

Planning for Broadband

Presentation for: New Jersey County Planners Association

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CONNECTING NJ - THE NJ STATE BROADBAND INITIATIVE



AGENDA

- About the State Broadband Initiative – ConnectingNJ
- General Broadband Matters
 - What is Broadband and Why it Matters?
 - What is the National and Global Broadband Plan?
 - How in the World Are We Doing?
- How Broadband Matters to You?
- The First Step
- Next Steps

Background

- ✓ Federally funded grant awarded by the National Telecommunications Information Administration (NTIA)
- ✓ New Jersey Office of Information Technology was awarded the grant
- ✓ The grant ends in January 2015

Program Mission

- ✓ To build a complete and accurate state broadband map
- ✓ To build awareness and identify broadband needs and issues
- ✓ To provide technical assistance and educational resources

Goal

- ✓ Support economic growth, global competitiveness and job creation
- ✓ Foster communication and collaboration statewide with stakeholders
- ✓ Help formalize a broadband strategy and plan to increase broadband access and adoption

What is Broadband and Why Does it Matter?



What is Meant by Broadband?



- Availability of high-speed internet
- The FCC defines broadband in *minimum* speed requirements for households and institutions
- Broadband technology used to transmit: DSL, cable, fiber, 3G/4G /LTE wireless, satellite

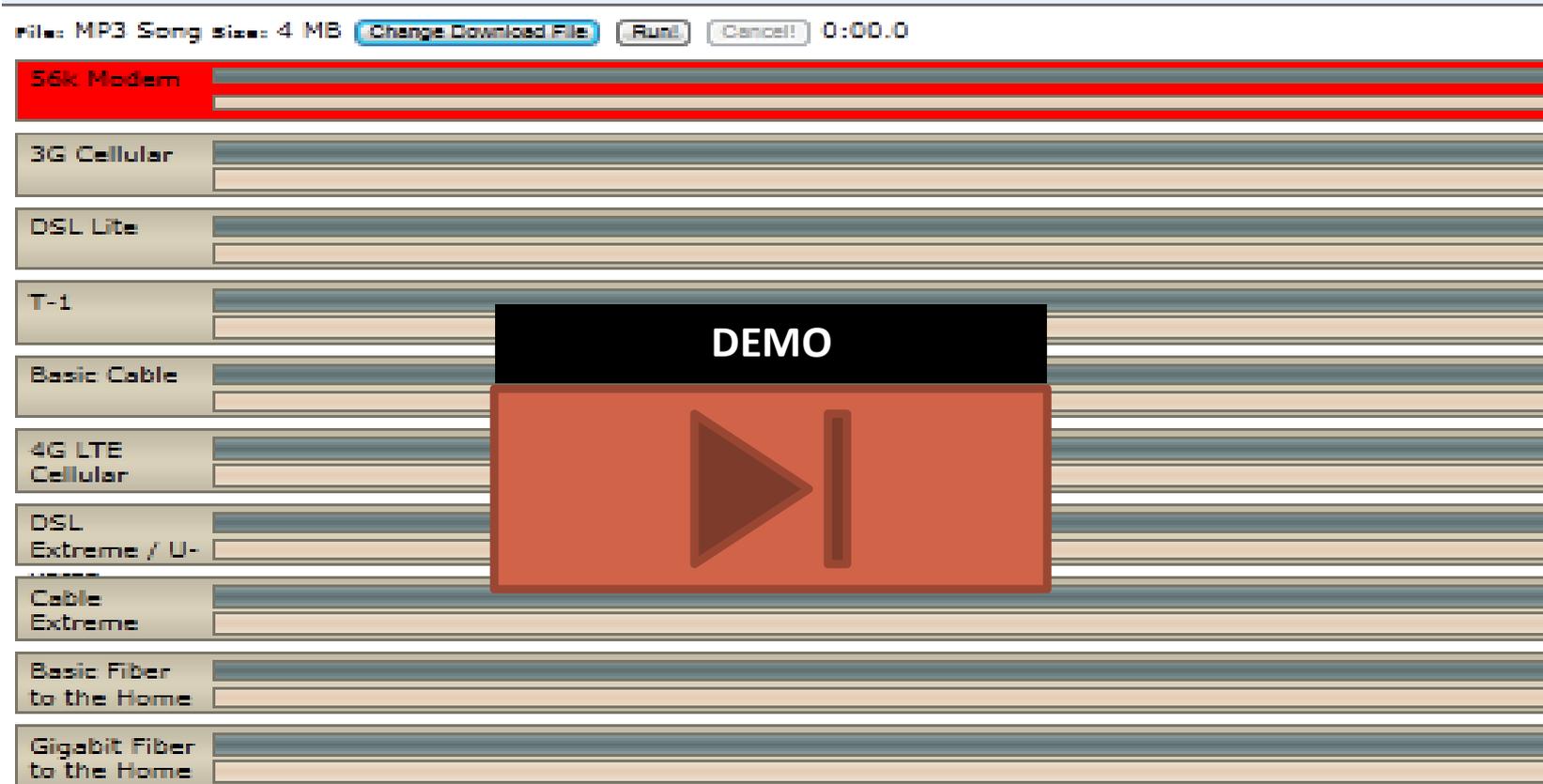
NEXT GENERATION BROADBAND

- Dramatically faster Internet speeds
- LTE Advanced & Mobile Broadband—the next significant game changer
- Gigabit /fiber networks / Smart technologies
- Next generation satellite networks

FCC
Minimum Speed Requirements

	Mbps/sec	
	Current	Next
Household	4	100
Institution	100	1GB

What is Meant by Broadband?

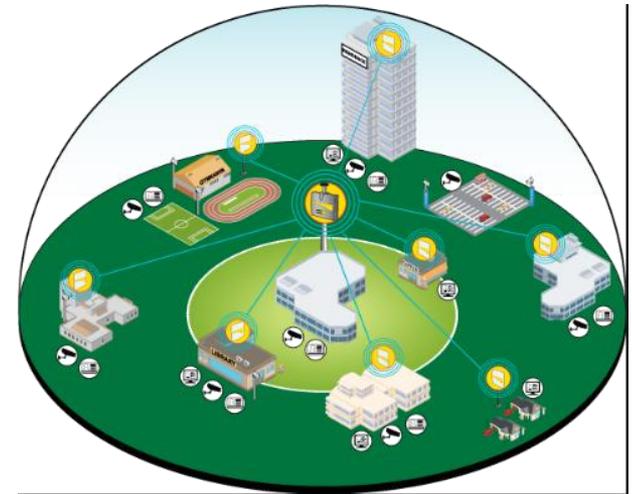


Courtesy of the Office of Information Technology Outreach Services at the University of Georgia's Vinson Institute.

The “Broader” Definition of Broadband

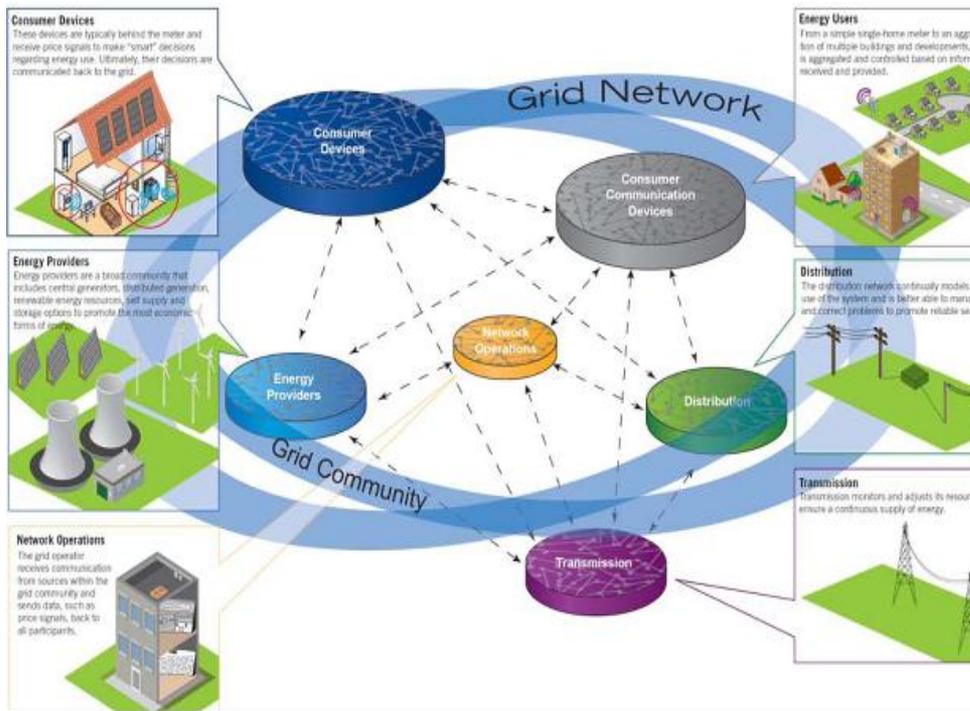
Broadband is a great deal more than just a technology

- It has become the platform for innovation, economic growth, and social communication
- It has become the foundation of our infrastructure
- It is increasingly a vital part of our economy and community and enhances
 - Education
 - Health
 - Government
 - Public safety
 - Business
 - Entertainment
 - and overall quality of life



Why Broadband Matters

- Broadband has become an integral part of our ecosystem because all critical infrastructure is now dependent on broadband



- Transportation management
- Utility systems
- Waste and water management systems
- Environmental conditions
- Capacity demands on networks
- Automated and responsive detection and correction of infrastructure failures
- Mobile technologies
- Emergency response
- Communications on infrastructure outages
- GPS technology
- Commerce

Why Broadband Matters

Broadband connections are one of the critical elements that contribute to better delivery of services

EDUCATION



- Enables education to creatively expand beyond the classroom
- Supports teachers with innovative ways to teach
- Enriches students through multi-media experiences
- Provides access to educators around the world
- Creates opportunities through specialized online programs
- Brings high-quality education to areas where the population density is too low for traditional classroom

LIBRARIES



- Provides access to essential internet-enabled services and resources to the public including employment, education, health, government, and business resources
- Supports educational services to the public on Internet use, computer instruction and digital literacy training
- Provides opportunities to people with no access, reliability and speed issues

Why Broadband Matters

Broadband connections are one of the critical elements that contribute to improved delivery of services

HEALTHCARE



- Real-time transmission of medical imagery
- Enables remote monitoring and sharing of patient care
- Removes geographic barriers to access specialists
- Supports health information initiatives , health information exchange, electronic medical records, electronic prescriptions and the future trends in healthcare

GOVERNMENT SERVICES



- Online services to citizens and businesses
- Online collaboration tools and social media to improve outreach and communication to the public
- Electronic imaging systems to make all documents electronically available on-demand to the public
- Improves internal government processes and communications

Why Broadband Matters

Broadband infrastructure and adoption translate into real economic benefits for rural areas

RURAL AREAS



- Enables rural residents to have access to the same quality services
- Critical to farming and agri-businesses to manage markets, crops, land, livestock, commerce, equipment
- Businesses and service providers can operate from remote locations
- Helps attract business providers to infuse the local economy, and enable global competition
- Without broadband, it causes a digital divide



Why Broadband Matters

Broadband connections are one of the critical elements in emergency management and public safety



- Helps prevent emergencies and enhances communication between public safety agencies and the public
- Enables first responders to send and receive digital transmissions to prevent crimes and save lives
- Enables instantaneous alerts and ensures citizens can access emergency services quickly
- Manages electrical outages (through smart grid centers)

- For NJ, SUPERSTORM Sandy emphasized the need to have an improved infrastructure

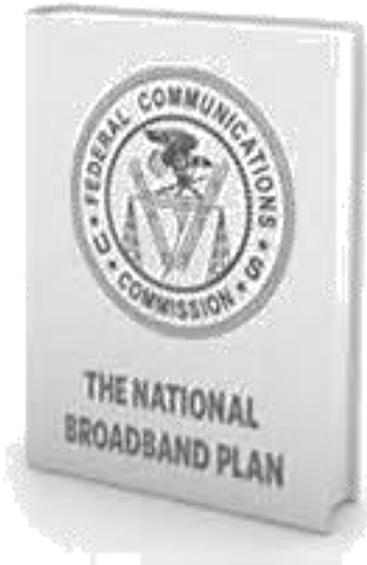
- NJOIT has been awarded a federal grant to deploy an interoperable public safety broadband network
 - a pilot project is being planned

What is the National and Global Broadband Plan?



National Broadband Plan

Long Term Goals in the National Broadband Plan



1. 100 million US homes to have access to affordable broadband at 100mb/sec
2. US to lead the world in mobile innovation with fastest most extensive networks
3. Every American to have affordable access to robust service and the skills to subscribe
4. Every community to have affordable access to at least 1 gigabit/sec broadband service
5. Every first responder to have access to a nationwide wireless interoperable broadband public safety network
6. America to lead in the clean energy economy and for every American to have the ability to track and manage their real-time energy consumption

Availability of Federal Grants

To help meet the goals, federal grants are being established. Some examples include:

>> Government Funds for Community Anchor Institutions and Underserved/Rural Areas

- Connect America Fund
- Community Connect Broadband Grant Program
- The Farm Bill Broadband Program
- Healthcare Connect Fund
- ConnectED Initiative

>> Household Adoption Programs (available to low income households and qualified families)

- Connect2compete Program
- Lifeline Universal service
- Connected Nation
- Computers For Youth
- EveryoneOn Program
- OneEconomy
- FreedomPop
- Internet Essentials

How in the World Are We Doing?



Global Broadband Plans

- The Millennium Development Goals

BROADBAND COMMISSION
FOR DIGITAL DEVELOPMENT



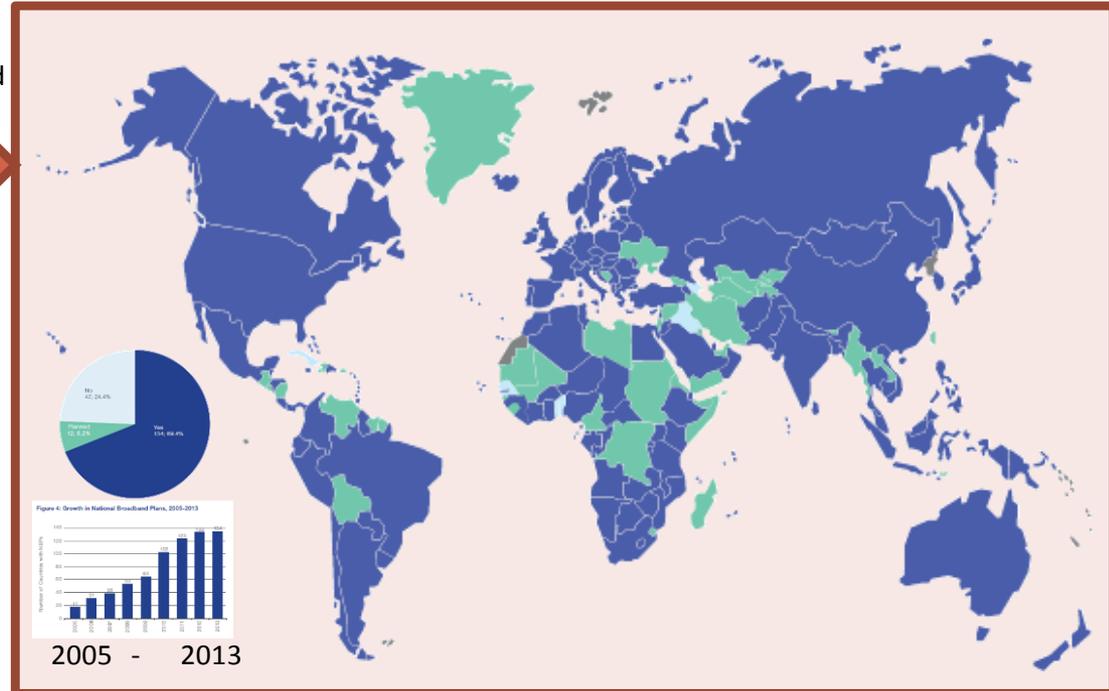
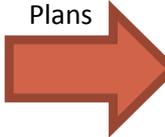
Make broadband policy universal

Make broadband services affordable

Increase Internet Usage

Increase household connectivity

Broadband Plans



Latest Broadband Report

How the US Ranks Globally

Broadband Speed

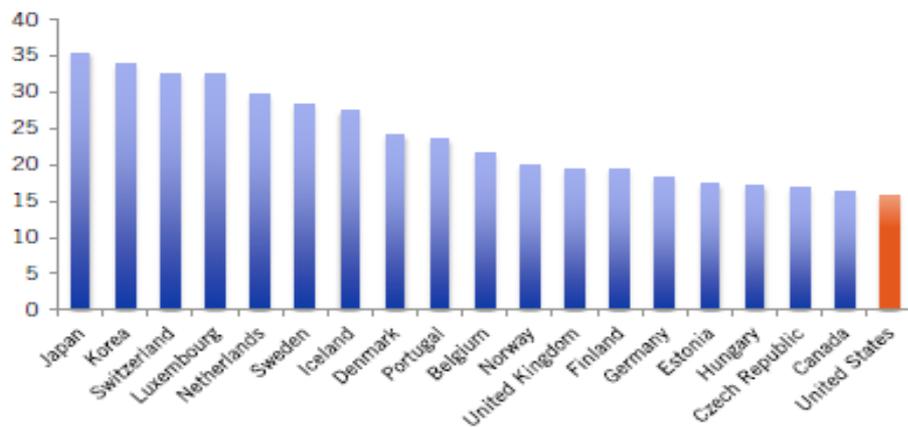


Figure 21: Net Index by Ookla Speed Rankings, February 2013 (Mbps)

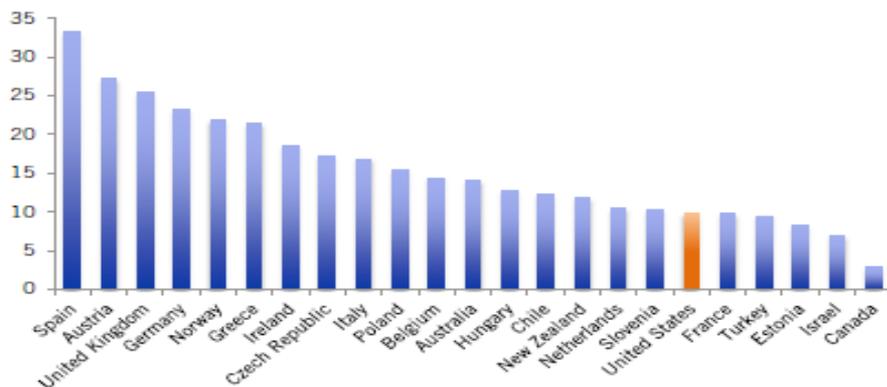


Figure 22: Peak Mobile Broadband Speeds, 3Q 2012 (Mbps)

Household Adoption

Rank	Country	Share of Households Subscribing to Wired Broadband
1	Korea*	97.5%
2	Iceland	87.0%
3	Norway	82.6%
4	Sweden	82.6%
5	Denmark	80.1%
6	Netherlands	79.5%
7	Switzerland**	77.8%
8	Finland	75.8%
9	Germany	75.2%
10	Australia**	73.8%
11	Canada**	73.6%
12	United Kingdom**	73.5%
13	Luxembourg	70.3%
14	Belgium	70.0%
15	United States	68.2%
16	France	66.8%
17	New Zealand**	66.0%
18	Estonia	64.5%
19	Austria	63.7%
20	Japan	63.4%

Source: [ITIF's Report](#) - p.29

Latest Broadband Report

How NJ Ranks Nationally

Adoption

Rank	State	Share of Households with Broadband Internet
1	Utah	79.7%
2	New Hampshire	77.8%
3	Washington	76.7%
4	Massachusetts	75.9%
5	Connecticut	74.8%
6	Oregon	74.7%
7	Kansas	74.6%
8	Nevada	74.2%
9	Arizona	74.2%
10	Maryland	74.1%
11	Alaska	73.4%
12	New Jersey	73.3%
13	California	73.1%
14	Wyoming	72.9%
15	Idaho	72.0%

Table 2: Top 15 States by Share of Households with Broadband Internet²⁴

Source: [ITIF's Report](#) - p.27

“.... States with above average on home broadband adoption—Massachusetts, California, and New Jersey—have not had fast growth rates in recent years.”



RANK	STATE
1	Washington
2	Massachusetts
3	Delaware
4	Maryland
5	California
6	New Jersey
7	Vermont
8	Virginia
9	Utah
10	New York

[Technet's 2012 State Broadband Index Report](#)

How Broadband Matters to You?



The Need for Broadband Planning



- Broadband, digital needs, apps, devices, and services will continue to evolve
- Broadband bandwidth requirements will continue to increase

- The need for planning is essential to stay competitive
- The UN Broadband Commission and Cisco , found statistically significant correlation between planning , penetration, adoption and economic growth



Broadband Planning Simplified

Vision

WHERE ARE WE NOW?

- Existing issues
- Broadband coverage landscape
- Broadband adoption barriers
- Services relying on broadband
- Stakeholder needs
- Demographics of residents/CAIs
- Current initiatives
- Assets and inventory
- Community broadband networks
- Legislature/policies
- Franchise/leasing agreements
- Funding sources

WHERE DO WE WANT TO BE?

- Emerging broadband uses/trends
- Future broadband-related initiatives
- Projected growth
- Policy changes
- Tax incentives/Government funding
- Demand aggregation possibilities
- Public/private partnerships
- Opportunities and options
- Vision and goals

HOW WILL WE GET THERE?

- Identify priorities
- Engage stakeholders
- Create governance
- Broadband champion
- Shared vision with stakeholders
- Broadband infrastructure plan
- Funding strategies
- Deployment and Marketing Plan
- Formalize broadband plan
- Collaborate statewide
- Broadband planning statewide

Broadband Technology Assessment and Planning

Broadband Planning Simplified

The AAA Broadband Assessment Model

- **Deployment and Marketing Plan**

Adoption

- Subscription growth
- Effective Use
- Technical Assistance

Affordability

- Infrastructure cost
- Subscription cost
- Technology Apps/Devices
- Deployment/Training costs

Funding Strategy

Availability

- Infrastructure /Technology
- Accessibility
- Capacity
- Reliability
- Security

Infrastructure Plan and Design

So Where to Start?



The New Jersey Broadband Map

Our First Step



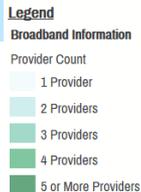
✓ Mapping Availability in the State

- Service Provider data
 - Coverage Areas
 - Speeds
 - Technology
 - # of providers
- 30 Providers
- Data collected and updated every 6 months

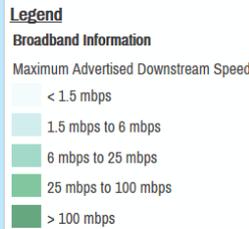
Different Views of the Map



of Providers



Speed



Mobile Wireless



DSL



Cable



Fiber



Satellite

The New Jersey Broadband Map

Our First Step



- ✓ Collecting broadband data from
- Community Anchor Institutions
 - * K-12
 - * Libraries
 - Higher Ed
 - Healthcare Institutions
 - Public Safety
 - Government Facilities

The New Jersey Broadband Map

- The Official Map for Broadband Data and Coverage in the State
- Definition of Availability on the Map
Census block/Road segment/7-10 days
- Next update will be in November/December
- Only 2 more data submissions before end of grant - Next submission deadline is in Feb



The New Jersey Broadband Map

The Importance of the Broadband Map

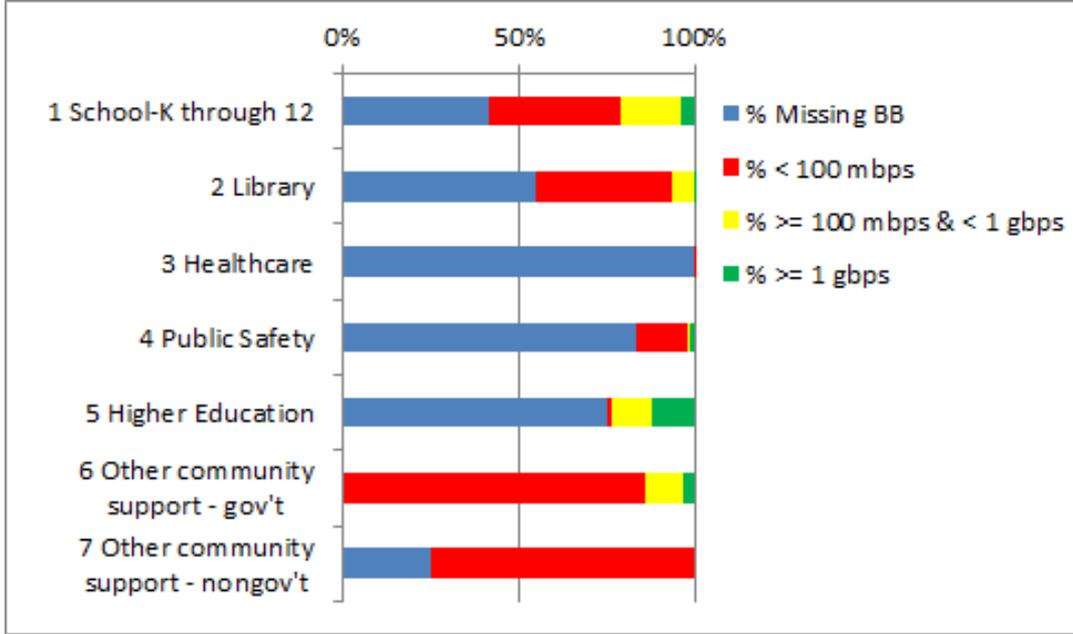
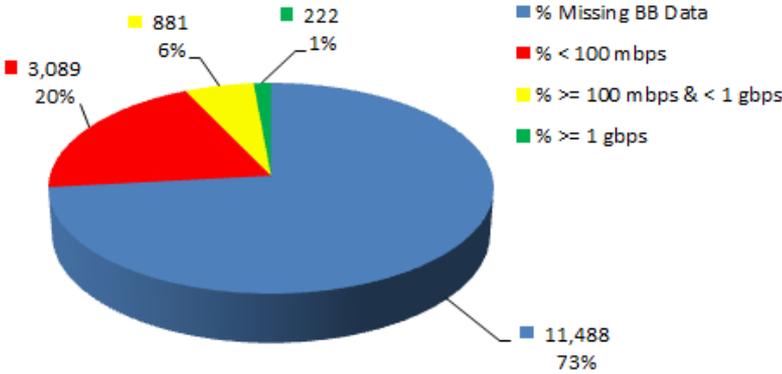
- The official tool of the FCC for funding and broadband assessment nationwide
- Provide data necessary for policy makers, community leaders and service providers to:
 - Plan for economic development and public safety
 - Identify where existing technology infrastructures can be leveraged
 - Identify availability issues, pockets of unmet demands, and priority needs
 - Support funding efforts to expand broadband access in the state
 - Challenge providers to improve quality of service
 - Use the map as a tool to market NJ to businesses looking to relocate



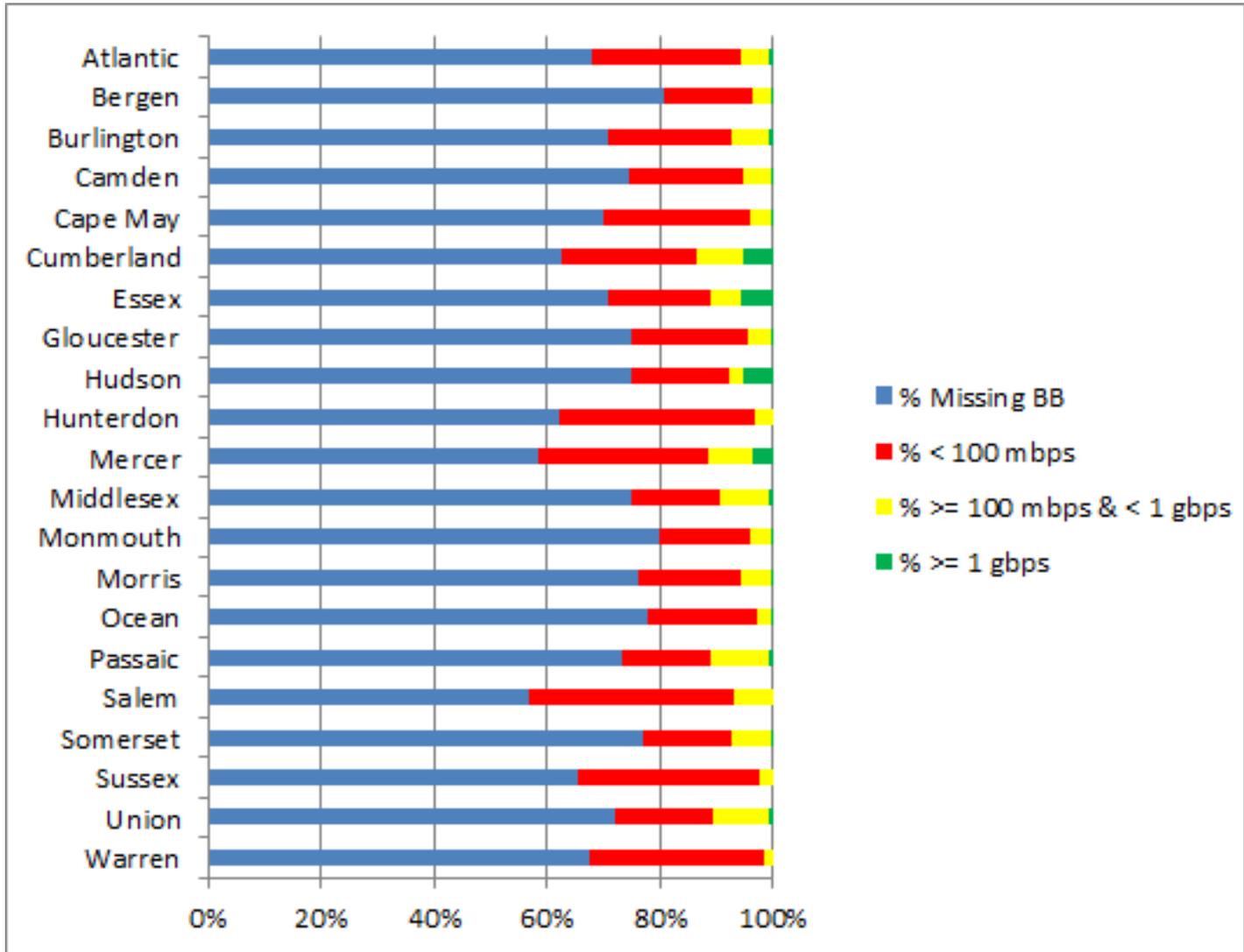
Provide institutions, businesses, consumers

- To facilitate decisions related to high speed internet needs and options
- Compare their broadband speed with the provider reported speeds

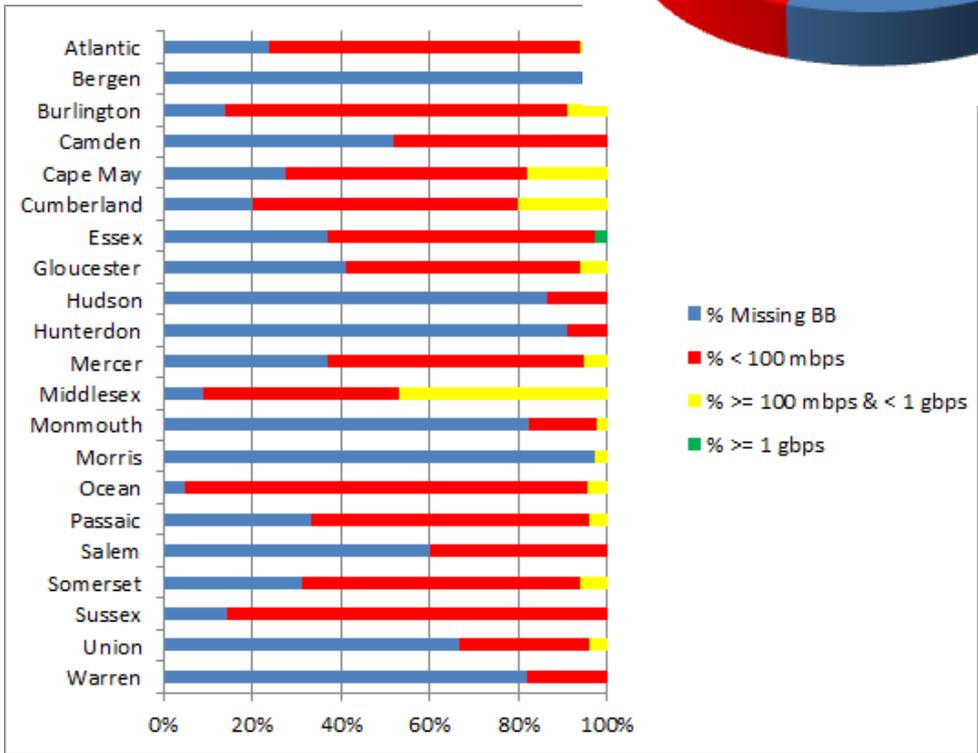
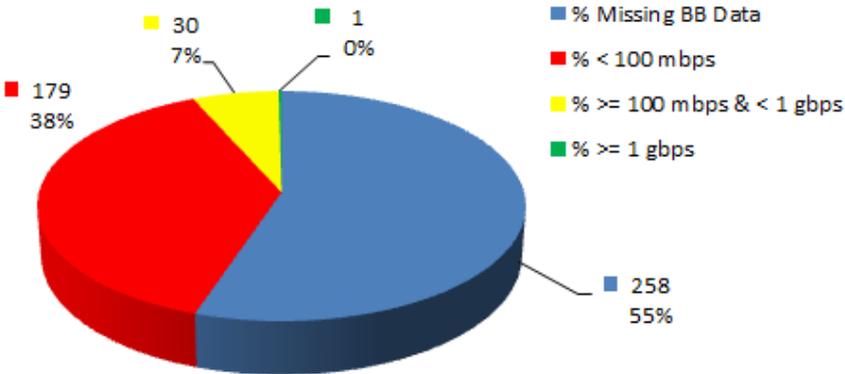
NJ's Community Anchor Institution Data



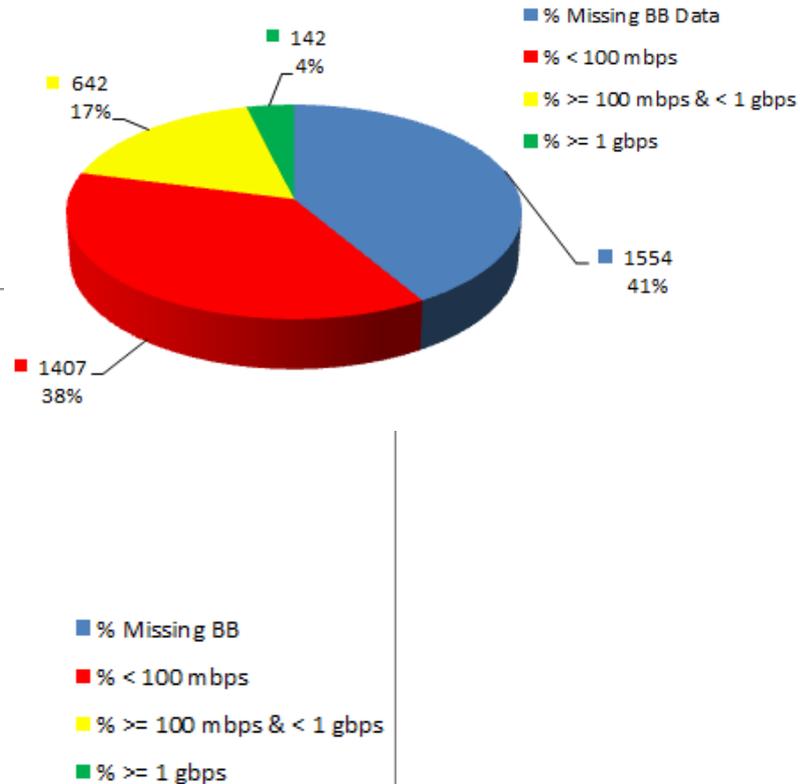
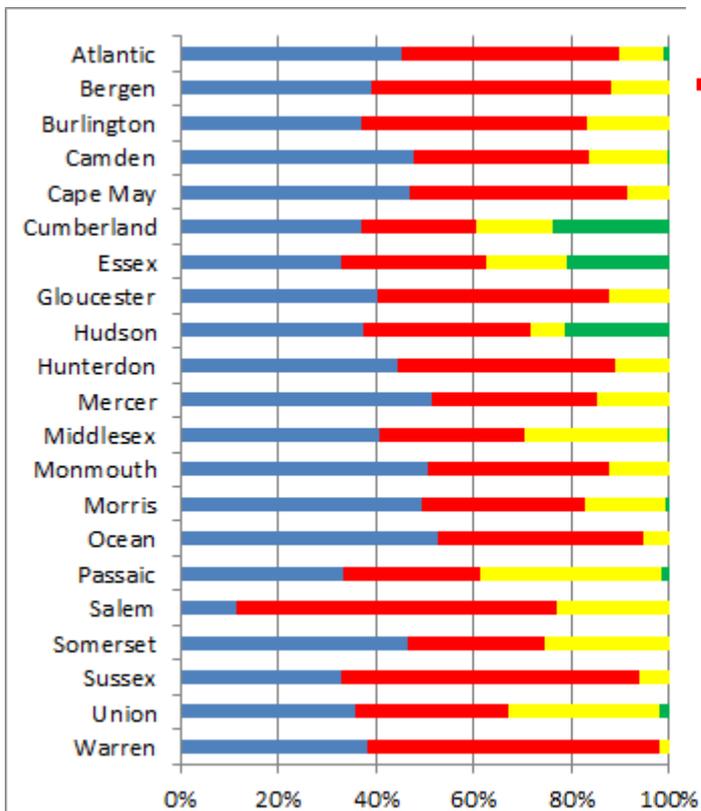
NJ's Community Anchor Institution Data by County



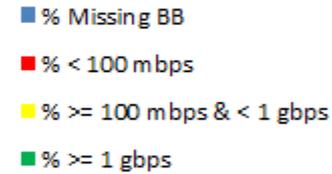
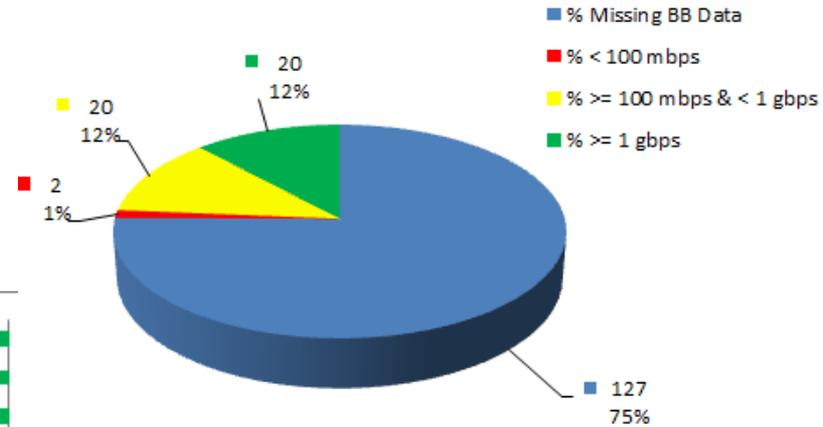
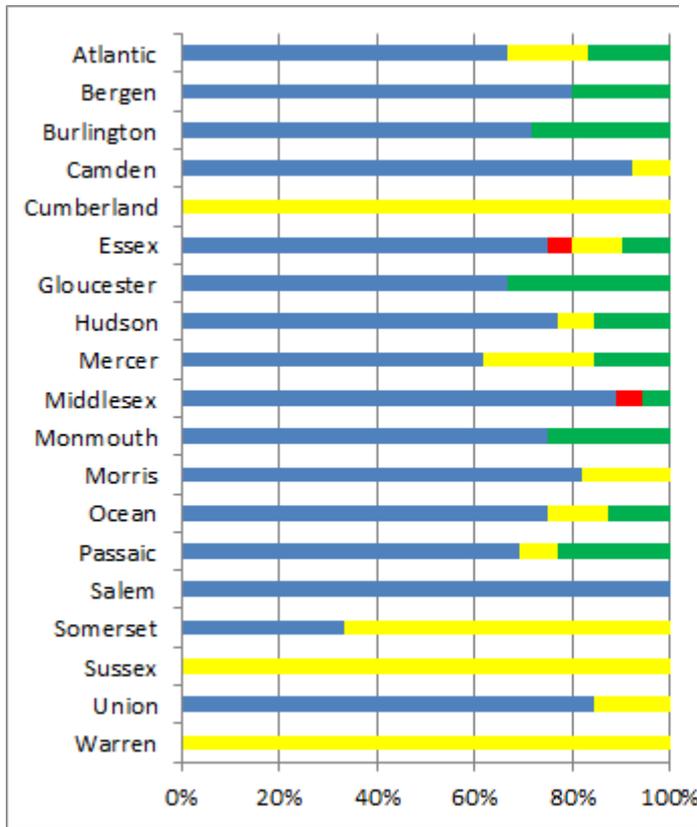
NJ Library Data



NJ K-12 Data



NJ Higher Education Data



Next Steps

- Help us get more complete and updated broadband data for the map on CAIs
- Help us continue increasing awareness on the State Broadband Initiative, identify broadband issues, needs, opportunities and plans statewide
- Feedback, questions, other next steps?

STAY CONNECTED!

The screenshot shows the homepage of the Connecting NJ website. At the top, it features the state seal and the text "STATE OF NEW JERSEY BROADBAND IN NEW JERSEY". Below this is a navigation menu with links for Home, About, Broadband Benefits, Test Your Speed, Events, Broadband Map, Resources, Get Involved, and Contact Us. A search bar is also present. The main content area is divided into several sections: "Maximizing the Use of Broadband in New Jersey" with a paragraph of text; "New Jersey Broadband Map" with a map of the state and links for "About NJ Broadband Map", "Find Available High Speed Internet Options", and "Help us Improve the Map"; "What does the State Broadband Initiative mean for New Jersey and You? Get Involved!" with a "Download White Paper" button; "Is Your Small Business Using the Internet to Compete and Grow?" with "Learn More" and "Take the Survey" buttons; "Upcoming Events" with a list of events including "Statewide Hispanic Chamber of Commerce of New Jersey 23rd Annual Convention, Expo & Awards Luncheon", "Network Tech Week: Leveraging Technology to Create Opportunity", "Broadband Communities Magazine - The Economic Impact of Advanced Broadband Networks", "ConnectedED Workshop: Transforming Education through High-Speed Broadband", and "New Jersey Education Association Convention 2013"; "Resources and News" with links to "The National Broadband Website", "New Jersey SBI Grant Award", "FirstNet to Create Nationwide Broadband Network to Improve Public Safety", and "19 million Americans still go without broadband"; and "Test Your Speed >>" with a speed test icon. A video player is also visible, showing a man speaking.

CONNECTING NJ
<http://connectingnj.state.nj.us>

- Updates/News
- Resources
- Best practices`
- Case Studies



Thank You

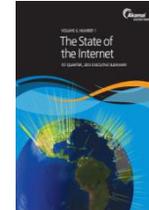


Resources



[The National Broadband Plan](#)

- [PDF Version](#) 12.15 MB



[State of the Internet](#) [Akamai Report](#)



[The State of Broadband 2013](#) [Report](#)



[Planning for Progress](#)



[Planning and Broadband:](#) [Infrastructure, Policy and Sustainability](#)



[The Whole Picture:](#) [Where America's Broadband Networks](#) [Really Stand](#)



[Technet's 2012](#) [State Broadband](#) [Index](#)