

A large satellite dish antenna is silhouetted against a vibrant sunset sky. The sky transitions from a deep blue at the top to a bright orange and yellow near the horizon. The dish is mounted on a complex metal structure with various platforms and ladders. The overall scene is a mix of technology and nature.

Legislative Finance Committee Ruidoso, New Mexico June 23, 2021

John L. Salazar, PMP
Secretary and State CIO



NM DEPARTMENT OF
**INFORMATION
TECHNOLOGY**

Presentation Overview

Today, we will baseline the current state of broadband in the State of New Mexico and provide an outlook to accelerate broadband accessibility and adoption



Executive Summary

DoIT's multi-pronged approach to accelerate broadband focuses on purposeful governance, strong stakeholder engagement, a broad range of funding resources and most efficient ways to deploy infrastructure.



Current State Review

A glance at key broadband facts and figures in New Mexico, common barriers in broadband deployment and approaches to overcome



Funding Overview

Review of existing state budget and available federal funding



Our Detailed Approach

A multi-faceted approach to broadband acceleration to create meaningful change

- Governance
- Stakeholder Engagement
- Funding
- Infrastructure

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Executive Summary

Executive Summary for the Broadband Acceleration Plan

Based on our best practice research, we believe we can accelerate broadband in New Mexico by developing an actionable approach across four main pillars: governance, stakeholder engagement, funding and infrastructure



Governance

The newly established **Connect New Mexico Council** will provide leadership and focus.

Key actions will include:

- Establish top 4 priority focus areas and roles and responsibilities
- Oversee broadband efforts across the state
- Create clear statutory goals and reduce regulatory hurdles



Stakeholder Engagement

The **Connect New Mexico Council** will engage broadband stakeholders across the state.

Key actions will include:

- Engage members across state agencies to streamline broadband acceleration
- Network with tribal leaders to understand their broadband needs and gain support
- Leverage members of the general public with broadband knowledge as part of the Council



Funding

We will leverage our existing \$133M budget by **strategically capturing additional federal funding.**

Key actions will include:

- Develop a spend plan per legislation
- Create a catalog of all funding
- Provide direct support to rural and tribal communities in federal funding applications
- Consider launching a grant matching program



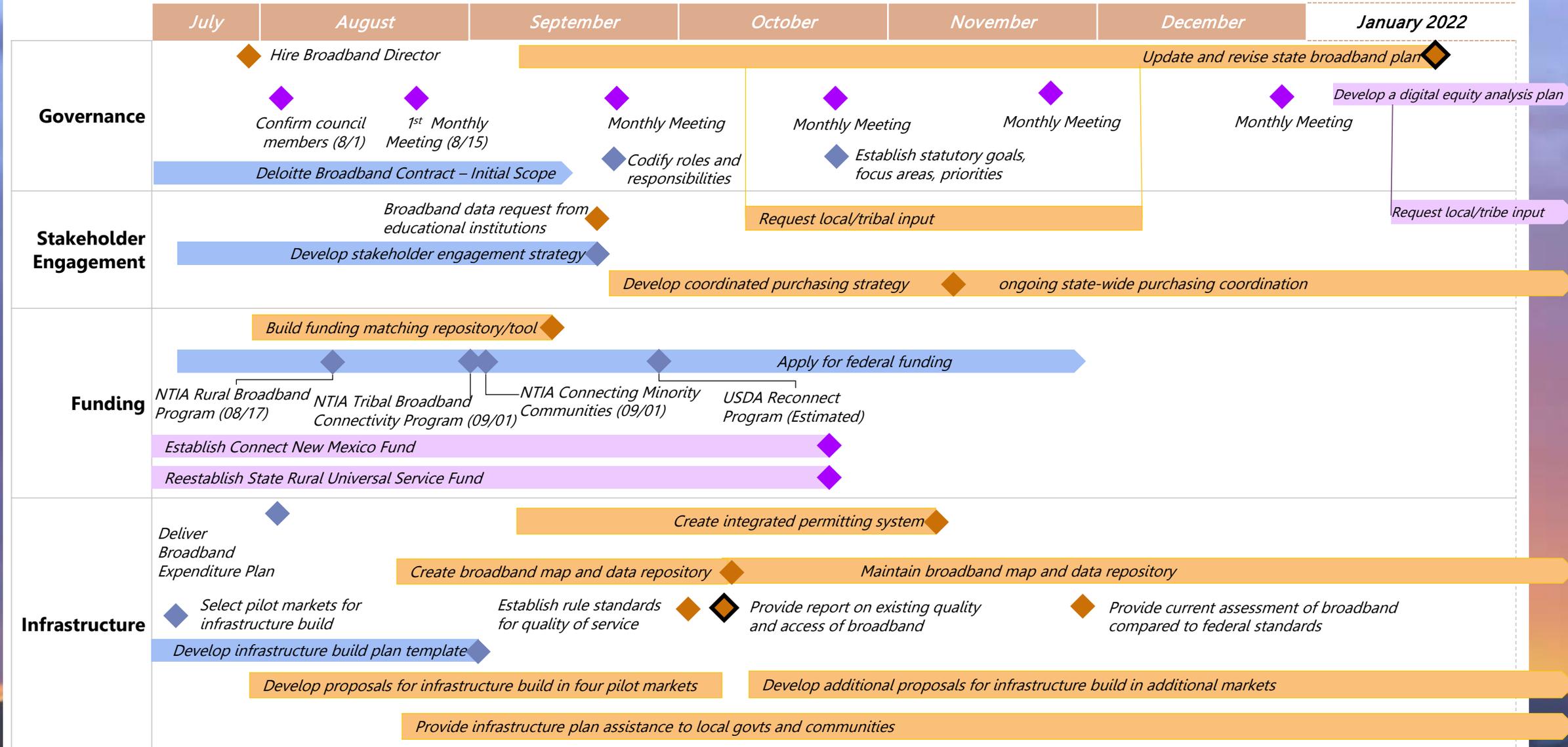
Infrastructure

We will develop a **state-owned infrastructure build plan** to improve connectivity

Key actions will include

- Leverage buying power and state-owned assets to procure broadband infrastructure
- Look to build fiber routes and lease access to ISPs as a stream of revenue and source of improved internet
- Enhance collaboration with ISPs in rural and densely populated areas to supplement middle-mile infrastructure extension

Broadband Acceleration Plan



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Current State Review

Comparative Research Study to Inform Best Practices

We conducted a comparative research study across seven states with similar attributes as New Mexico, in order to identify best practices and inform our broadband acceleration efforts. We utilized key benchmarks and guiding research questions to inform our study

Benchmarking states were selected based on similar geographic conditions, comparable demographics, and varying levels of broadband maturity.

State Selection Benchmarking Metrics*

- Size
- Average household income
- Poverty rate
- Population density
- Tribal area
- Racial diversity
- Percent mountainous terrain
- Tribal population

Sources to include US Census Bureau, Bureau of Indian Affairs, Federal Communications Commission, US Geological Survey

Through interviews, reports, and data our research answered key questions that inform and support our broadband acceleration plan.

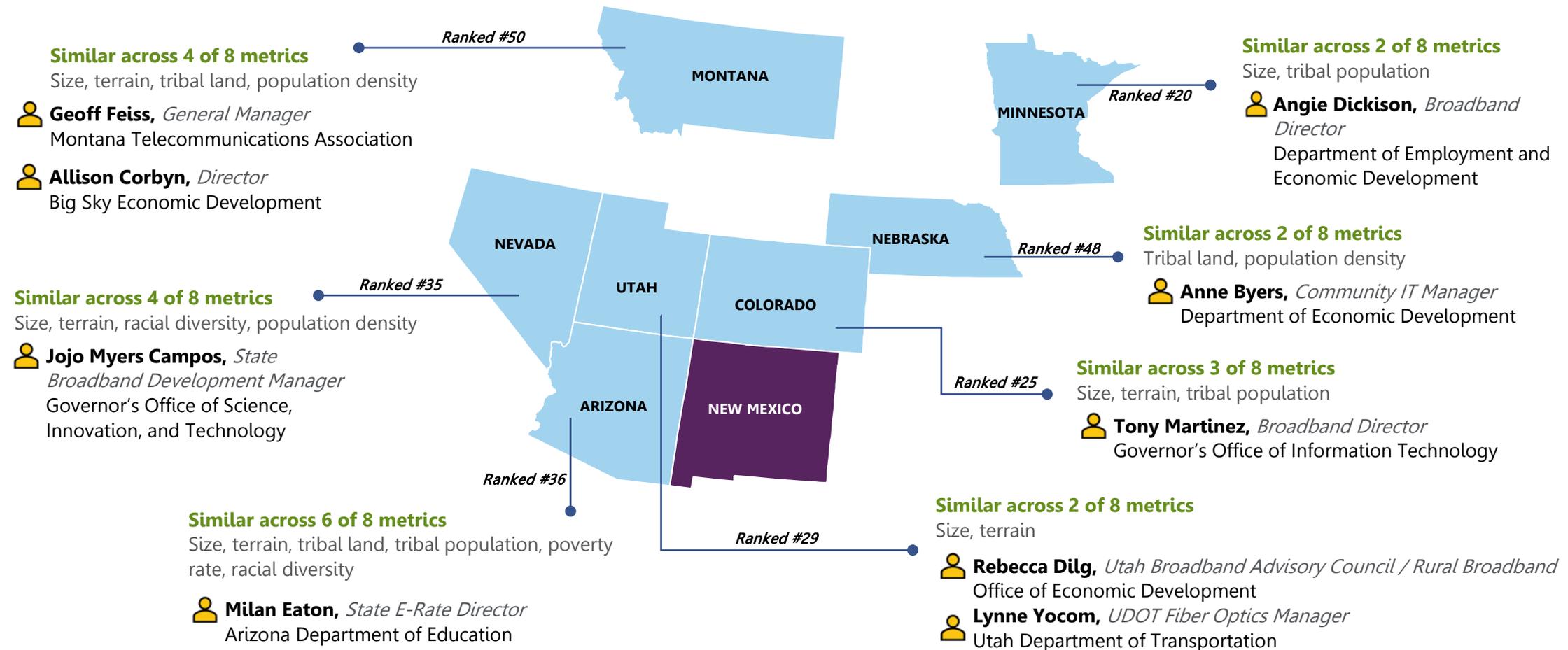
Research Questions*

| Governance | Stakeholder Engagement | Funding | Infrastructure |
|--|--|---|--|
| 1. What do broadband governance structures look like (e.g. roles and responsibilities, state-local-tribal coordination)? | 3. How do states partner with other entities to maximize, maintain, and/or build infrastructure? | 5. How do states position themselves for federal and/or supplemental funding? | 7. How do states evaluate and measure where the underserved/ unserved markets are? |
| 2. How do states address regulatory and permitting issues? | 4. How do states ensure affordability? | 6. How do states prioritize funding spend? | 8. What common standards or preclusions exist regarding infrastructure? |

*Not an exhaustive list

Selected States for Comparative Research Study

Based on our benchmarking analysis, the following 7 states were selected for the research study



[1] State rankings were based on the [BroadbandNow Research Study](#).

Key Barriers to Connectivity Across States

Based on the research of broadband practices across a variety of dimensions and outcomes in 7 peer states, we made the following observations and identified approaches to address common state broadband barriers

Key Broadband Barriers Faced by States

Our Approach to Address the Barriers in the State of New Mexico



Lack of a formalized broadband grant program



- Manage state grant requirements, applications, and awards to **provide further leverage and governance**
- Manage grant program timelines and requirements to **ensure timely submissions**



Limited communication channels and lack of a formal program management



- Create a dedicated broadband office with task forces, commissions, and committees for **better collaboration and integration of broadband efforts**



Fewer channels for mapping broadband data



- Utilize national-level maps, conduct verification with Internet Service Providers, third-party vendors, and/or citizens for **crowd-sourcing data**



Legislative barriers to the establishment and expansion of municipal broadband networks



- Empower municipalities to **take ownership of broadband construction or operation at a local level** (currently New Mexico has 3 municipal providers; leading states, CO and MN, have 14 or more)



Regulatory/permitting bills/laws structure are not sufficient



- Establish clear **bills / laws which outline the official processes and address regulatory or permitting goals** to support standardized broadband adoption (currently we have established 13; leading states, CO and MN, have as many as 34)



Broadband efforts primarily focus only on education sector



- Establish strategies to **focus on other areas like economic development, telemedicine, and agriculture**

Key Facts and Figures – Broadband Connectivity in the State

We are currently ranked 49th in terms of levels of access, pricing, and average download speeds according to BroadbandNow, a widely-referenced reputable source for broadband rankings and data across the nation

BroadbandNow 2020 Data Shows

33% or 700,000 residents of New Mexico are **unserved***1

*An area or address is **unserved** by broadband if it cannot receive fixed, terrestrial internet access with 'adequate' speeds (25 Mbps download/3 Mbps upload). Neither satellite nor mobile internet service can be considered broadband for purposes of this definition.

Our Strategic Assessment by CTC² Identified

13% or 126,000 of locations in New Mexico are **unserved**** 3 (2019)

\$15K to \$40K **average cost** to extend connectivity per location⁴

**CTC defines locations as addresses of residences or business where there is broadband infrastructure in adjoining locations

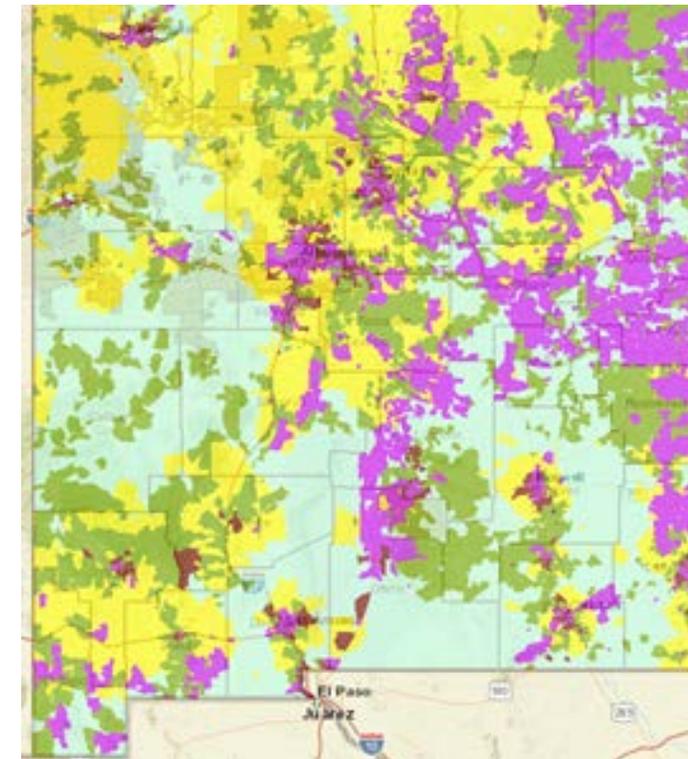
Importantly, Biden's Infrastructure Plan calls for a stricter definition of 'adequate' broadband which would quadruple the speed requirements and possibly further increase our 'unserved' population.

New Mexico Coverage Map

Broadband Coverage

- Fiber
- Cable
- DSL
- Other Copper Wireline
- Fixed Wireless
- Satellite

Based on current technical limitations of satellite, it does not meet speed requirements for 'adequate' broadband.



New Mexico Broadband Map [NM DoIT Offices of Broadband and Geospatial Technology]

[1] Population (millions) unserved by "terrestrial" broadband internet according to BroadbandNow [Research 2020 Study](#).

[2] CTC refers to the *Broadband Strategic Plan and Rural Broadband Assessment* report prepared for the New Mexico Department of Information Technology - Office of Broadband, by CTC Technology & Energy in June 2020

[3] The 13% unserved figure considers homes & businesses served if capable of getting 25 / 3 Mbps downstream / upstream service from a wireline fiber or coaxial cable connection. The 13% unserved figure includes premises in: (1) CAF II auction winner's areas,

(2) areas identified by EDAC as having fixed wireless with 25/3 Mbps or faster speeds, and (3) areas with DSL having 25/3 Mbps speeds.

[4] The cost of extending connectivity is estimated by examining the cost of fiber optics or fixed wireless technology to widely spread-out areas [CTC's *State of New Mexico Broadband Strategic Plan and Rural Broadband Assessment*]

Key Facts and Figures – Our Broadband Program

Our broadband program includes industry best practices that will position us well for success, given recent funding and legislation



Broadband Budget - \$133.4M

(2021) to help Office of Broadband Access and Expansion to evaluate current system and coordinate growth



We have prioritized the **education, economic development, and telemedicine** sectors



We have **established several bills / laws** addressing regulatory or permitting goals¹



We have **contracted vendors to map broadband coverage** and verify mapping data allowing the state to plan for scalable infrastructure and maximize investments



Our Connect New Mexico Council will provide leadership and coordination across state agencies, tribal areas, and the public²



Our Connect New Mexico Act will provide leverage, accelerate infrastructure deployment², and other related projects



Our focus has been on improving broadband availability, compared to adoption or affordability



Our analysis has determined there are **126,000 unserved locations**⁴ across the state⁵

[1] Laws governing high speed internet [Research](#)

[2] House Bill 10

[3] [New Mexico Broadband Program](#)

[4] State of New Mexico Broadband Strategic Plan and Rural Assessment (CTC Report) defines locations as addresses of residences or business where there is broadband infrastructure in adjoining locations

[5] State of New Mexico Broadband Strategic Plan and Rural Assessment (CTC Report)

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Funding Overview

Overview of Existing State Funding and Gap

Our current broadband budget can fund 17-33% of the cost required to deploy infrastructure through the state based on our broadband strategic plan and assessment

 **Our current deployment plan will reach 95,000 locations¹, leveraging current state funding and additional federal funding sources at more densely populated areas and their neighboring locations.**

Deployment Cost Estimate
\$405M to \$780M ¹

Current Budget
\$133.46M ²

Funding Gap
\$272M to \$647M

- Range depends on the extent to which existing infrastructure and incumbent Internet Service Providers are utilized
- Combination of fiber and fixed wireless technology will be deployed

- Includes recent appropriations and previous balance

- **We will aim to close this gap through our federal funding capture strategy targeting broadband specific grant programs**

 **To reach the remaining 30,000 most widely spread-out locations¹, additional funding streams and alternative technologies will be required.**

We plan to leverage federal programs that support rural and tribal communities.

And explore new technologies like **satellite and aerostat broadband**. We believe these two innovative technologies are showing promising improvements and advancements in their previously limited capabilities.

Additionally...through the **American Rescue Plan Act, Coronavirus State and Local Fiscal Recovery Funds**, block grants have been allocated to counties and metropolitan areas across New Mexico. These **funds can be used in a variety of ways, including broadband**, which can help close the funding gap and support our rural and tribal communities.

New Mexico has been allocated a total of \$2.33B:

- \$1,752M allocated at the state level
- \$407.3M allocated at the county level
- \$171.4M allocated at the metro-area level
- An additional \$20B is available nationally for tribal communities **by request³**

[1] CTC's State of New Mexico Broadband Strategic Plan and Rural Broadband Assessment

[2] 2021 Legislative Session – Broadband Funding Summary

[3] Coronavirus State and Local Fiscal Recovery Funds | U.S. Department of the Treasury

Recent Federal Funding Awarded for Projects in New Mexico

Federal funds, primarily the FCC's Rural Digital Opportunity Fund and the USDA's ReConnect Program, have recently awarded ~\$234M to a diverse group of entities to fund broadband deployment in New Mexico

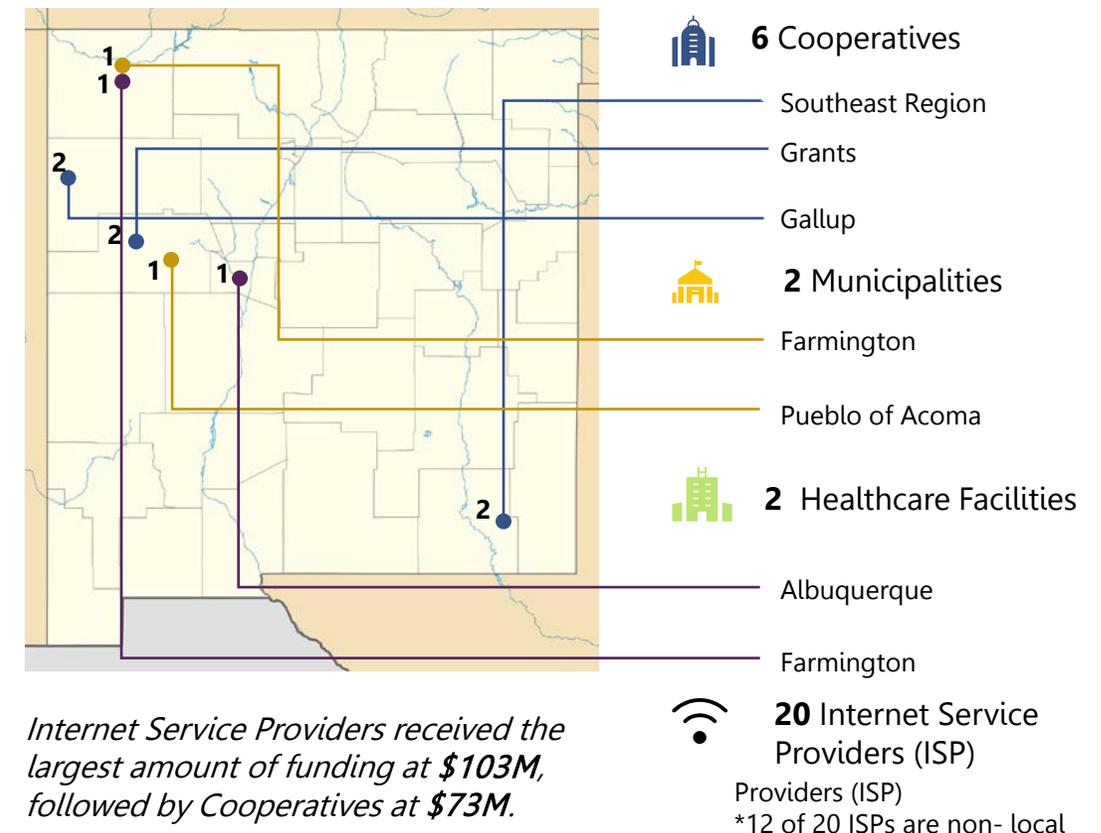
Federal Communications Commissions (\$191M)

| Grant Programs | Total Funding Awarded | Number of Recipients |
|---|-----------------------|----------------------|
| Rural Digital Opportunity Fund – Phase I ^[1] | \$165M | 18 |
| Connect America Fund Phase II ^[2] | \$26M | 5 |
| COVID-19 Telehealth Program ^[3] | \$0.376M | 1 |

U.S. Department of Agriculture (\$43M)

| Grant Programs | Total Funding Awarded | Number of Recipients |
|---|-----------------------|----------------------|
| ReConnect Program Round I ^[4] | \$23M | 3 |
| ReConnect Program Round II ^[4] | \$20M | 4 |

Through these programs, there are 31 award recipients.



[1] FCC Rural Digital Opportunity Fund Phase I Auction – Winner Bidder Summary

[2] FCC Connect America Fund Phase II Auction – Winner Bidder Summary

[3] FCC COVID-19 Telehealth Program – Recipients

[4] Reconnect Program Round I and Round II

Active and Upcoming Federal Broadband Grant Programs

The federal government is providing a ~\$37B of identified grant and loan funding dedicated to different aspects of broadband. We intend to position ourselves to receive the maximum amount of federal funding support

General use broadband funding programs (\$23B)

This funding has been set aside and dedicated to the build of broadband and can be granted to the general public.

| Agency - Grant Programs | Total Funding | Funding Window |
|--|---------------|--------------------|
| USDA - ReConnect Program Round III | \$TBD | Fall 2021 |
| US Treasury - Coronavirus Capital Projects Fund | \$10B | TBD |
| FCC - Rural Digital Opportunity Fund Phase II – <i>supports rural areas</i> | \$20.4B | TBD |
| FCC - Universal Service Fund - High Cost | \$5B | Annual |
| Dept of Commerce - Public Works and Economic Adjustment Assistance Program | \$1B | Ongoing |
| NTIA - Tribal, Minority Community ¹ and Rural Broadband Programs – <i>supports tribal areas</i> | \$1.6B | Summer & Fall 2021 |
| USDA - Telecommunications Infrastructure Loans & Guarantees | \$0.69B | Ongoing |

Broadband subsidy programs (\$14B)

This funding could be used to subsidize some of the cost of broadband but is typically intended for other purposes such as education and health care.

| Agency - Grant Programs | Total Funding | Funding Window |
|---|---------------|-----------------------|
| FCC - Emergency Connectivity Fund | \$7.17B | July 2021 – June 2022 |
| FCC - Emergency Broadband Fund | \$3.2B | Ongoing |
| FCC - Universal Service Fund - E-rate | \$2B | Annual |
| FCC - Universal Service Fund - Lifeline | \$0.85B | Ongoing |
| FCC - Universal Service Fund – Rural Healthcare – <i>supports rural areas</i> | \$0.29B | Annual |

[1] Anticipated opening of Summer 2021 with 90-day submission window

[2] Funding data based on Deloitte's Federal Grant Programs analysis

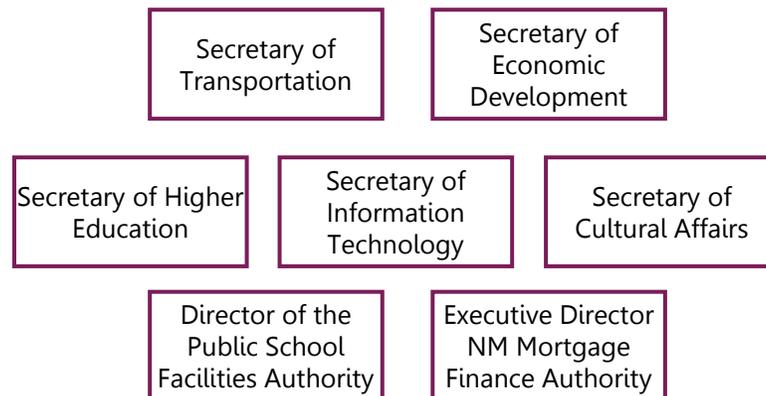
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Detailed Approach

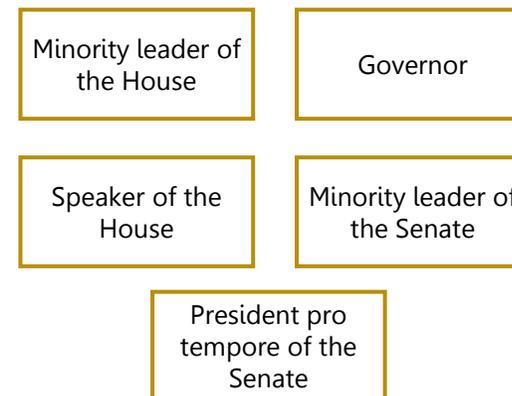
We will establish a governance structure and set a strategic direction in partnership with the Connect New Mexico council

The Connect New Mexico Council will collaborate with the Office of Broadband Access and Expansion (OBAAE) to coordinate, evaluate, and prioritize broadband programs and projects, and establish a competitive broadband grant program

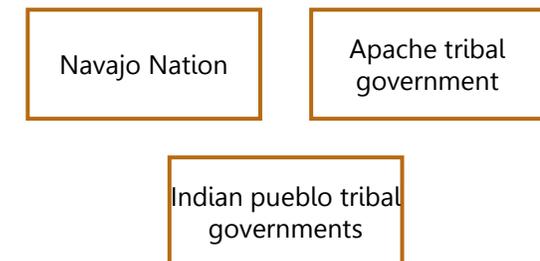
Council members, directly or through proxy



General public representatives appointed by the following



Appointed by the Secretary of Indian Affairs



Once the members of the advisory council have been confirmed it is vital that a **recurring meeting cadence** be established, **top four priority focus areas** are set, and **roles and responsibilities** are defined to address focus areas

We will employ a strong stakeholder engagement strategy

The Connect New Mexico Council will be responsible for consulting with a wide variety of broadband stakeholders to fully understand the current broadband situation and what steps must be taken to improve broadband statewide.

Receive inputs on broadband need from local governments, specifically in rural and underserved areas



Local Government

State Government



Communicate ongoing broadband initiatives being carried out by state agencies

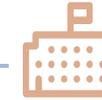
Provide members to serve on the Council and provide insights from the perspective of an ISP



Industry

Connect New Mexico Council

Educational Institutions



Consult with the Council on how the state can leverage their purchasing power for educational institution broadband hardware

Leverage members of the general public with knowledge of broadband expansion and the challenges associated with it



Community

Tribal



Provide input to the Council regarding the current state of and need for broadband in tribal areas

We will build a robust funding strategy maximizing available state funding, while capturing available federal and private funding

Our funding plan will include capture and allocation strategies to address the specific broadband development needs in regions throughout the state.

- Broadband Office to **apply for federal and private broadband funding** for state agencies
- Broadband Office to convene regional meetings to **coordinate federal or private funding applications** and **regional investments**

General Funding



Connect New Mexico Fund



Universal Service Fund

Key upcoming funding programs:



- NTIA Rural Broadband Program
- NTIA Connecting Minority Communities
- NTIA Tribal Broadband Connectivity Program
- USDA Reconnect Program

- Create fund within state treasury
- Establish **broadband grant program**
- Establish grant rules – application procedures and eligibility criteria
- Implement State Rural Universal Service fund
- Support unserved and underserved areas with telephone and **broadband cost assistance**

Key considerations would include:

- Connect unserved /underserved populations
- Leverage existing infrastructure
- Foster digital inclusion
- Complement statewide broadband plan
- Stimulate economic development
- Leverage financial support from local agencies or entities

Key considerations would include:



Finance fund with a surcharge on intrastate retail public telecommunications services

We will build infrastructure to benefit the state for decades to come

We have partnered with a consulting firm to create and execute an infrastructure build plan. The plan involves the build out of fiber-based facilities to enable lower cost 'last mile' deployments by ISPs. The plan further involves leveraging cutting edge communications technologies such as aerostat (i.e. Sceye) and Low Earth Orbit (LEO) satellites (i.e Starlink) as bridging mechanisms with potentially permanent placements where applicable.

One focus of the build plan will be state owned transport facilities, as the unavailability of such facilities in certain markets precludes sufficient ROIs for ISPs

State owned facilities will enable...

-  Interconnectivity pathways for potential ISPs
-  Backhaul paths for mobile providers
-  Intelligent transportation applications for DoT

...and operate such that they :

-  Are located in State controlled right of ways (ROWs)
-  Are leased to ISPs and mobile providers
-  Are operated and maintained by third-party vendors

We will also leverage **buying power** to procure infrastructure, explore **asset trading programs**, consider **fiber route locations**, and stay closely **engaged with local ISPs** to supplement and extend any state-built infrastructure

Next Steps

Upon our next meeting, we will provide further information regarding the next steps of our state-owned infrastructure build plan that will guide our broadband expansion and acceleration efforts. Specifically, we will share details around:



Market Prioritization

Create a standardized and scored method to determine which markets across the state have the highest need for broadband expansion and improvement



Build Milestones

Develop a timeline for broadband build projects based on business, design and engineering, regulatory, and construction milestones.



Gating Criteria and Key Performance Indicators

Create a framework of project build milestones and KPIs, that upon completion, will release additional funding

THANK YOU

QUESTIONS?

