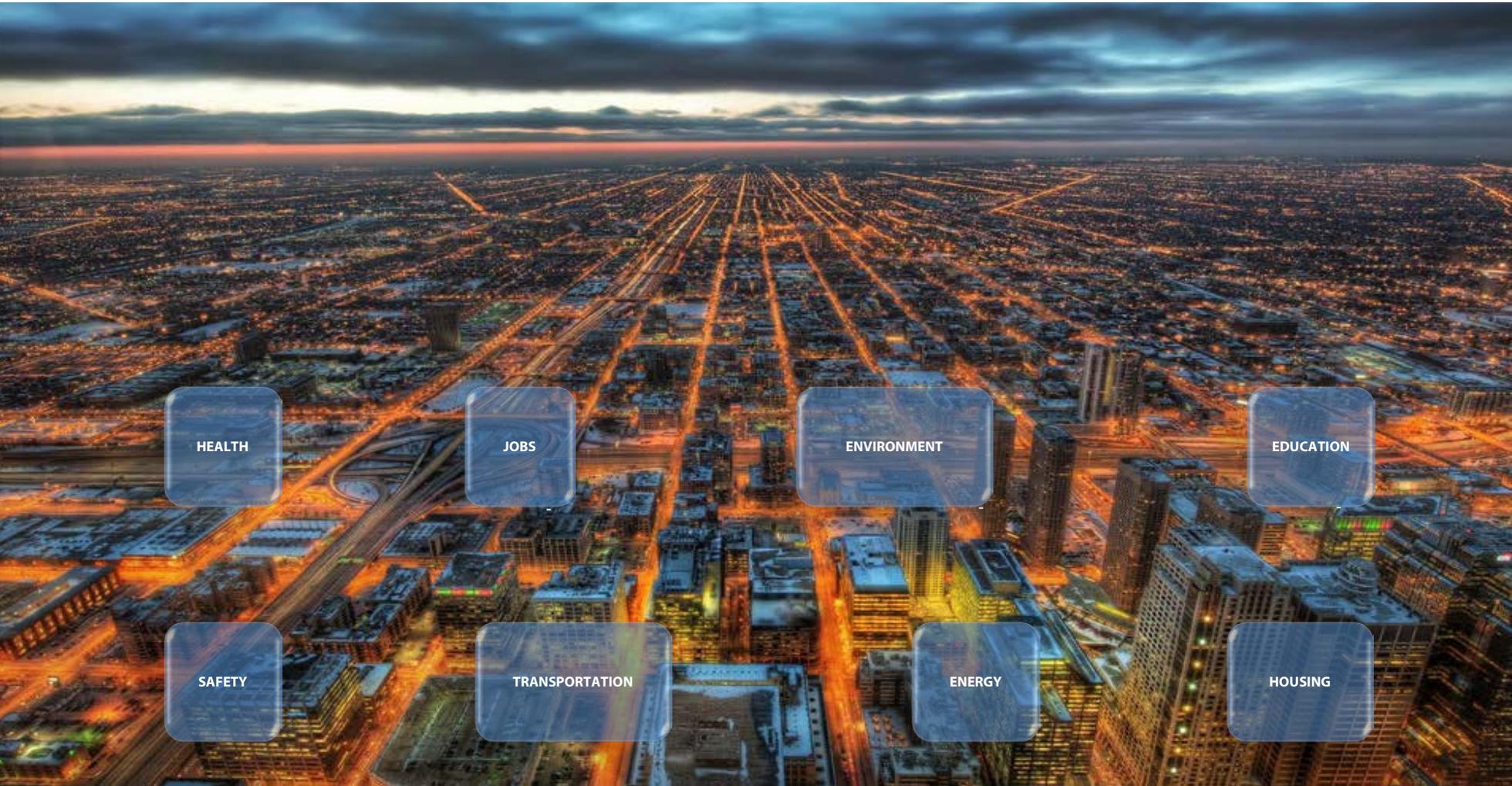


**Open Government + Open Data  
= Open Innovation**

**Avi Bender**  
Chief Technology Officer  
[avi.bender@census.gov](mailto:avi.bender@census.gov)

# Every City and Community is Part of an Emerging National Data Grid



HEALTH

JOB

ENVIRONMENT

EDUCATION

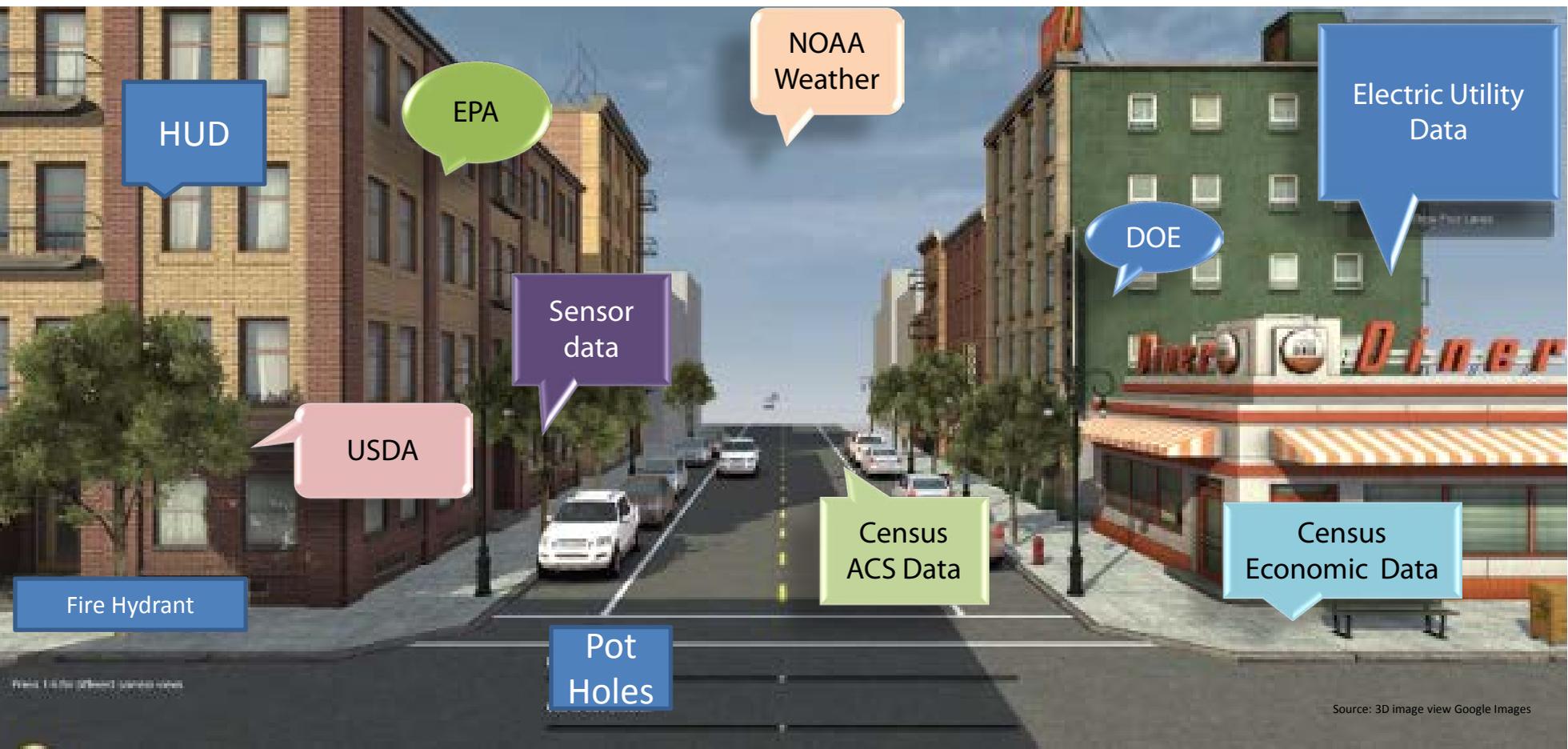
SAFETY

TRANSPORTATION

ENERGY

HOUSING

# Every Community in the USA has Valuable Open Data



HEALTH SAFETY JOBS ENERGY TRANSPORTATION HOUSING ENVIRONMENT



U.S. Department of Commerce  
Economics and Statistics Administration  
U.S. CENSUS BUREAU  
census.gov

# The U.S. Census Bureau is the Leading Source of Open Data About our Nation's People, Places and Economy



Decennial Census



American Community Survey



Economic Census



Current Population Survey



American Housing Survey



Annual Retail Trade



Census of Governments



Survey of Income and  
Program Participation



Economic Indicators



Population Estimates



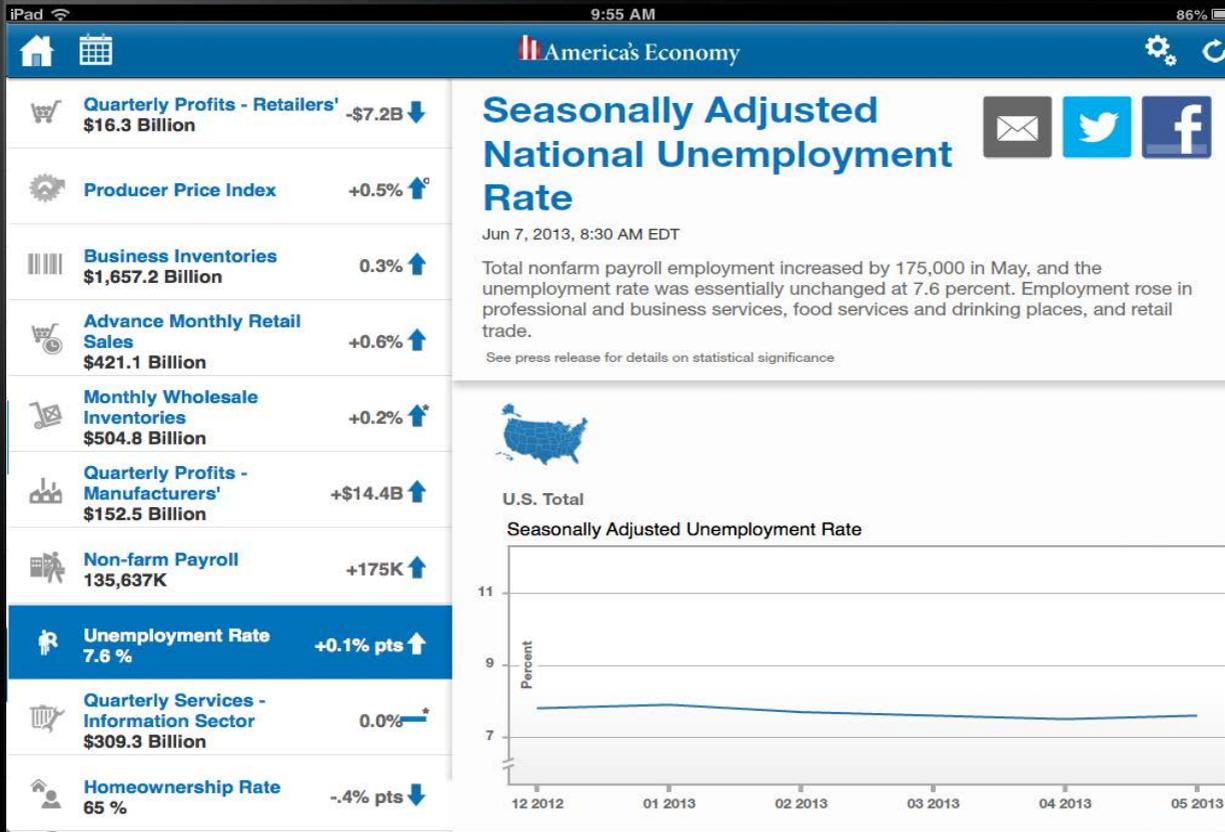
Population Projections



Import Statistics



Special Census Programs



# Open Data

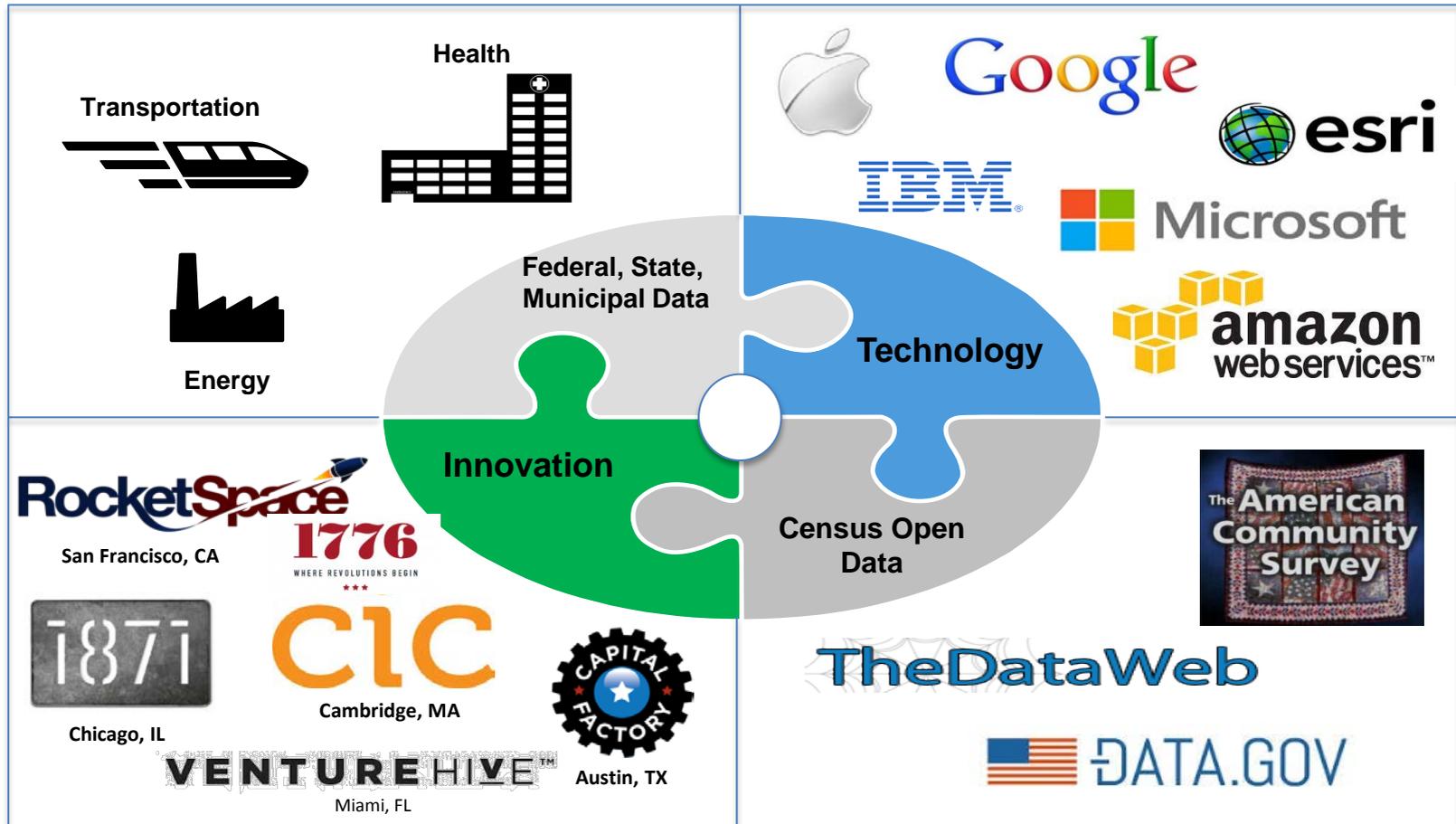
is a Valuable  
None-Depleteable  
National Resource

Census, together with other open data, can deliver business and demographic insights to fuel innovation, entrepreneurship and economic growth

Government and industry are working to unlock the value of this data in order to fuel innovation; but data interoperability (“mash-ups”) issues remain

Solving Data Interoperability will significantly improve how we search, discover, consume, and analyze data

# Cities and Local Communities are the Open Data Innovation Intersection



# An Open Data Ecosystem is Emerging that is Fueling Innovation



The #hackhousing hackathon was sponsored by Zillow in partnership with the Department of Housing and Urban Development (HUD) as well as the Census Bureau.

**400**

Registered Attendees

**44**

Project Teams

From a variety of backgrounds including:

- Government
- Commercial/private-sector
- Academia
- Entrepreneurs



### OPPORTUNITIES TO PROMOTE PUBLIC INNOVATION

#### GOALS

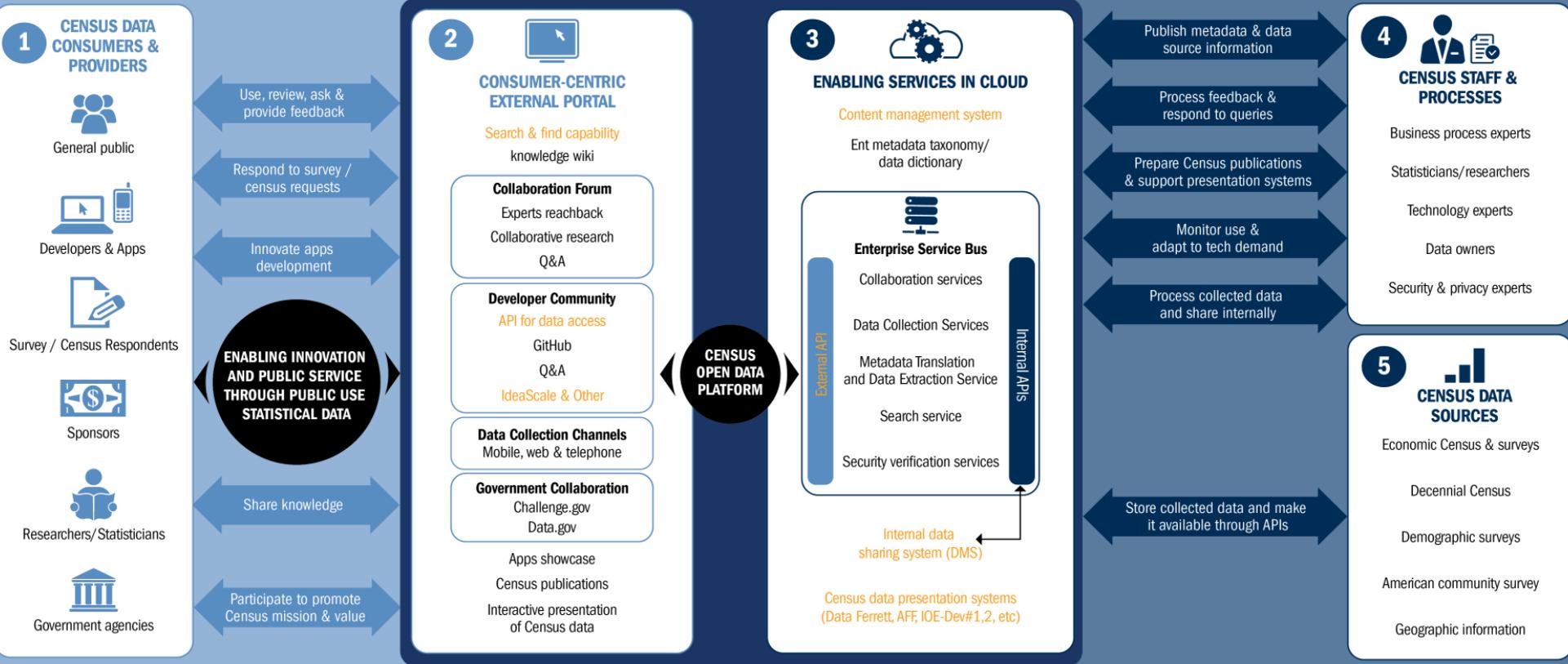
- Spur innovation
- Promote collaboration
- Provide timely access
- Enable data access and response on any device from anywhere



### OPPORTUNITIES FOR OPERATIONAL EFFICIENCIES AND COST CONTROLS

#### GOALS

- Create once, use for any purpose
- Reuse services and follow uniform standards
- Achieve cost savings through efficient processes
- Ensure security and integrity of data



**1 CENSUS DATA CONSUMERS & PROVIDERS** innovate with Census data and respond to surveys/census with more ease

**2 CONSUMER-CENTRIC EXTERNAL PORTAL** provides a gateway to easily access data / services and allows collaboration with experts

**3 ENABLING SERVICES IN CLOUD** support efficient and secure information exchange through cloud based shared services

**4 THE CENSUS BUREAU STAFF & PROCESSES** promote innovation and achieve cost efficiencies through effective operations

**5 DATA SOURCES** provide quality data on demand

# The Digital Government Strategy

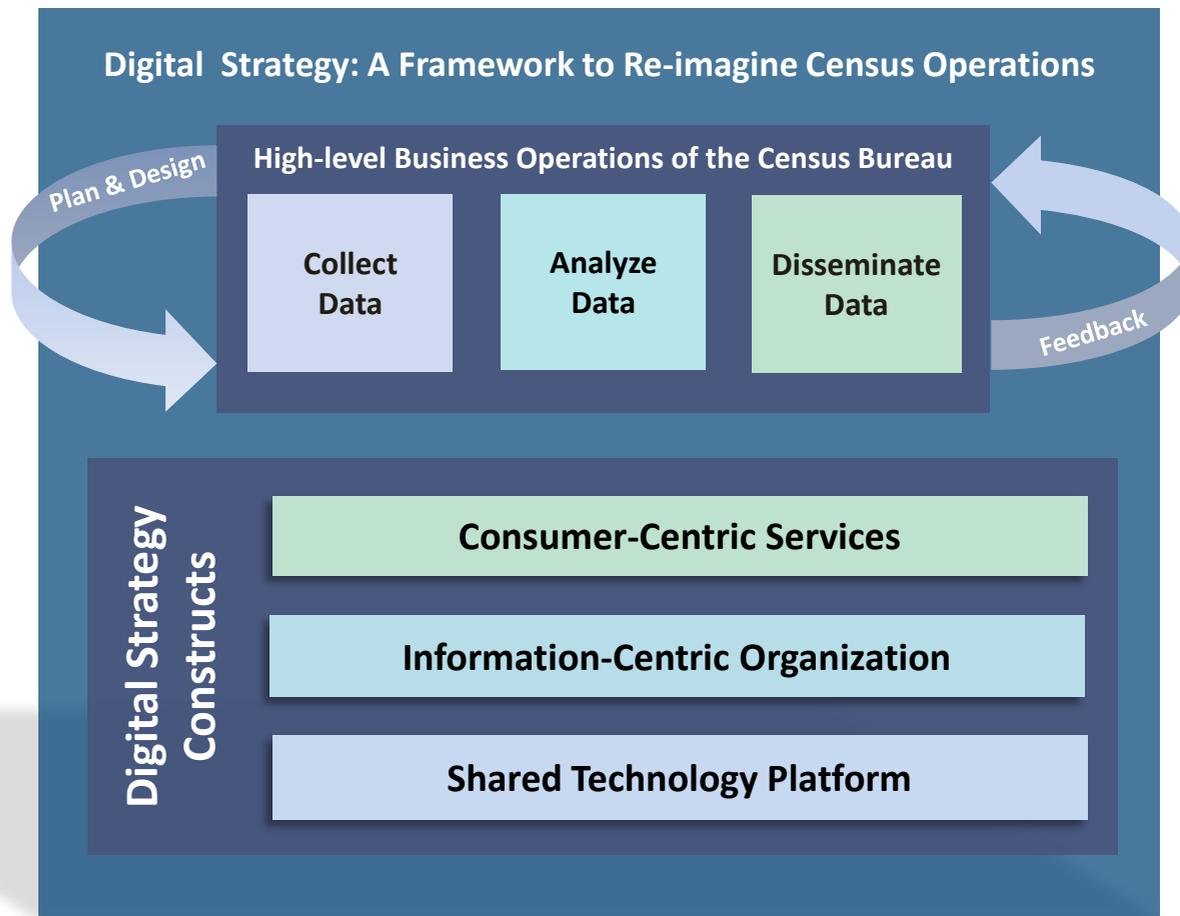
## A Set of Digital Design Guiding Principles



- **Enable the American people and an increasingly mobile workforce to access high-quality information and services anywhere, anytime, on any device**
- **Ensure that as the government adjusts to this new digital world, we seize the opportunity to procure and manage devices, applications, and data in smart, secure and affordable ways**
- **Unlock the power of government data to spur innovation across our Nation to improve the quality of services for the American people**
- **Improve procurement, security, asset management, and shared services**

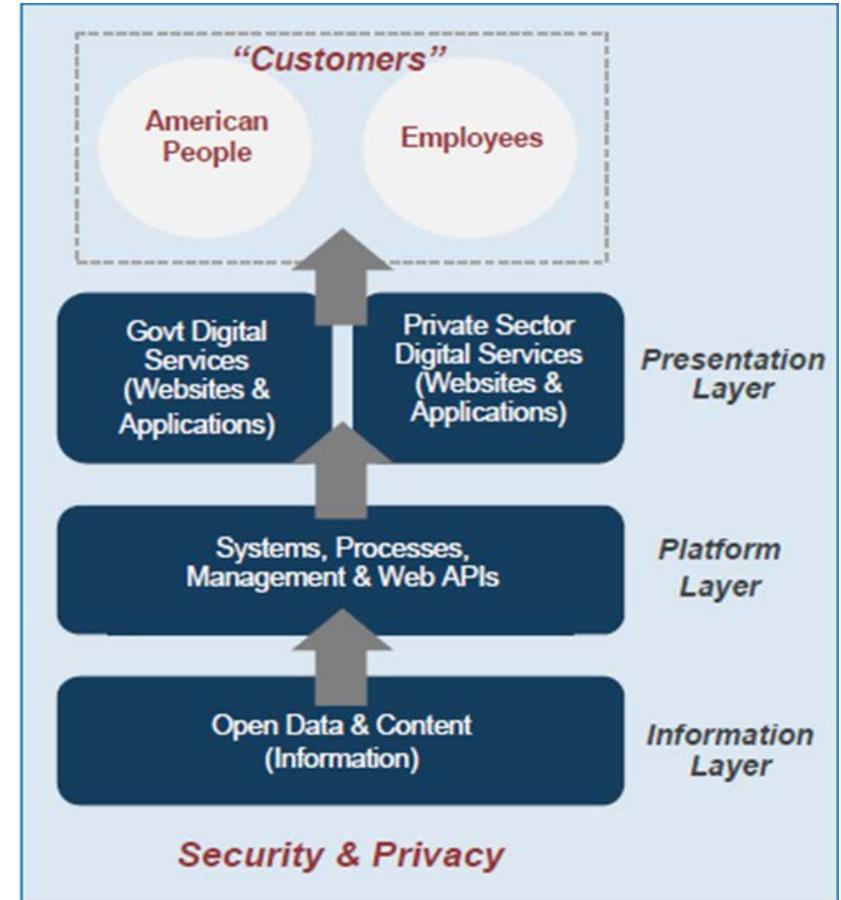
# Digital Strategy: Guiding Principles for Business Transformation Applied to the Bureau

- The Digital Strategy provides a framework to effectively re-imagine Census business
- Providing access to government data in consumer-friendly ways to suit changing customer demands driven by technological innovation
- Through the Digital Transformation Strategy, the Census Bureau is addressing consumer-centric dissemination of data

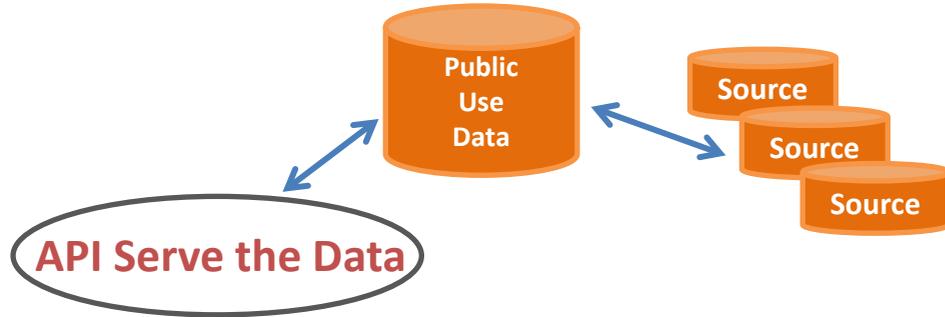


# A conceptual Model to Implement Digital Services

- **Customer-Centric (*Presentation Layer*)** - Present data in ways that allow customers to shape, share and consume information, whenever, and however they want
- **Shared Platform (*Platform Layer*)** - Work together, both within and across agencies, to reduce costs, streamline development, apply consistent standards, and ensure consistency in how we create and deliver information
- **Information-Centric (*Information Layer*)** - Make Open Data, Content, and Web APIs the new default and fuel the App economy
- **Security and Privacy (*Applicable to All Layers*)** - Ensure the safe and secure delivery and use of digital services to protect information and privacy while promoting innovation



# API's Provide New Methods for Data Access and Dissemination



## Web Applications API enabled



QuickFacts Beta

Learn more about this application >  
Tell us what you think >

A screenshot of the Census Bureau QuickFacts web application. The interface features a top navigation bar with 'SELECT A FACT' and 'SET' buttons, and tabs for 'TABLE', 'MAP', 'CHART', and 'DASHBOARD'. The main content area is divided into two sections: 'Table' and 'Map'. The 'Table' section displays a list of population statistics for the United States as of July 1, 2014 (V2014). The 'Map' section shows a map of the United States with color-coded regions representing population density.

ALL TOPICS	UNITED STATES
<b>PEOPLE</b>	
Population estimates, July 1, 2014, (V2014)	318,857,056
Population estimates base, April 1, 2010, (V2014)	308,758,105
Population, percent change - April 1, 2010 (estimates base) to July 1, 2014, (V2014)	3.3%
Population estimates, July 1, 2013, (V2013)	316,128,839
Population estimates base, April 1, 2010, (V2013)	308,747,716
Population, percent change - April 1, 2010 (estimates base) to July 1, 2013, (V2013)	2.4%
Persons under 5 years, percent, July 1, 2013, (V2013)	6.3%
Persons under 18 years, percent, July 1, 2013, (V2013)	23.3%
Persons 65 years and over, percent, July 1, 2013, (V2013)	14.1%



U.S. Department of Commerce  
Economics and Statistics Administration  
U.S. CENSUS BUREAU  
census.gov

## Smart Search



Search

income maryland

Search Features & Tips

Web Image Video

About 170,000 results for "income maryland"

Identified the location: Maryland

**Maryland | Median Household Income**  
**\$73,638**  
Source: 2009-2013 American Community Survey 5-Year Estimates

Related Statistics about Maryland Income by  
State Visualization Table  
County Visualization Table

**Maryland**  
2013 Population Estimate  
5,528,814  
Source: 2013 Population Estimates  
Median Household Income  
\$73,538  
Source: 2009-2013 American Community Survey 5-Year Estimates  
Individuals below poverty level  
9.8 %  
Source: 2009-2013 American Community Survey 5-Year Profiles  
Educational Attainment: Percent high school graduate or higher  
88.7 %  
Source: 2009-2013 American Community Survey 5-Year Profiles  
Health Insurance Coverage: Percent uninsured  
16.5 %  
Source: 2009-2013 American Community Survey 5-Year Profiles  
Total Housing Units  
2,387,285  
Source: 2009-2013 American Community Survey 5-Year Estimates  
Number of Companies  
528,112  
Source: 2007 Survey of Business Owners

Maryland QuickFacts from the US Census Bureau  
Maryland USA, Population, 2013 estimate : 5,928,814 316,128,839 ... Per capita money income in past 12 months (2013 dollars), 2009-2013 : \$36,354; \$26,155...  
http://ipedsfact.census.gov/ipeds/data/24000.html

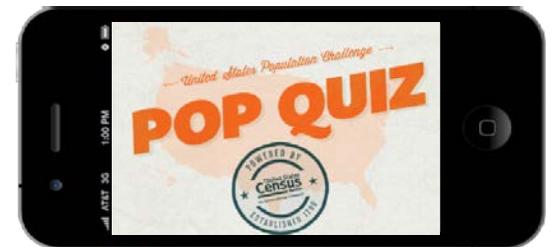
Carroll County, Maryland  
Carroll County Maryland, Population, 2013 estimate : 167,564 5,928,814 ... Per capita money income in past 12 months (2013 dollars), 2009-2013 : \$36,153; \$36,354...  
http://ipedsfact.census.gov/ipeds/data/2424013.html

Garrett County QuickFacts from the US Census Bureau  
Garrett County Maryland, Population, 2013 estimate : 29,889 5,928,814 ... Per capita money income in past 12 months (2013 dollars), 2009-2013 : \$24,932; \$36,354...  
http://ipedsfact.census.gov/ipeds/data/2424023.html

Household Income—Distribution by Income Level and State  
Household Income—Distribution by Income Level and State: 2009-10



## Mobile Applications



# Emergency Response

## Example: OnTheMap

OnTheMap for Emergency Management is a public data tool that provides an intuitive web-based interface for viewing the potential effects of disasters on the U.S. workforce and population. Users can easily retrieve reports containing detailed workforce, population, and housing characteristics for hurricanes, floods, wildfires, winter storms, and federal disaster declaration areas.

**OnTheMap for Emergency Management** LEHD Home OnTheMap Help and Documentation

Search:  U.S. Census Bureau data for disasters, natural hazards, and weather events.

**Recent Events**

**Wildfires**

- WF West End Fire  
Jefferson County, TX, Chambers County, TX, Galveston County, TX

**Federal Disaster Declarations**

- DR-4201  
Volcano CDP, HI, Hilo CDP, HI, Mountain View CDP, HI and 41 other Places (Cities, CDPs, etc.)
- DR-4168  
Snohomish County, WA, Skagit County, WA
- DR-4206  
Zip 92583
- DR-4207  
Windsor County, VT, Rutland County, VT, Addison County, VT and 7 other Counties
- DR-4200  
Nodaway County, MO, Macon County, MO, Harrison County, MO and 17 other Counties

**OnTheMap for Emergency Management** LEHD Home OnTheMap Help and Documentation

**Disaster Declaration: DR-4166** Time Wed, 11 Jun 2014 16:00:02 GMT Export Share

Detail by: Characteristics 2010 Decennial Counts

Topic: 2010 Decennial Counts

Analysis Area: Event Area

**Population by Age**

Universe: Total Population  
Source: 2010 Census [Source info >>](#)

Characteristic	Count	Share
Total	1,755,475	100.00%
Under 18 years	416,870	23.75%
18 to 19 years	49,751	2.83%
20 to 24 years	116,069	6.61%
25 to 34 years	220,375	12.55%
35 to 49 years	353,573	20.14%
50 to 64 years	355,344	20.24%
65 years and over	243,493	13.87%

**Population by Race**

Universe: Total Population  
Source: 2010 Census [Source info >>](#)

Characteristic	Count	Share
Total	1,755,475	100.00%
One race	1,724,144	98.22%
White alone	1,115,138	63.52%
Black of African American alone	541,859	30.87%

Map data ©2014 Google | Terms of Use

Source: [http://lehd.ces.census.gov/applications/help/onthemap\\_em.html#!what\\_is\\_onthemap\\_em](http://lehd.ces.census.gov/applications/help/onthemap_em.html#!what_is_onthemap_em)

# Education

## Example: Code for America - Chicago

Chicago parents have a new tool for understanding the public school selection process.

Chicago Public Schools (CPS) places every part of the city into one of four socio-economic "tiers". On average, people from Tier 1 areas make less money and have less education, and people from Tier 4 areas make more money and have more education.

### Chicago Public School Tiers an Open City app

[Home](#) [About](#)

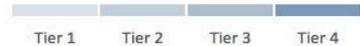
In Chicago, a student's chance of getting into the city's top, **selective schools** depends on where he or she lives.

Chicago Public Schools (CPS) places every part of the city into one of four **socio-economic "tiers."** On average, people from Tier 1 areas make less money and have less education, and people from Tier 4 areas make more money and have more education.

CPS requires selective schools to reserve the same number of spots for the students from each tier. [More »](#)

This tool **helps** you find what CPS tier you are in.

#### Tier legend [\(more info\)](#)

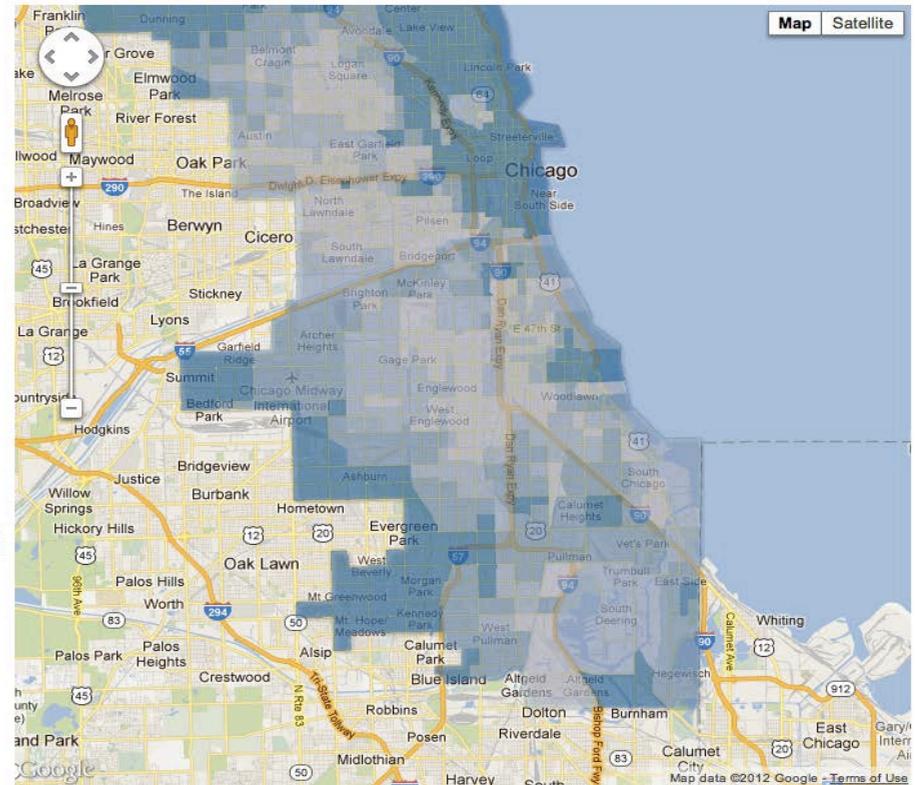


#### What tier am I in? [\(find me\)](#)

[Search](#) [reset map](#)

Let us know what you think!  
Send us feedback or Tweet us at  
[@opencityapps](#)

Download the raw data [here](#).  
An Open City app by Derek Eder, Forest Gregg and Juan-Pablo Velez.

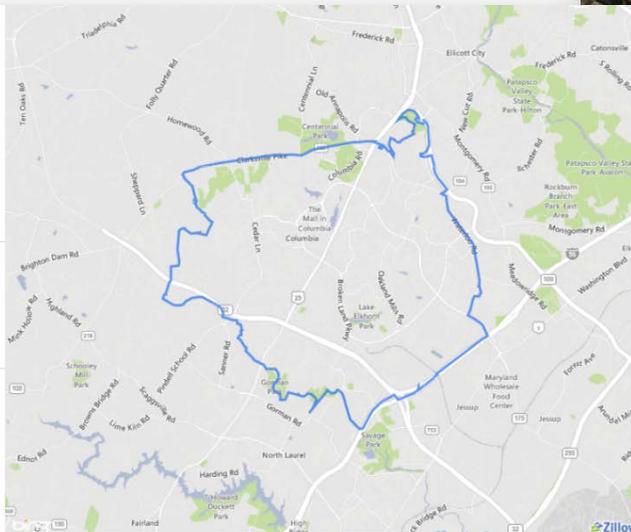
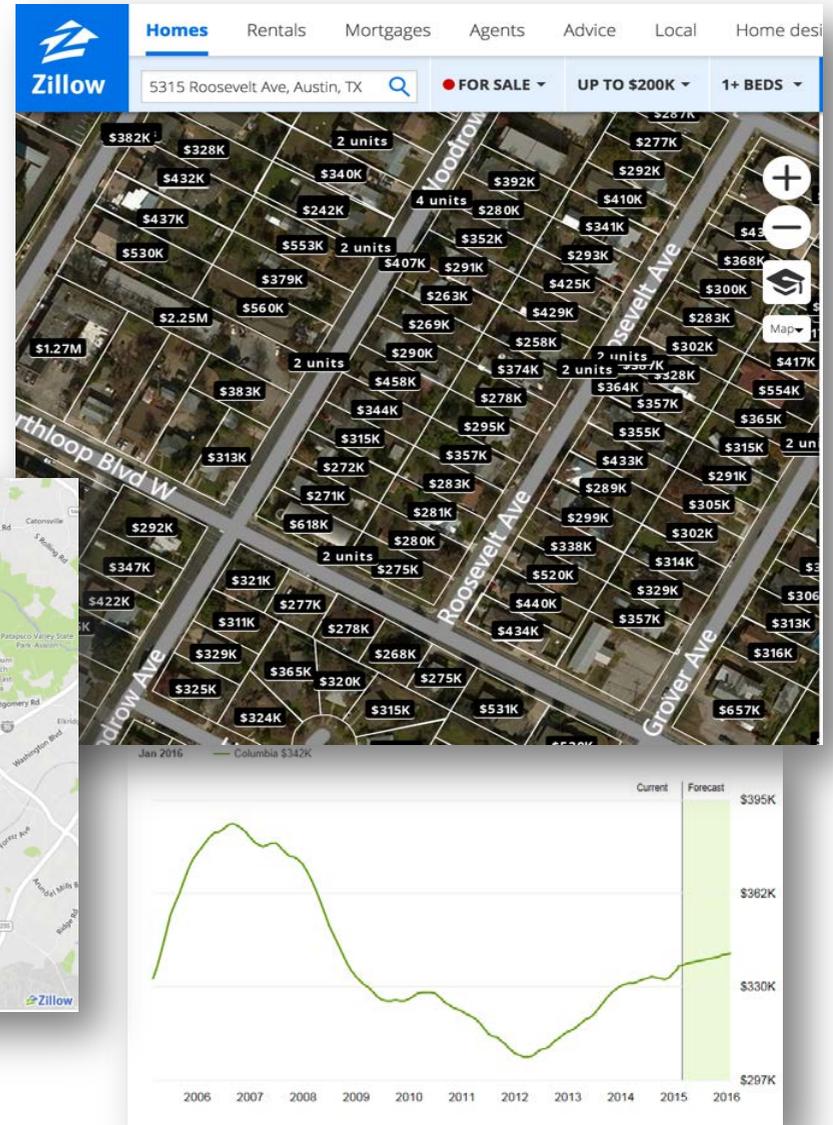


Source: <http://www.codeforamerica.org/blog/2012/03/15/educating-chicago/>

# Housing

## Example: Zillow

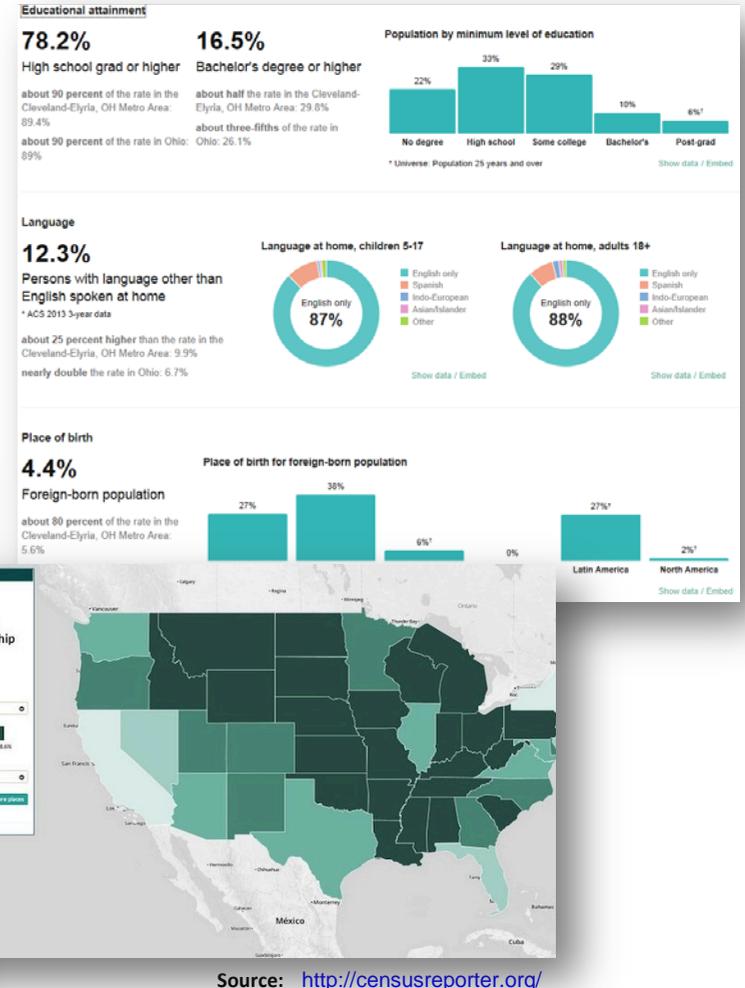
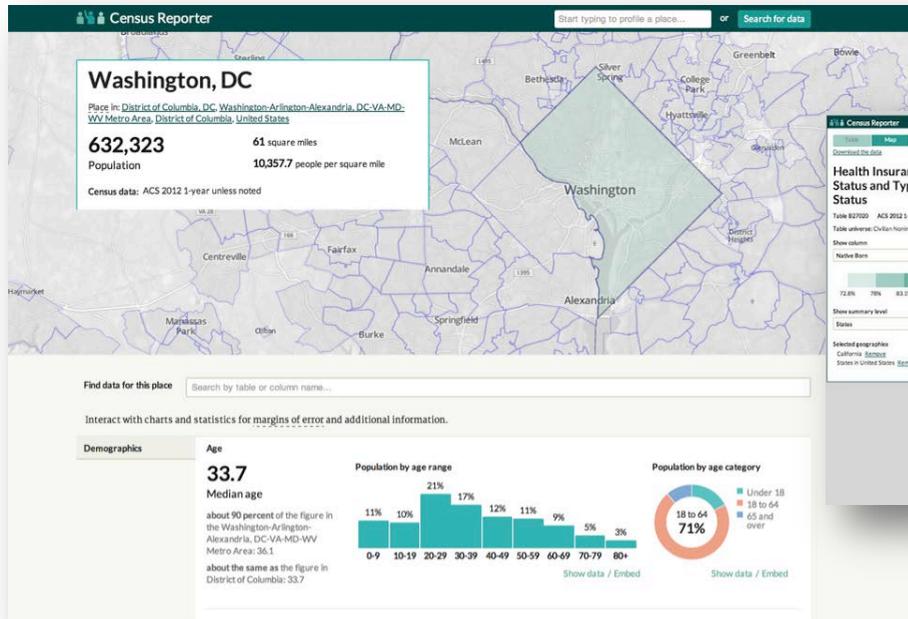
The Zillow methodology required the use of open data from multiple sources. For example, data from the US Census Bureau, such as the American Community Survey, is key to providing community information to our users.



# Data Exploration

## Example: Census Reporter

Place profiles and comparison pages provide a friendly interface for navigating data, including visualizations for a more useful first look. Populations and dollar figures are broken down by category: Demographics, Economics, Families, Housing and Social. Pre-computed statistics are presented alongside each data point, so you can see how each place fits into a larger context.



Source: <http://censusreporter.org/>



Thank You