“What must justify public utility regulation, then, is the necessity of the regulation and not merely the necessity of the product.”

~James Bonbright
WHAT IS BROADBAND?

- Broadband Internet Access Service (BIAS): “A mass-market retail service by wire or radio that provides the capability to transmit data to and receive data from all or substantially all Internet endpoints, including any capabilities that are incidental to and enable the operation of the communications service, but excluding dial-up Internet access service.” *In the Matter of Protecting and Promoting the Open Internet, GN Docket No. 14-28, March 12, 2015.*

**FCC broadband today:** 25 Mbps/3Mbps

Source: Connect America Cost Model documentation.
We are leaving older adults out of the digital world

Closing the digital divide: a more connected workforce means a more prosperous Dallas

Broadband connectivity is worst in the parts of our city that need it most.

Telehealth and the Digital Divide

Telehealth holds the promise of reducing health care costs and improving health outcomes. However, inadequate broadband in both rural and urban areas prevents telehealth services from reaching those who most need them.
THE POST-COVID-19 VIEW

America's surprising breeding ground for inequality: The internet

By Clare Duffy and Anneken Tappe, CNN Business
Updated 12:30 PM ET, Sun May 17, 2020


CIO.JOURNAL

Pandemic Broadband Speeds Are Faster, but Insufficient for Some

Many work-from-home employees continue to struggle with patchy internet connections, especially workers living in remote regions

Wall Street Journal

By Angus Loten
Sept. 17, 2020 1:39 pm ET

https://www.wsj.com/articles/pandemic-broadband-speeds-are-faster-but-insufficient-for-some-11600364365

TECHTANK

What the coronavirus reveals about the digital divide between schools and communities

Neal Turner Lee - Tuesday, March 17, 2020


Doing Schoolwork in the Parking Lot Is Not a Solution

In a pandemic-plagued country, high-speed internet connections are a civil rights issue.

The New York Times

By The Editorial Board
This editorial board is a group of opinion journalists whose views are informed by expertise, research, debate and certain longstanding values. It is separate from the newsroom.

July 18, 2020

https://www.nytimes.com/2020/07/18/opinion/sunday/broadband-internet-access-civil-rights.html

Dissenting View:

[W]e find that the data we do have is sufficiently indicative to give us reasonable confidence that advanced telecommunications capability is being deployed in a reasonable and timely manner.


COVID breathes life into North Carolina’s rural telehealth, but broadband remains an obstacle

May 14, 2020 by Liaa Engel-Smith

https://www.northcarolinahealthnews.org/2020/05/14/coronavirus-rural-telehealth/
IS BROADBAND REGULATION NECESSARY?

- Market failures?
  - Network effects.
    - Are market forces maximizing the value of the broadband network (broadband universal service)?
    - Are market forces delivering sufficient network resiliency and reliability?
  - Terminating monopoly power.
    - Are edge providers subject to hold-up?
    - Threats to network neutrality?
- Cost subadditivity associated with broadband infrastructure has led to small numbers of suppliers, or outright monopoly.
  - Evidence of robust price competition?
  - Do broadband providers utilize restrictive bundling practices?
  - Evidence of technology redlining?
    - Lower-income areas.
    - Rural areas.
    - Universal service goals undermined.
WHAT CAN THE STATES DO?
ISN'T BROADBAND AN INTERSTATE INFORMATION SERVICE?


THE OLDE TYPME "LONG DISTANCE" INTERNET, CIRCA 2008
Globally, close to 90% of our traffic is delivered via direct connections between Open Connect and the residential Internet Service Providers (ISPs) our members use to access the internet. Most of these connections are localized to the regional point of interconnection that’s geographically closest to the member who’s watching. Because connections to the Netflix Open Connect network are always free and our traffic delivery is highly localized, thousands of ISPs around the world enthusiastically participate.

We also give qualifying ISPs the same Open Connect Appliances (OCAs) that we use in our internet interconnection locations. After these appliances are installed in an ISP’s data center, almost all Netflix content is served from the local OCAs rather than “upstream” from the internet. Many ISPs take advantage of this option, in addition to local network interconnection, because it reduces the amount of capacity they need to build to the rest of the internet since Netflix is no longer a significant factor in that capacity. This has the dual benefit of reducing the ISP’s cost of operation and ensuring the best possible Netflix experience for their subscribers.

“How Netflix Works with ISPs Around the Globe to Deliver a Great Viewing Experience.”
Broadband ISPs' BIAS

Internet

CDN

Broadband ISP’s Local Data Center

Cached HTTP

Etc.
As video moves to 4K and beyond using the broadband will become even more of a local service.

<table>
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