

US Census Bureau User Research

March 4, 2016

table of contents

I

- 03 | Client
- 04 | Problem Statement
- 05 | Timeline

II

- 06 | Methods
- 07 | Approach
- 08 | Users Groups

III

- 10 | Key Insights
- 20 | Personas
- 25 | Secondary

client



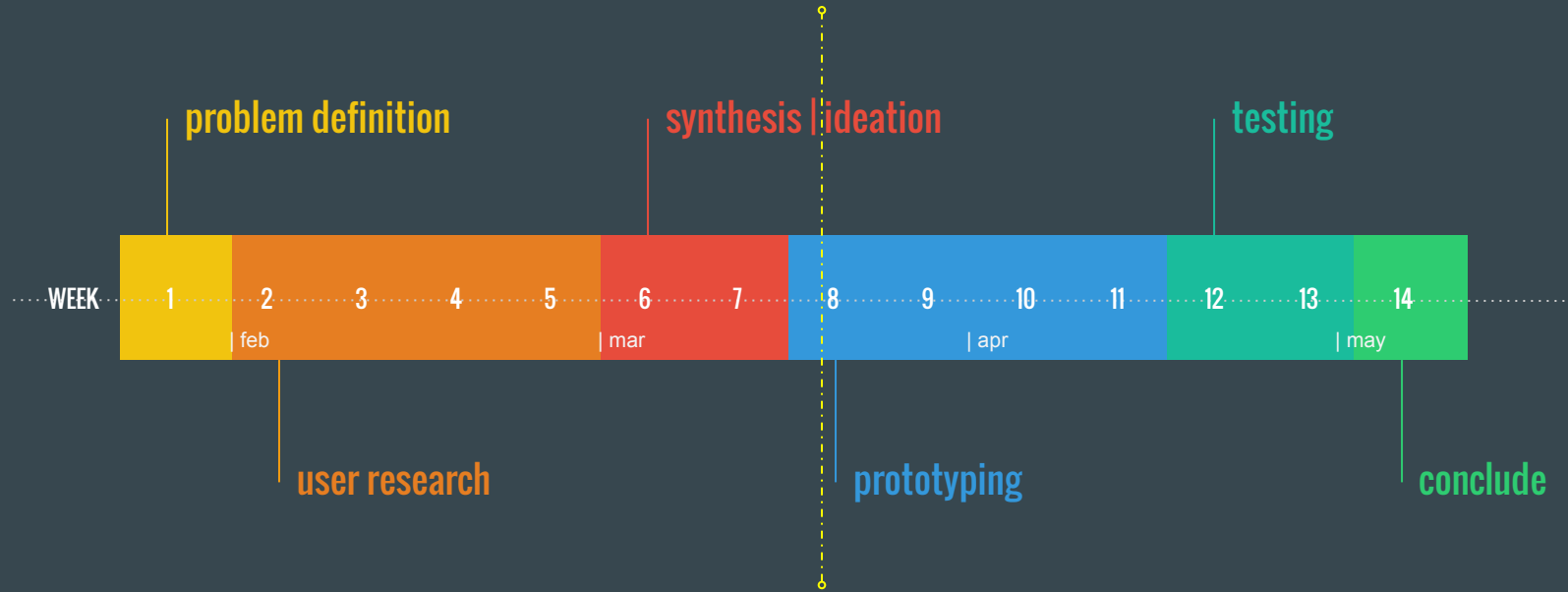
The Census Bureau, part of the Department of Commerce, serves as the leading source of quality data about the nation's people and economy. We honor privacy, protect confidentiality, share our expertise globally, and conduct our work openly.



problem statement

How might we improve **user experience** - search, retrieval and incorporation - of US Census data, particularly **income distribution** data?

timeline



METHODOLOGY

Through user interviews, we explored how individuals interact with Census data, what information they need to perform their jobs, and how their data search and retrieval process can be improved.



methods

Our research aimed to understand how users find, retrieve, and use data.

We engaged in a three step process in order to identify user personas:

- (1) identify and interview user groups;
- (2) synthesize findings into key insights; and
- (3) articulate user personas that cut across user groups.

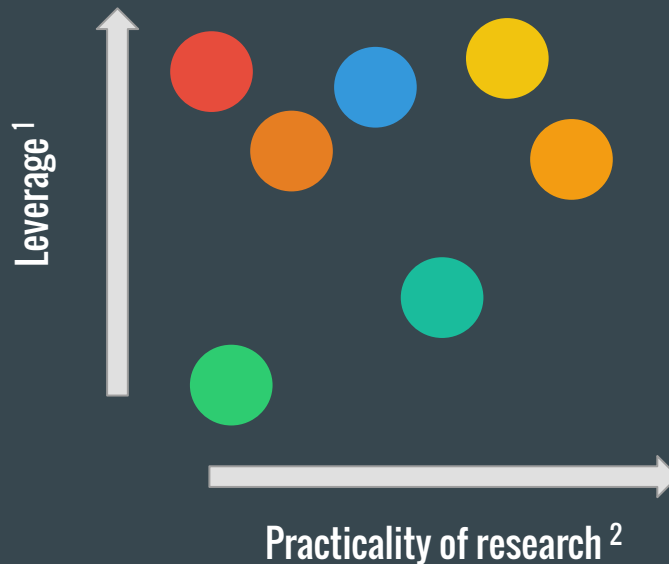
user groups

Who uses Census data?

media	research	government	politics	international	private sector	individuals
data journalists	research (academic)	government (federal)	political campaigns	multilateral institutions	financial institutions	concerned citizens
general journalists	research (private sector)	government (state)	activists	international organizations	consultants	
influencers/ celebrities	think tanks	government (local)	community organizers		real estate	
					developers	
					entrepreneurs	
					NGOs	

user groups

We evaluated user groups based on (1) practicality of research and (2) leverage, in order to determine which to target in our research.



1. Audience size, influence, reach
2. Access, likelihood of participation

user group focus

Our preliminary research focused on three user groups with high leverage and practicality.

8
researchers



includes 2 site visits

6
journalists

4
NGOs

sample interview questions

The Person

- How comfortable are you with technology?
- In which formats do you usually prefer to retrieve data?

The Need

- How do you use data in your [stories / research / grant applications]?
- How often do you search for data?

The Product

- How long, on average, does it take to incorporate data into your [stories / research / grant applications]?
- Do you perform operations on data, such as cleaning, filtering or analysis?

The Process

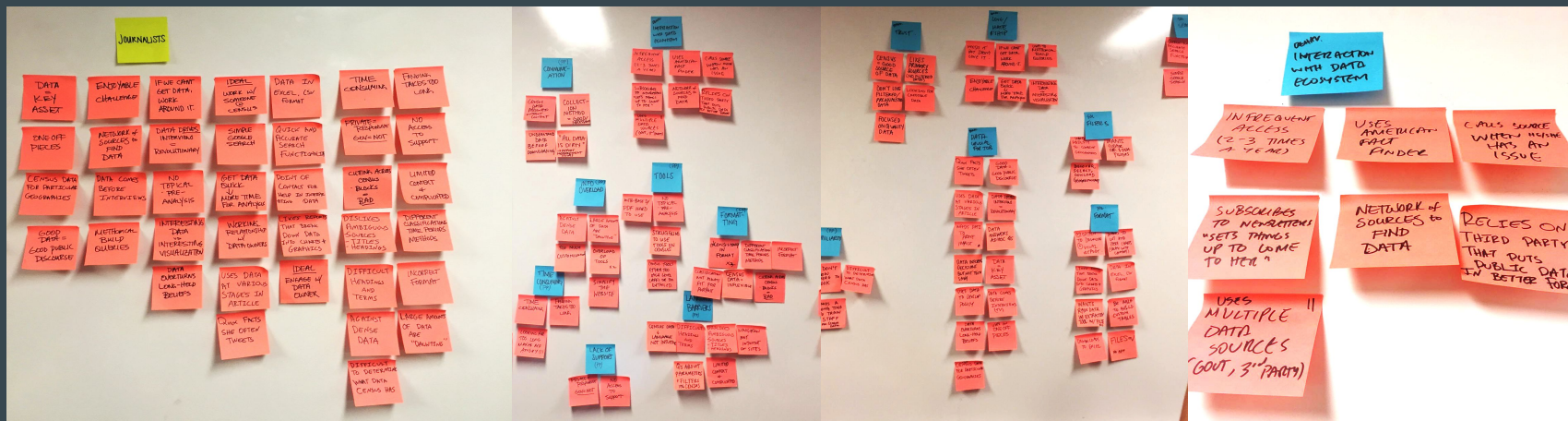
- What is your search process?
- Tell us about a time when it was really easy to find data.
- Tell us about a time when it was really difficult to find data.
- What are some common bottlenecks or issues in finding the data you need?
- How often do you use the US Census as a data source?
- How would you characterize your experience using the US Census website?

Income Inequality

- Do you search for income data?
- Are there particularly valuable data sources with respect to income or income inequality?
- Is income data unique from other data sets or topics?

design exercises

We used post-it notes and design exercises to synthesize our findings across user groups.



Identified user group
characteristics

Reorganized notes based on
thematic insights

FINDINGS



The image shows a man and a woman in a meeting room. The woman, on the left, is wearing a dark jacket and is pointing at a sticky note on the whiteboard. The man, on the right, is wearing a dark t-shirt and is gesturing with his hands while speaking. The whiteboard is covered with numerous sticky notes, many of which are pink and contain handwritten text. The text on the sticky notes includes various phrases related to data analysis, such as 'FOCUS ON QUALITY DATA', 'DATA ANALYSIS', 'RESEARCH (E.G.)', 'SUBSOURCES TO MONITOR', 'WANTS TO SEE HOW DATA SETS', 'DATA ANALYSIS', 'RESEARCH (E.G.)', 'SUBSOURCES TO MONITOR', 'WANTS TO SEE HOW DATA SETS', 'DATA ANALYSIS', 'RESEARCH (E.G.)', 'SUBSOURCES TO MONITOR', 'WANTS TO SEE HOW DATA SETS'. The background is a plain white wall.

key insights

We generated 8 key insights from our user interviews:

Data

1. Users need data to do their jobs properly.
2. For users, data is personal and local.
3. Users go to extraordinary lengths to get the right data.
4. Manipulating data takes work, users don't expect shortcuts

Census

5. Census data can overwhelm and deter users.
6. In the minds of users, Census data exists in an ecosystem.

Trust and support

7. Users want assurance they are using data properly.
8. Users value personal support.

1 key insight – data

Users need data to do their jobs properly.

➔ Data allow users to perform the core responsibilities of their jobs, including

- Target spending better
- Write more engaging research papers
- Overturn popular assumptions
- Improve the quality of public debate
- Prove there is a need for their service or policy

➔ Users use data for a professional purpose. We did not interview users who explore data as a hobby.

“ [Data] makes the story more concrete ”

“ There is evidence in the data that your hypothesis is right or wrong ”

2 key insight – data

For users, data is personal and local.

- ➡ People want data that is important to *them*.
- ➡ Users look for data specific to their needs. Some are addressing a particular issue for the entire nation. Others want to collect all available data in a particular geographic area.
- ➡ Many users think in regional terms. They must align Census tract data with local neighborhood information to inform their activities within the community.



But I just want the
data for Medford
[City]...



If you can hover over one
region and get all the data for
that area, that would be huge



3 key insight – data

Users go to extraordinary lengths to get the right data.

- ➡ Many users spend hours searching for and extracting data.
- ➡ Other users sign up for webinars and develop personal relationships with data dissemination specialists who are employed by data providers
- ➡ Some users pay 3rd party providers for curated and difficult-to-find data that is provided for free on the Census website.



To get one data point from census.gov the first time took me 12 hours. Now it only takes a couple



If we can't get the data, we work around it



4 key insight – data

Manipulating data takes work, users don't expect shortcuts

- ➡ Some users like to play with the raw data. They want to understand the links between data sets and relish the challenge of overcoming the difficulties of the search process.
- ➡ Other users see data manipulation as a burden. When they want curated data they ask a colleague with analytical skills, such as a data journalist or Census employee, to manipulate the data for them.
- ➡ Despite their different attitudes towards the process, all users expect that they will have to do some work to get the right data. No-one expects it will be easy or straight-forward.

“ I would prefer an easy
source but it's not always
possible ”

“ All data is dirty ”

5 key insight – Census

Census data can overwhelm and deter users.

- ➔ The scope of Census collection can be daunting. Users may be discouraged from exploring Census data and finding if they don't know where to start.
- ➔ Too many tools complicates the issue by providing an excess of choice. Users unsure which of many choices is the right one, end up not choosing anything.

“ I wouldn't use Census as my first source because I don't know what they have! ”

“ daunting ”

“ Why 5 mapping tools for the same data? I just want ONE place I can find what I need ”

6 key insight – Census

In the minds of users, Census data exists in an ecosystem.

- ➡ People use multiple data sources for their work.
- ➡ Going to multiple sources is not a cost itself; however, if it's consistently difficult to find data it becomes a very time consuming process.
- ➡ People keep downloads of data on their local hard drives and build their own databases. Their relationship with data sources is dynamic and customized for their own use.

“

My first step is to ask another journalist [if looking for data]

”

“

I never go straight to the Census website...instead I search through old articles to get context

”

7 key insight – trust and support

Users want assurance they are using data properly.

- ➔ Demographic data is complex and intricate. Professionals want to understand the methods, context, and quality of Census surveys to ensure the data supports their conclusions.
- ➔ Some users don't trust data until they inspect and exercise it. For them, accessing the data in raw form is best.
- ➔ Many users want to ensure data is searched and gathered comprehensively; missed data or geographic areas could undermine their purpose



If there's too many areas
[where] I could get it
wrong, I'll walk away



They keep throwing
datasets at you and don't
explain what they do



8 key insight – trust and support

Users value personal support.

- ➡ Data users seek out responsive, supportive providers. Even the most experienced data analysts want to establish personal relationships with data sources.
- ➡ Many users, when confronted with a data problem, reach out to a person for help by default. This can turn a potentially frustrating event into a positive experience.

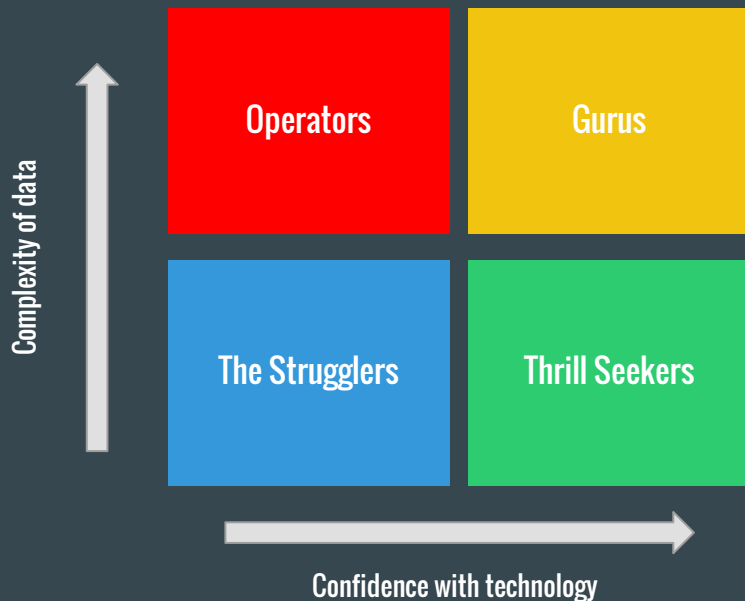
“ Alexandra is great!!! ”

“ I’m very good at
telling people
what I need ”

“ I’m dependent on the
people at the Census to
crunch the numbers for me ”

personas

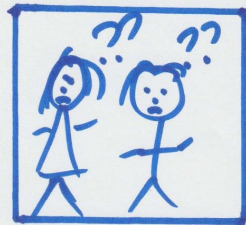
To create personas we segmented users according to their confidence with technology and the complexity of the data they use.



persona #1: the strugglers



DPI-663



THE STRUGGLERS

- Data is important for my job but I struggle to get it when I need it
- The sites I visit never work in the way I would like, it's frustrating!

CHARACTERISTICS

- Interested in aggregate data, pulled relatively infrequently
- Intimidated by jargon and taxonomies
- Overwhelmed with tools and tables
- Relies heavily on support from the census employees

ACTION PROMPT

"I want to be able to ask questions to someone"

QUOTE

"I would never have known how to do this"

Low CONFIDENCE
Low COMPLEXITY

persona #2: operators



OPERATORS

- I can get data but not the latest technology.
- I work in teams with people who know how to use data better than me → I bring other things to the table

CHARACTERISTICS

- Others find and process the data, operators understand it.
- Works with 3rd parties (will pay) and internal specialist team members
- Technical enough to know what is hard.
- Have a "higher purpose" for the data → strategy, research...

ACTION PROMPT

"I want my data - I don't care who gets it to me."

QUOTE

"I'm very good at telling people what I need"

LOW CONFIDENCE
HIGH COMPLEXITY

persona #3:

thrillseekers



THRILL SEEKERS

- I've been working with data for years → it's fun and it's my job.
- I like to "play with the data."
- I enjoy the challenge of finding something new

CHARACTERISTICS

- Deals with large data sets
- Likes raw data, trusts it more than someone else's processed data.
- Loves finding unusual, quirky data
- Enjoys the challenge of using legacy interface websites

ACTION PROMPT

"I want direct access to all the raw data"

QUOTE

"Why 5 mapping tools?
I just want one place where I can find what I need."

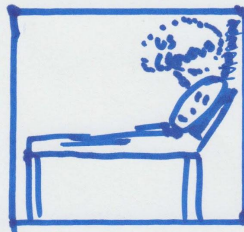
HIGH CONFIDENCE
LOW COMPLEXITY

persona #4:

gurus



DPI-663



GURUS

- I'm an experienced user, a specialist.
- I answer everyone's questions internally at my workplace
- I'm deep in specific areas, sources.

CHARACTERISTICS

- Uses advanced tools, coding skills
- Interested in metadata, the way classifications are made
- Does not use packaged tools, quick fact finders
- Maintains their own data bases, matches data sets

ACTION PROMPT

"I want to engage with the people collecting and cutting the data."

QUOTE

"I want control... you lose freedom if you can't be completely in control of your [research] question"

HIGH CONFIDENCE
HIGH COMPLEXITY

secondary

We asked users to share their experiences using other data sites. The following websites were positively endorsed by users.

Search for specific community types? Use Smart Map Search to zero in on the right areas.

2. Select Geography: Auto Selection Counties are currently auto selected

3. Refine your criteria: Smart Map Search 26 out of 763 Counties match all selected criteria.

Use	Available Variables	Minimum	Distribution	Maximum	Matches
<input checked="" type="checkbox"/>	% Diabetic (age-adjusted estimates) -- ...	12.1		15.3	117 (15%)
<input checked="" type="checkbox"/>	% Obese (estimated) -- (CDC: 2007)	34		43.5	104 (13%)
<input checked="" type="checkbox"/>	% Households without a car & > 1 mi...	10.32		18.60	71 (9%)
<input checked="" type="checkbox"/>	Poverty rate -- (U.S. Census: 2008)	25.9		48.1	105 (13%)

[Change variables...](#) [Save Criteria List](#) [My Criteria Lists](#)

Close < Back Show results on map

Minnesota

State Demographic Center



DPI-663

assets Career Info X LocalGov_Jon_Lee_022216 X MN State Demographic C X

Salsa ... Redesign, Remodel, ... REI Stratocloud Vest... Say It Loud, Get It O... MilitaryCAC's MAC ... MACINTOSH PLUS ...

Search our website

Minnesota State Demographic Center

About Data by Topic Data by Place Map & Viz Gallery Reports & Resources News



Black Minnesotans' Income

Newly released Census data revealed persistent economic challenges for many Black Minnesotans. Our office continues to investigate these concerning trends and share what we know in community meetings. [See a recent presentation by State Demographer Susan Browner summarizing key findings.](#)

1

2

3

4

5

6

7

11

Popular Topics

- + [New report: "The Economic Status of Minnesotans" \(Jan 2016\)](#)
- + [2014 ACS statewide trends summary](#)
- + [Census 2010](#)
- + [Immigration & Language](#)
- + [Income & Poverty](#)
- + [Projections](#)
- + [Estimates \(Latest total population\)](#)
- + ["Ada to Zumbroda" blog](#)
- + [Subscribe to our e-newsletter](#)

Black income: A blurry picture, a clear conclusion

This year's 2014 ACS data revealed a troubling finding for Black Minnesotans: the poverty rate appeared to be higher and median (midpoint) household income appeared to be lower than the 2013 data.

Our office has been examining the data extensively since its release and meeting with community and policy leaders, and we wanted to clarify the findings. The poverty rate among Black Minnesotans in each of the last 9 years has been between 30% and 38%. Prior to the recession, during the economic downturn, and now even after years of sustained economic recovery, the poverty rate among Black Minnesotans is indisputably high.

[Read more in the Ada to Zumbroda blog.](#)

Tweets

Follow

 U.S. Census Bureau @uscensusbureau 1 Mar

Learn more abt #CitySDK our user-friendly "toolbox" for developers to connect local and national public data. [twitter.com/CommerceGov/st...](#)

Retweeted by MN Demographic Ctr.

Expand

 MN Demographic Ctr. @MN_StateData 1 Mar

Happy Caucus Day, MN! #Census data resources regarding our electorate: [1.usa.gov/1nd7jni](#)

Expand

 MN Demographic Ctr. @MN_StateData 29 Feb

Tweet to @MN_StateData

30

IPUMS

Integrated Public Use Microdata Series



DPI-663

MINNESOTA POPULATION CENTER, UNIVERSITY OF MINNESOTA

IPUMS USA

Home Select Data FAQ Help Login Data Cart

▼ DATA

Browse and Select Data
Download or Revise Extracts
Analyze Data Online
IPUMS Registration

▼ DOCUMENTATION

Variables
Samples
User's Guide
Geographic Tools
FAQ

▼ RESOURCES


Enumeration Forms
Published Census Volumes
Errata and Revisions

▼ RESEARCH

Citation and Use
Bibliography
Related Sites

▼ CONTACT US

Help
User Forum
IPUMS Staff
How to Help
Donate to IPUMS



Integrated Public Use Microdata Series

census microdata for social and economic research

IPUMS-USA is a project dedicated to collecting and distributing United States census data. Its goals are to:

- Collect and preserve data and documentation
- Harmonize data
- Disseminate the data absolutely free!

Use it for GOOD -- never for EVIL

▼ IPUMS IN THE NEWS

NYT "Where We Came From"
IPUMS and the Civil War

▼ IPUMS-USA DATA UPDATES

New 1960 5% sample
2013 and 2014 Multi-Year data
1850 100% data
1940 100% data

▼ OTHER IPUMS DATA

Complete Count Data
Linked Samples 1850-1930
1850-1860 Slave Samples

▼ OTHER MPC PROJECTS

IPUMS-CPS
IPUMS-International
NHGIS
NAPP
IHIS
ATUS-X

Supported by



HOME | DATA | VARIABLES | SAMPLES | HELP | SEARCH
Copyright © Minnesota Population Center, University of Minnesota

Census Reporter



DPI-663

Profile

Start typing to pick a place...

or

Search by street address

Find facts

Populations and dollar figures are broken down by category: Demographics, Economics, Families, Housing and Social.

Visualize

Our library of charts gives you insight into data from the places you research. Look for them on profile pages. You can even [embed the charts](#) on your own site.

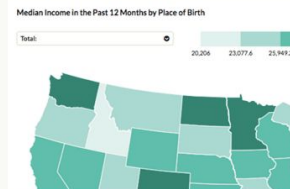
Get context

Pre-computed statistics are presented alongside each data point, so you can see how each place fits into a larger context.

Using this site

Census Reporter is a [Knight News Challenge-funded project](#) to make it easier for journalists to write stories using information from the U.S. Census bureau. Place profiles and comparison pages provide a friendly interface for navigating data, including visualizations for a more useful first look.

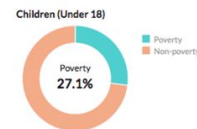
Examples



How does median income compare from state to state? [More →](#)



What languages do people speak at home in Los Angeles? [More →](#)



How many children live in poverty in Spokane, Wash.? [More →](#)

Race

Colum	Alabama
Total	100%
White alone	69.1%
Black or African American alone	26.5%
American Indian and Alaska Native alone	0.5%
Asian alone	1.2%
Native Hawaiian and Other Pacific Islander alone	0%
Some other race alone	1.1%
Two or more races	1.6%

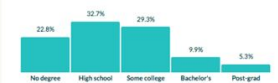
What is the racial makeup of the U.S., and how do states compare? [More →](#)

Geographical Mobility in the Past Year by Educational Attainment



Where are people most mobile, and what skills do they have? [More →](#)

Population by minimum level of education



How many people have college degrees in Cleveland? [More →](#)

Map the Meal Gap

Feeding America



Food Insecurity by County

2013

Overall



Food Insecurity by Congressional District

Food Insecurity Rates

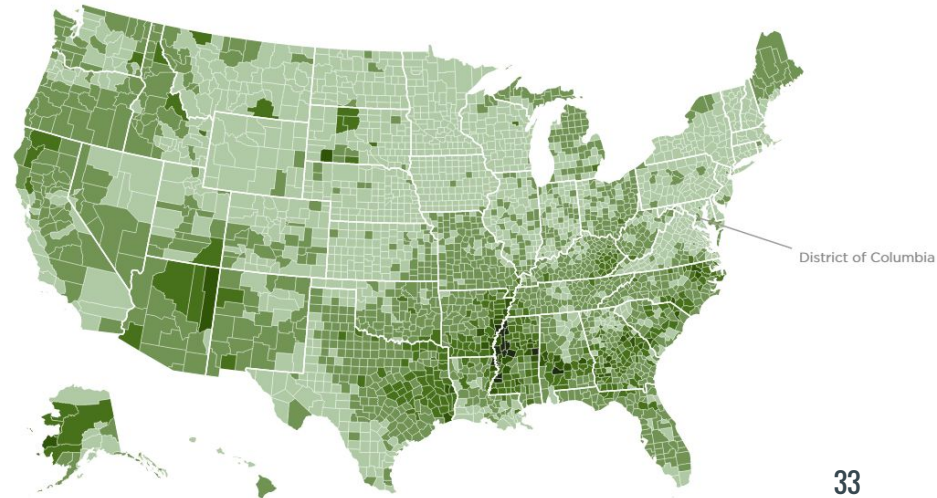
4-14%

15-19%

20-24%

25-29%

30% +



Assets & Opportunity Scorecard

CFED

ASSETS & OPPORTUNITY SCORECARD

