Session 1 and 5A: Understanding Properties and Invisibilities of Internet Access

Moderator/scribes: Ellen Zegura, David Clark
Many thanks to all who contributed to discussions

What is different about Internet access

It is an equity issue

The least served areas are the hardest to measure

The tail matters, not just the averages (see above, also **universal** access)

The issues go beyond the narrow technical to affordability, usability, policy, community

The FCC has a huge role to play

Understanding access is in the public interest to understand, but not in the private interest hence private sector will not solve it

Serious privacy issues

There is a Grand Challenge in this space -- hard and important

Problems: Effective broadband mapping

Key issue: how to effectively map broadband access over time, where “effective” means accurate, comprehensive, inclusive of quality, usability, and affordability

Sampling methods

Fine grain data collection

Socio-technical methods for involving and incentivizing communities

Longitudinal collection

Pricing, affordability, usability study

Problems: Data collection and use

Key issue: How to leverage all forms of data collection

Current data is varied, messy, much is ad hoc (e.g., crowdsourced)

Providers are reluctant to share and may not know

Serious privacy issues when collecting about individual experience

Many parties with different requirements and visibility needs

Problems: Invisibilities

Non-use and non-availability are difficult to measure

Providers “own” and have incentives to protect data

Homes beyond the jack are largely invisible yet have huge impact on quality

Access in Global South is largely invisible

Affordability is largely invisible and confounded with usability/usefulness

Small edge providers/malicious edge providers are invisible in public infrastructure

Unlicensed spectrum use is hard to track and coordinate

Research community blind spot (worships “bigger and faster”)

Promising directions: partnerships, approaches, tools

Partnerships with communities to develop tailored mapping

Quantifying bias in crowd-sourced data collection

Social science partnerships

Academic researcher tools and applications for measurement

Grassroots mapping, connected to STEM outreach

Differential privacy and multi-party communication for Internet data access

Promising directions: Call for a Center

Need a Center for Internet Access (ok, maybe not that acronym)

Funded by NSF, in cooperation with FCC

Spectrum Innovation Initiative as a model?

Serve as a clearinghouse for data, a locus for bringing together efforts into a greater whole, a testbed for measurement methods, a place for policy makers and technologists to come together

Near-term: an FCC/academic community workshop to learn about problems and learn about research with practical applicability