Utilizing Federal Data to Measure the Digital Divide

NTIA Webinar Series

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June 17, 2020
Participants

Moderators

• Emy Tseng, Broadband Communication Specialist, BroadbandUSA, NTIA
• Karen Archer Perry, Senior Policy Analyst, BroadbandUSA, NTIA

Presenters

• Rafi Goldberg, Telecommunications Policy Analyst, Office of Policy Analysis and Development, NTIA
• Tyson Weister, Survey Statistician, Dissemination Outreach Branch, Center for Enterprise Dissemination, U.S. Census Bureau
Helpful Information

Questions
• Please type questions in the Q&A box on the right hand side of the screen. Questions will be taken after the final presenter.

Presentation
• The presentation along with a transcript and recording will be available on the BroadbandUSA website within 7 days of this webinar under Events/past events.
• https://broadbandusa.ntia.doc.gov/past-event

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• Guides, products, publications, and other tools are available to assist you with the planning, funding and implementation of your broadband project.
• https://broadbandusa.ntia.doc.gov

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Rafi Goldberg, Telecommunications Policy Analyst, Office of Policy Analysis and Development, NTIA
Measuring the Digital Divide

Exploring NTIA’s Internet Use Survey

June 17, 2020

Rafi Goldberg
Policy Analyst
Office of Policy Analysis and Development
Major Federal Data Sources

- NTIA Internet Use Survey
- American Community Survey (ACS)
- FCC Form 477 (Broadband deployment and subscription)
- Others: Dept of Ed, USDA surveys, Census Household Pulse Survey
NTIA Internet Use Survey

• Over 25-year partnership between NTIA and the Census Bureau
• Administered periodically as a supplement to the Current Population Survey (CPS)
  – In the field every month since 1940
  – ~50,000 households each month, state-based sample design, in-person & live phone interviews
  – Primarily serves as the source of certain labor force statistics, e.g., unemployment rate
Tracking the Digital Divide

Figure 1: Internet Use by Race or Ethnicity, Percent of Americans Ages 3+, 1998–2019

Source: National Telecommunications and Information Administration, https://www.ntia.gov/data
Exploring Online Activities

Working Remotely via the Internet by State, Percent of Internet Users Ages 15+, 2019
Understanding Barriers to Adoption

Main Reason for Not Using the Internet at Home, Percent of Offline Households, 2001–2019

Source: National Telecommunications and Information Administration, https://www.ntia.gov/data

- No Need/Interest: 58% in 2019
- Too Expensive: 21% in 2019
- Other: 17% in 2019
- No Computer: 4% in 2019
Over 50 Questions About Internet Use

- Devices and Internet access technologies
- Locations of use
- Online activities
- Reasons for non-use
- Privacy and security concerns
NTIA Data Central

https://www.ntia.gov/data

Data Central Blog

Data Explorer

Research Center
Data Central Blog: Recent Topics

https://www.ntia.gov/data/blogs

- New 2019 Results: Digital Divide and Device Usage
- Participation in the Sharing Economy
- Cord Cutting/Shift to Streaming Video
- Examining Offline Households
- The Homework Gap
- Privacy and Security Concerns
Research Center

https://www.ntia.gov/page/digital-nation-research-center

- Resources for using raw data from the NTIA Internet Use Survey for research
- Every dataset posted with technical documentation (2019 coming soon!)
- Sample code for Stata users
- Help line: data@ntia.gov
Data Explorer


• Visualize dozens of metrics tracked over time
• Break out by state map, or chart by age, income, race, education, disability, etc.
• Quicker and easier than raw datasets, yet customizable
Utilizing Federal Data to Measure the Digital Divide

Thank you, Rafi!
Tyson Weister, Survey Statistician, Dissemination Outreach Branch, Center for Enterprise Dissemination, U.S. Census Bureau
ACS Computer and Internet Statistics on data.census.gov

BroadbandUSA

June 17, 2020
The American Community Survey is on the leading edge of survey design, continuous improvement, and data quality

- The nation’s most current, reliable, and accessible data source for local statistics on critical planning topics such as age, children, veterans, commuting, education, income, and employment
- Surveys 3.5 million addresses and informs over $675 billion of Federal government spending each year
- Covers 40+ topics, supports over 300 evidence-based Federal government uses, and produces 11 billion estimates each year
- Three key annual data releases:
  - 1-year Estimates (for large populations)
  - 1-year Supplemental Estimates (for small populations)
  - 5-year Estimates (for very small populations)
5-year estimates include:

- All geographic areas down to the census tract and block group level
New Data on Computer & Internet Use

ACS released 2014-2018 5-year estimates on December 19, 2019!

- Covers 40+ topics: age, demographics, density, children, veterans, commuting, education, income, housing, employment, poverty, industry, housing type,…

- New topics in 2017: computer, Internet, and cell phone use
View or Download ACS Data

- Access via:
  - data.census.gov
  - Census API
  - FTP
  - Quickfacts

- Many Subject Tables including:
  - “Types of Computers and Internet Subscriptions” S2801
  - “Types of Internet Subscriptions by Selected Characteristics” S2802
ACS Questions on Internet Subscriptions

10. **At this house, apartment, or mobile home—do you or any member of this household have access to the Internet?**

- [ ] Yes, by paying a cell phone company or Internet service provider
- [ ] Yes, without paying a cell phone company or Internet service provider → **SKIP to question 12**
- [ ] No access to the Internet at this house, apartment, or mobile home → **SKIP to question 12**

11. **Do you or any member of this household have access to the Internet using a:**

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Cellular data plan for a smartphone or other mobile device?</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>b. Broadband (high speed) Internet service such as cable, fiber optic, or DSL service installed in this household?</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>c. Satellite Internet service installed in this household?</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>d. Dial-up Internet service installed in this household?</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>e. Some other service? <strong>Specify service</strong></td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

80.9% - With an Internet Subscription

80.4% - Broadband of any type
  67.9% - Broadband such as cable, fiber optic or DSL
  5.9% - Satellite Internet service
  57.8% - Cellular data plan
      8.8% - Cellular data plan only

0.5% - Dial-up with no other type of Internet subscription

19.1% - Without an Internet Subscription
ACS Questions on Computer Ownership

9. At this house, apartment, or mobile home - do you or any member of this household own or use any of the following types of computers?
   a. Desktop or laptop
   b. Smartphone
   c. Tablet or other portable wireless computer
   d. Some other type of computer
      Specify

   [Yes/No]

- **87.8% - One or more computing devices**
  - 77.9% - Desktop or laptop
    - 8.7% Desktop or laptop w/ no other device
  - **75.9% Smartphone**
    - 5.4% Smartphone with no other type of computing device
  - 57.2% Tablet or other portable wireless computer
    - 0.8% Tablet of other portable wireless computer w/ no other device –
      - 4.3% Other computer
        - 0.1% Other computer with no other type of computing device
- **11.2% - No computer**
data.census.gov: Changing the way you get data

New dissemination platform:
• Streamline access to data on census.gov search
  • One platform allows all content to be searchable
• Maintain best of current tools
  • Functionality available for all data
• Reduce redundancies and costs
  • One platform = One delivery
• Provide greater access to Census API

Data.census.gov is a work in progress:
• Agile software development process
• Two month cycle of development:
  • Develop, Release, Feedback, Redefine, Release Again
• Customer-driven development based on feedback
## Surveys and Programs on data.census.gov

<table>
<thead>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>American Community Survey</td>
<td>–</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Decennial Census (Selected Tables)</td>
<td>✓</td>
<td>✓</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Economic Census</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>✓</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>✓</td>
<td>–</td>
</tr>
<tr>
<td>County and Zip Code Business Patterns</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Non-Employer Statistics</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Survey of Business Owners (Company Summary &amp; Characteristics of Business Owners)</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>✓</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

✓: Available now  
Blank cell: Coming soon
Example 1 - Advanced Search: Search by Topic

Internet Subscription
Mobile, Alabama
Select Geography: Mobile city

- Select Geography
  Geography → Place → Alabama → Mobile city, Alabama

TIP: Click the magnifying glass at the top of the panel to search the list of places in Alabama
Select Topic

Use advanced search:
- Topics → Housing → Physical Characteristics → Telephone, Computer, and Internet Access
- Verify filters and click Search in the lower right
Choose Table, Verify Product Drop Down, and Click Customize Table

- Click Tables in the upper left
- Verify product drop down menu says is set to your desired dataset (ACS 1-year or ACS 5-year estimates)
- Select your table
- Click Customize Table
1. Expand or collapse columns by dragging it left or right in the shaded area

2. Click, hold and drag columns off your screen to hide them

3. Toggle on/off the margin of error (MOE) as desired
### Types of Internet Subscriptions by Selected Characteristics

**Survey/Program:** American Community Survey  
**Table ID:** S2802  
**Product:** ACS 1-Year Estimates Subject Tables

<table>
<thead>
<tr>
<th>Mobile city, Alabama</th>
<th>Total</th>
<th>With a computer</th>
<th>Percent no computer in household</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Percent without an Internet Subscription</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimate</td>
<td></td>
<td>Estimate</td>
<td>Estimate</td>
</tr>
<tr>
<td><strong>Total population in households</strong></td>
<td>164,206</td>
<td>10.2%</td>
<td>10.3%</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under 18 years</td>
<td>39,114</td>
<td>8.3%</td>
<td>7.7%</td>
</tr>
<tr>
<td>18 to 64 years</td>
<td>112,843</td>
<td>11.5%</td>
<td>7.4%</td>
</tr>
<tr>
<td>65 years and over</td>
<td>32,249</td>
<td>8.0%</td>
<td>23.4%</td>
</tr>
<tr>
<td>Race and Hispanic or Latino</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White alone</td>
<td>76,497</td>
<td>4.5%</td>
<td>6.4%</td>
</tr>
</tbody>
</table>
Example 2 - Advanced Search: Search by Table ID and Mapping:

All census tracts in Mobile County
Specify Table ID

Use advanced search:

- Search by table ID in the first text box directly under the Advanced Search heading
Select Geography: Mobile County

- Select Geography
  Geography → County → Alabama → Mobile County, Alabama
Select Geography: All Census Tracts in Mobile County, AL

- Select Geography
  - Geography → Tract
  - Mobile County, Alabama → All Census Tracts within Mobile County, Alabama

- Verify filters and click Search in the lower right
View Table Results

- Click Tables in the upper left
- Change the product drop down menu to ACS 5-Year estimates to get data for census tracts
- Find an estimate that you would like to map

<table>
<thead>
<tr>
<th>TYPES OF COMPUTERS AND INTERNET SUBSCRIPTIONS</th>
<th>Census Tract 2, Mobile County, Alabama</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survey/Program: American Community Survey</td>
<td>Total</td>
</tr>
<tr>
<td>Years: 2018-2023/2021-2022</td>
<td>Estimate, Margin of Error, Estimate</td>
</tr>
<tr>
<td>TableID: 52801</td>
<td></td>
</tr>
</tbody>
</table>

| Accessibility                              |                                       |
| Information Quality                        |                                       |
| FOIA                                       |                                       |
| Data Protection and Privacy Policy         |                                       |
| U.S. Department of Commerce                |                                       |
| Release Notes and FAQs                     |                                       |
| Measuring America's People, Places and Economy |                                   |

- Without an Internet subscription

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Margin of Error</th>
<th>Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>322</td>
<td>+/-76</td>
<td>42.3%</td>
</tr>
</tbody>
</table>
Navigate to Map

Navigate to the map tab

- Click Maps from the table results page
- Click your table of interest
- Verify the map is set to the census tract level, and that it is zoomed to census tracts in the Mobile County. You may need to manually zoom and scroll to the selected tracts.
Select Your Variable

From the Map View

- Click Customize Map
- Select the Data Variable dropdown menu and keep scrolling to the bottom until you’ve loaded the full list
- Find and click the variable that says Percent—TYPE OF INTERNET SUBSCRIPTIONS—Without an Internet Subscription—Estimate
Click on the census tracts with the darkest shade of blue to see which census tracts have the highest percentage of households without an Internet subscription.
Compare Your Variable Across Geographies

- Click View Table in the left navigation panel
- View table with all of your geographies. Click the column header for your variable to sort the data in ascending or descending order
Stay Connected: Webinars, Tutorials, and Feedback

data.census.gov Resources page: census.gov/data/what-is-data-census-gov.html

Census Academy: census.gov/data/academy/webinars/upcoming.html

• Webinars: Recorded and upcoming webinars on data.census.gov

• Data Gems: A series of short “How-To” videos

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Our Development Depends on YOUR Feedback

Explore Census Data
The Census Bureau is the leading source of quality data about the nation's people and economy.

Check out data.census.gov and provide comments at cedsci.feedback@census.gov
Measuring Household Experiences during the Coronavirus (COVID-19) Pandemic

New Household Pulse Survey -- Contains data on computer/internet use for educational purposes

census.gov/householdpulsedata
Feedback

Email your comments to cedsci.feedback@census.gov

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Release Notes & FAQs:
data.census.gov/assets/releasenotes/faqs-release-notes.pdf

Stay in Touch

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301-763-9135

Tyson Weister
Survey Statistician
Dissemination Outreach Branch
Center for Enterprise Dissemination
U.S. Census Bureau
Utilizing Federal Data to Measure the Digital Divide

Thank you, Tyson!
27% of Households in Mobile County AL have no Internet Subscription

72.9% HH have an Internet subscription
55.3% HH have wireline Internet
12.6% HH rely solely on cellular data plan
27.0% HH have no Internet subscription

*Map of tracts with no Internet access courtesy of I3 Connectivity Explorer. Range of the divides: 2.9% - 66.5%

https://i3connect.org/acs/subscriptions/map
Census QuickFacts are available at www.census.gov/quickfacts
More than 100,000 Mobile County Residents have no Internet Subscription

Calculation: 42,196 HH * 2.6 person/HH
= 109,710 people w/o Internet

https://www.census.gov/quickfacts/fact/dashboard/
Turning Data into Action

• Now that you’ve identified communities in need
  – Assemble a team
  – Define your community goals
  – Determine barriers to broadband adoption and usage
  – Assess local programs and resources
  – Engage stakeholders and identify potential partnerships
  – Develop a plan
Utilizing Federal Data to Measure the Digital Divide

Questions and Comments

• Please type your questions in the Q&A box.

• The slides, transcript, and a recording will be posted on the BroadbandUSA website within 7 days of the webinar.

https://broadbandusa.ntia.doc.gov/past-event
Thank you for attending.
Tune in for the next Practical Conversations Webinar

Cyberinfrastructure: Moving Beyond Broadband at HBCUs and TCUs
July 15, 2020
2:00 pm EST

Registration is required for each webinar:
https://broadbandusa.ntia.doc.gov/event
BroadbandUSA is available to help communities with their broadband access and digital inclusion efforts

For General Information:
- 202-482-2048
- broadbandusa@ntia.doc.gov
- https://broadbandusa.ntia.doc.gov/resources

To Request Technical Assistance (TA):
- Broadband TA Request Form - https://broadbandusa.ntia.doc.gov/ntia-common-content/how-we-can-help

**BBUSA Resources**
- Implementing a Broadband Network Vision: A Toolkit for Local and Tribal Governments
- Community Broadband Roadmap Toolkit
- Guide to Federal Funding of Broadband Projects
- Using Partnerships to Power Smart Cities