Utilizing Federal Data to Measure the Digital Divide

NTIA Webinar Series

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Conference Line: 800-593-7190 Passcode: 984-4951#

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

Technical Assistance

- 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
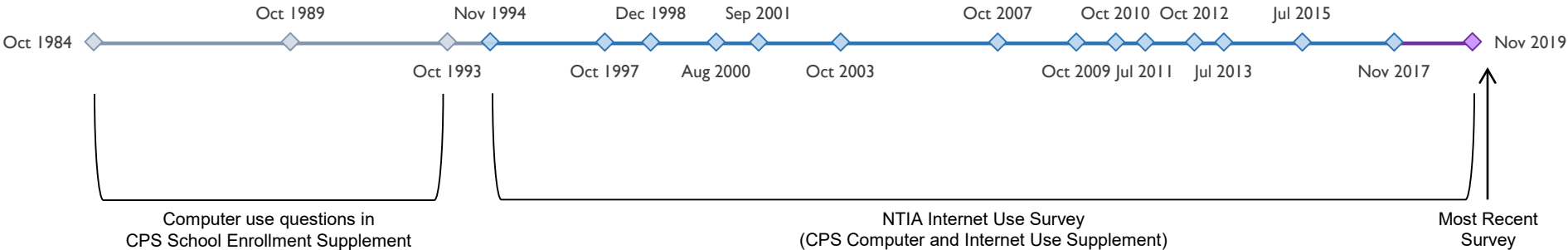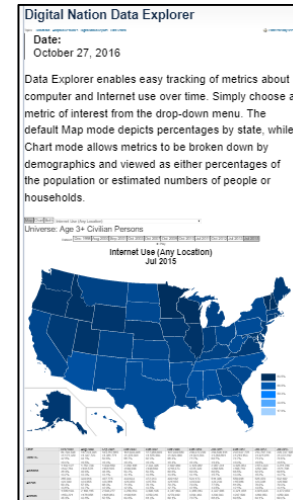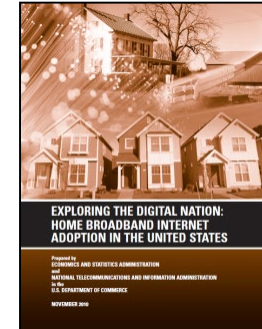
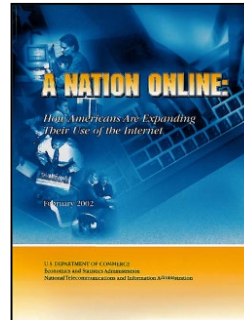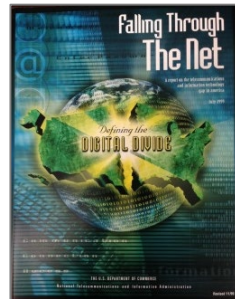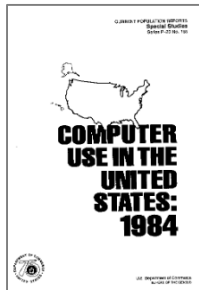June 17, 2020

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

Digital Nation Data Explorer

Date:
October 27, 2016

Data Explorer enables easy tracking of metrics about computer and Internet use over time. Simply choose a metric of interest from the drop-down menu. The default Map mode depicts percentages by state, while Chart mode allows metrics to be broken down by demographics and viewed as either percentages of the population or estimated numbers of people or households.

Universe: Age 3+ Civilian Persons

Internet Use (Any Location)
Jul 2015

Oct 1989   Nov 1994   Dec 1998   Sep 2001   Oct 2007   Oct 2010 Oct 2012   Jul 2015

Oct 1984   Nov 2019

Oct 1993   Oct 1997   Aug 2000   Oct 2003   Oct 2009 Jul 2011 Jul 2013   Nov 2017

Computer use questions in
CPS School Enrollment Supplement

NTIA Internet Use Survey
(CPS Computer and Internet Use Supplement)

Most Recent
Survey

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
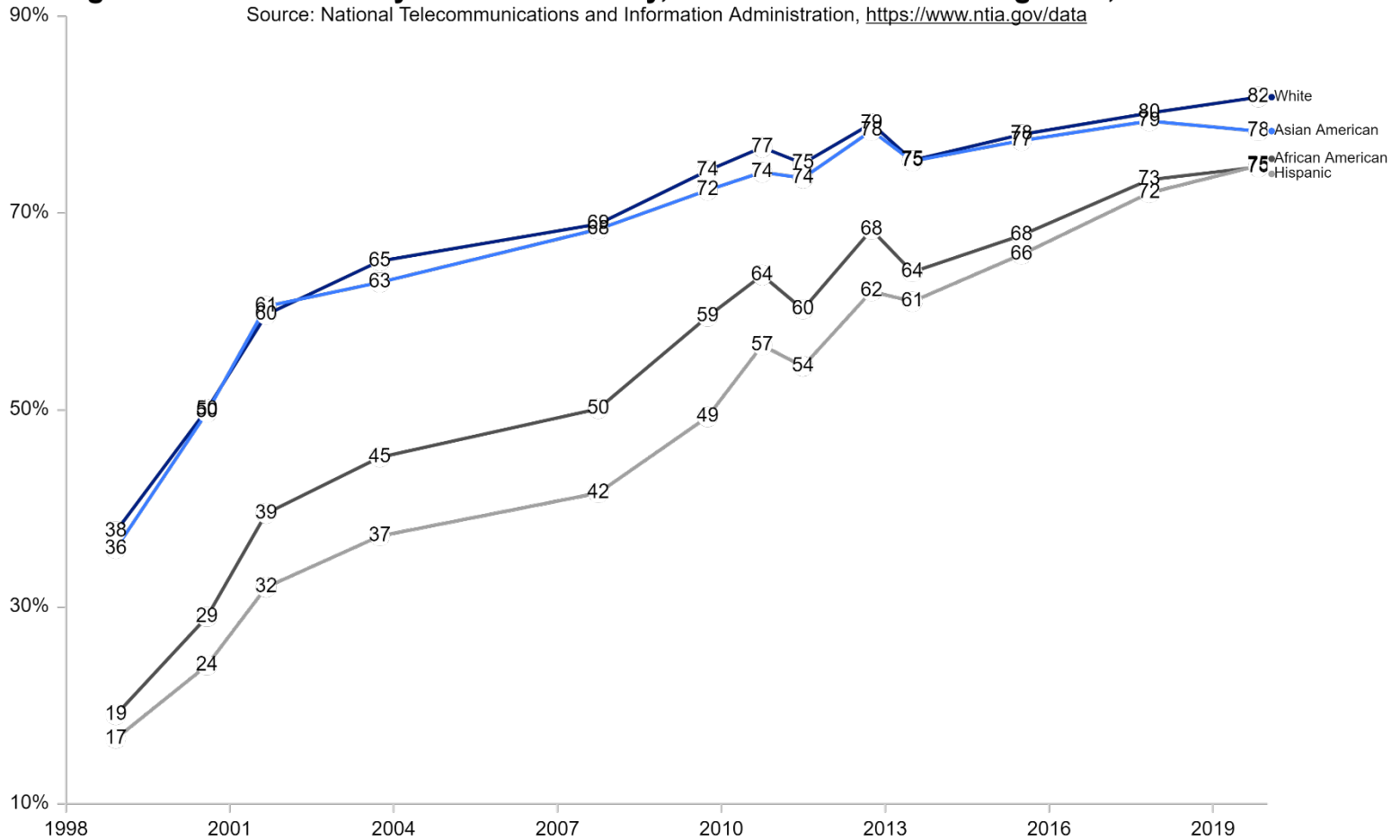
Exploring Online Activities

Working Remotely via the Internet by State, Percent of Internet Users Ages 15+, 2019

53.6%

42.2%

30.9%

19.5%

8.2%
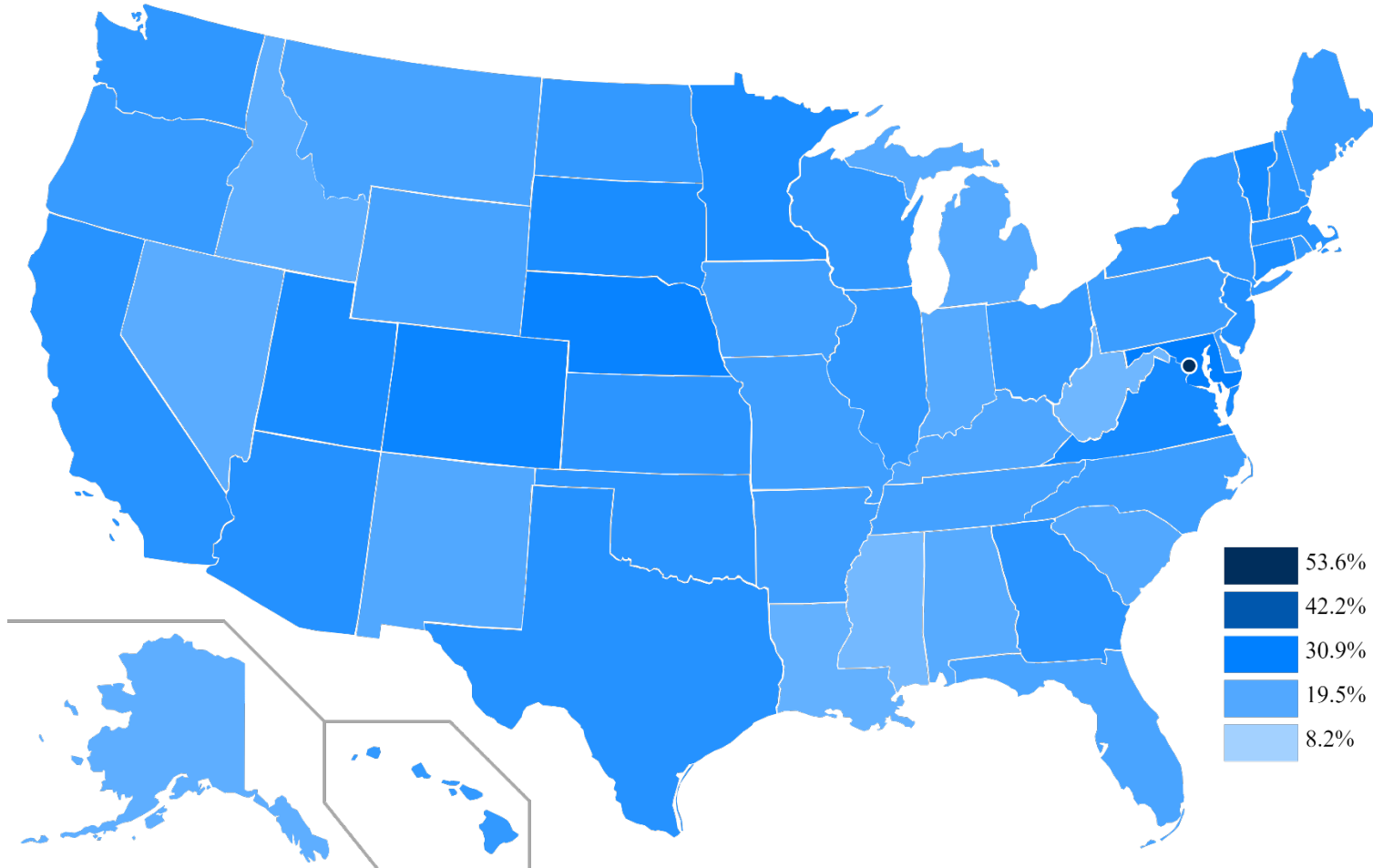
Understanding Barriers to Adoption

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
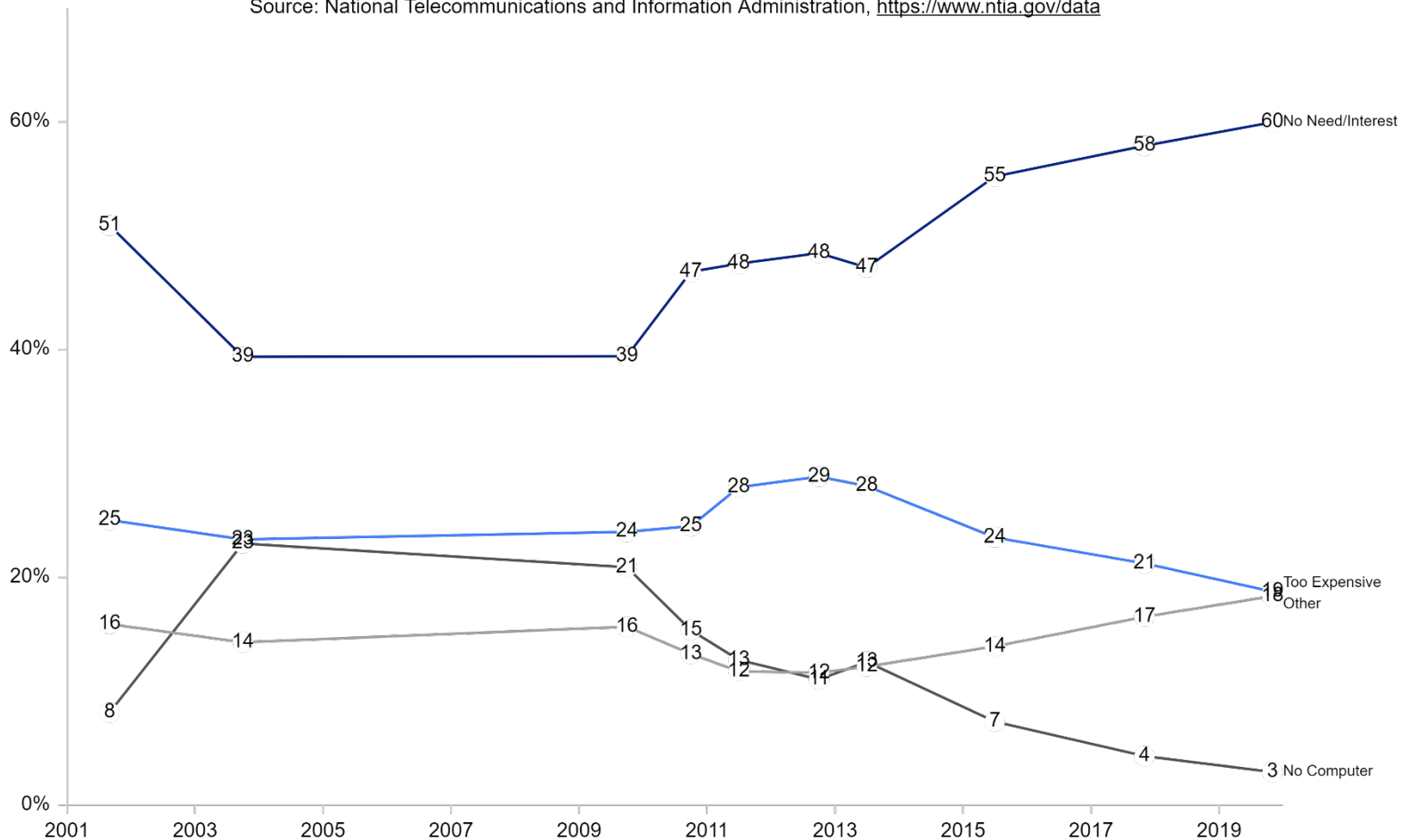
Over 50 Questions About Internet Use

- 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
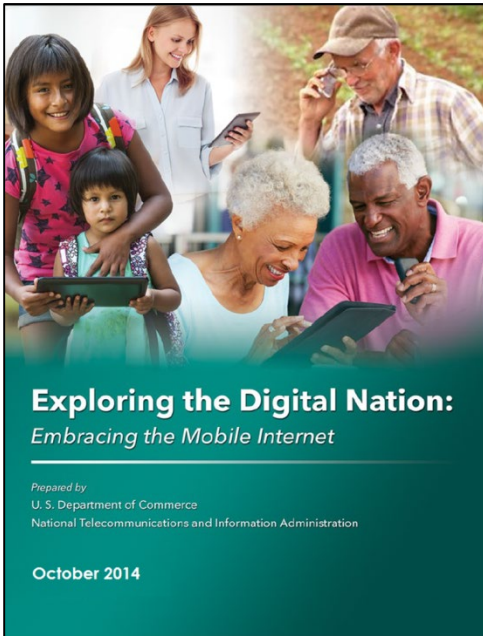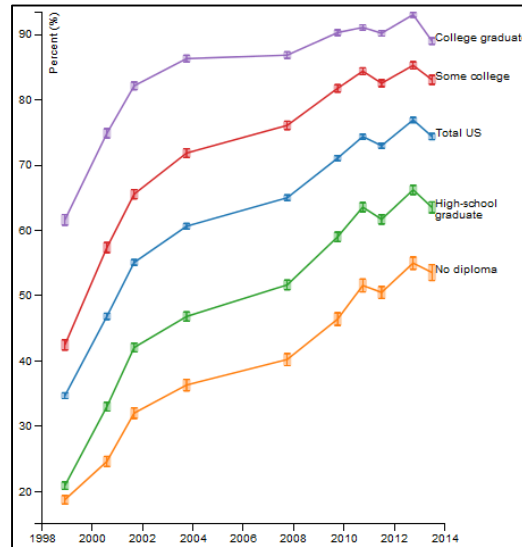
Data Central Blog

Data Explorer
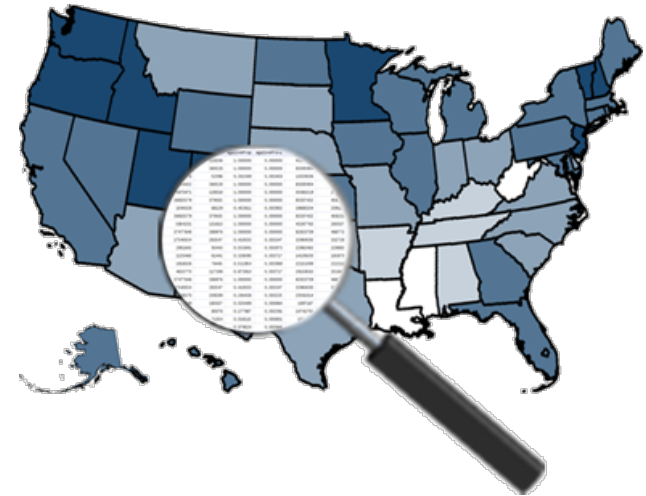
Research Center

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

NTIA Data Central:
https://www.ntia.gov/data
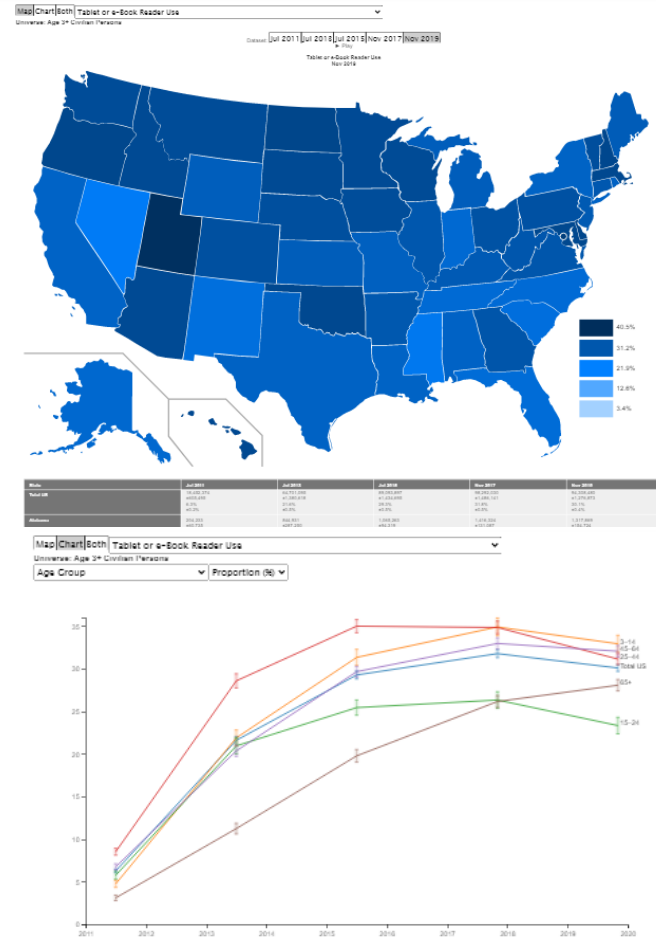
Questions? rgoldberg@ntia.gov

Join Our Mailing List:
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Website: WWW.NTIA.GOV

Twitter: @NTIAgov

Facebook: Facebook.com/NTIAgov

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

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American Community Survey

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)

Geography & American Community Survey

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

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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 –

	Yes	No
a. Cellular data plan for a smartphone or other mobile device?	☐	☐
b. Broadband (high speed) Internet service such as cable, fiber optic, or DSL service installed in this household?	☐	☐
c. Satellite Internet service installed in this household?	☐	☐
d. Dial-up Internet service installed in this household?	☐	☐
e. Some other service? *Specify service* ↙	☐	☐

U.S. Internet Subscriptions: 2014-2018 ACS 5-Year

80.9% - With an Internet Subscription

80.4% - Broadband of any type

    67.9% - Broadband such as cable, fiber optic or DSL
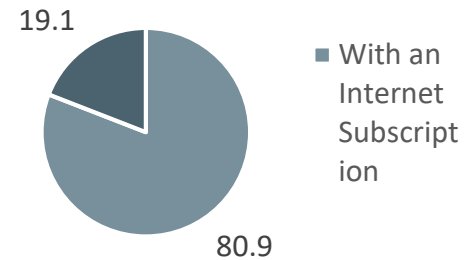
    5.9% - Satellite Internet service

    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

19.1

80.9

■ With 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?

	Yes	No
a. Desktop or laptop	☐	☐
b. Smartphone	☐	☐
c. Tablet or other portable wireless computer	☐	☐
d. Some other type of computer *Specify* ⬋	☐	☐

U.S. Computer Ownership: 2014-2018 ACS 5-Year

- **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**

11.2
%

87.8
%

■ Has 1 or more devices

■ No computer
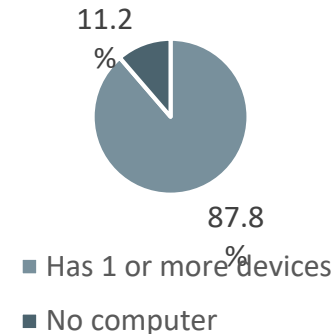
data.census.gov: Changing the way you get data

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
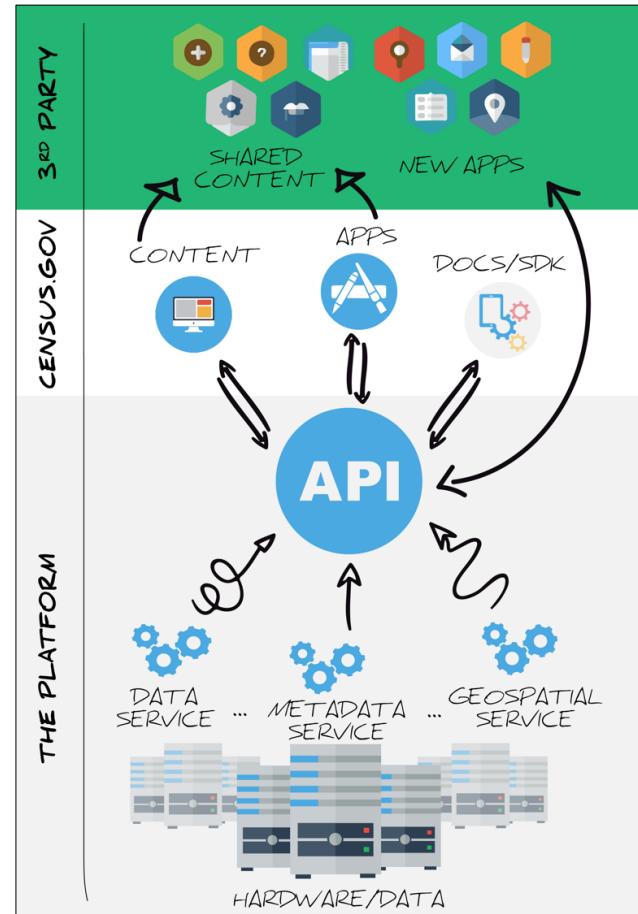
Surveys and Programs on data.census.gov

Data Product	2000	2010	2011	2012	2013	2014	2015	2016	2017	2018
American Community Survey	–	✓	✓	✓	✓	✓	✓	✓	✓	✓
Decennial Census (Selected Tables)	✓	✓	–	–	–	–	–	–	–	–
Economic Census	–	–	–	✓	–	–	–	–	✓	–
County and Zip Code Business Patterns	–	–	–	✓	✓	✓	✓	✓	✓	
Non-Employer Statistics	–	–	–	✓	✓	✓	✓	✓	✓	
Survey of Business Owners (Company Summary & Characteristics of Business Owners)	–	–	–	✓	–	–	–	–	–	–

✓: Available now

Blank cell: Coming soon

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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

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Select Topic

Use advanced search:

- Topics → Housing → Physical Characteristics → **Telephone, Computer, and Internet Access**

- Verify filters and click **Search** in the lower right

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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

Customize Your View

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

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View Table Results

// Search / Tables / S2802

TYPES OF INTERNET SUBSCRIPTIONS BY SELECTED CHARACTERISTICS

Survey/Program: American Community Survey   TableID: S2802   Product: 2018: ACS 1-Year Estimates Subject Tables ⌄

| | Data Notes | Selections | 1 Geography | Years | 1 Topic | Survey | 123 Code | Hide | Filter | Sort | Transpose Table | Margin of Error | More |

		Mobile city, Alabama		
	Total	**With a computer**	**Percent no computer in household**
		Percent without an Internet Subscription	
	Estimate	**Estimate**	**Estimate**
⌄ Total population in households	184,206	10.2%	10.3%
⌄ AGE			
Under 18 years	39,114	8.3%	7.7%
18 to 64 years	112,843	11.5%	7.4%
65 years and over	32,249	8.0%	23.4%
⌄ RACE AND HISPANIC OR LATINO ...			
White alone	76,497	4.5%	6.4%

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

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Select Geography: All Census Tracts in Mobile County, AL

- Select Geography

  Geography → Tract → Alabama → 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
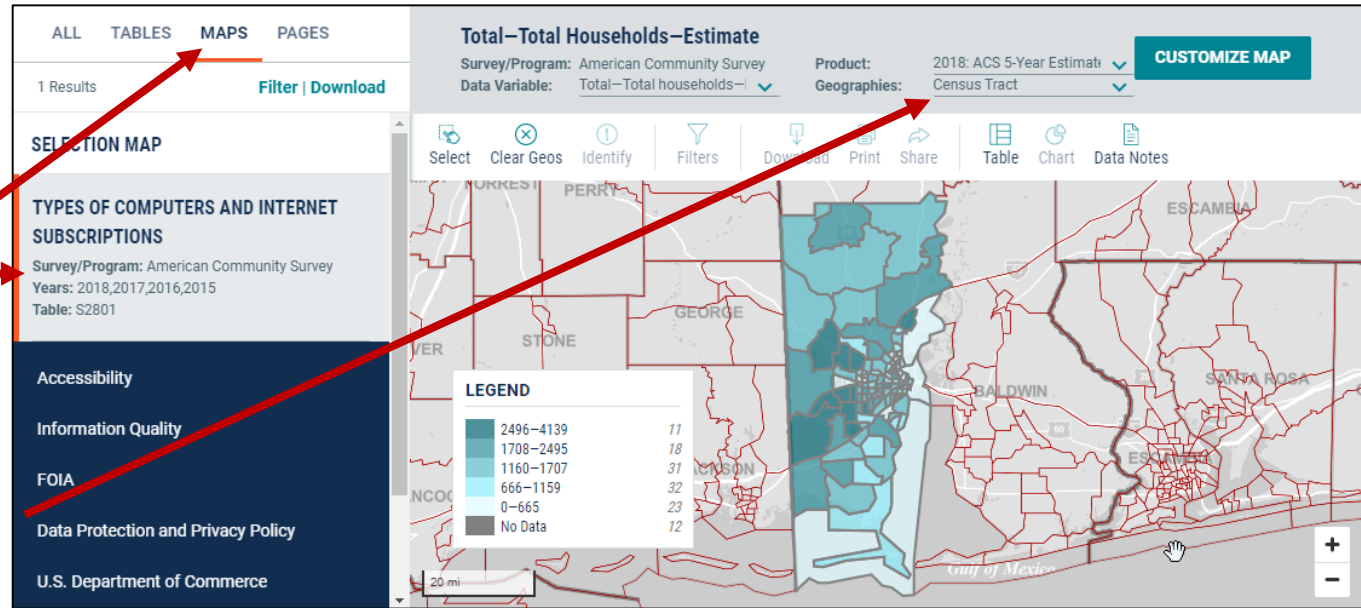
- Find an estimate that you would like to map

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**

View Map
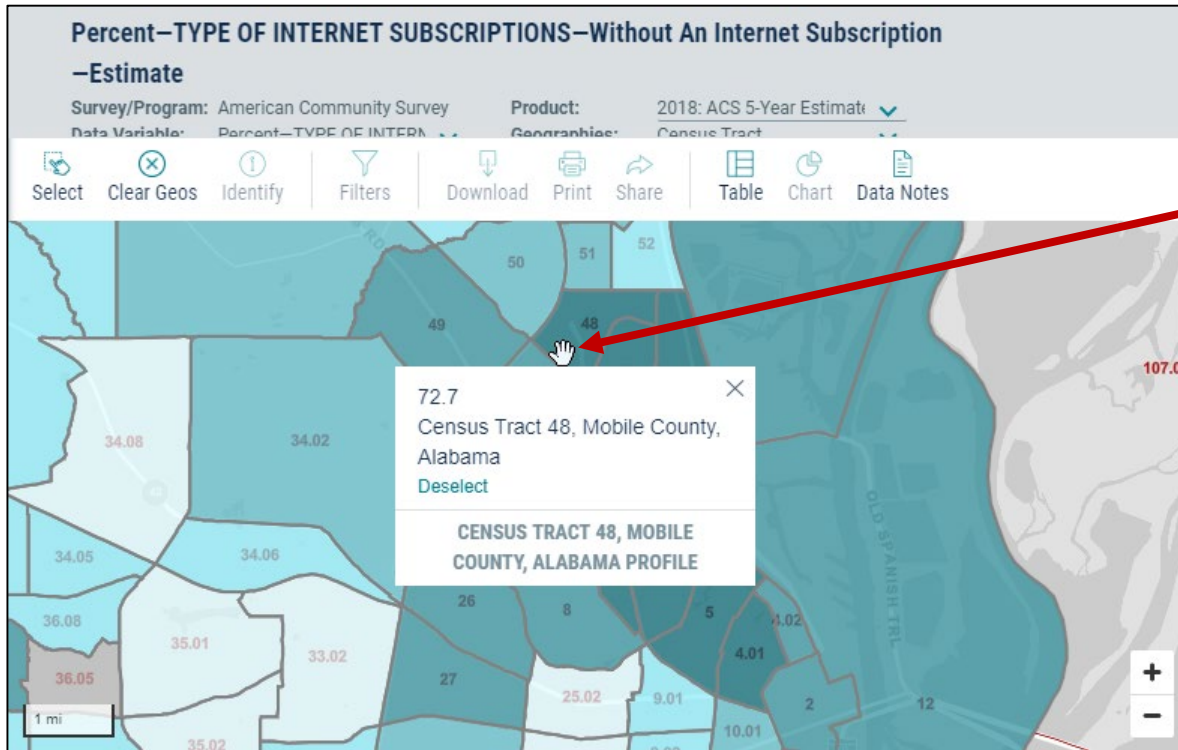
- Click on the census tracts with the darkest shade of blue to see which census tracts have the highest percentage of households without an Internet subscription

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

Feedback: Email comments to cedsci.feedback@census.gov
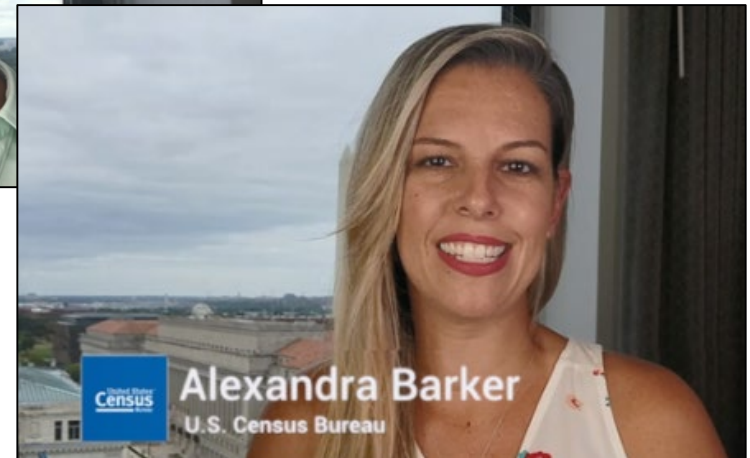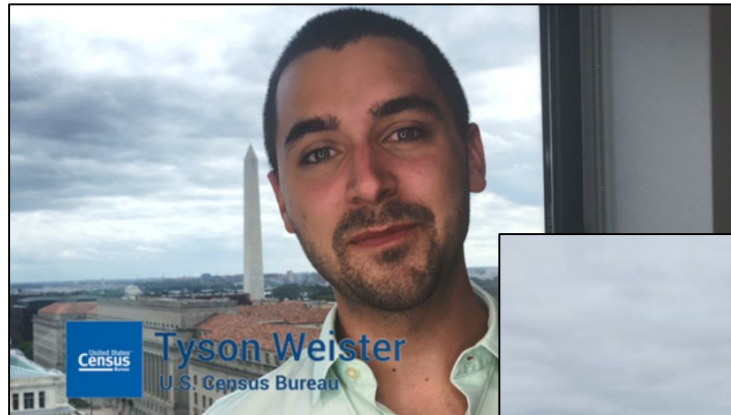
Our Development Depends on YOUR Feedback
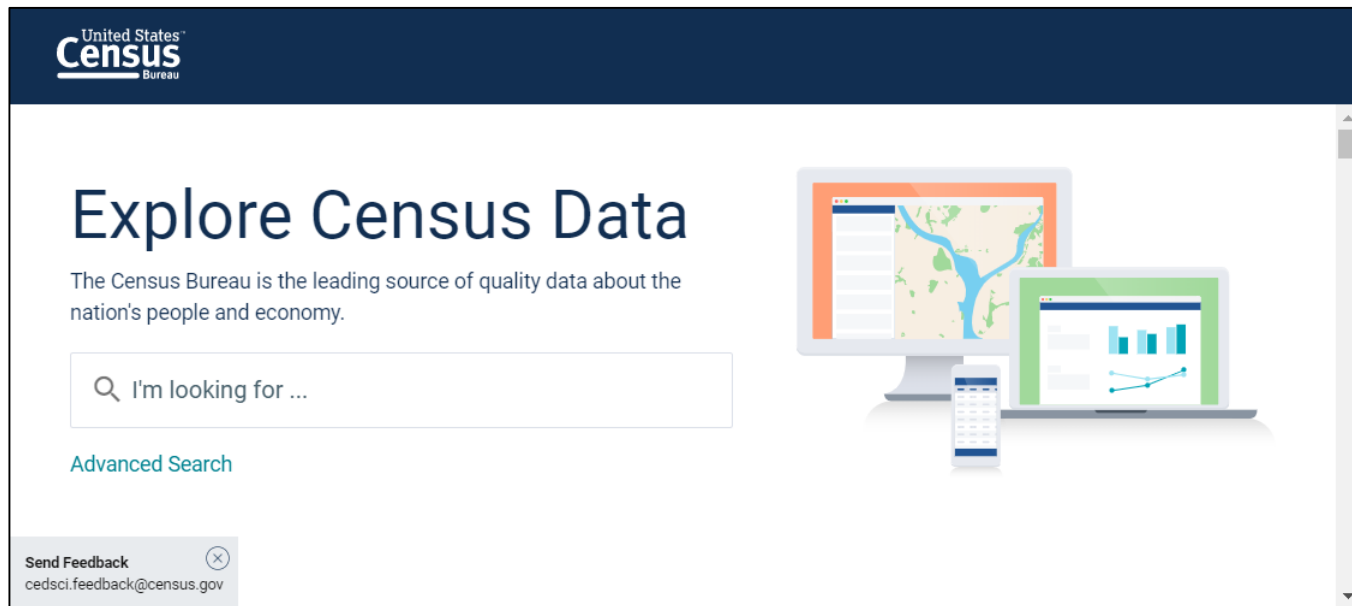
Check out data.census.gov and provide comments at
cedsci.feedback@census.gov

Measuring Household Experiences during the Coronavirus (COVID-19) Pandemic

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

Detailed Tables

Education Tables

X Table 1. Time Spent in Last Week on Home Based Education for Households with Children in School, by Select Characteristics [<1.0 MB]

X Table 2. COVID-19 Pandemic Impact on How Children Received Education, by Select Characteristics [<1.0 MB]

X Table 3. Computer and Internet Availability in Households with Children in Public or Private School, by Select Characteristics [<1.0 MB]

X Table 4. Provider of Computer and Internet Services for Households with Children in Public or Private School, by Select Characteristics [<1.0 MB]

census.gov/householdpulsedata

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Feedback	Learn More and Share	Stay in Touch
Email your comments to cedsci.feedback@census.gov	What is data.census.gov? census.gov/data/what-is-data-census-gov.html	cedsci.feedback@census.gov
		tyson.weister@census.gov 301-763-9135
	Webinars: census.gov/data/academy/webinars/2020/exploring-data-census-gov.html	Tyson Weister Survey Statistician Dissemination Outreach Branch Center for Enterprise Dissemination U.S. Census Bureau
	Tutorials/Data Gems: census.gov/data/academy/data-gems.html	
	Release Notes & FAQs: data.census.gov/assets/releasenotes/faqs-release-notes.pdf	

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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
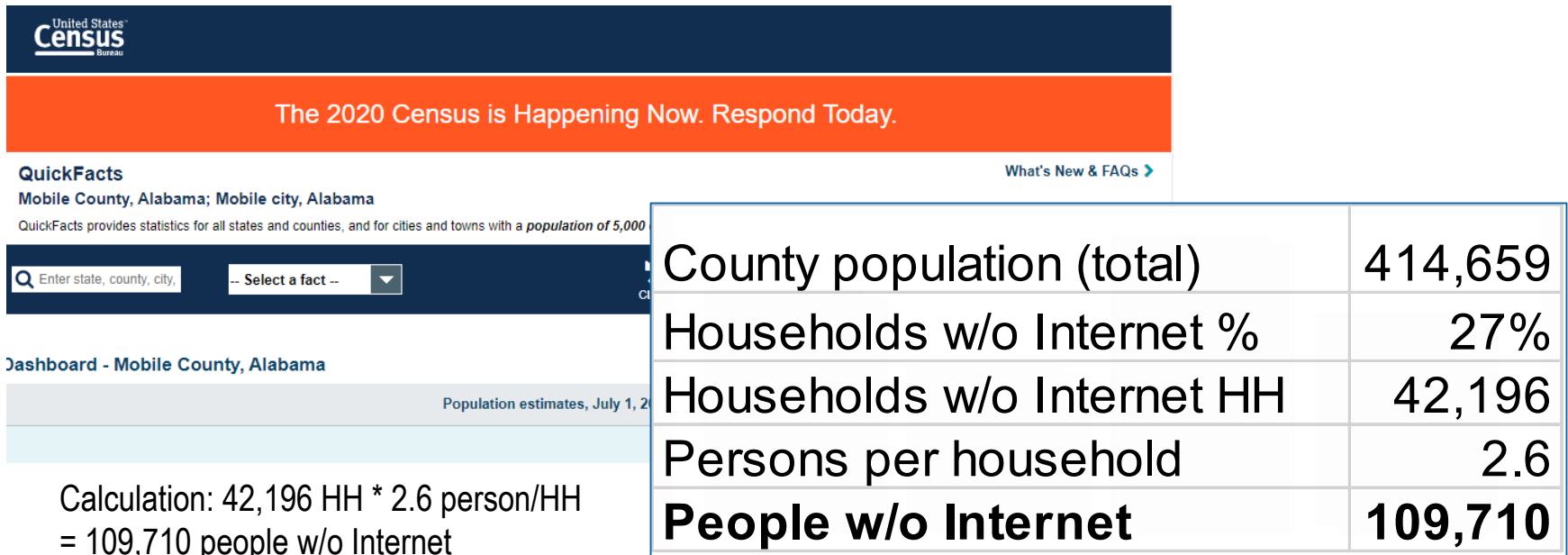12.6% HH rely solely on cellular data plan
27.0% HH have no Internet subscription

*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

United States Census Bureau

The 2020 Census is Happening Now. Respond Today.

QuickFacts
Mobile County, Alabama; Mobile city, Alabama
QuickFacts provides statistics for all states and counties, and for cities and towns with a *population of 5,000*

Q Enter state, county, city,   -- Select a fact --

Dashboard - Mobile County, Alabama

Population estimates, July 1, 2

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

What's New & FAQs ▸

County population (total)	414,659
Households w/o Internet %	27%
Households w/o Internet HH	42,196
Persons per household	2.6
People w/o Internet	**109,710**

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

BroadbandUSA: Planning a Community Broadband Roadmap

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

Broadband USA

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

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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