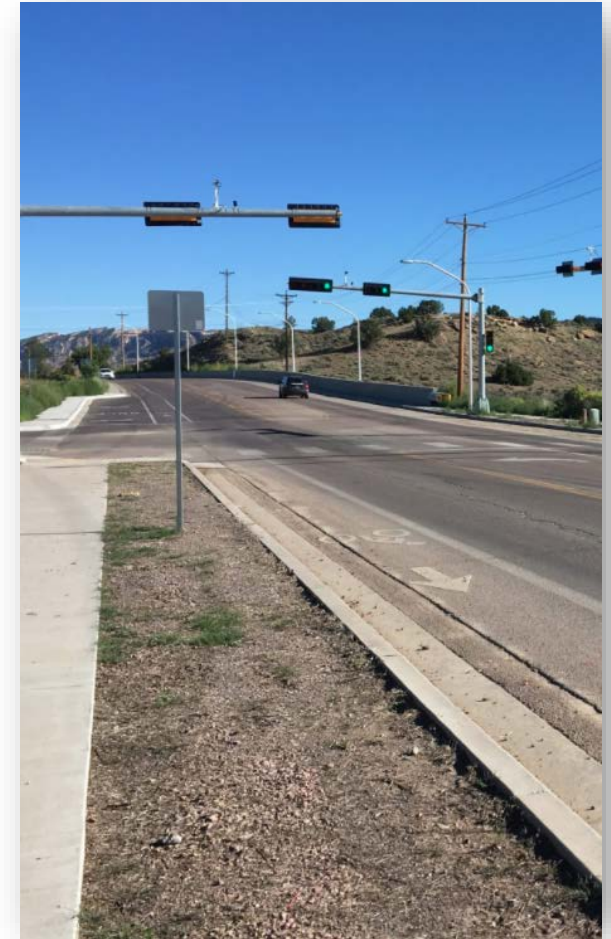
# DOT Has Built over 200 Miles of Fiber Optics
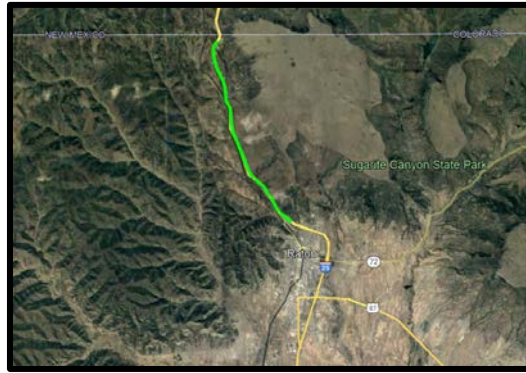


Raton
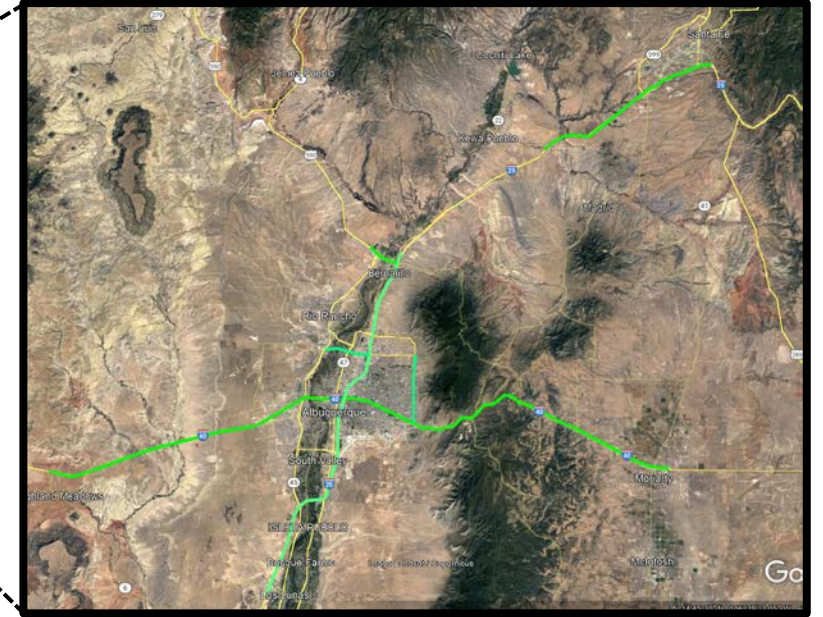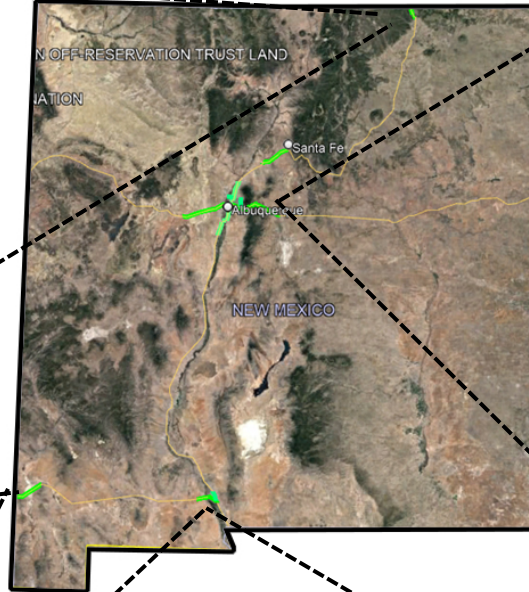
La Playa
Lordsburg

Albuquerque – Santa Fe

Las Cruces

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# DOT's Experienced Telecom Team

**Jeremy Lovato**
*Chief Information Officer*

**David Quintana**
*DOT Chief Engineer*

**Thomas L. Wyman**
*Right-of-Way Section Acting General Counsel*

**Leo Marquez**
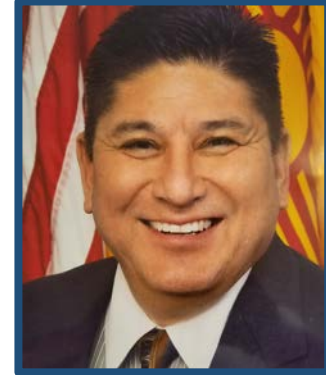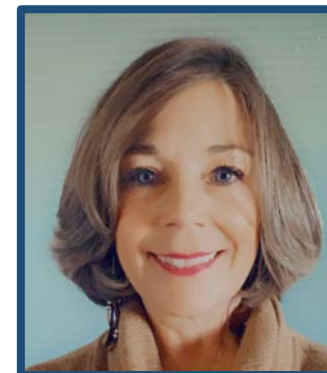*Business Relations Manager*

**Gavin Lujan**
*Network and Infrastructure Bureau Chief*

**Yuliia Trujillo**
*Broadband Permit Coordinator*

**Cymantha Higgins**
*IT & Broadband Project Manager*

**Charles Remkes**
*Manager of ITS Operations*

# How DOT Manages and Protects the State's ROW

**By establishing a system for unregulated utilities that will facilitate the deployment of broadband throughout New Mexico within the parameters of the New Mexico State constitution**

**1** Continual improvements to ROW access rules
- o   Revisions based on telecom provider/industry feedback are in progress
- o   Analyzing best practices from other states for fees and accompanying policy
- o   Planned ongoing interaction with the private sector

**2** Streamlining permitting processes
- o   New ePermitting system
- o   Engaging DOT Districts and economic districts
- o   Feedback from industry

**3** Outreach to pueblos, tribes, and nations to coordinate ROW access
- o   Eliminate the need to "go around"
- o   Everyone wins

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# DOT Has Made Progress Toward The Goal of Building a Statewide Transportation Network

- Extensive negotiations with long-haul providers to leverage their construction to provide infrastructure and access to hundreds of miles of fiber optic infrastructure

- Permit review to discover potential industry builds that can also be leveraged

- Looking internally at roadway projects for "Dig Once" opportunities

- Beyond the borders
  - Regional collaboration with CO, AZ, TX, UT, ID
  - Inter-state connectivity
  - Shared best practices

- Evaluating a full range of funding resources and opportunities
  - US DOT INFRA grant
  - FHWA subsidies
  - Infrastructure Investment and Jobs Act (IIJA)

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# Española Project 2

5100460, 5100461, 5100462 (NM 68, MP 4.2-12.7)

- Three construction projects along route 68 north of Española

- Area is unserved and passes through Ohkay Owingeh ROW

- Santa Clara ROW to the south and Picuris ROW to the north

- Not on ROW, but Alcade and patrol yard and a traffic counter lie on the path

- Route could be beneficial to local Pueblos and Tribes and installing conduit may open an opportunity for dialogue
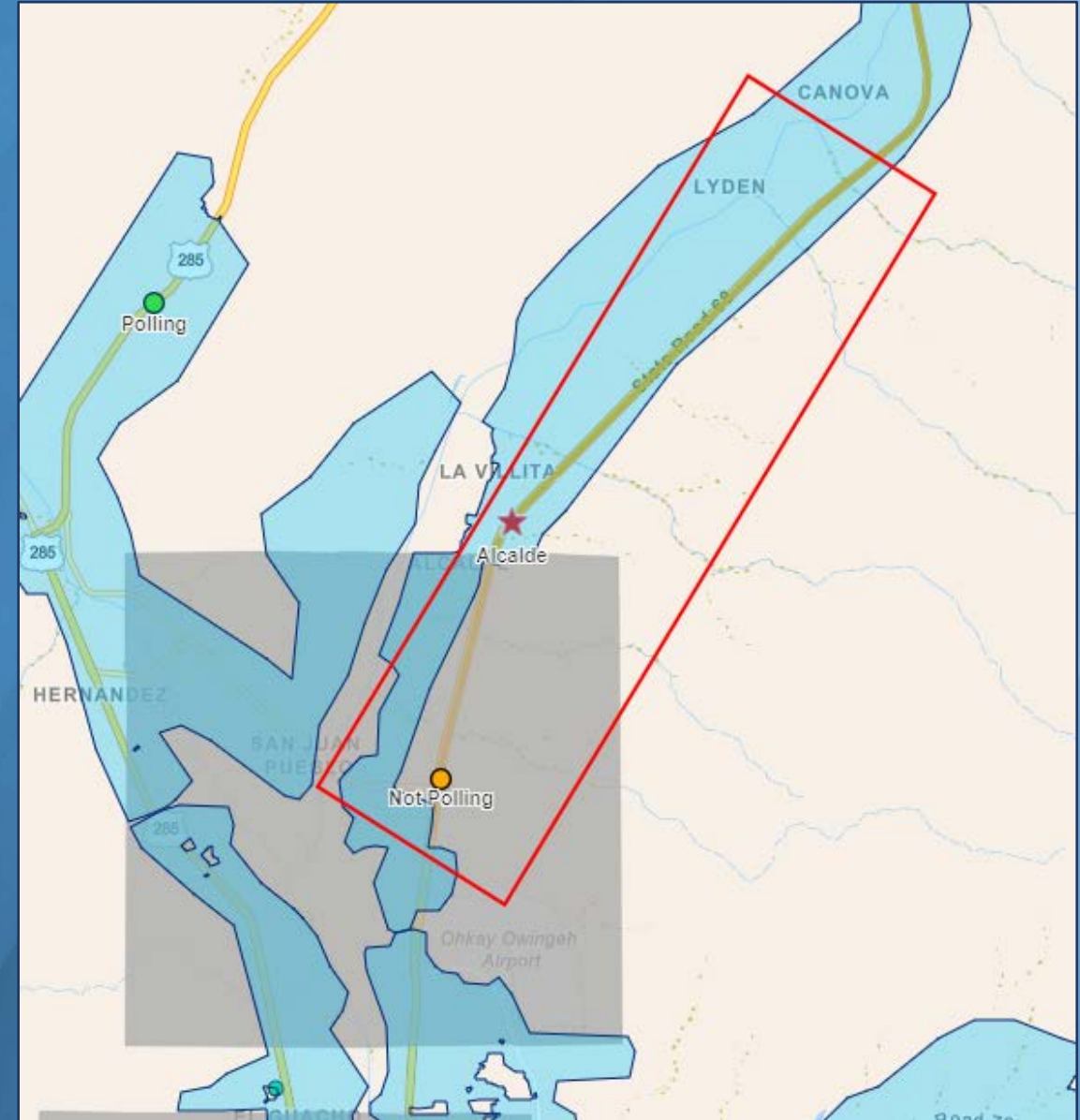
# Collaboration

DOT has established relationships with entities throughout the State and is considering their broadband needs as we plan for our own connectivity

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# A Transportation Network Could Enable Access to Tribal Entities, Institutions, and Unserved Areas

**Building this infrastructure could support the delivery of broadband to other NM stakeholders and constituents in unserved areas**
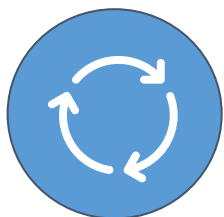
Provides contiguous access to network infrastructure for internet service providers, tribal entities, political subdivisions, other institutions
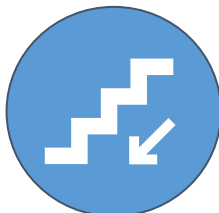
Promotes competition that drives down prices by offering affordable middle mile access to smaller providers
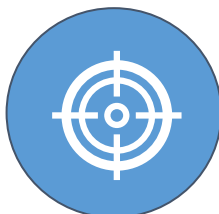
For tribal and other institutions, DOT is a single trusted entity that can provide stability, quality control, and requires accountability

" The stability provided from a DOT-owned network, a partner with aligned interests, is a solution we can trust. "

Chris Kielt, Interim CIO
New Mexico State University

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# Statewide Collaboration Provides Results

- A network that benefits other NM entities
  - Tribal
  - Higher education
  - K-12 education
  - Other state and local governments
  - ISPs

- And takes advantage of existing infrastructure, both government and private, to create a statewide network

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**La Bajada Project**
DOT-Tribal collaboration that connects Albuquerque and Santa Fe



Legend
- I-25 Tribal Shared Fiber - Built/Funded
- La Bajada - Planned
- Tribal Land Fiber - Built

A 4-conduit build in a difficult build area
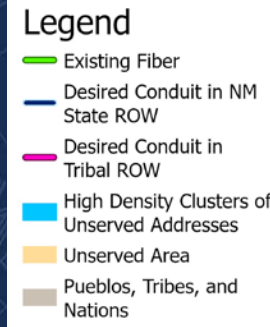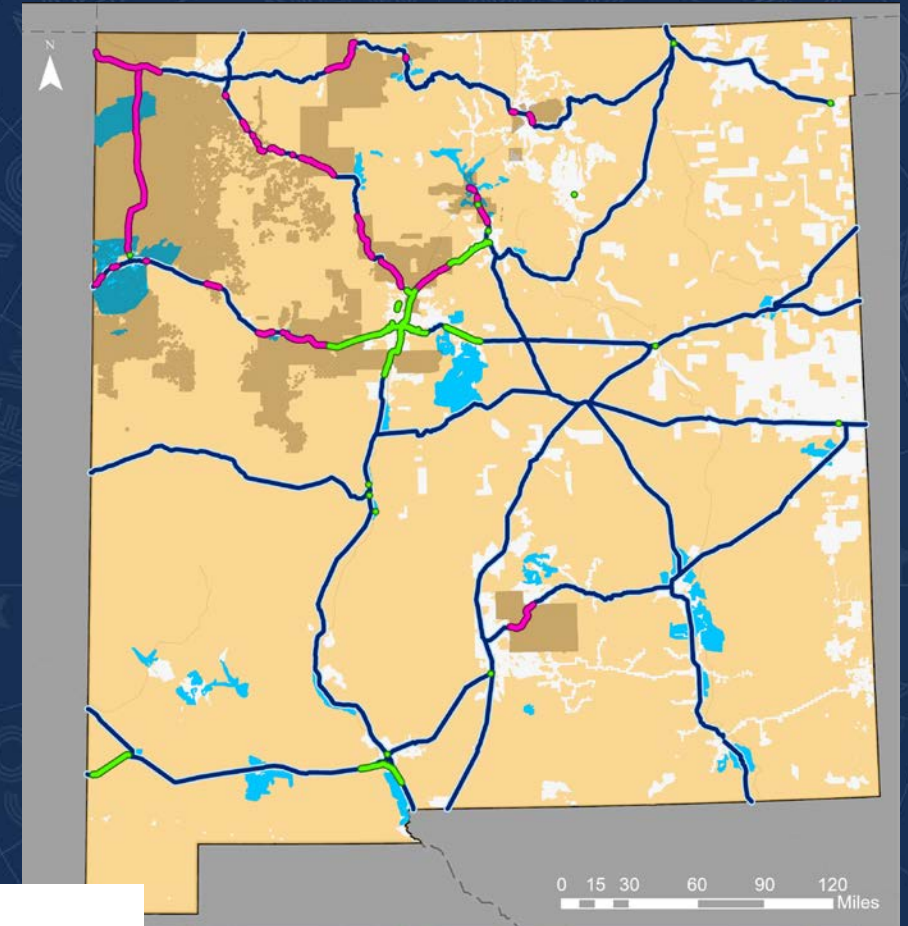Connectivity for DOT, tribal, and private industry entities

# DOT Met with Each of the Regional COG/EDDs to Understand Their Broadband Needs and Concerns
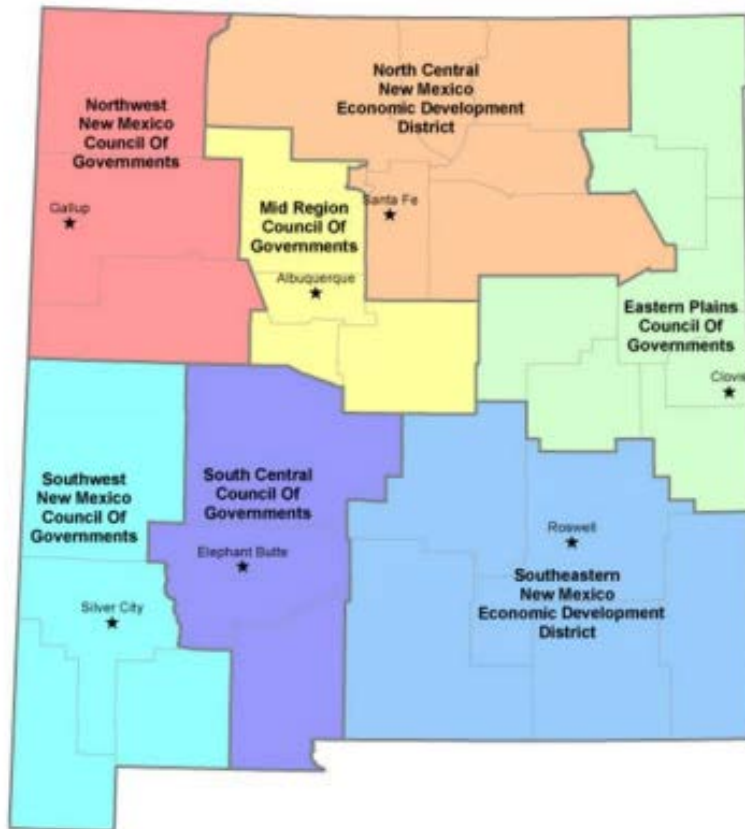


- Leveraged the existing, excellent relationships between the COG/EDDs and the DOT districts
- Although the COG/EDDs expressed varying levels of involvement, all agree that broadband plays a major role in the economic health of their districts
- Encouraged incentivizing builds in rural areas with innovative approaches to ROW access
- All agree that a Dig Once approach that includes broadband infrastructure in roadway projects is a good idea
- Expressed a desire to continue the conversation, kept apprised of progress, and to contribute to the solution

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# Access to the Internet is a Statewide Challenge

- The **yellow** areas of the map show New Mexico **homes & businesses that do not have broadband access**

- The **blue** areas are clusters of homes and businesses that make up **close to 50 percent of the unserved premises**

- DOT, as a member of the New Mexico Connect Council, is planning and building strategy **to support the Council's mission to address this challenge**

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**Legend**
- — Existing Fiber
- — Desired Conduit in NM State ROW
- — Desired Conduit in Tribal ROW
- High Density Clusters of Unserved Addresses
- Unserved Area
- Pueblos, Tribes, and Nations

0  15  30    60    90    120
Miles

**Up to 20% of New Mexicans lack broadband* access.**

*\* 25 Mbps download and 5 Mbps upload speeds*

# Next Steps ▷▷▷

- Coordinate with the New Mexico Connect Council as a member

- Develop a 5-year implementation plan for a Statewide Transportation Network that considers both DOT and the broadband needs of others

- Continue collaboration with tribal, education, COG/EDDs, private industry, and other partners to provide value to all

- Establish and facilitate a Dig Once policy
  1. Prioritize projects for including broadband infrastructure
  2. Estimate incremental costs
  3. Develop a standard specification
  4. Develop a procedure to track and manage infrastructure

- Document existing and planned infrastructure
  o With enhanced permit process and tools
  o Through collaboration with DoIT and other partners
  o By continually updating State map resources

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Thank you