

STRATEGIC BROADBAND ROADMAP

Ensuring Virginia communities have capacity for the future and how PDCs can help.

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Broadband in Virginia

- 5th in the world for fastest average peak connection speed.
- As of 2014, 98% of Virginia population is covered.



TOP TWENTY REGIONS AVERAGE PEAK CONNECTION SPEED

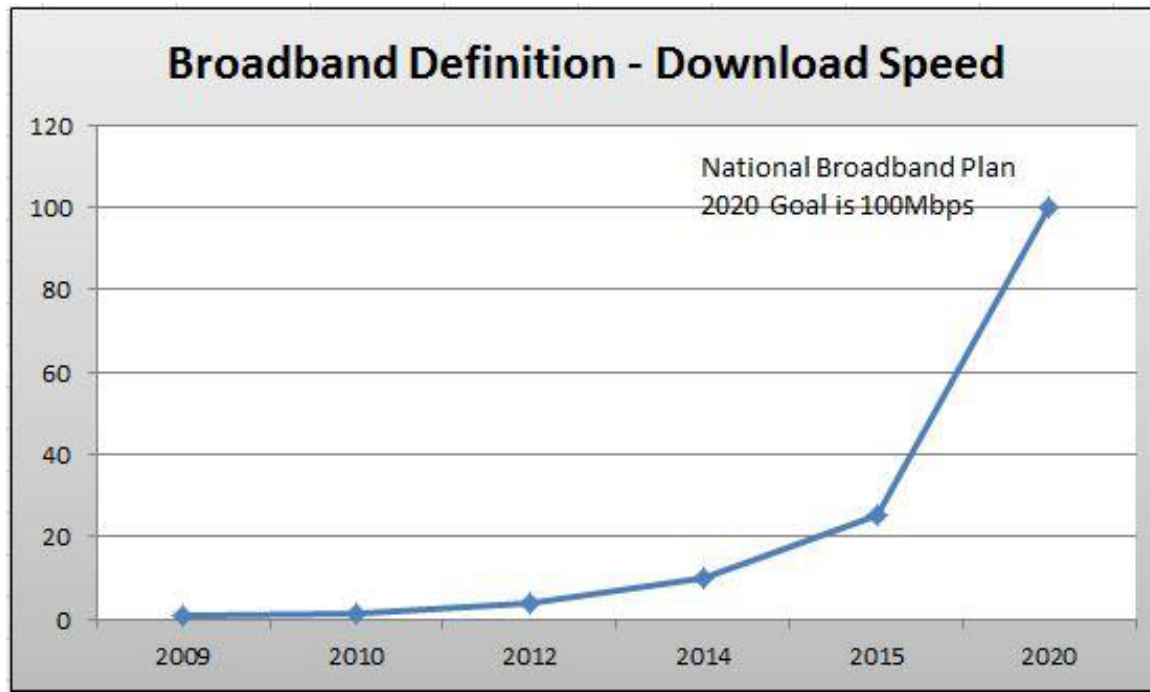
U.S. STATES ACCOUNT FOR **10 OF THE TOP 20**
FASTEST REGIONS IN THE WORLD

RANK	REGION	AVG. PEAK SPEED (Mbps)
*	GLOBAL	29.1
1	Singapore	98.5
2	Hong Kong	92.6
3	Delaware	85.6
4	District of Columbia	79.2
5	Virginia	79.0
6	South Korea	79.0
7	Kuwait	76.5
8	Romania	71.6
9	Taiwan	71.5
10	Rhode Island	70.2
11	Japan	70.1
12	Qatar	69.9
13	Massachusetts	69.7
14	Mongolia	68.9
15	Utah	67.9
16	Israel	67.3
17	North Dakota	66.9
18	Washington	66.4
19	Maryland	64.4
20	California	64.3

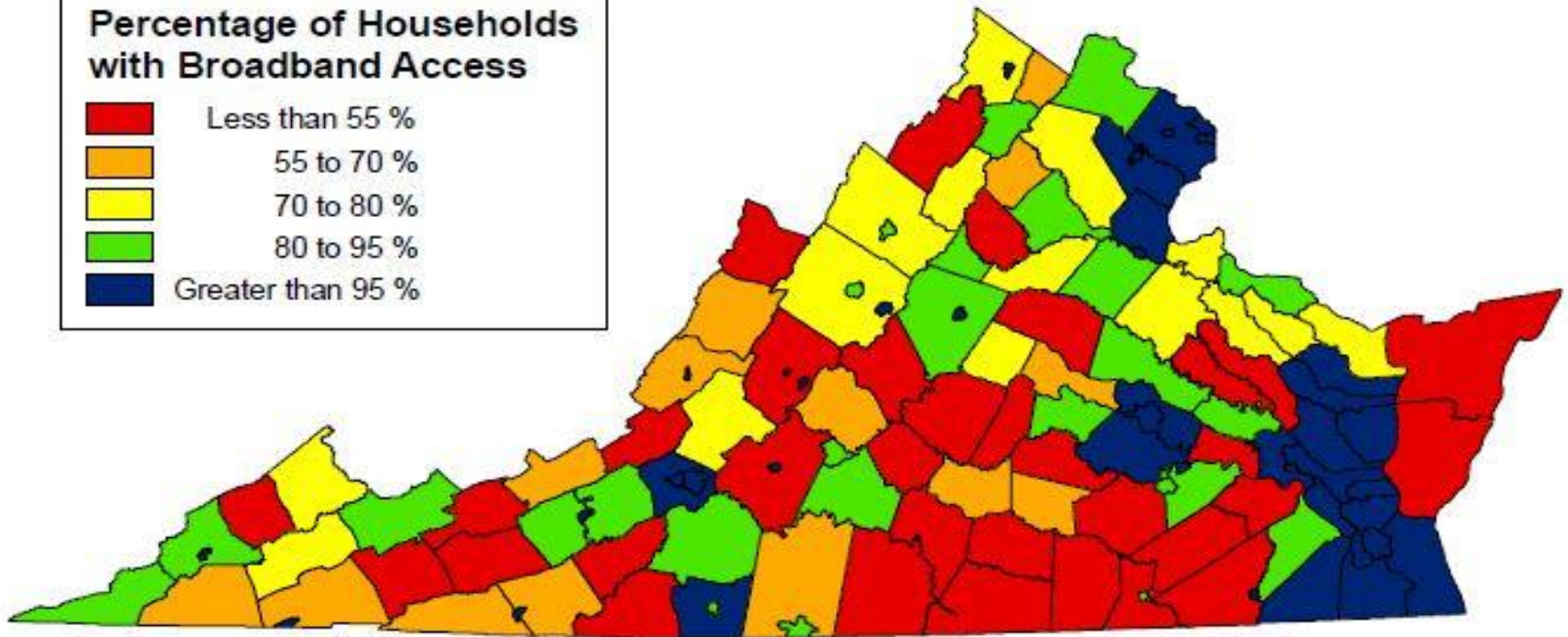
Source: Akamai State of the Internet, Q1 2015

FCC's New Broadband Definition

- Changed definition at end of January from 4 down and 1 up (2010) to 25 down and 3 up (2015).
- 46% (or 62 localities) of Virginia localities are now considered underserved based on new definition.
- 55% of Virginia's rural population is covered.
- FCC's National Broadband Plan goal - 100 million households with 100 Mbps by 2020.



Percentage of Households with Broadband Access



Percentage of Households with Broadband Access

The FCC definition of broadband access is a download speed faster than 25 Megabits per second and an upload speed faster than 3 Megabits per second

The representations contained herein are for informational purposes only. Best efforts are undertaken to ensure the correctness of this information, however, all warranties regarding the accuracy of the map and any representations or inferences derived there from are hereby expressly disclaimed.

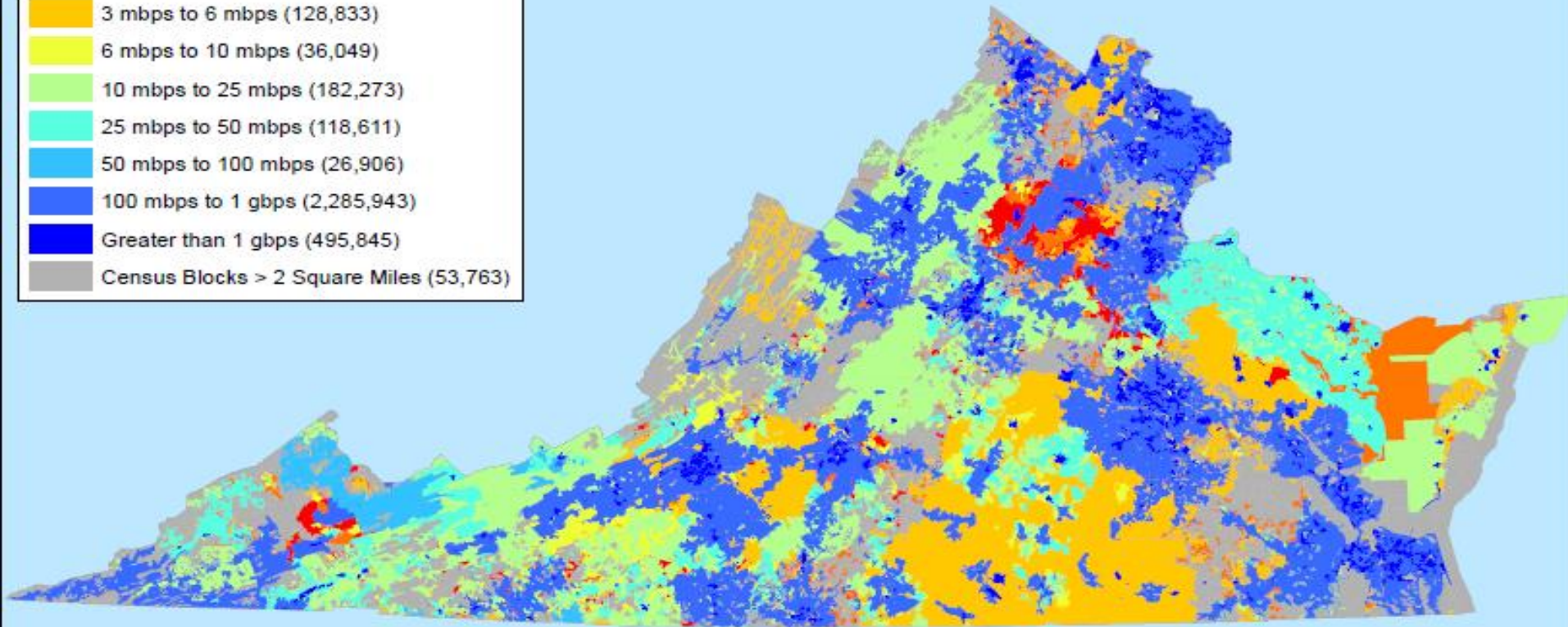
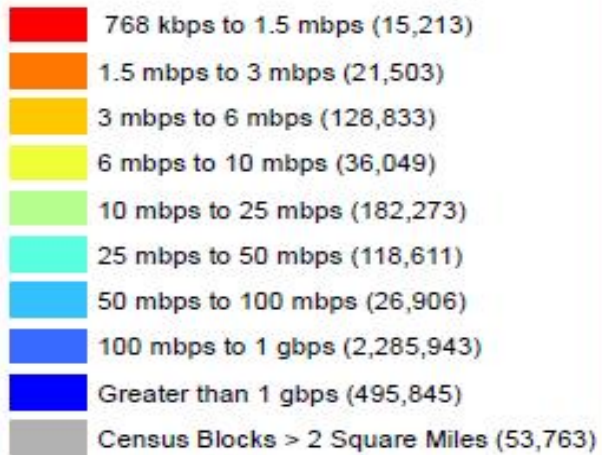
Mapping and Spatial Alteration provided by:



Map Created January 2015

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Download Speed Heat Map For Commonwealth of Virginia



Mapping and Spatial Alteration provided by:



Map Created April 2015

Speed is calculated by census block, using the fastest speed available inside that block. Blocks larger than 2 square miles are not included in this study, and are captured as gray.

Numbers in parenthesis represent the total number of households residing in those census blocks. Households are only counted once, for the fastest download speed available.

Speed	Urban	Rural
≥ 786 kbps	100.00%	98.60%
≥ 1.5 mbps	100.00%	98.30%
≥ 3 mbps	100.00%	98.00%
≥ 6 mbps	100.00%	95.00%
≥ 10 mbps	100.00%	93.60%
≥ 25 mbps	95.20%	49.00%
≥ 50 mbps	94.20%	41.30%
≥ 100 mbps	93.90%	39.50%
≥ 1 gbps	5.40%	0.80%

Data from National Broadband Map



Strategic Broadband Roadmap

The Road to Improving Broadband Access at the Local Level

Conduct a Citizen Survey

Insight into areas of unmet demand, impact of broadband on K-12 education and businesses, barriers to adoption, and citizens' utilization of broadband.



Capture Unmet Demand

Leverage state demand capture website to record citizens' needs and then prioritize access expansions to fill immediate need.



Facilitate Expansions

Review and discuss local policies and processes to remove barriers and facilitate broadband deployments.



Aggregate Demand

Review Community Anchor Institutions' strategic plans to better understand the future broadband capacity needs to drive a strategic plan that will ensure capacity is available to support the future of the community.



Economize Telecom Expenditures

Review current contracts between community entities and combine to lower costs where possible. Leverage money saved for broadband infrastructure to expand services/capacity.



Create Strategic Plan

Utilize the information gathered through the previous steps to define future strategies to meet the needs of today and tomorrow and participate in the New Virginia Economy.

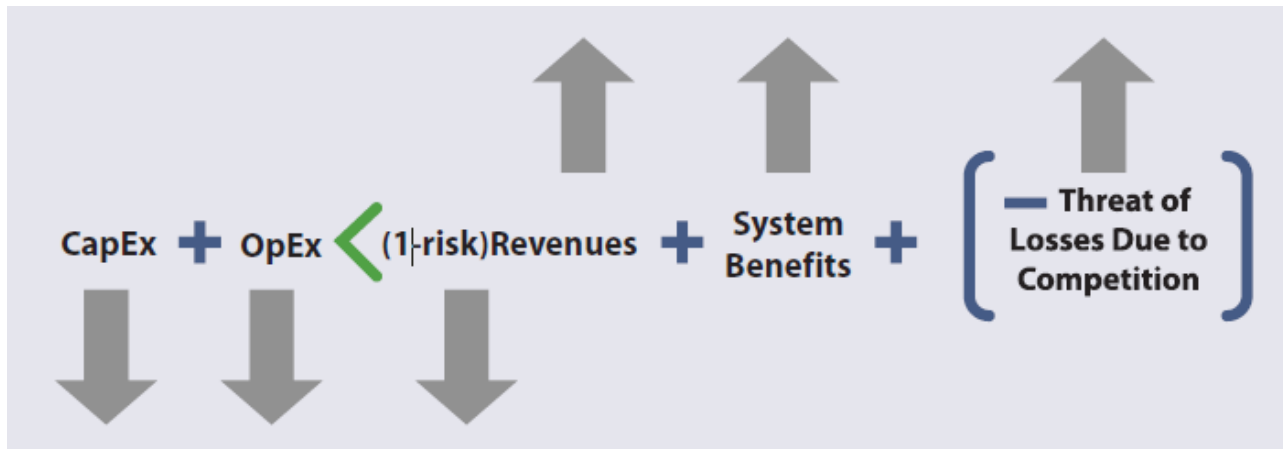


CIT Broadband

- Statewide broadband leaders in Virginia.
- Led Virginia State Broadband Initiative (SBI)
 - Mapping
 - Planning
 - Workshops
- Continuing our mission of ubiquitous, affordable broadband through Virginia.
 - Promoting broadband-friendly legislation.
 - Creating broadband assessment and planning tools.
 - A resource for localities in all things broadband
- With mission and lessons learned, created:
 - Strategic Broadband Roadmap
 - “Improving Broadband Access and Utilization in Virginia” white paper

Why PDCs?

- Providers are building to revenue. Communities build to the future!
- The onus is on the locality to work with providers to create a business case for expansion.
- Localities need to consider how they connect to the Internet and is there enough capacity for the future.
- PDCs can help to bring localities together and drive regional initiatives.
 - Every region needs to have the capacity and redundancy to support the future



Strategic Broadband Roadmap

- Infographic derived from the “Improving Broadband Access and Utilization in Virginia” white paper.
- White paper created to share knowledge, resources and recommendations in order to help facilitate locality-led broadband access and adoption efforts.
- Infographic designed to provide a quick reference to the process.
- Important information for all localities and we are hoping the PDCs will help disseminate and facilitate planning.



Conduct a Citizen Survey

- Captures unmet demand and provides insight into utilization.
- Provides a view of the impact of broadband on:
 - K-12 education
 - Are schools leveraging digital literacy technologies?
 - Businesses
 - Are businesses leveraging the Internet to grow their business?
 - Barriers to adoption
 - Cost? Are there provider subsidies not being leveraged?

wired.
virginia.gov

Office of Telework Promotion and Broadband Assistance

Home > Broadband > Broadband Survey

Broadband Survey

NOTE: "Required" means we need the answer to this particular question.

Do you have internet access at home? (required)

Yes

No

Have you ever used a computer at home, at work, or at school?

Yes

No

Do you have any type of personal computer, including laptops, in your home?

Yes

<http://www.wired.virginia.gov/broadband/broadband-survey/>



Capture Unmet Demand

- CIT and partner, Virginia Tech, have created a demand capture website called SurveyCardinal.
- Records citizens' needs in order to estimate where broadband is needed most.
- Localities can access this information in order to prioritize expansion projects.



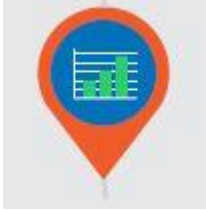
<http://www.wired.virginia.gov/broadband/resources/>



Facilitate Expansions

- Review and discuss local policies and processes to remove barriers and facilitate broadband deployments.
- Buy down deployment costs and accelerate deployment by lowering fees and time required to get the approvals and permits.
- Policies to consider:
 - Access to right-of-ways
 - “dig once” opportunities
 - Installation of open access conduit
 - Streamlined permitting
- CIT’s Broadband Policy Assessment Tool

<http://www.wired.virginia.gov/broadband/resources/>



Aggregate Demand

- Review CAIs' strategic plans to better understand future capacity needs. Important to have a “total need”.
- Allows the locality to create a strategic plan that will ensure future capacity to support the community.
- CAIs are key in demonstrating current and future demand and increase a locality's buying power when negotiating with providers for pricing and expansions.
- Can be used as the “carrot” to entice a provider to address other underserved areas that may not be as profitable.
- Build a community of stakeholders and host stakeholder meetings.



Economize Telecom Expenditures

- Review current contracts across local government departments and combine to lower costs where possible.
- Think outside of the silos.
- Leverage existing assets.
 - Can help with cost as well as extend the reach of deployment.
- Reallocate excess telecom funds to expand services/capacity.
- CIT's online toolkit can help guide localities through the audit.

<http://www.wired.virginia.gov/toolkit/>



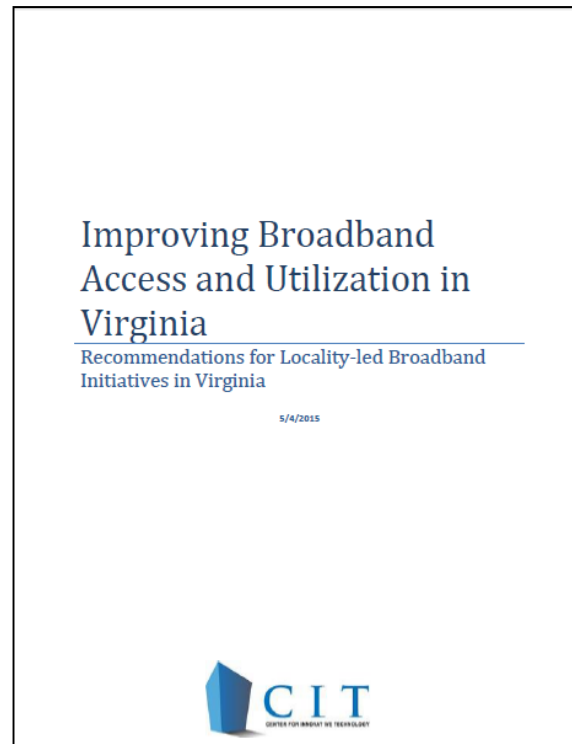
Create Strategic Plan

- Use the information gathered through the previous steps to create a comprehensive strategic broadband plan.
- Identify areas for future deployments and provide solid business cases for broadband services expansions.
- Need to have a plan for funding opportunities.
- Need to have a plan as there may be future opportunities to meet needs during a separate project.
- DHCD's Community Development Block Planning grant can assist in the costs of developing a plan.

<http://www.dhcd.virginia.gov/index.php/community-partnerships-dhcd/79-community-development-block-grant-cdbg-planning-grant.html>

We Need Your Help!

- Help spread the word that communities must prepare for their connected future!
- We will present to localities on:
 - Roadmap
 - Demand Capture Site
- Collecting information on localities seeking/awarded funding.



Questions?

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