Measuring Broadband America
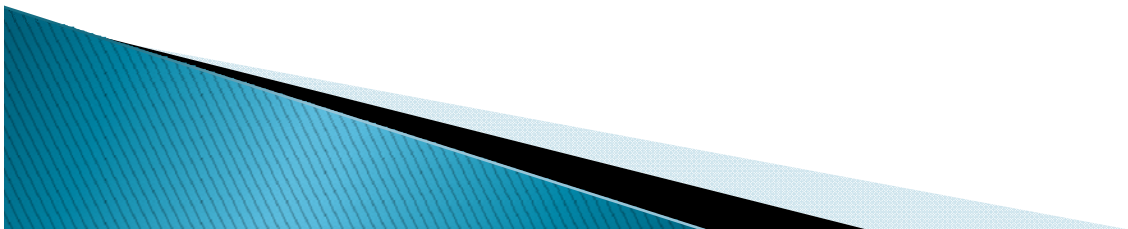
Aims 2014

Walter Johnston
Chief, EMCD
Office of Engineering &Technology
FCC

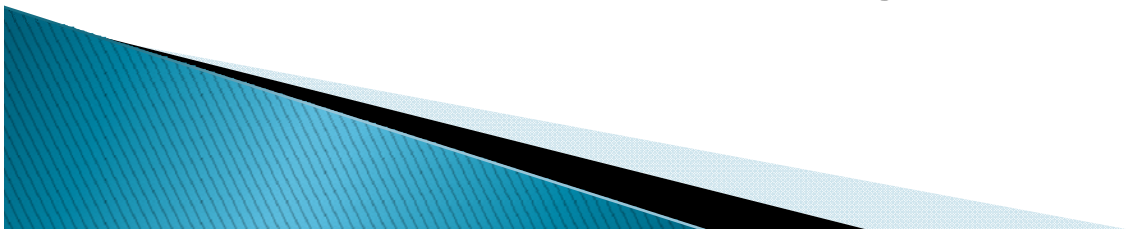The Views Express Herein Are Those of the Author and Do not Necessarily Reflect Those of the FCC

Broadband Impact

- Broadband and the Internet empowering our society
  - Productivity Gains
  - Enhanced communications
  - Entertainment
  - Public Safety
  - Connected Government
- Important to measure availability and quality of broadband
  - Availability
  - Performance
  - Year by Year Trends

FCC Measuring Broadband America Program

- 2010 – initiated program to provide most accurate data on <u>fixed</u> broadband to the home
  - Includes ISPs supporting 85% of consumers
  - Successful program with year/year metrics cited by research community
- 2014 – initiating coverage of mobile broadband performance
  - Crowd sourcing approach: apps for iPhone and Android
  - Data collected includes performance data, cell tower/service coverage data, and phone data
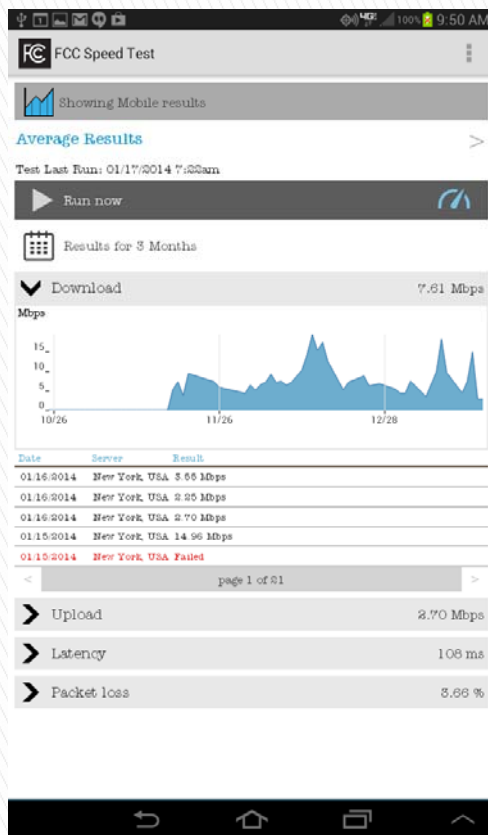
mobile Measuring Broadband America

- Test data collected from volunteers' phones
  - No PII data collected, no ads, no commercial intent
    - Privacy policies developed with outside experts, wireless carriers, FTC and FCC
    - Apps released as open source for inspection
  - Open methodology developed with industry collaboration
- Evolving project
  - First maps early 2014
    - More complex visualizations to follow
    - Increasing information to be provided over time
- Open data project
  - Maps reusable without restriction
    - Map interfaces supported
  - Detailed data will be made freely available

Android App: 'FCC Speed Test'

Screen shot

- ▶ Supports manual user tests
- ▶ Supports automatic testing
- ▶ Performance data
  - ◦ Speed, latency, packet loss
- ▶ Cell tower data
  - ◦ ID, signal strength, type of service (e.g. 3G, 4G)
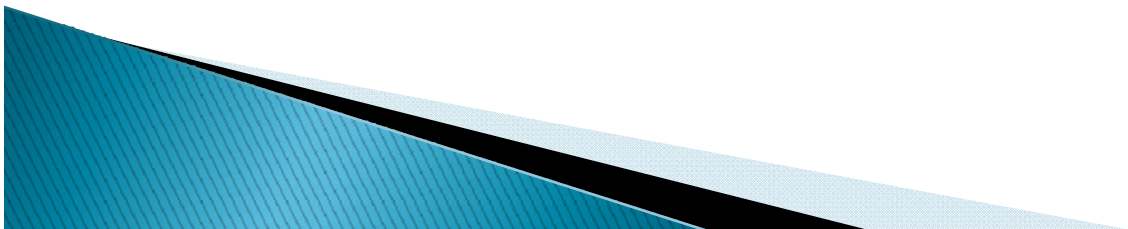- ▶ Phone Data
  - ◦ Type, OS Rev

Features

Platforms Supported

- Android
  - Released in mid-November 2013
  - Available at Google Play: FCC Speed Test
- iPhone
  - Released February 2014
  - Available to public at iPhone App Store
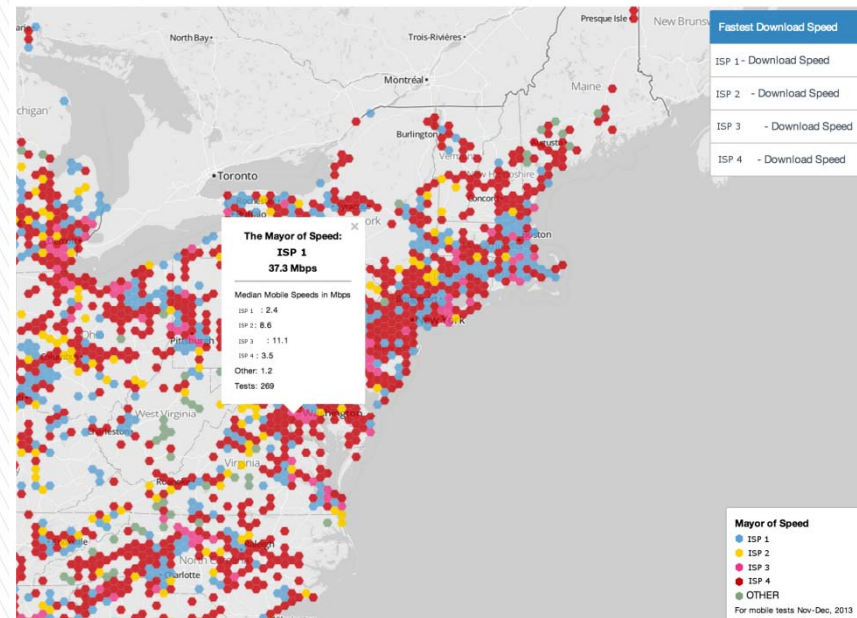   - For a very short time we were 4th most popular app in the store

Enlisting Volunteers

- Event oriented
- News article or blog post last about 10 days
- Evolving outreach program to keep reinforcing program and apps
- Android app is especially attractive
  - More data
    - Performance Data (Apple equivalent)
    - Network Data (Apple Deficient)
  - Sticky application
    - Automatic generation of data within limits of data cap set by user

http://www.fcc.gov/measuring-broadband-america

- Goal to provide accurate information on mobile performance in United States
- Unique collaboration with industry, academia, government agencies in open forum
- Open government data
- Seeking involvement of state/municipal partners

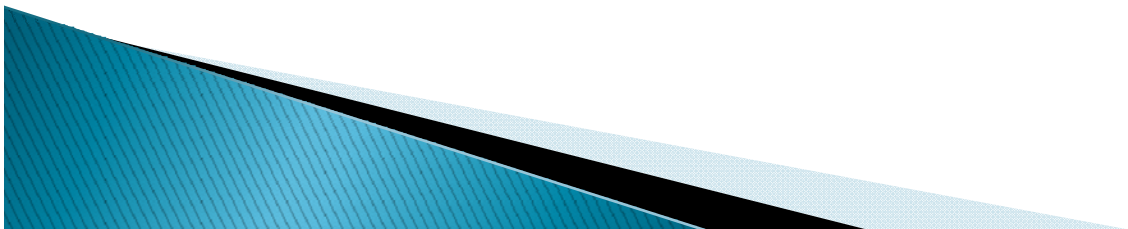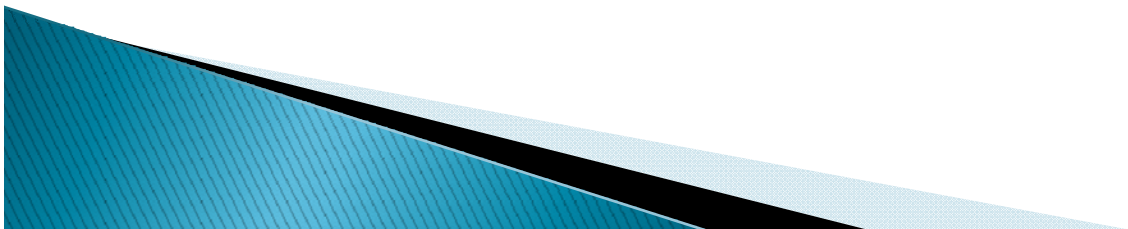## Objectives

Mayor Map

Mapping Progress

- Demo maps ready for release
  - Few months data
  - Long production cycle
- Long term goal
  - Near real time mapping ~ day or less
- Heat map of the nation
- Opportunity to look at impact of real time events
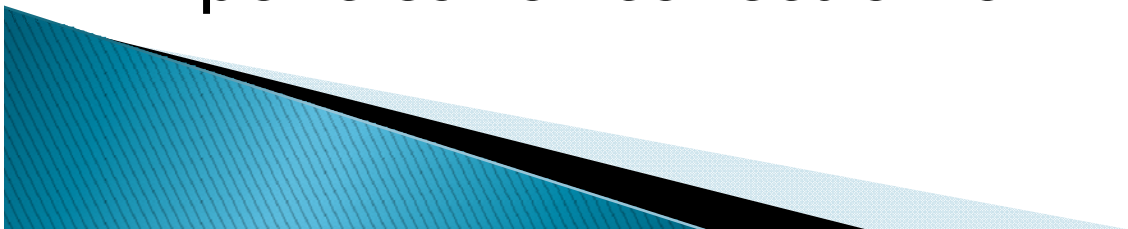 - Disasters, crowd events
- State level interest in data

Privacy Concerns in Mobile Data

- Privacy aspects of Internet data a growing concern
  - NTIA/FTC have led industry discussions
    - Privacy discussions still in early stage
    - Many Company's T&Cs seek to protect the company, not the consumer
- FCC collection of data
  - Goal to protect consumer
  - Seek only necessary data supporting understanding of broadband services and broadband network

FCC Data Collection

- Handset data fully anonymized
  - Let to changes in initial design strategies
  - Privacy analysis of data with outside parties
  - Further obfuscation of data when required for public release
    - Thresholds, aggregation of some parameters
- Other agencies and organizations collecting mobile data
  - Use of such data may be entangled with privacy concerns and sharing may be difficult
- Goal to start a discussion on common privacy policies for collection of mobile data

Thank you

Walter.johnston@fcc.gov