

Broadband Access and Expansion Regional Engagement



Agenda

1. Introductions
2. Broadband Technology Overview
3. Broadband Funding and Programmatic Opportunities
4. Taking Action on Connectivity in Your Community

Introductions

- *Kelly Schlegel - Director of the Office of Broadband Access and Expansion*
- *Joaquin Alvarado – Community Engagement Facilitator*

Agenda

9:00 am – 10:00 am

Welcome, Introductions and Updates

10:00 am – 10:15 am

Break

10:15 am – 11:40 am

BEAD and Digital Equity Review

11:40 am – 12:00 pm

Next Steps

12:00 pm – 1:00 pm
Roundtable

Working Lunch and Community

Enabling Legislation

Senate Bill 93 and House Bill 10 created the Office of Broadband and the Connect New Mexico Council in 2021

The enabling legislation establishes the “Connect New Mexico Fund” and structure for the Council and OBAE to receive funding for grant distributions to build out broadband infrastructure

Amended in 2023, the updated legislation clarifies the Council’s advisory role for program planning and grant distribution

The legislation requires an annual report to the governor in the form of a Three-year plan and statewide plan

The legislation further directs that OBAE will provide technical assistance to Tribes and local governments for planning purposes

The enacted law requires OBAE to develop broadband maps, set standards for quality and broadband speeds, and coordinate with local, state and federal agencies

Mission and Vision of Office of Broadband

- **Mission:** Passionate leadership to drive bold, equitable, and inclusive broadband solutions
- **Vision:** Achieve bold, affordable broadband solutions for New Mexicans that honor the state's rich heritage and elevate quality of life for all
- **Values:** Seven values defining OBAE's people, processes, planning, and programs: 1) bold; 2) honest; 3) curious; 4) innovative; 5) respectful; 6) collaborative; 7) analytically rigorous
- **Four major goals**
 - Universal Broadband Availability
 - Broadband Adoption and Meaningful Usage
 - Statewide Next Generation Networks
 - Program Stewardship
- **These Goals are the foundation of the 3 year Plan submitted Jan 01, 2023 that describe strategic priorities, initiatives and actions to accomplish each goal**

Accomplishments for 8 months have included all goals

- **Goal: Universal Broadband Availability**

- All Federal application deadlines met for IIJA funding: July 11, July 18, Aug 15, Sept 30, Nov 18, Jan 15, Jan 30, March 15, April 30
- Stood up CNMC Pilot grantmaking for federal ARPA funds
- Completed rule making for CNMC state grants
- Awarded 9 ARPA grants: \$35M in Wave 1 and \$17M in Wave 2 to help approx. 30 rural communities
- Received \$5.7M in planning funds from NTIA; Hired CTC for 6 Broadband Plans
- Increased connectivity to several Presbyterian health rural health care clinics
- Contract for Phase 1 of the SEN in process
- Learned Best Practices by attending NTIA and NTTA conferences; state broadband leaders and tribal leaders

Accomplishments for 8 months have included all goals

- **Goal: Broadband Adoption and Meaningful Usage**

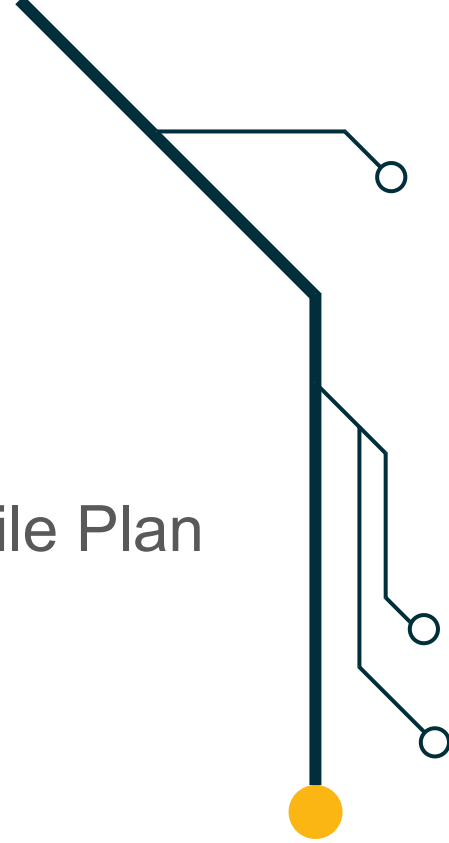
- Submitted Data Collection Report on Oct 01, 2022
- Community Engagement - over 150 community events; 9 tribal events
- Planning several focused engagements to collect correct data for 2023: regional, statewide and tribal
- Increased ACP enrollment to 142K+
- Attended Digital Equity Conference
- Technical assistance to several tribes and communities



Accomplishments for 8 months have included all goals

- **Goal: Statewide Next Generation Networks**

- Completed RFI Campaign to ISPs
- Worked with Finley Engineering to create a Statewide Middle Mile Plan
- Submitted Middle Mile Application Sept 30 to NTIA
- Supported other Middle Mile Applications
- 98% complete Contract for Phase 1 of the SEN in process
- Attended NTIA conferences; broadband leaders and tribal leaders



Accomplishments for 8 months have included all goals

- **Goal: Program Stewardship**

- Submitted 3-year Broadband Strategic Plan on Jan 01, 2023
- Staffed the office to the operating budget
- Successfully asked LFC for more budget to staff the office to meet our mission
- Determined draft org chart
- JPA/MOU with PSFA (SB 93 - Section 3H): JPA/MOUs between agencies; SEN is part & parcel of Middle Mile
- Completed 9 contracts including RESPEC for mapping support
- Helped get 6/7 broadband bills passed so that we can do our work
- Coordinating with FCC for accurate maps; submitted in fabric and availability and met all deadlines

Broadband Technology Overview

An introduction to broadband infrastructure and technologies for communities and local policymakers

Acronyms

- ACP: Affordability Connectivity Program
- ARPA – American Rescue Plan Act of 2021
- BSLs: Broadband Serviceable Locations
- BEAD – Broadband Access Equity and Deployment
- CNMC - Connect New Mexico Council
- DE - Digital Equity
- FTTH/FTTP – Fiber to the Home/Fiber to the Premise
- HB – House Bill
- IIJA - The Infrastructure Investment and Jobs Act (IIJA)
- ISP: Internet Service Provider
- JPA- Joint Powers Agreement
- MOU - Memorandum of Understanding
- NM: New Mexico
- NTIA- National Telecommunications and Information Administration
- OBAE: Office of Broadband Access and Expansion
- PSFA: Public School Facility Agency: PSFA
- SEN: Statewide Education Network
- PEN: Pueblo Education Network
- RDOF: Rural Digital Opportunity Fund
- RFP: Request for Proposal RFP
- SB - Senate Bill
- SLO: State Land Office
- TAP: Technical Assistance Program
- USDA - US Dept of Agriculture

DEFINITIONS AND CONCEPTS: BITS AND BYTES

These two are frequently confused but are distinct – both are measures of digital information, but one refers to speed and the other refers to amount of data

BITS PER SECOND (SOMETIMES SHORTENED TO “BITS”)

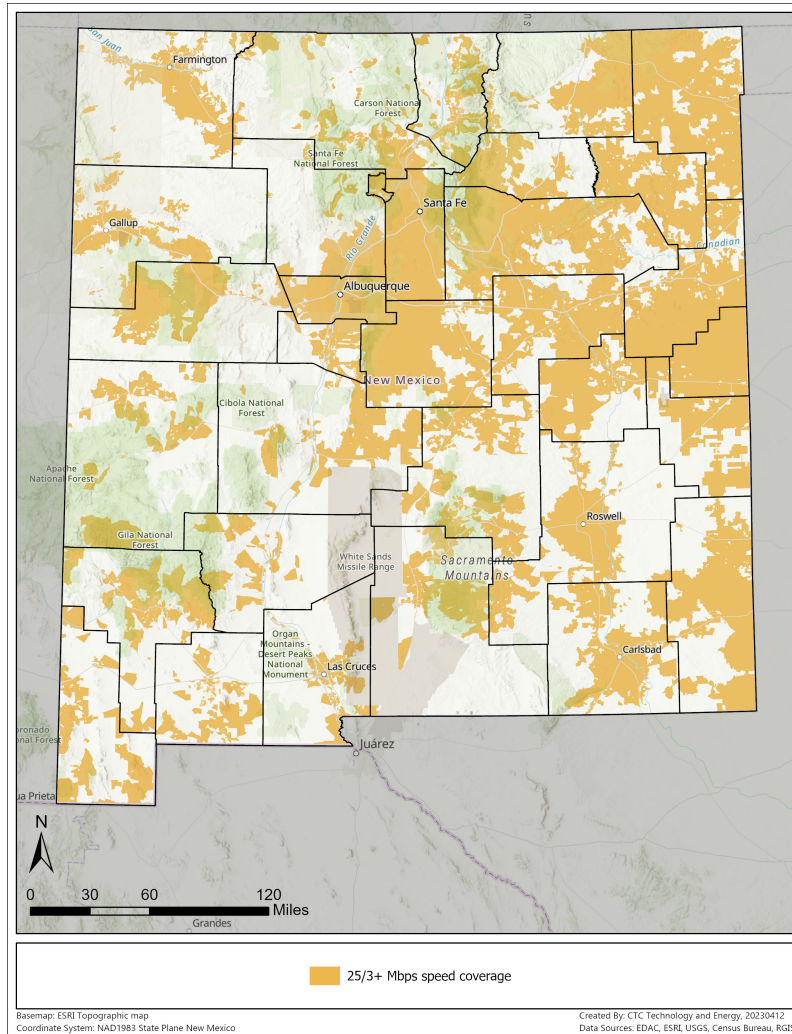
- Used to describe a **measure of speed** – how fast data travel across a network (“bandwidth”)
- The number of bits per second tells us how fast the communication is moving on the network
 - In a roads analogy, “bits per second” is analogous to a car’s miles per hour
 - Megabit = 1,000,000 bits
 - Gigabit = 1,000 megabits
- “My internet speed is really fast – it’s up to a gigabit per second.”

A “BYTE” IS EQUAL TO 8 BITS

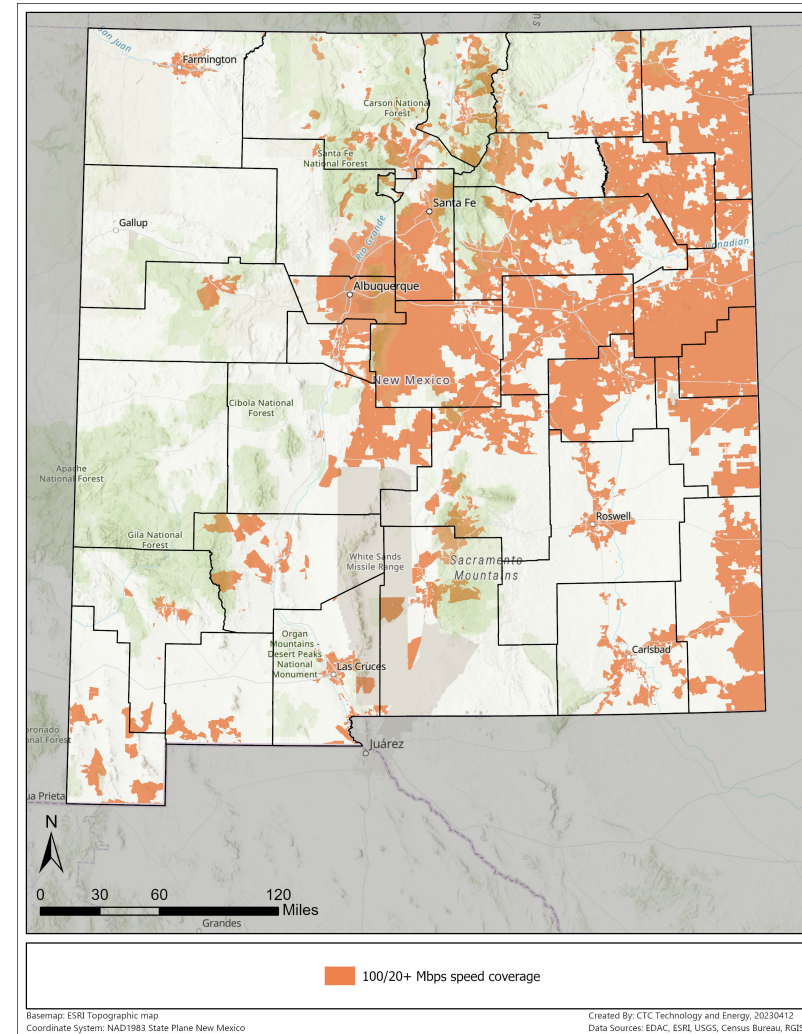
- Used to describe the **amount of data** stored (memory capacity)
- The number of bytes tells us how much information is involved
 - In a roads analogy, “bytes” is analogous to the number of cars on the road
 - Megabyte = 1,000,000 bytes
 - Gigabyte = 1,000 megabytes
- “My data plan with T-Mobile lets me send or receive a total of five gigabytes a month.”

Broadband Maps

25/3 Mbps speed coverage



100/20 Mbps speed coverage



TYPICAL NEEDS OF A FAMILY OF FOUR

Peak Bandwidth Utilization – Family of Four (Daytime)	Download / Upload
Telework/Telehealth Video Conferencing (4 Mbps / 4 Mbps per user)	8 Mbps / 8 Mbps
Tele-Learning Remote Classroom (4 Mbps / 4 Mbps per user)	8 Mbps / 8 Mbps
HD Streaming Video Applications (Netflix, Disney+, etc.) (5 Mbps / 0.2 Mbps per stream)	5 Mbps / 0.2 Mbps
Home security (Ring, etc.) and other household smart devices (Alexa, Cortana, etc.) (2 Mbps / 2 Mbps per system)	2 Mbps / 2 Mbps
TOTAL BANDWIDTH USE (rounded)	23 Mbps / 18 Mbps

Peak Bandwidth Utilization – Family of Four (Evening)	Download / Upload
Online Video Gaming (3 Mbps / 0.5 Mbps per user)	3 Mbps / 0.5 Mbps
Streaming Video Applications (1 UHD at 25 Mbps / 0.2 Mbps, 1 HD at 5 Mbps / 0.2 Mbps per stream)	30 Mbps / 0.4 Mbps
Surfing Internet (1.3 Mbps / 0.3 Mbps per user)	4 Mbps / 1 Mbps
Home security (Ring, etc.) and other household smart devices (Alexa, Cortana, etc.) (2 Mbps / 2 Mbps per system)	2 Mbps / 2 Mbps
TOTAL BANDWIDTH USE (rounded)	39 Mbps / 4 Mbps

FUTURE NEEDS WILL BE MUCH HIGHER

Future Peak Bandwidth Utilization Family of Four (Daytime)	Download / Upload
Home business operations (20 Mbps / 20 Mbps per user)	20 Mbps / 20 Mbps
Telework / Telehealth video conferencing (6 Mbps / 6 Mbps per user)	6 Mbps / 6 Mbps
UHD streaming video applications (25 Mbps / 0.2 Mbps per user)	25 Mbps / 0.2 Mbps
Distance learning remote classroom (6 Mbps / 6 Mbps per user)	12 Mbps / 12 Mbps
Home security (Ring, etc.) and other household smart devices (Alexa, Cortana, etc.) (2 Mbps / 2 Mbps per system)	2 Mbps / 2 Mbps
Augmented/virtual reality HD advanced level (400 Mbps / 400 Mbps per user)	400 Mbps / 400 Mbps
TOTAL BANDWIDTH USE (rounded)	467 Mbps / 442 Mbps

Future Peak Bandwidth Utilization Multi-Generational Family of Eleven (Evening)	Download / Upload
Online video gaming (4 Mbps / 2 Mbps per user)	8 Mbps / 4 Mbps
UHD streaming video applications (25 Mbps / 0.2 Mbps per user)	75 Mbps / 0.6 Mbps
Surfing internet (2 Mbps / 0.7 Mbps per user)	6 Mbps / 2 Mbps
Video chat (Zoom, etc.) (6 Mbps / 6 Mbps per user)	6 Mbps / 6 Mbps
Home security (Ring, etc.) and other household smart devices (Alexa, Cortana, etc.) (2 Mbps / 2 Mbps per system)	2 Mbps / 2 Mbps
Augmented/virtual reality HD advanced level (1,200 Mbps / 1,200 Mbps per user)	1200 Mbps / 1200 Mbps
TOTAL BANDWIDTH USE (rounded)	1299 Mbps / 1217 Mbps

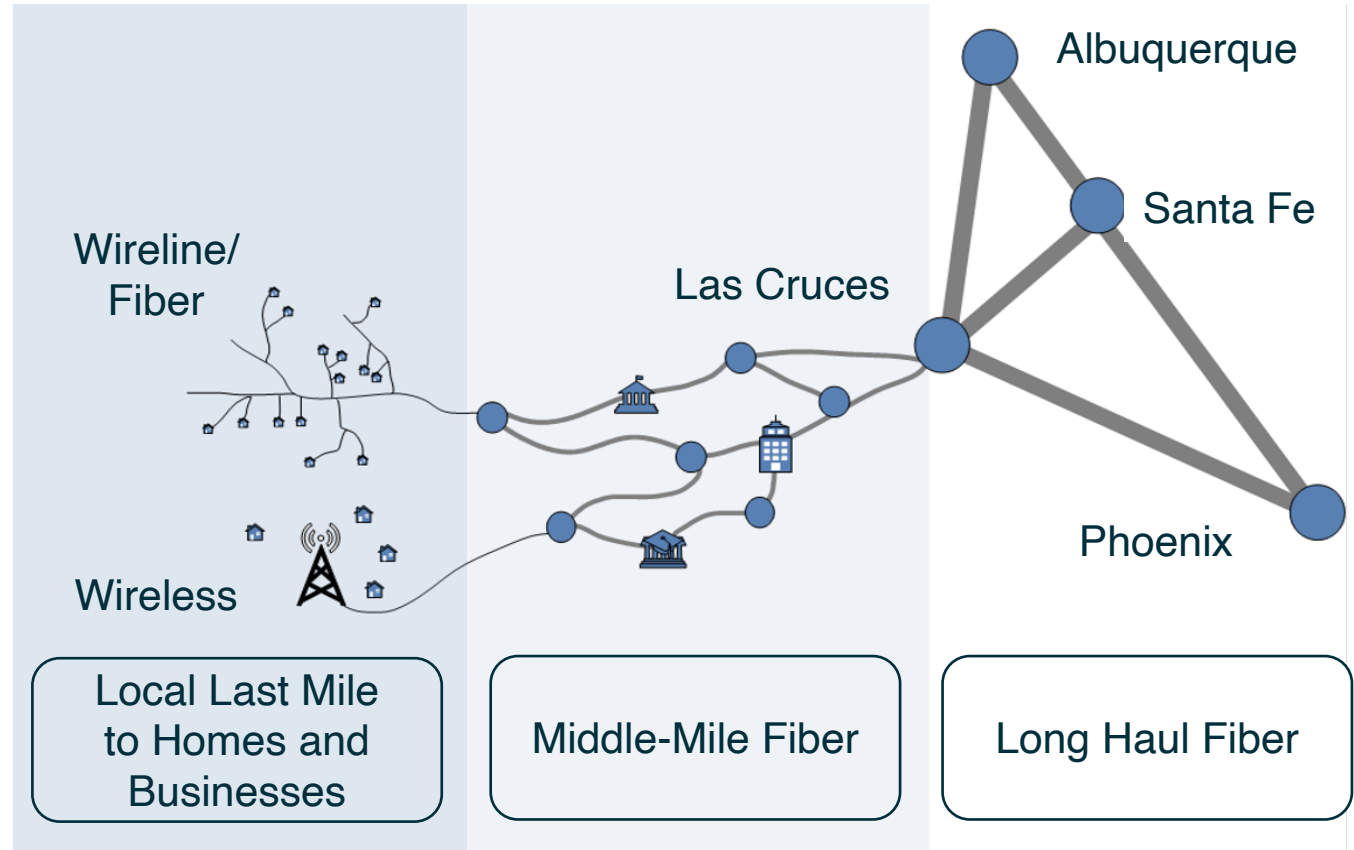
FEDERAL AND NEW MEXICO BROADBAND SPEED TARGETS

The FCC's definition is 25 megabits per second down and 3 megabits per second up (25/3 Mbps)

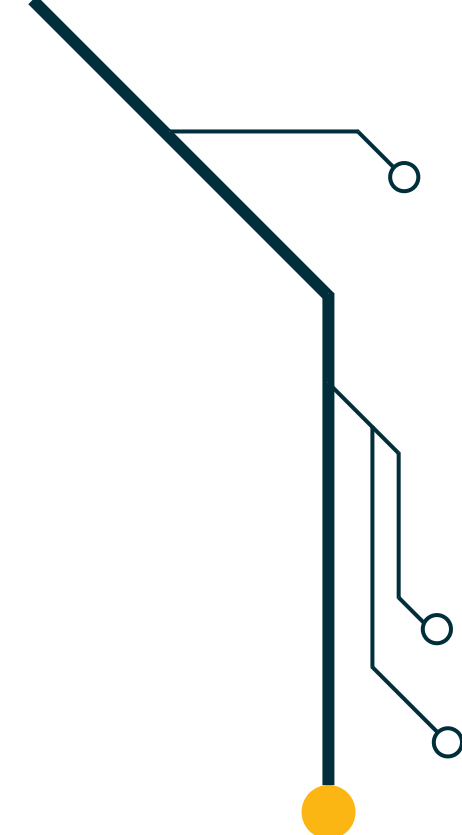
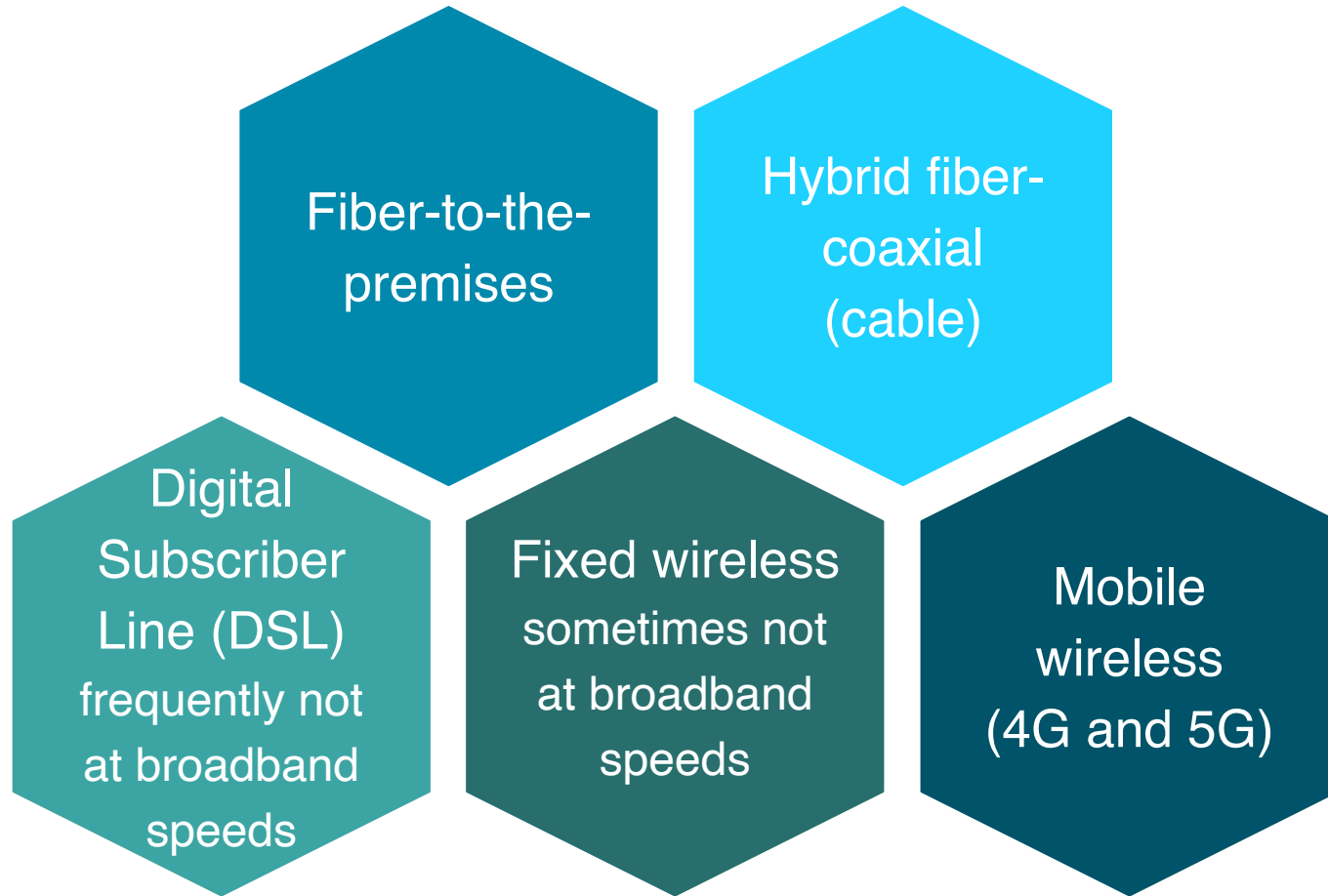
Congress set a new 100/20 Mbps standard in the American Rescue Plan Act and Infrastructure Investment & Jobs Act

THE ELEMENTS OF A BROADBAND NETWORK

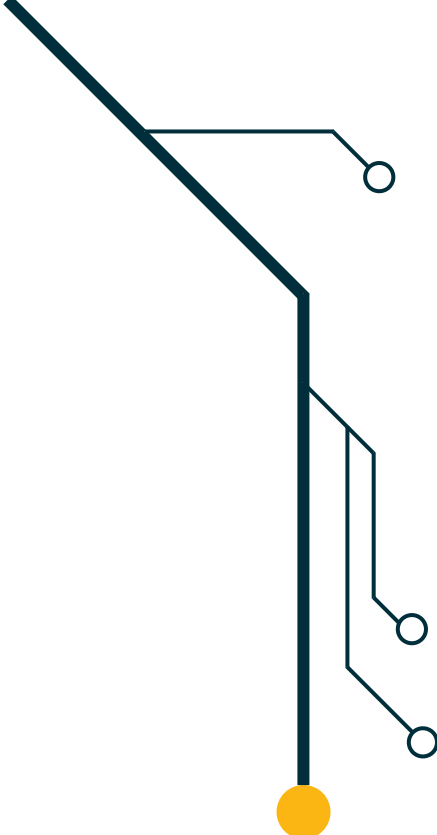
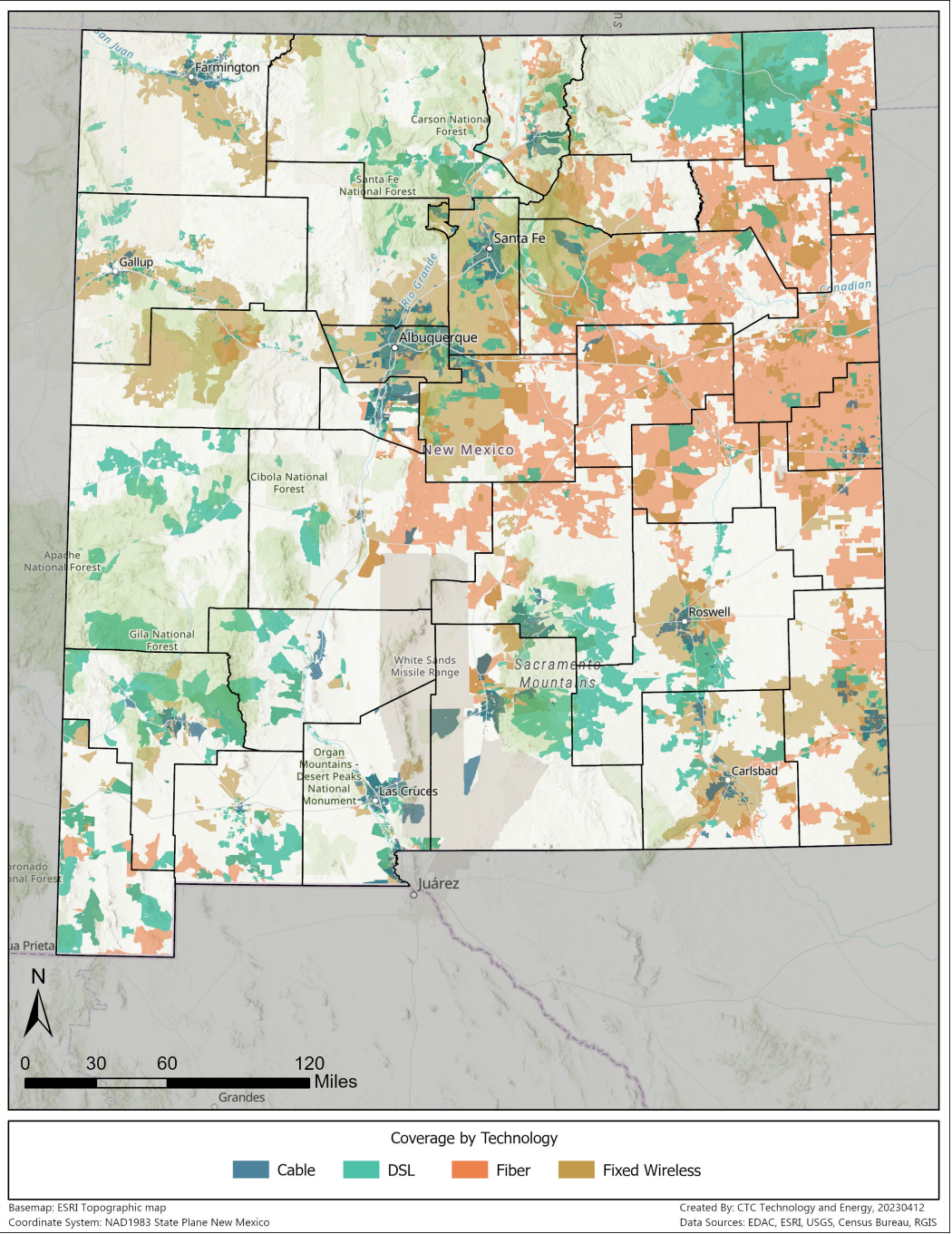
- Long haul fiber
- Middle mile fiber
- Last mile (wireline or wireless)



TYPES OF BROADBAND INFRASTRUCTURE



New Mexico broadband coverage by technology



WHAT IS “DIGITAL OPPORTUNITY AND EQUITY”?

Generally, experts have identified five elements of digital opportunity and equity:



Broadband Access:

Affordable, accessible, and reliable high-speed home internet service is available for all individuals



Accessible and Inclusive Content:

Public online content is inclusive and accessible by all individuals



Devices and Tech Support:

Individuals have access to computers or tablets and technical support



Privacy and Security:

Individuals can protect their data privacy and online security



Digital Literacy and Skills:

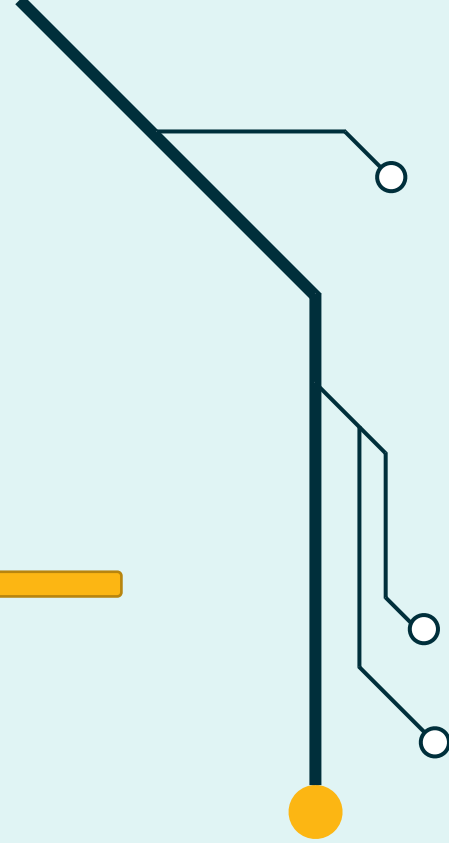
Individuals have digital skills to support their ability to meaningfully use the internet in their daily lives

Discussion

- What broadband challenges does your community face?
- What do you hear from your partners and the public about their challenges with broadband access and opportunity?
- What broadband planning work or other activities have been undertaken in the county and/or region?

Broadband Funding and Programmatic Opportunities

Funding overview and timeline

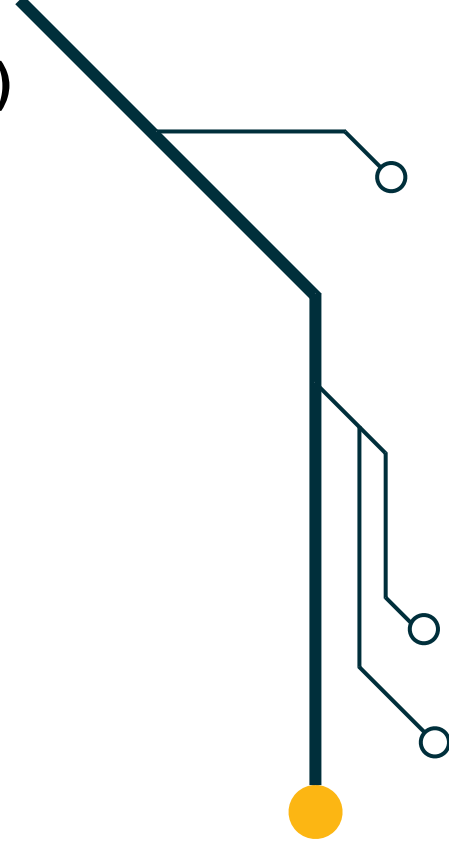


\$702,111,562.52 in 71 NM Broadband Awards and Projects in Process

NTIA Tribal Broadband Connectivity	Amount
Pueblo of Acoma	14,346,244.00
Picuris Pueblo Indian Tribe	\$3,742,991.00
Pueblo of Santa Clara	\$9,175,946.00
Pueblo of San Ildefonso	\$4,925,582.00
Pueblo of Zia	\$4,695,868.82
Mescalero Apache Telecom, Inc.	\$43,943,116.00
Pueblo of Isleta	\$26,033,972.74
Santa Fe Indian School	\$57,298,683.09
Santo Domingo (Kewa) Pueblo	\$12,775,576.64
Jicarilla Apache Nation Power Authority	\$6,935,801.00
Taos Pueblo Planning, Feasibility, and Sustainability Studies	\$477,817.00
NTIA Connecting Minority Communities	Amount
Eastern New Mexico University Roswell (NM-03)	\$1,945,329.00
New Mexico State University	\$1,686,620.00
Southwestern Indian Polytechnic Institute (NM-01)	\$1,645,133.56
New Mexico Highlands University, Las Vegas	\$2,988,682.27
NDIA Digital Navigators Pilot Award	Amount
Pueblo of Jemez	\$382,752.00

\$702,111,562.52 in 71 NM Broadband Awards and Projects in Process (continued)

USDA Rural Development ReConnect Program	Amount
Penasco Valley Telephone (PVT) Cooperative (Chaves, Eddy, Lincoln, Otero)	\$13,900,000
Western New Mexico Telephone Company Inc.(Catron County)	\$23,800,000
E.N.M.R. Telephone Cooperative	\$2,600,000
Kit Carson Electric Cooperative Inc.	\$23,600,000.00
Leaco Rural Telephone Cooperative Inc.	\$25,000,000.00
Western New Mexico Telephone Company Inc	\$35,000,000.00
WNM Communications Corporation	\$25,000,000.00
Continental Divide Electric Cooperative Inc.	\$3,681,000.00
Eastern New Mexico Rural Telephone Cooperative	\$14,749,747.00
Tularosa Basin Telephone Company Inc.	\$5,825,102.00
Peñasco Valley Telecom	\$28,927,570.00
Valley Telephone Cooperative	\$44,924,000.00
Affordable Connectivity - National Competitive Outreach Program (NCOP)	Amount
City of Albuquerque	\$400,000.00
New Mexico Black Leadership Council, Albuquerque	\$400,000.00
El Paso Community Foundation (multi-state award includes Las Cruces)	\$300,000.00



\$702,111,562.52 in 71 NM Broadband Awards and Projects in Process (continued)

Affordable Connectivity - Tribal Competitive Outreach Program (TCOP)	Amount
Pueblo of Jemez	\$379,234.00
Pueblo of Zuni	\$325,000.00
Connect New Mexico Pilot Program (ARPA Capital Projects Fund)	Amount
SWC Telesolutions (DBA Ethos Broadband)	\$2,100,000.00
Tularosa Communications	\$9,930,000.00
Western New Mexico Telephone Company	\$6,810,000.00
Valley TeleCom Group	\$5,690,000.00
Comcast Corporation - Phase One	\$8,260,000.00
Comcast Corporation - Phase Two	\$8,840,000.00
Central New Mexico Electric Cooperative	\$8,760,000.00
Ethos Broadband	\$8,480,000.00
Socorro Electric Cooperative	\$9,500,000.00

\$702,111,562.52 in 71 NM Broadband Awards and Projects in Process (continued)

NM Broadband Equity Fund - NM Community Foundation & NM Broadband Collective	Amount
El Valle de Anton Chico Library	\$35,540.00
Colores United	\$75,000.00
Picuris Pueblo	\$59,904.00
True Kids 1	\$33,000.00
Pueblo of Cochiti	\$40,500.00
Pueblo of Laguna Utility Authority	\$71,596.00
Yee Ha'oolniidoo	\$75,000.00
El Valle de Anton Chico Library	\$35,540.00
Public Regulation Commission	Amount
Baca Valley Telephone Co., Inc.	\$74,700,000.00
Commnet Wireless, LLC	\$3,310,000.00
ENMR	\$1,390,000.00
New Mexico Surf	\$4,283,000.00
NTUA Wireless, LLC	\$1,467,000.00
Peñasco Valley Telephone Cooperative, Inc. ("PVTC")	\$1,607,000.00
Sierra Communications	\$3,384,000.00
Smith Bagley, Inc. (SBI)	\$8,126,000.00
Windstream Communications Southwest	\$1,544,000.00

\$702,111,562.52 in 71 NM Broadband Awards and Projects in Process (continued)

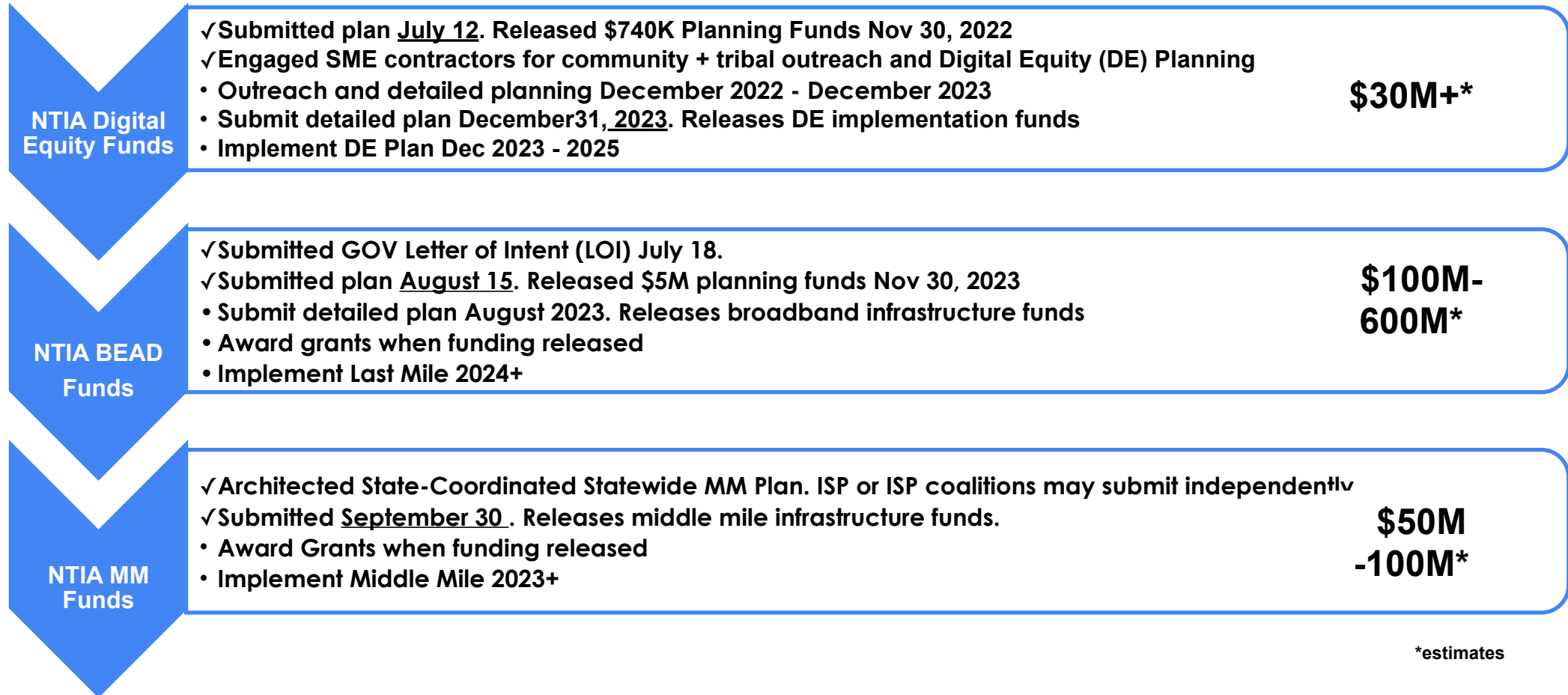
Rural Digital Opportunity Fund (RDOF)	Amount
Commnet Four Corners, LLC	\$424,184.00
Continental Divide Electric Cooperative	\$37,825,404.80
Kit Carson Electric Cooperative, Inc.	\$18,102,076.90
PVT NetWorks, Inc.	\$12,039.00
Qwest Corporation	\$2,038,002.00
Resound Networks, LLC	\$55,183,614.20
Skylark Broadband LLC	\$246,737.80
SW <u>DinehNet</u> , LLC	\$2,598,030.00
Time Warner Cable Information Services (New Mexico	\$11,217.90
Valor Telecommunications of Texas, LLC dba Windstr	\$15,516,006.80
Yucca Telecommunications Systems, Inc.	\$26,221.00

2023 Look Ahead

- Initiative progress and tracking
- CNMC grant making
- Release CNMC grants Wave 2b and 3
- Mature NM maps and technical assistance with Broadband projects - Ongoing
- Increase Community, Agency, ISP and Tribal engagement; incorporate data and needs into BEAD Plan - Ongoing
- State DE Plan - August 1, 2023
- NTIA 5-year BEAD Strategic Plan - August 28, 2023
- NTIA DE Plan - September 2023
- State Data Collection Report - October 1, 2023
- BEAD Initial Proposal - December 2023
- BEAD Final Proposal – 2024
- SEN Phase 1 and SEN Phase 2
- Expand rural health care clinic connectivity – Federal grants: <https://www.usac.org/rural-health-care/healthcare-connect-fund-program/>

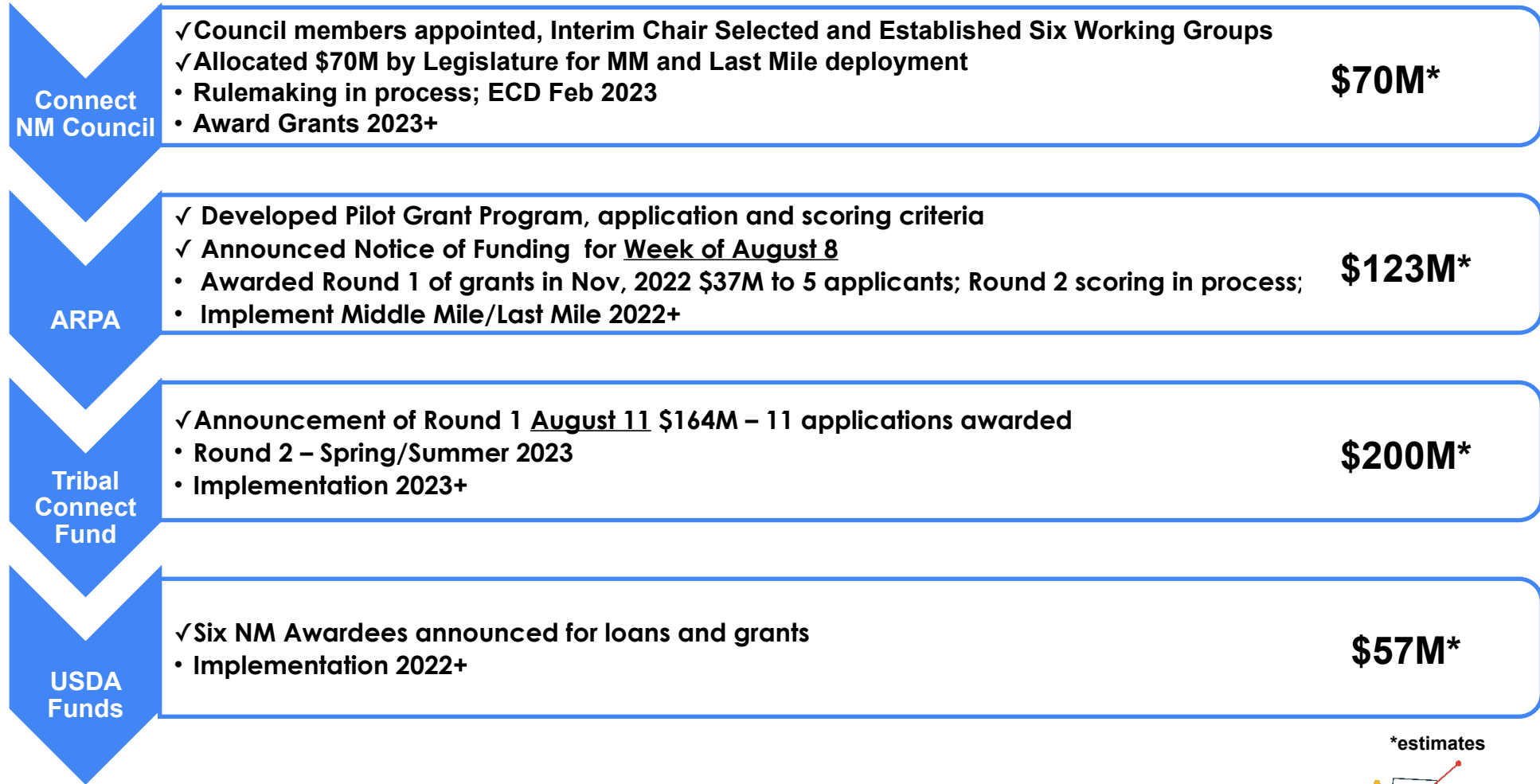


100% Connectivity: >\$1B Funding Enables BB Buildout



*estimates

100% Connectivity: >\$1B Funding Enables BB Buildout (continued)



*estimates

Discussion



- How does access to broadband impact your community?
- What kinds of challenges have you experienced accessing affordable highspeed internet?
- What are the most important benefits of highspeed affordable internet for your community?
- Are there strategies for engaging more community members you can share?

Taking Action On Connectivity In Your Community

Next steps for your community

LEVERAGE THE AFFORDABLE CONNECTIVITY PROGRAM

- **FCC subsidy program helps household better afford internet service and devices**
 - Up to \$30 per month subsidy for internet service
 - Up to \$75 per month subsidy for internet if enrolled in certain Tribal support programs
 - One-time discount up to \$100 for a device
 - Many low-cost service plans can be entirely subsidized by ACP enrollment
- **Eligibility determined by household income and federal assistance programs***
- **Partner outreach to eligible households and application support can help increase enrollment**

*To apply for ACP, see <https://www.affordableconnectivity.gov/>

The Affordable Connectivity Program

an essential resource

- *Overview*
- *How to enroll*
- *Outreach Strategies*

Stakeholder Surveys



State & Local Government Asset Inventory

Infrastructure-related assets that may help facilitate or reduce the cost of broadband deployment in the state



Community Anchor Connectivity

Barriers and obstacles to clients, facility access, criticality of internet to mission and program capacity



ISP Workforce Preparedness

Sources for hiring, workforce programs, ACP, internet skills and adoption, collaboration in community, deployment approaches, disaster recovery plans



Workforce Programs Inventory

Workforce programs profile, barriers to developing diverse & skilled workforce, ISP workforce-related questions



Digital Equity Program Inventory

Program details, planned program types & areas of focus, broadband impacts on programmatic outcomes



Barriers & Obstacles for Covered Populations

Internet, computer & content access, digital skills, data security, barriers & obstacles, broadband impacts on programmatic outcomes

Contacts & Online Resources

- Website: <https://connect.nm.gov>

- Social Media presence

LinkedIn: [www](http://www.linkedin.com/company/new-mexico-office-of-broadband-access-and-expansion)

[.linkedin.com/company/new-mexico-office-of-broadband-access-and-expansion](http://www.linkedin.com/company/new-mexico-office-of-broadband-access-and-expansion)

Facebook: [New Mexico Office of Broadband Access & Expansion](https://www.facebook.com/newmexicoconnect)

- Sign up for email, newsletter and press release information:

<https://connect.nm.gov/mailling-list.html>