# Agenda

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

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Introductions

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

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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 foundation of the 3-yr Plan submitted Jan 01, 2023 that describe strategic priorities, initiatives and actions to accomplish each goal**

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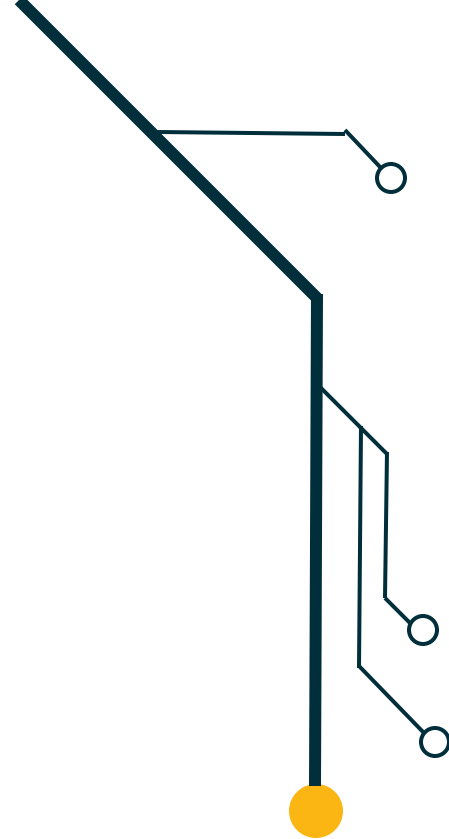
Broadband Technology Overview

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

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Federal and State Broadband Thresholds
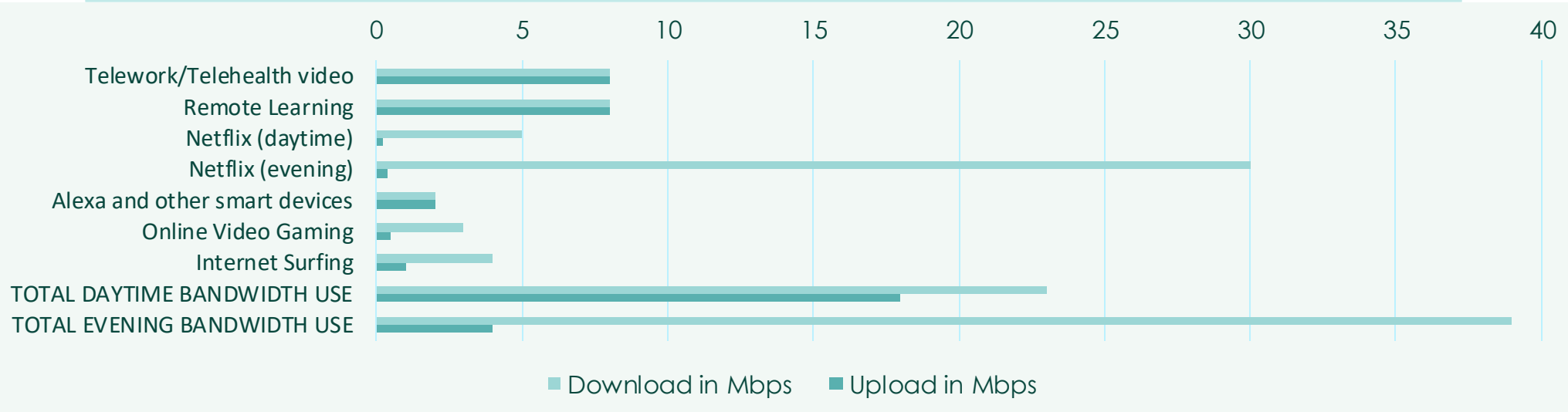
25/3 Mbps

The FCC's definition is 25 megabits per second down and 3 megabits per second up (25/3 Mbps)
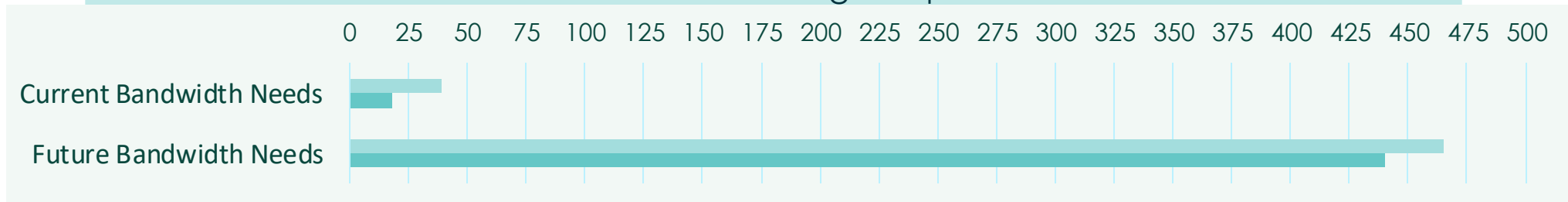
100/20 Mbps

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

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How much bandwidth do we need?

Today we need more bandwidth than minimum 25/3 Mbps broadband speeds defined by the FCC

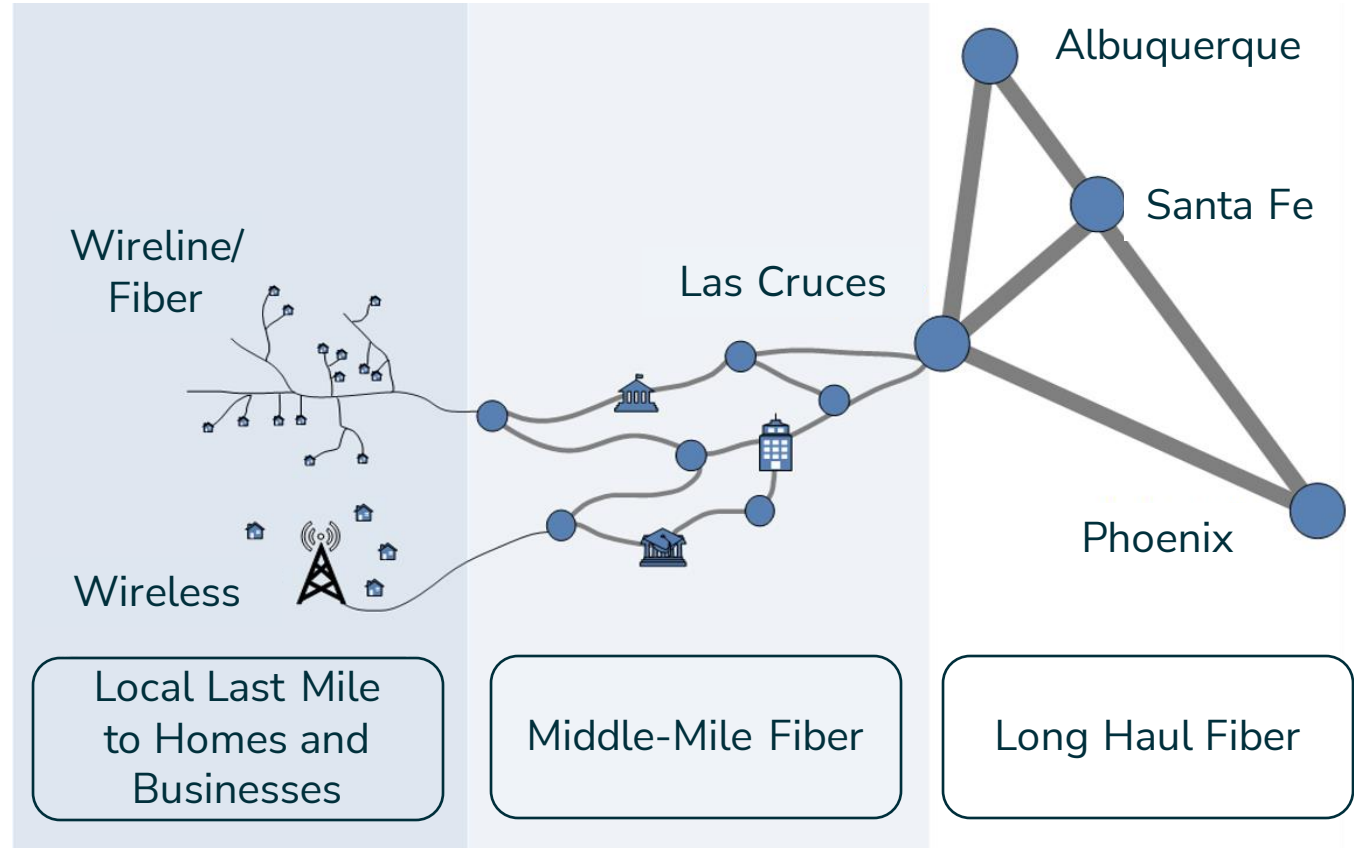Chart axis: 0, 5, 10, 15, 20, 25, 30, 35, 40

- Telework/Telehealth video
- Remote Learning
- Netflix (daytime)
- Netflix (evening)
- Alexa and other smart devices
- Online Video Gaming
- Internet Surfing
- TOTAL DAYTIME BANDWIDTH USE
- TOTAL EVENING BANDWIDTH USE

■ Download in Mbps   ■ Upload in Mbps

With augmented reality, other anticipated applications, and increased usage, we will soon need much higher speeds

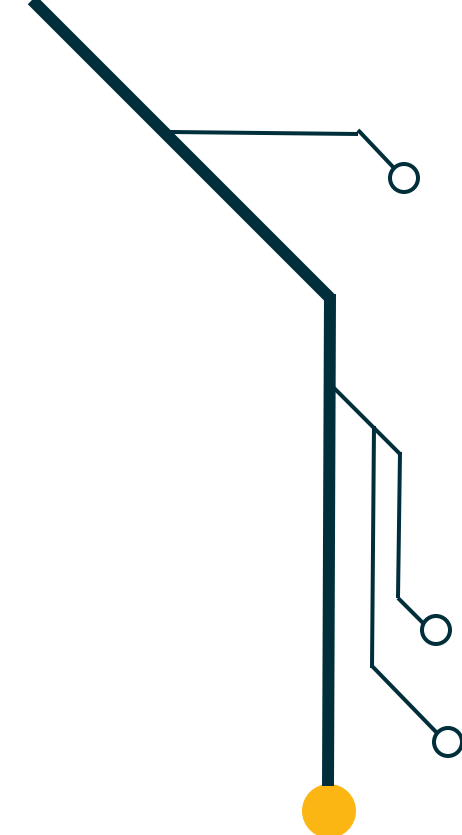Chart axis: 0, 25, 50, 75, 100, 125, 150, 175, 200, 225, 250, 275, 300, 325, 350, 375, 400, 425, 450, 475, 500

- Current Bandwidth Needs
- Future Bandwidth Needs

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THE ELEMENTS OF A BROADBAND NETWORK

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

Wireline/Fiber

Wireless

Las Cruces

Albuquerque

Santa Fe

Phoenix

Local Last Mile to Homes and Businesses

Middle-Mile Fiber

Long Haul Fiber

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Types of Broadband Infrastructure

Fiber-to-the-premises

Hybrid fiber-coaxial (cable)

Digital Subscriber Line (DSL) frequently not at broadband speeds

Fixed wireless sometimes not at broadband speeds

Mobile wireless (4G and 5G)

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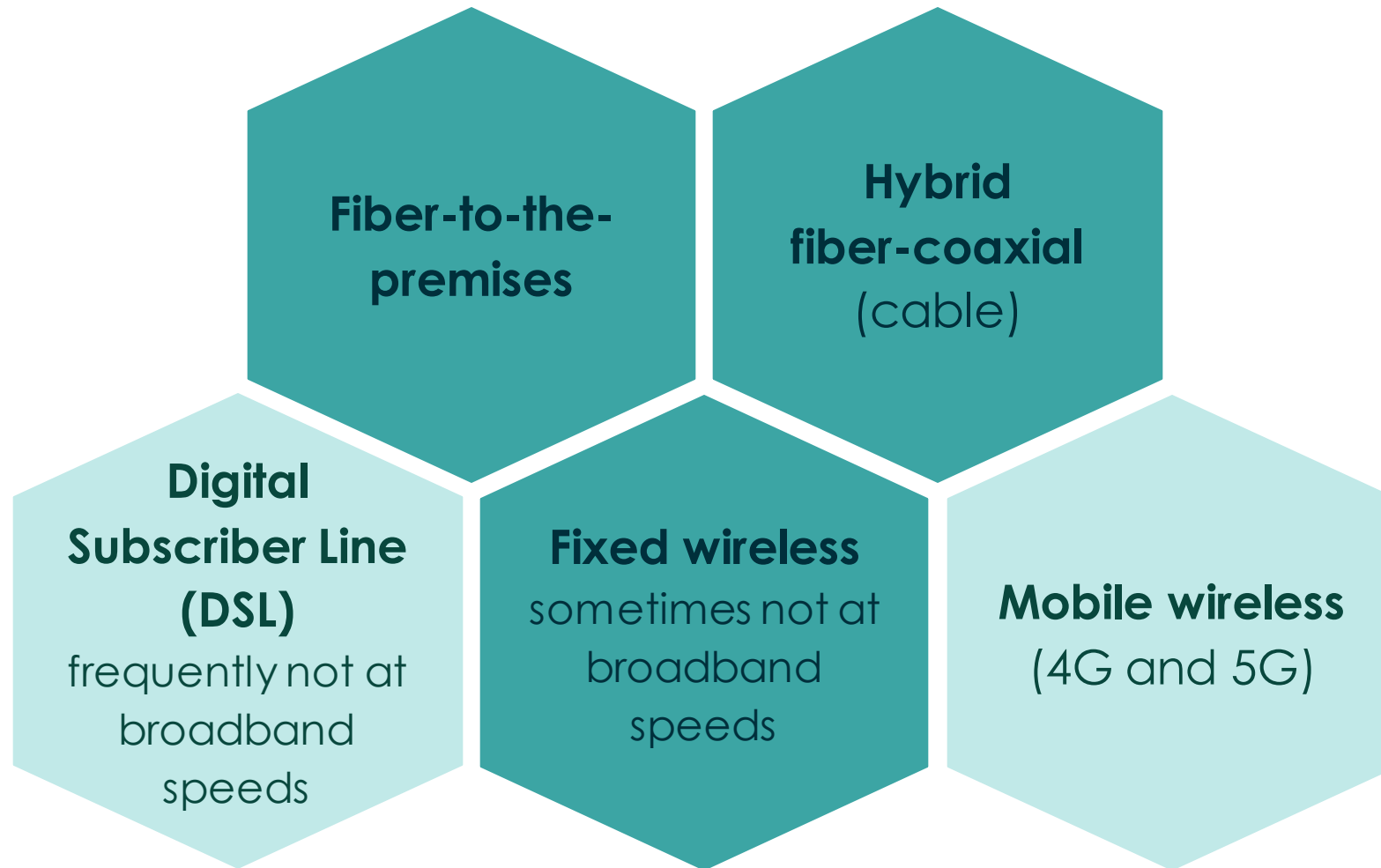
Typical Speeds: Wireline and Wireless Technologies

Fiber-to-the-Premises

Cable Modem DOCSIS 1 to 3.1 — DOCS IS 4.0/NG

DSL

Dial-up

| 50 | 100 | 500 | 1 | 5 | 10 | 50 | 100 | 200 | 500 | 1 | 10 | 100 |

Kbps   **Mbps**   **Gbps**

4G Fixed Wireless

5G Fixed Wireless

mmWave Fixed Wireless

GEO Satellite

4G Mobile   **5G Mobile**

Legend:
- In most markets
- In select markets
- Developmental/early stage

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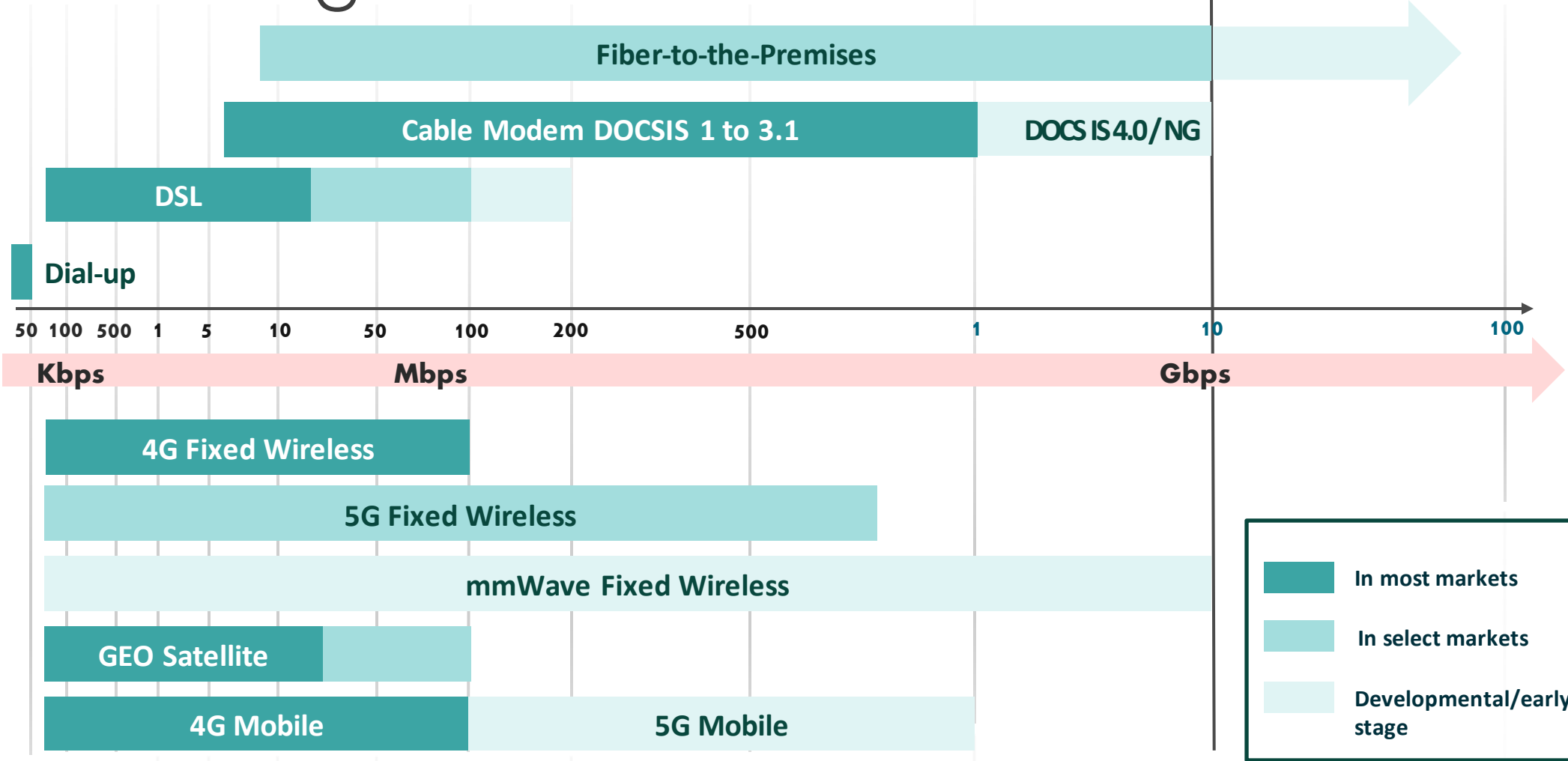
How did we get here?

Broadband has developed through the evolution of technology & industry investment

~1995: Dial-up

Telephone companies connect homes & businesses to the internet over copper telephone lines, at "narrowband," slow speeds

~1999: DSL

Telephone companies use new technology to offer faster internet over copper wires -- but still with speed & capacity limitations
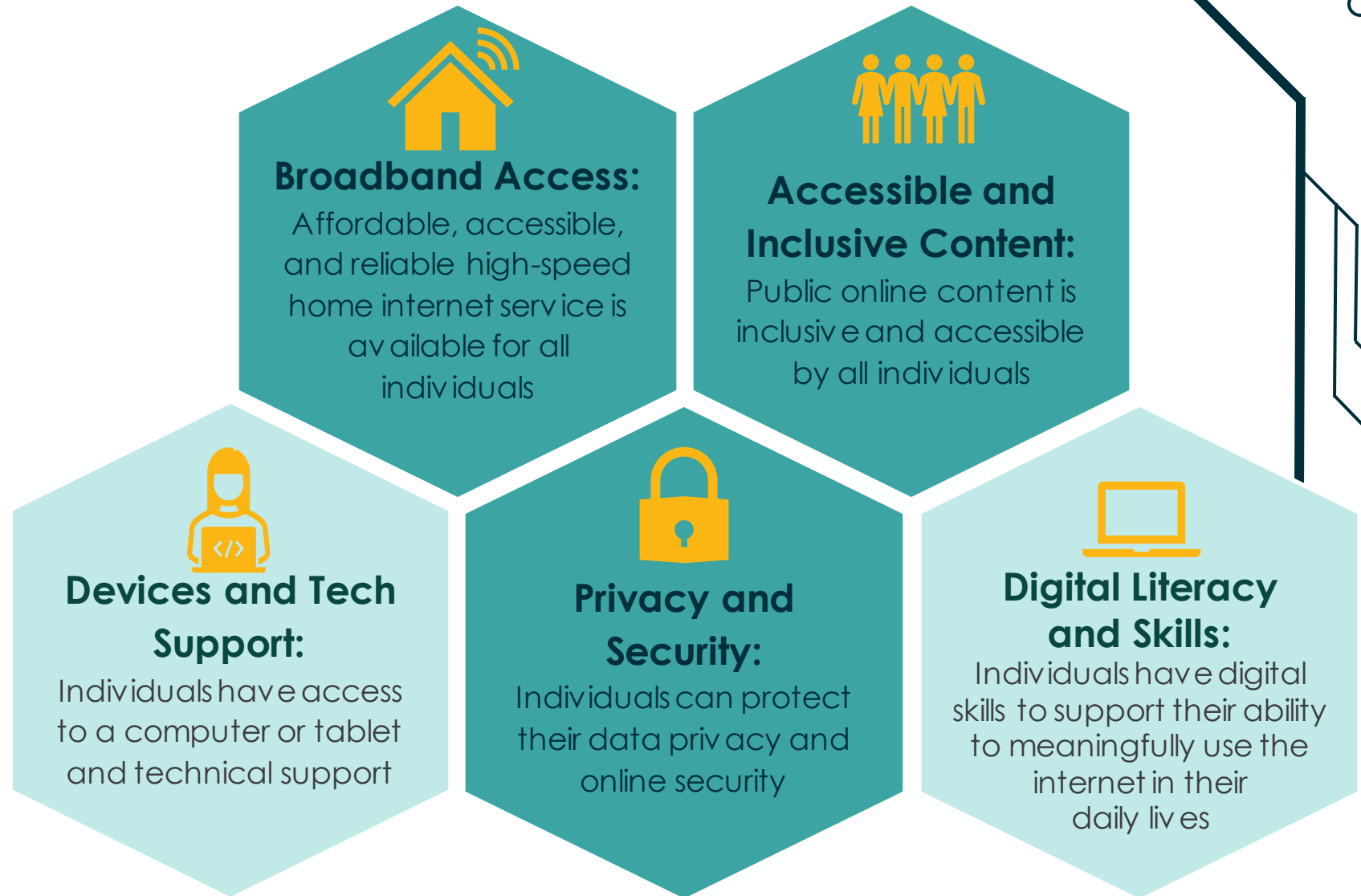
~1999: Cable Modem

Cable companies use their last-mile video networks to connect customers to the internet, faster

~2005: Fiber-to-the-premises

Very high speeds to end users, but only in select areas where companies – or the public sector -- invest

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What is "Digital Opportunity and Equity"?

Generally, experts have identified five elements of digital 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 a computer or tablet 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

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Digital Equity Ecosystem

A Digital Equity Ecosystem coordinates entities' work together to address all aspects of the digital divide, including affordable broadband, devices, and skills.

Indicators of a strong Digital Equity Ecosystem:
- Existence of programs and policies **addressing all aspects of the digital divide:**

  - Affordable and subsidized broadband service options that meet the community's needs

  - Affordable and subsidized device ownership programs that meet the community's needs

  - Multilingual digital literacy and digital skill trainings that meet the community's needs

  - Hardware and software technical support

  - Digital navigation services to guide residents to the above services

- **Collaboration:** Entities providing local digital inclusion services, policymakers, advocates, social service providers and community leaders co-create solutions in partnership with the community.
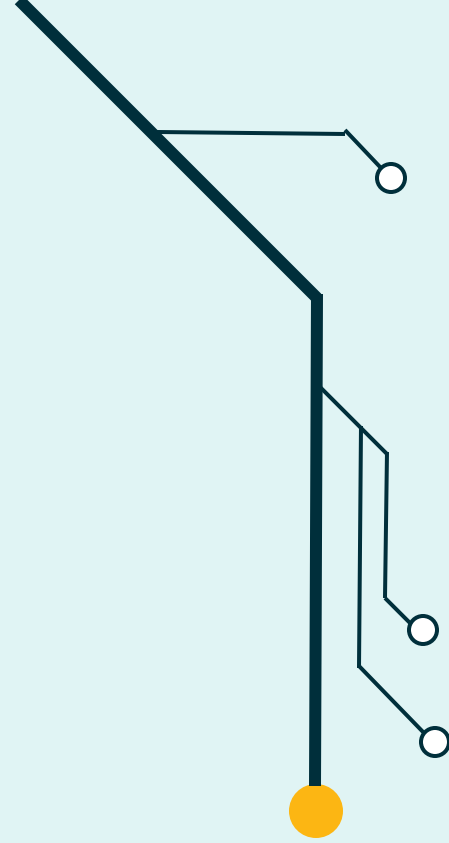
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Discussion

- What are your community's priorities?
- What broadband-related barriers are your communities facing?

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Discussion

- Are there training opportunities in your community to improve digital skills?
- Do schools and local businesses have the broadband they need?

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Funding and Programmatic Opportunities

Funding Overview and Timeline

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Broadband Funding Priorities and Timeline

New Mexico will develop a statewide plan for expanding broadband to all in-state addresses

Funding priorities for fiber-to-the-premises deployment

1. **Unserved locations:** those that cannot get internet service at least 25/3 Mbps

2. **Underserved locations:** those that get internet service between 25/3 and 100/20 Mbps

3. **Community Anchor Institutions** (schools, libraries, hospitals, public safety): locations that cannot get 1Gbps internet
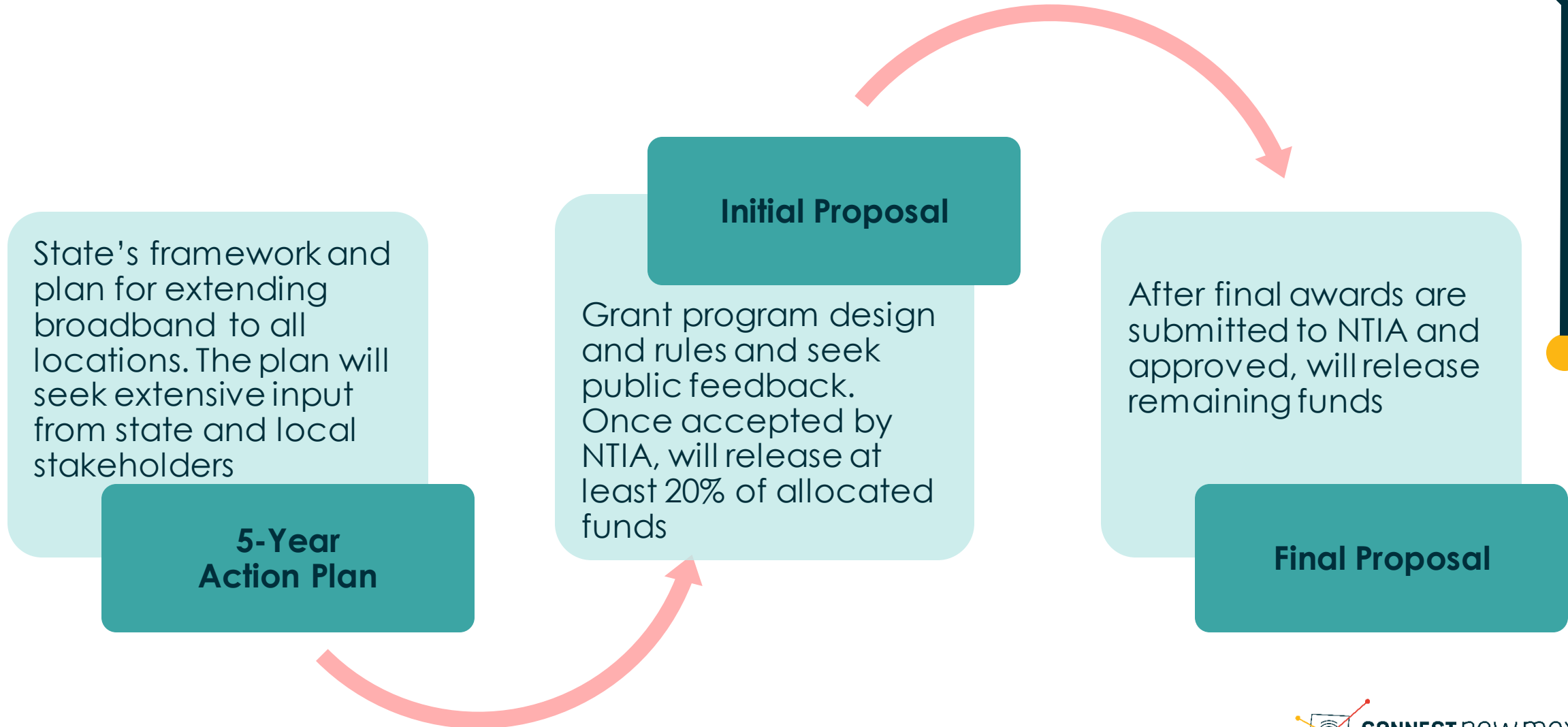
4. Low income and affordable housing
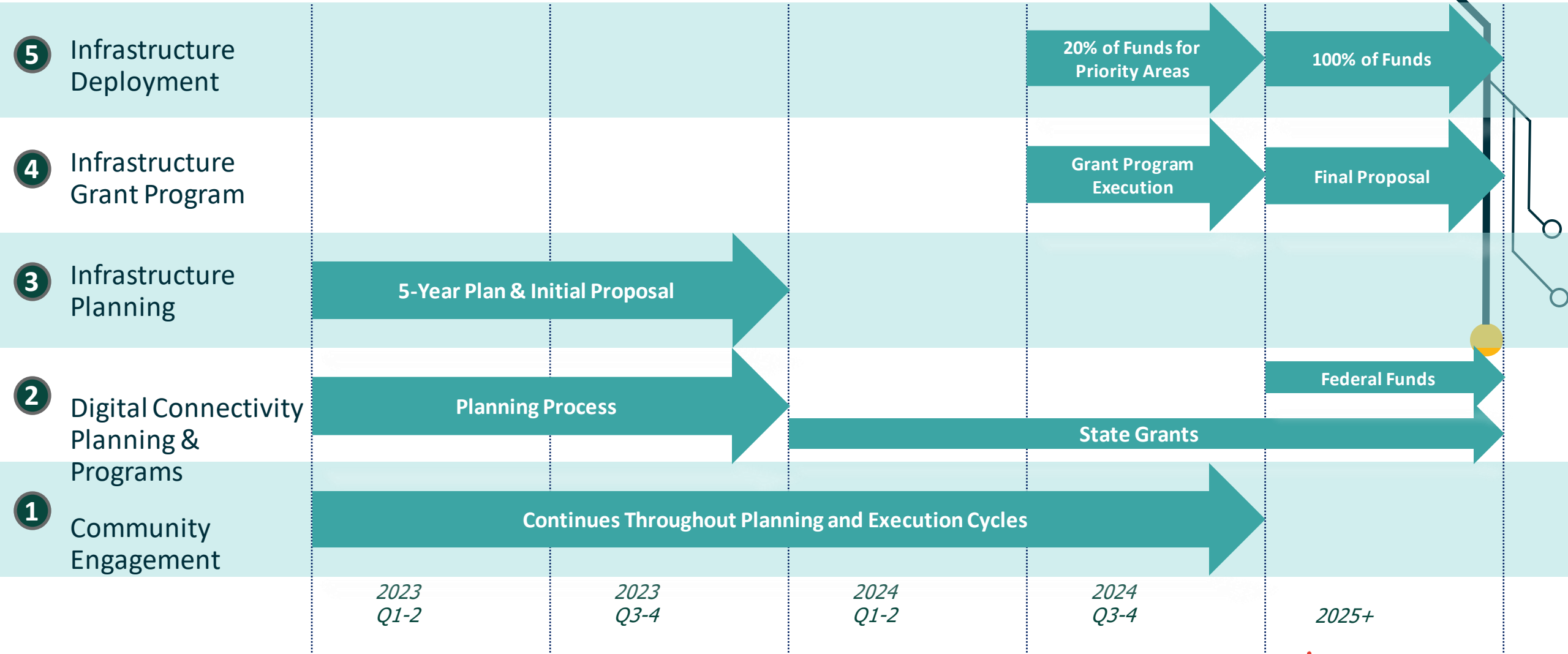
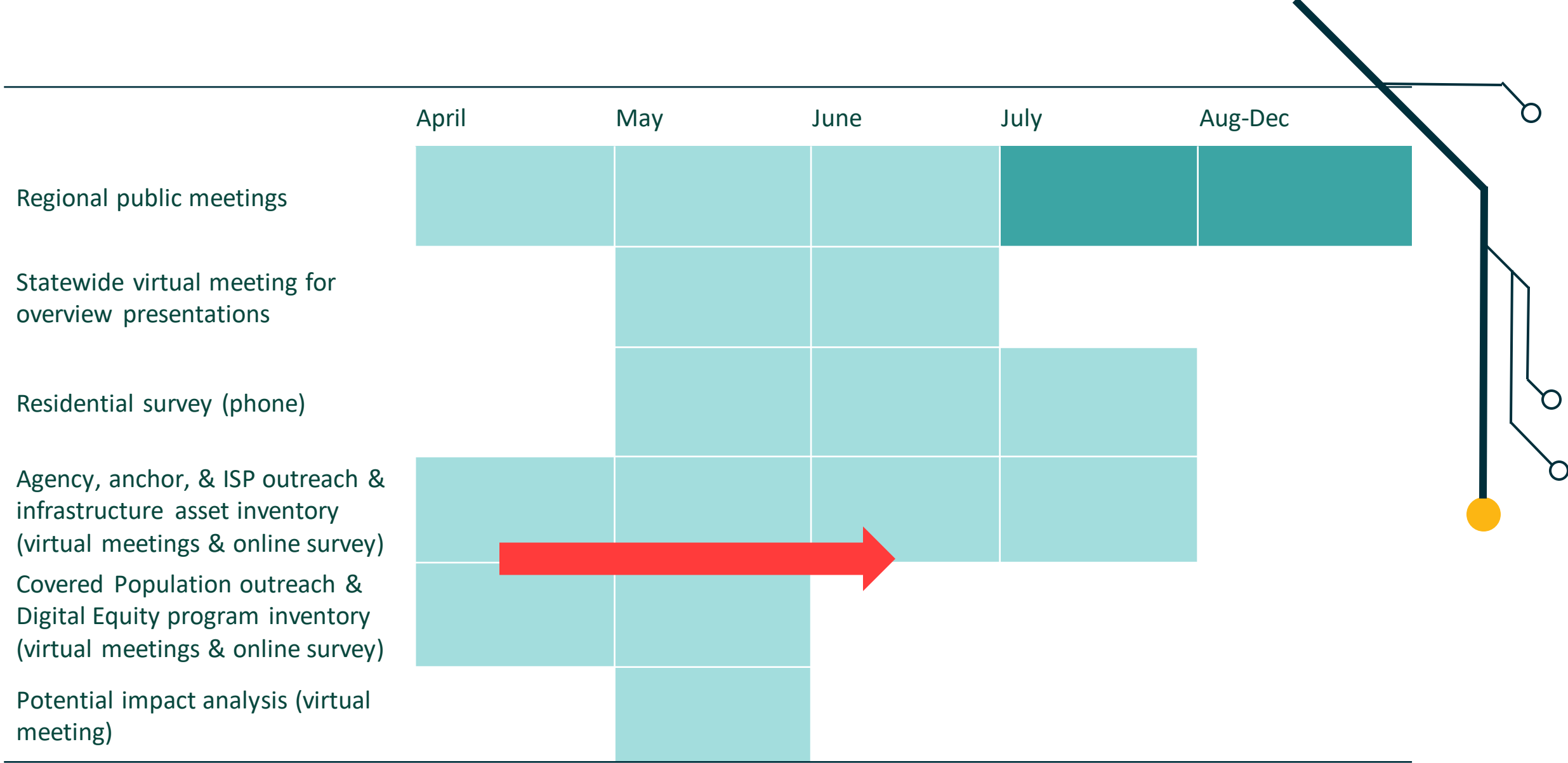**Planning**

2023

Provisional grant program

2024

New infrastructure

2025

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Required Planning Will Result in Release of Funds

Initial Proposal

5-Year Action Plan

State's framework and plan for extending broadband to all locations. The plan will seek extensive input from state and local stakeholders

Grant program design and rules and seek public feedback. Once accepted by NTIA, will release at least 20% of allocated funds

After final awards are submitted to NTIA and approved, will release remaining funds

Final Proposal

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Completing the New Mexico Broadband Highway

DISCUSSION

- Does your community have a broadband plan?
- How can OBAE partner with your community and stakeholders?
- What kinds of resources would support your engagement in this process?

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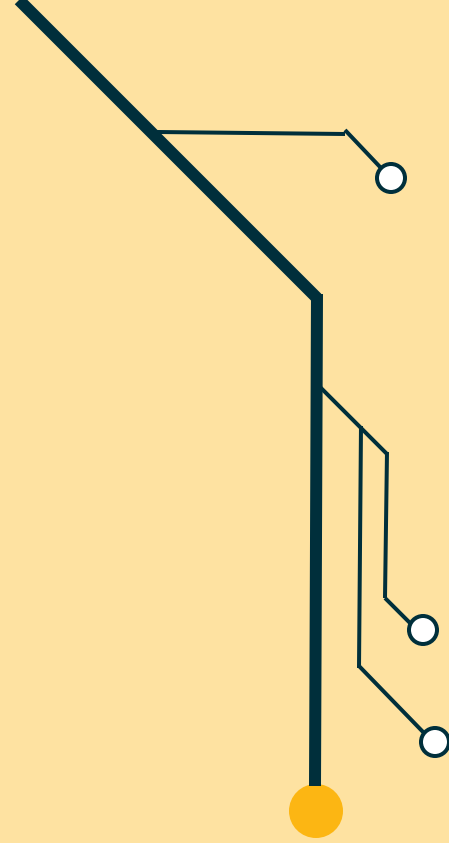
Affordable Connectivity Program (ACP)

FCC subsidy program helps households better afford internet services and devices

The Affordable Connectivity Program is an FCC program that helps connect families and households struggling to afford internet service
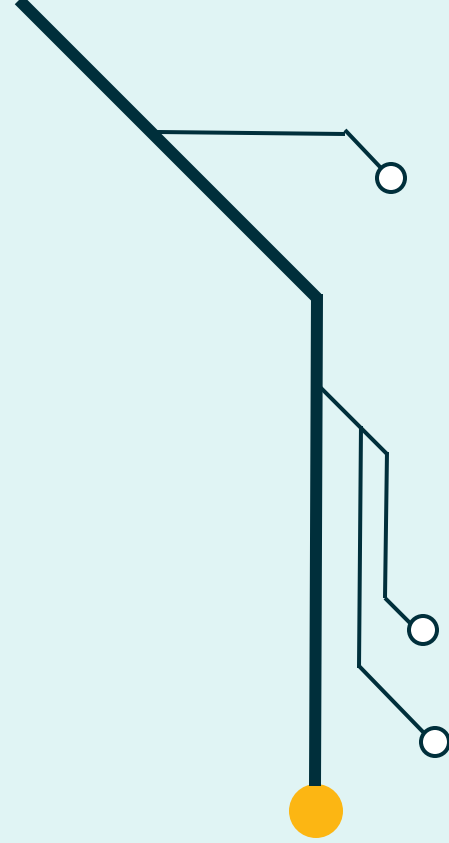
Benefits for eligible households:

- Up to $30/month internet service discount

- Up to $75/month internet service discount of qualifying Tribal lands

- One-time discount up to $100 for a device

- Some low-cost service plans can be entirely subsidized

Household income and federal assistance programs determine eligibility*

Apply for ACP: affordableconnectivity.gov

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Impact for Government and Elected Officials

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Participate in the Resident Survey

New Mexico is conducting a statewide resident phone survey to assess digital connectivity participation

Survey data, along with stakeholder interviews, will support the development of measurable objectives in the following areas:

- **Broadband access and adoption**

- **Devices and technical support**

- **Digital skills and literacy**

- **Data privacy and cybersecurity**

If contacted, please participate!

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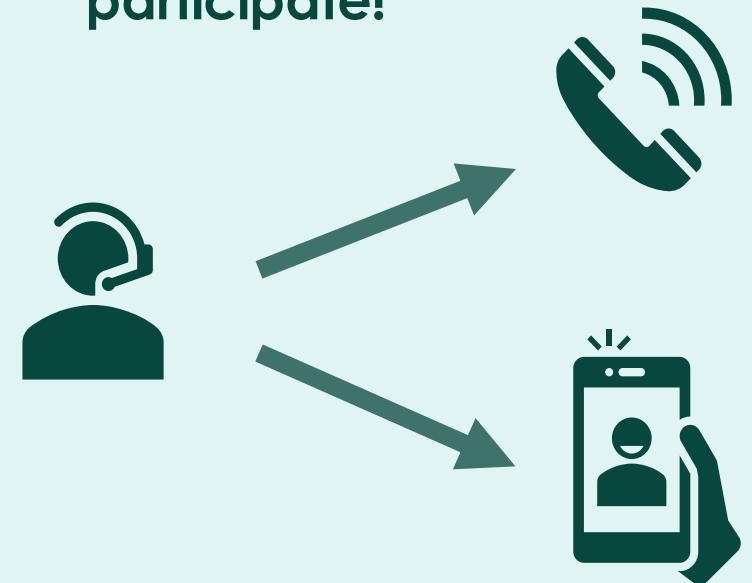
Stakeholder Surveys

Agency 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

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How can my local community prepare?

Community support is key to grant funding success for ISPs	The 5 elements of digital participation can frame planning	Determine community priorities	Engage with ISPs
Like the OBAE pilot grants, the BEAD grant opportunity will incorporate substantial points for community engagement	They are a useful way to assess what matters most to your community and engage partners such as schools, libraries, chambers of commerce, and community colleges in activities to promote participation	This will help set your partners up to apply for digital equity grants and identify areas of collaboration with ISPs	Allow them to propose what they will do for your community in exchange for formal community support – primarily for infrastructure but also initiatives to promote digital participation

Affordable Broadband   **Inclusive Content**   **Devices**   **Digital Security**   **Digital Literacy**

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Broadband Service Deployment Under BEAD

Broadband service project areas prioritize unserved address locations

- State issues subgrants to deploy broadband infrastructure and deliver service

- Projects comply with fair labor standards

- State workforce development plan ensures readiness and new jobs to underrepresented groups

- Low-cost service options available to Eligible Subscribers – any household qualifying for the Affordable Connectivity Program (ACP)

- Low-cost service parameters based on provider participation in ACP or other subsidies, cost to subscribers after subsidies, and plan speed

Subgrant Program

Low-cost Service Options

Fair Labor Standards

Workforce Readiness

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Government Agency Asset Inventory

- **Physical assets** (conduit, fiber, structures, real estate, poles, etc.) available for lease to ISP) for broadband deployment

- **Capital construction projects** that include opportunities for placement of communications facilities

- **Analysis of skilled labor availability and workforce readiness** as it may impact state broadband policies and deployment goals

- **Agency role in tracking and monitoring** broadband or other communications outages

- **Planning or development of regulations** related to reliable and resilient broadband or other communications services

- **Policies and strategic plans** related to broadband digital equity, infrastructure deployment, economic development, resilience, partnerships, business planning and related efforts

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Community Anchor Institutions

- **CAI connectivity:** After unserved and underserved locations, BEAD funds can support access to 1 Gbps internet for CAIs

- **State identifies eligible CAIs** and assesses needs

- **State applies the definition** and determines CAI types to serve, and its basis if selecting CAIs not in explicitly in definition

- **Challenge process:** Organizations not selected as eligible CAIs will have opportunity to challenge state determination

Definition:

"Entity such as school, library, health clinic, health center, hospital or other medical provider, public safety entity, institution of higher education, public housing organization, or community support organization that facilitates greater use of broadband service by vulnerable populations, including, but not limited to, low-income individuals, unemployed individuals, children, the incarcerated, and aged individuals." (BEAD NOFO p. 11)

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Community Anchor Institutions Survey

- **Profile:** Organization focus, groups you serve, and programs or services that facilitate use of broadband internet services by your clients

- **Barriers and obstacles:** Describe what prevents members of the communities you serve from accessing or using broadband internet

- **Facility access:** Level of internet access your organization's locations have and need. Can you get at least 1 Gigabit per second? If not, why not?

- **Criticality of service:** Criticality of broadband internet service to your mission. Has your organization been consulted in emergency or resilience planning?

- **Workforce development:** Is your organization involved in telecom or technology workforce programs?

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Workforce Development Survey

- **Profile of workforce development programs** your organization provides or uses, including:

  - Programs for job placement in the communications industry or transferable skill sets

  - Programs addressing any specific populations or communities (such as rural)

  - Current capacity for developing and offering trainings to meet workforce demands in the communications industry

  - Plans for developing and offering additional programs to meet future demands

  - Funding sources for training programs

- **Barriers and obstacles to developing a diverse, skilled workforce** and how these can be mitigated

- **ISP workforce related questions**

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