

Measuring Internet Access Substitutes and Service Gaps

By: Catherine J.K. Sandoval

Assistant Professor

Santa Clara University School of Law

Presentation to the FCC Broadband Benchmarks
Workshop

September 2, 2009

Distinguishing Types of Broadband Access and Identifying Gaps

- ◆ To define “Broadband” for the American Recovery and Reinvestment Act of 2009 or report on Broadband deployment, competition and issues:
- ◆ The FCC needs to distinguish between *TYPES* of broadband access as indicated by restrictions on access instead of focusing on peak *SPEEDS*.
- ◆ The FCC also needs to report on *GAPS* in Internet access — *The Digital Divide*

FCC Broadband Metrics

- ◆ The FCC has recognized the need to start with a clean slate to measure Broadband Deployment and Access
- ◆ The FCC recognized that reporting broadband access by zipcode was a deeply flawed methodology
- ◆ The FCC also needs to distinguish between TYPES of Internet access

FCC Measurements of Broadband Deployment

- ◆ The FCC's Broadband Deployment measurements previously focused on the minimum SPEED of the broadband service
- ◆ Speed does not accurately measure whether broadband services by different Internet Service Providers (ISPs) are substitutes

Types of Internet Service

- ◆ The FCC needs to distinguish between types of Internet service
- ◆ Focus on significant restrictions ISPs impose on:
 - Downloading applications
 - Application Use
 - Computer tethering
 - Device Attachment
 - Congestion policies and practices

The Internet Assumed Common Carrier Regulation

- ◆ The Internet was developed and became available to the public under the FCC's common carrier rules that prohibited discrimination against Internet traffic
- ◆ Subsequent to the Supreme Court's 2005 decision in *Brand X v. FCC* ISP policies limiting use of certain Internet applications have become commonplace, particularly for wireless Internet

Application Restrictions

- ◆ Some wireless services allow customers to download only the applications the wireless service has approved
- ◆ This is contrary to the model of the open Internet where no one needed permission to post an application

Application Restrictions

- ◆ Other wireless providers through their contracts prohibit or limit the use of certain applications including peer-to-peer
- ◆ Consumers wishing to use prohibited or restricted applications may turn to wireline or cable ISPs
- ◆ Some terrestrial ISPs also impose application restrictions and their congestion management policies may slow use

Computer and Device Attachment Prohibitions

- ◆ Many wireless providers prohibit tethering the phone to a computer to provide computer Internet access
- ◆ Some wireless providers offer separate tethering plans for computers for additional fees, subject to bandwidth limits
- ◆ Many wireless companies prohibit device attachment

Usage limits and slowdown policies

- ◆ Some satellite Internet providers impose monthly bandwidth limits
- ◆ Some satellite companies warn that if the user has exceeded her undefined “fair use” of bandwidth it will slow download speeds for a 24-hour “recovery” period
- ◆ The slowdown will last for each 24 hours thereafter until usage is reduced

Usage limits and slowdown policies

- ◆ Bandwidth limits and slowdown policies are also proliferating in terrestrial networks, particularly cable-based ISPs where bandwidth is shared
- ◆ ISPs may supplement monthly bandwidth caps with undefined time-period caps based on bandwidth use
- ◆ A user can have access slowed for an undefined time period from downloading one high-definition video even if she does not exceed monthly bandwidth caps

FCC Reports Do Not Identify which Internet Services are Substitutes

- ◆ Application, device, attachment, usage and slowdown policies, peak, average and slowdown speeds distinguish types of broadband Internet services
- ◆ Internet service restrictions indicate that not all Internet services are substitutes

Access Gaps

- ◆ Need to measure, report on and develop policy to address Internet access for groups showing lower levels of access:
- ◆ Rural
- ◆ Low-income
- ◆ Level of Education
- ◆ Non-English speaking
- ◆ Racial/Ethnic
- ◆ Age
- ◆ Disability

Access Gaps: Rural

◆ Rural

- Examine how rural is defined
- Many federal rules exclude areas that contain a major city, i.e. the areas surrounding Fresno, California from the definition of rural
- These definitions do not account for the limits of the urban infrastructure
- Distinguish between Fresno and nearby farming communities with no or limited broadband access

Rural Access Gaps

- ◆ The California Public Policy Institute found that in 2008 California regions that include rural areas had significantly lower levels of access:
- ◆ 285 communities in the San Joaquin region which encompasses Fresno lacked broadband access, excluding mobile access
- ◆ 189 communities in California's Inland Empire which includes San Bernardino County lacked broadband access, excluding mobile access

Language Access Gaps

- ◆ In 2008 the Public Policy Institute of California found:
- ◆ 82% of California English-speaking Latinos subscribed to broadband
- ◆ Only 37% of California non- or limited-English speaking Latinos subscribed to broadband

Language Access Gaps

- ◆ In 2008 the Pew Internet and American life project found that at home:
- ◆ 82% of English-speaking Hispanics had Internet access
- ◆ Only 32% of Spanish-dominant Hispanics had Internet access

Internet Access Gaps

- ◆ In 2008 the Pew Internet and American life project found that Internet access at home varied by demographic characteristics. It was:
- ◆ 35% for Americans age 65 and older
- ◆ 59% for African-Americans
- ◆ 44% for non-high school graduates
- ◆ 53% for households with incomes under \$30,000

Internet Access Differences

- ◆ Pew found that in 2008 Internet access at home varied by demographic characteristics. It was:
- ◆ 75% for White Americans
- ◆ 91% for college graduates
- ◆ 95% for households with incomes above \$75,000

Language Methodology Differences Skew Results

- ◆ Many of Pew's surveys are done in English only
- ◆ Results of English-only surveys reflect English-speaking Hispanics only
- ◆ Pew has acknowledged that when a Spanish-language survey option is included reported income and Internet access levels changes

Internet Access Differences

- ◆ Pew's 2009 surveys done in English showed growth in Internet access for most groups of Americans except African-Americans
- ◆ The language methodology makes the data not comparable to other surveys that take language into account

Computer Hardware and Training Gaps:

- ◆ Many households do not own a computer
- ◆ Computer ownership is lower among low-income, non- or limited English-speaking and minority households
- ◆ Library and public access is not a substitute due to restrictions in hours, use limits and other factors

Broadband Internet Measurement and Access Gaps: Conclusion

- ◆ The FCC needs to identify and report on different *types* of Internet access to assess deployment and make good public policy
- ◆ Application restrictions, bandwidth limits, usage policies, slowdown policies, device attachment prohibitions, peak, average and slowdown speeds distinguish between *types* of Internet access

Examine Contribution of Regulatory Framework to Internet Restrictions

- ◆ Identification of Internet access restrictions will highlight the need to analyze the regulatory regime under which access restrictions have proliferated

Internet Access Gaps: Conclusion

- ◆ The FCC must recognize and report on access gaps for Americans by region and group
- ◆ Analysis should include Americans who are not predominantly English-speaking and recognize Internet access differences for non- or limited-English speakers
- ◆ FCC policy needs to take these differences into account