VirginiaTech
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eNHANCING COMMUNITIES WITH THE SPEED OF LIGHT
eCORRIDORS

eCorridors Community Broadband Access Map (CBAM)

If You're a Virginia Resident

Virginia's Center for Innovative Technology (CIT) wants to know more about broadband deployment in Virginia and where access to broadband services and the Internet remains a challenge. Help Virginia help you by filling out CIT's broadband availability survey:
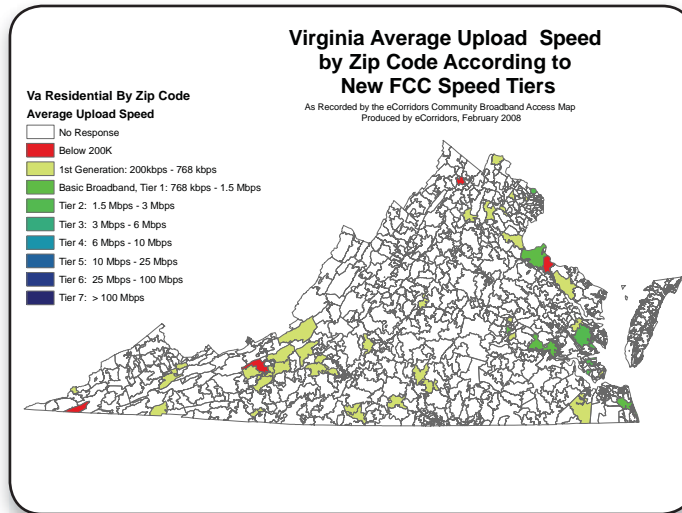
http://www.cit.org/broadband

… "better mapping of broadband availability, … would enable the public and private sectors to work together to target underserved areas." Commissioner Jonathan Adelstein – July 24, 2007:

http://www.telecomweb.com/tnd/24380.html

(registration required)

Virginia Average Upload Speed by Zip Code According to New FCC Speed Tiers

As Recorded by the eCorridors Community Broadband Access Map
Produced by eCorridors, February 2008

Va Residential By Zip Code
Average Upload Speed
- No Response
- Below 200K
- 1st Generation: 200kbps - 768 kbps
- Basic Broadband, Tier 1: 768 kbps - 1.5 Mbps
- Tier 2: 1.5 Mbps - 3 Mbps
- Tier 3: 3 Mbps - 6 Mbps
- Tier 4: 6 Mbps - 10 Mbps
- Tier 5: 10 Mbps - 25 Mbps
- Tier 6: 25 Mbps - 100 Mbps
- Tier 7: > 100 Mbps

Sample Analyses

The eCorridors Community Broadband Access Map (CBAM) has been collecting connectivity data since August 2006. Those who contributed data to the map by running the speed test and adding markers were encouraged to do so from their home or small business Internet connection. To ensure depiction of only current data, the map only displays speed tests from the last 12 months. However, all data collected since the program began is archived and available upon request.

To date, over 1000 unique IP addresses have run speed tests from the CBAM application. Of those, more than 400 users from 38 U.S. states, as well as Sweden, Poland, Germany, Italy, Netherlands, and the United Kingdom have added their connection information to the map display.

The purpose of the Community Broadband Access Map (CBAM)

Information regarding the geographic location of telecommunications infrastructure and services, as well as connection speeds and pricing at the local level is difficult to obtain because service providers legitimately regard it as property.

- As an alternative, Virginia Tech's eCorridors Program has developed a 'consumer driven' approach to determining regional broadband service availability. The "Community Broadband Access Map" is driven by the voluntary contribution of connectivity information by broadband customers.

- As a research tool the purpose of this application is to gain deeper insight into the state of regional broadband availability, performance, and pricing at the local level. eCorridors uses these factors to produce a number of analyses aimed at understanding broadband trends and issues.

http://www.ecorridors.vt.edu/maps/broadbandmap.php

Considerations for using the eCorridors CBAM bandwidth speed test:

- As data points are collected over time, a more complete picture of broadband availability emerges. Individual markers contribute to the ability to make generalizations regarding connectivity in a given area.

- Markers' positional accuracy and level of detail are only as accurate as the user allows.

- Any single bandwidth speed test is not a fair assessment; speed test results vary with time of day, network congestion, location of the client and the location of the speed test server.

- **Averages** of multiple speed tests for a given location are necessary to more accurately compare user performance with providers' advertised bandwidth capabilities.
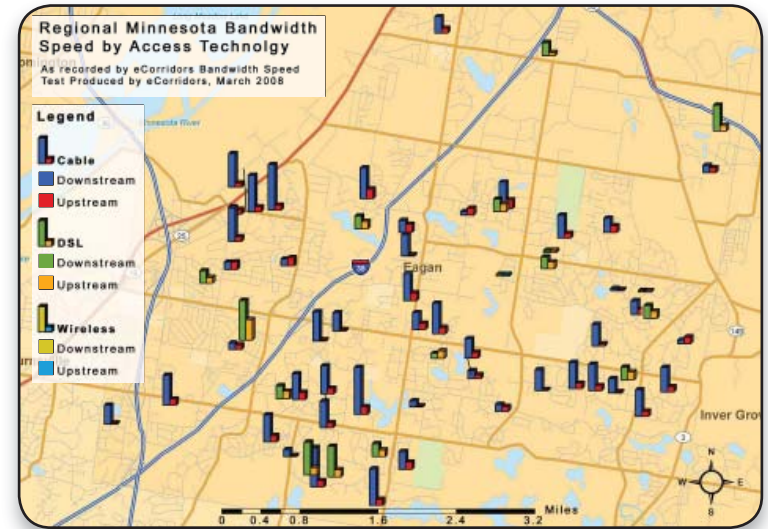
"…Currently, a bevy of websites offer to test the download speed of consumers, but one site in particular has gone further to act as a compendium of broadband connectivity information. The eCorridors project at Virginia Tech developed an online broadband speed test that not only logs the user's connection speed, but additional information entered by the user."

Testimony Before the **Federal Communications Commission: comments of the National Association of Telecommunications Officers and Advisors, … in response to the notice of proposed rulemaking.**

Regional Minnesota Bandwidth Speed by Access Technolgy
As recorded by eCorridors Bandwidth Speed Test Produced by eCorridors, March 2008

Legend

Cable
Downstream
Upstream

DSL
Downstream
Upstream

Wireless
Downstream
Upstream

Over time and with enough data points, localities can use the CBAM and its associated data in the following ways:

- In areas where the map reveals an abundance of high-speed connectivity, communities could use the map as a means to attract technology workers and employers as well as promote entrepreneurial growth of emerging network economy businesses.

- In areas where the map reveals a lack of high-speed connectivity, communities could use the map to justify the need for competitive service provision and/or the development of local broadband infrastructure.

- Service providers could use the map as a tool for locating new market areas for expansion or expeditionary marketing.

- Citizens could use the map as input for personal location decisions, to identify workforce training opportunities, and distance education capabilities.

- To provide on the ground data that can be used by consumers or municipalities in corroborating and assessing advertised bandwidth service levels, when averages of multiple data points can be determined.

Sample Map Analyses: http://www.ecorridors.vt.edu/maps/maps