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# Leveraging Federal Opportunities to Increase Rural Broadband Access

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# The National Telecommunications and Information Administration (NTIA) advises on telecom policy issues

- Serves as principal advisor to the Executive Branch
- Expanding broadband access and adoption
- Expanding the use of spectrum by all users
- Ensuring that the Internet remains an engine for continued innovation and economic growth
- Supporting public safety communications





## Efforts to expand broadband access are helping, but the digital divide still persists



**10% of all Americans** (34 million people) and **39% of rural Americans** (23 million people) lack access to broadband speeds



Approximately **21 million children** do not have the bandwidth needed for digital learning



**34% of non-metro healthcare facilities** lack sufficient broadband connectivity for electronic medical records and information exchange



**42% percent of public libraries** have 10 Mbps or slower connections

## Broadband access and use is critical to the growth of communities



Up to \$600 Per Student Saved Annually Using Digital Resources



Hospital Admissions by 35%



Hospital Stay by 59%



Home Value by 3.1%



79% of Unemployed Americans Search for Jobs Online



Annual Median Business Revenue by \$300,000

# The Urban-Rural Divide in Broadband

- Recent research by the FCC, which defines home broadband as 25 Mbps down and 3 Mbps up, indicates:
  - 39% of rural Americans, 4% of urban Americans lack access
  - 34% of non-metro healthcare facilities lack adequate speeds
  - 42% of public libraries have speeds less than 10Mbps
  - 23% of schools do not met the FCC's 100 Kbps per student standard, mostly in rural areas

### What **SPEED** Do You Need?

Fast, reliable Internet is vital for communities to fully participate in the economy. Download speed requirements vary based on the activity, location and number of users, and these needs will continue to change as technology advances.

Wondering whether your community institutions have the baseline speeds that they need for today's capabilities? **Find suggested download speeds below.**

 **Hospital | 1 Gbps+**

  
Sharing health records

  
Performing virtual consultations

  
Connecting First Responders

 **Library | 100 Mbps – 1 Gbps+**

  
Operating public computer centers

  
Mobile hotspot lending

  
Enabling Maker Spaces

 **School | 100 Mbps – 1 Gbps+**

  
Sharing educational material

  
Online testing

  
Accessing databases

 **Small Business | 50 Mbps+**

  
Managing inventory

  
Operating Point-of-Sale terminals

  
Coordinating shipping

 **Home | 25 Mbps+**

  
Completing homework

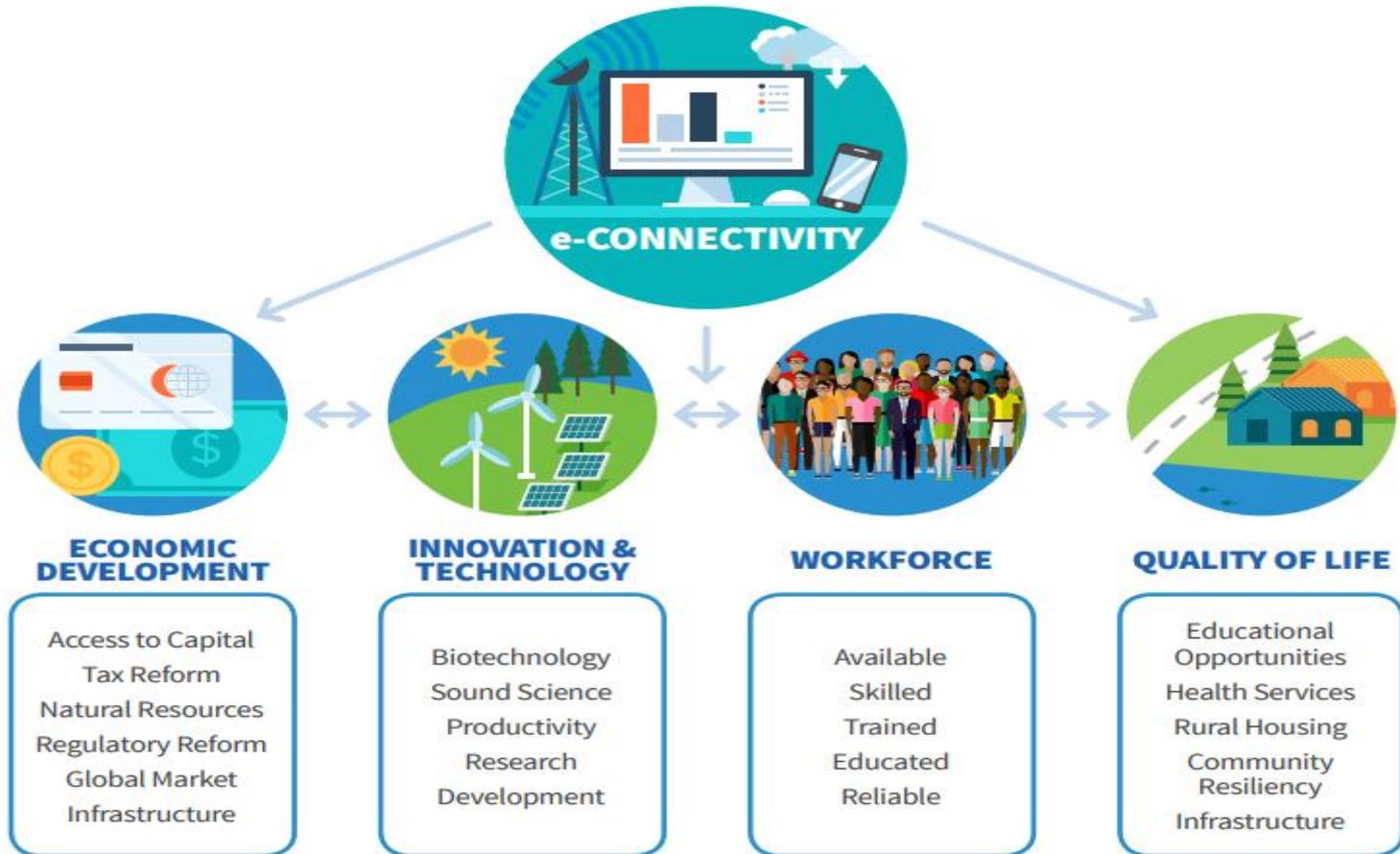
  
Streaming video

  
Web browsing

Are you interested in getting better broadband in your community? Wondering what speeds you will need in the future? Contact us at [BroadbandUSA@ntia.doc.gov](mailto:BroadbandUSA@ntia.doc.gov) or 202-482-2048 for free planning, funding and implementation technical assistance today.



# Agriculture and Rural Prosperity Task Force Recommendations



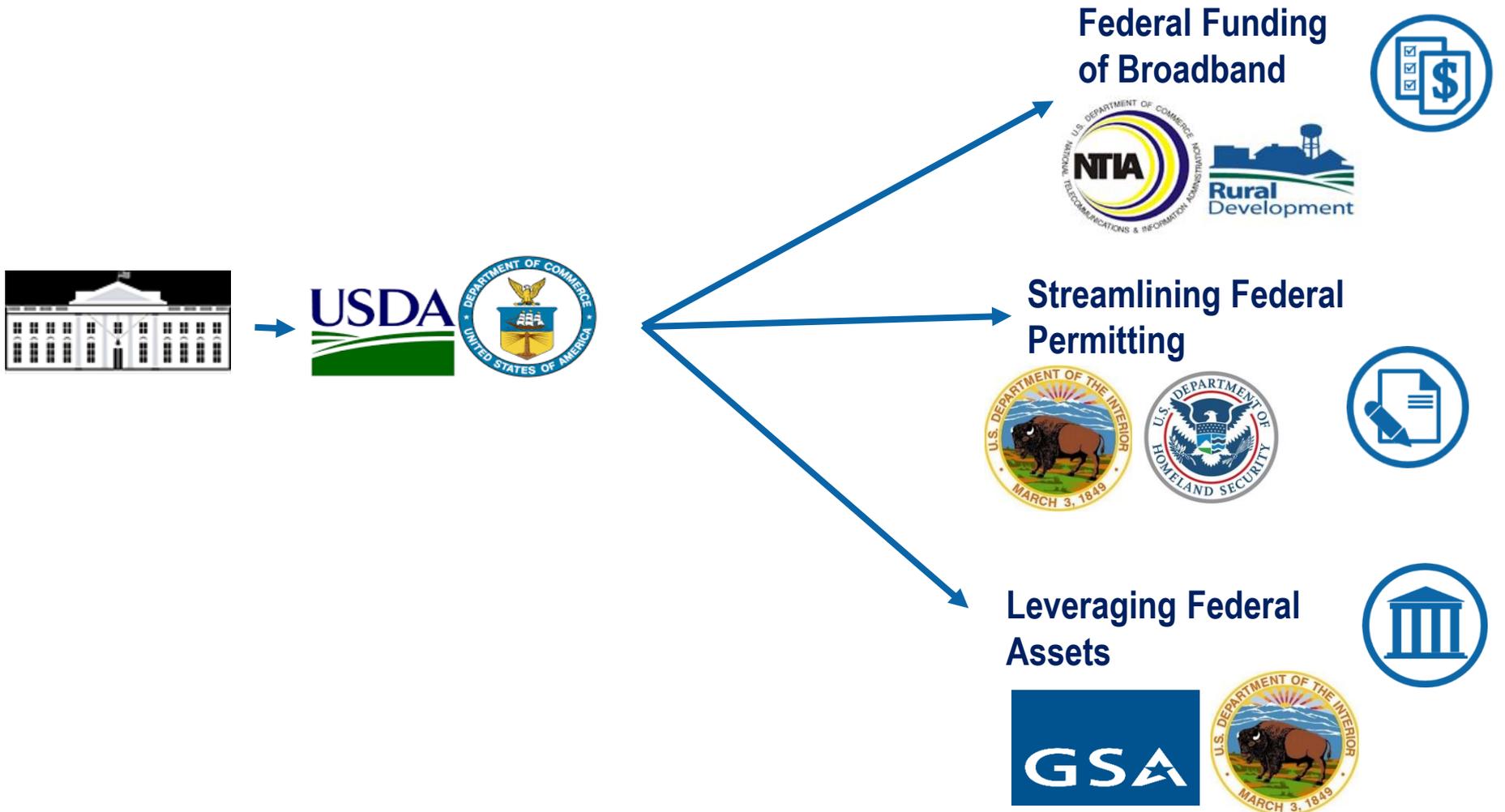
# Executive Office Updates

## Presidential Actions



- Executive Order (E.O.) Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure (August 2017)
- E.O. Strengthening Cybersecurity of Federal Networks and Critical Infrastructure (February 2017)
  - Protecting federal networks using the NIST Cybersecurity Framework  
<https://www.nist.gov/cyberframework>
- Presidential Memoranda – Directing Interior to make its towers available for co-location (January 2018)
- E.O. Streamlining and Expediting Requests to Locate Broadband Facilities in Rural America (January 2018)

# Broadband Interagency Working Group



# Broadband Network Architecture 101

## Backbone

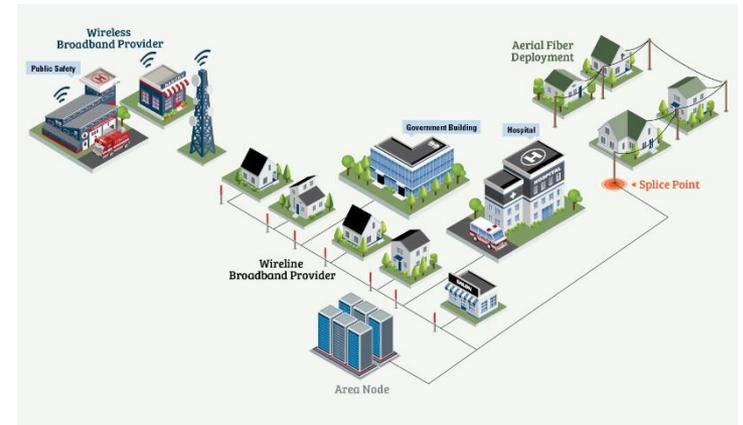
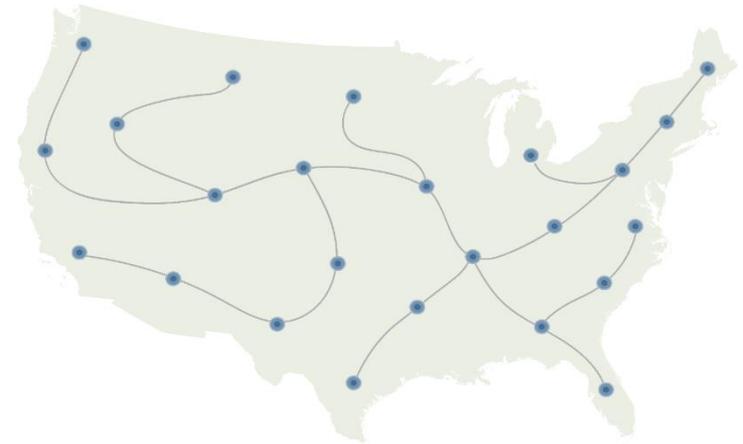
Major high-speed transmission lines that link smaller networks across the country

## Middle Mile

Connection between the backbone network and local networks

## Last Mile

Connection between the local network and end user homes and businesses



# Broadband Technologies: No Silver Bullets

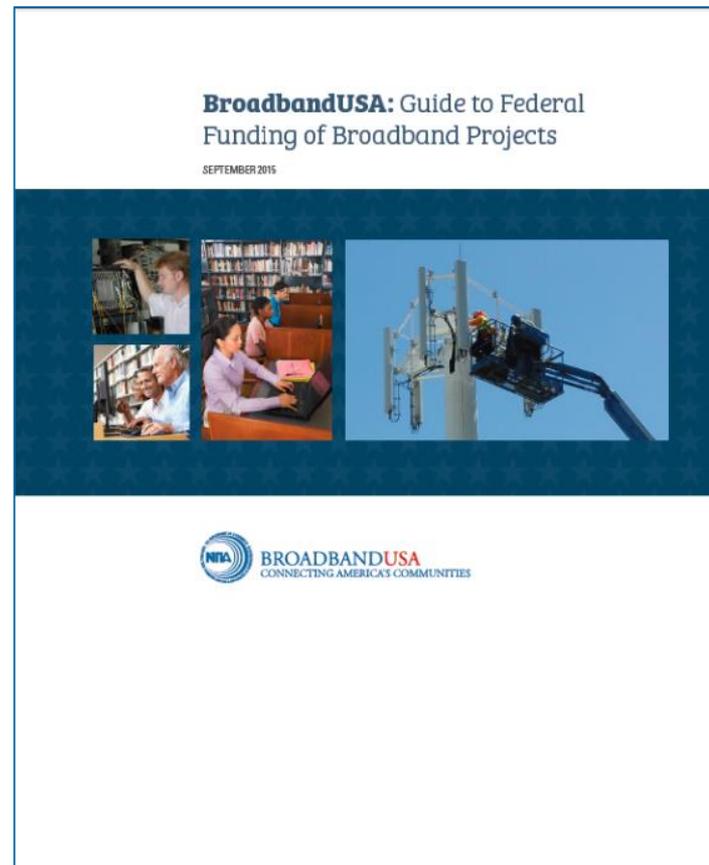
Technology	Application		
	Backbone	Middle Mile	Last Mile
<b>Fiber</b>			
Aerial Fiber	✓	✓	✓
Buried Fiber	✓	✓	✓
<b>Copper-Based</b>			
Coaxial Cable		✓	✓
DSL			✓
<b>Wireless</b>			
Fixed		✓	✓
Mobile (4G/5G)			✓
Satellite			✓
Microwave		✓	✓

## BroadbandUSA – Data Collection and Mapping

- Consolidated Appropriations Act of 2018 – Congress authorized \$7.5M to update the National Broadband Availability Map in coordination with the FCC and previous partnerships developed by the States.
  - NTIA can acquire, utilize and display available third-party data sets to the extent such data can be used to augment existing data from the FCC, other Federal government agencies, State government, and the private sector. The updated map will help identify regions with insufficient service, especially in rural areas.
  - NTIA has developed a Request for Comment, “Improving the Quality and Accuracy of Broadband Availability Data”, to be released via the Federal Register.
    - Seeks input on new approaches, tools, technologies, or methodologies that could be used to capture broadband availability data, particularly in rural areas
    - Recommendations on techniques to validate broadband availability data
    - Input on mechanisms to leverage multiple data sets to identify gaps in broadband availability

# BroadbandUSA: Federal Funding Guide

- Provides communities with information about federal funding for broadband, including:
  - Information regarding the purpose of each program
  - Potential restrictions on funding
  - Rules for eligibility
  - Updated periodically



# Five categories of federal broadband-related funding opportunities

## Infrastructure Deployment

Facilitates the buildout of community connections and technology. This can include network cables, facilities and structural upgrades.

## Planning

Provides communities and municipalities assistance in creating regional improvement plans directly incorporating broadband.

## Research

Strives to improve research and data collection to provide new knowledge surrounding broadband and evidence based solutions.

## Digital Skills

Offers training to maximize patron knowledge, adoption, and usage of broadband capabilities. Focuses on both usage and understanding.

## Public Computer Access

Targets funding efforts that provide public computer access to broadband hubs in locations such as community centers, schools and libraries.



# BroadbandUSA: Technical Assistance



## Planning

(e.g., RFP Development/Review, Preliminary Network Design, Asset Inventory)



## Funding

(e.g., Partnership Facilitation, Funding Option Assessments)



## Implementation

(e.g., Network Design, Regulatory Approvals, Interconnection, Permitting)

90% of TA requests involve broadband planning and  
62% involve questions related to funding



GLOBAL CITY  
TEAMS CHALLENGE

**NIST**  
National Institute of  
Standards and Technology  
U.S. Department of Commerce

- NIST's GCTC brings together experts and practitioners to share knowledge and best practices on smart community technologies
- BroadbandUSA is facilitating:
  - Public Wi-Fi SuperCluster, focusing on tactical planning and advice related to building public Wi-Fi spaces—particularly in large, outdoor spaces
  - Agriculture/Rural Supercluster, focusing on helping farmers to optimize operations and supporting rural communities to close the digital divide, improve healthcare and spur economic development
- <https://pages.nist.gov/GCTC/> for more information

# Sample Projects for Agriculture/Rural SuperCluster



## **Farm to Table**

Looking at ways to streamline information flow and breakdown silos to improve fresh food from farm to fork.



## **State & Local Governments**

Potential collaborations to streamline and improve government services.



## **Health Monitoring**

Collaborating on projects that look to reduce disease through remote monitoring.

# BroadbandUSA is available to help states and communities improve their with broadband access

## BBUSA Resources:

- [Guide to Federal Funding of Broadband Projects](#)
- [Community Broadband Roadmap Toolkit](#)
- [Implementing a Broadband Network Vision: A Toolkit for Local and Tribal Governments](#)
- [Using Partnerships to Power Smart Cities](#)
- Katherine Bates, Manager of State and Local Partnerships  
[kbates@ntia.doc.gov](mailto:kbates@ntia.doc.gov)
- New BroadbandUSA website:  
[www.BroadbandUSA.ntia.doc.gov](http://www.BroadbandUSA.ntia.doc.gov)