

The background of the slide is a night-time satellite map of the United States. The map shows the outlines of the states, with numerous bright yellow and orange lights representing cities and urban areas. A network of thin, glowing lines connects these light clusters across the country, suggesting a network of data or communication. The overall color palette is dark blue and black, with the lights providing a high-contrast, vibrant effect.

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

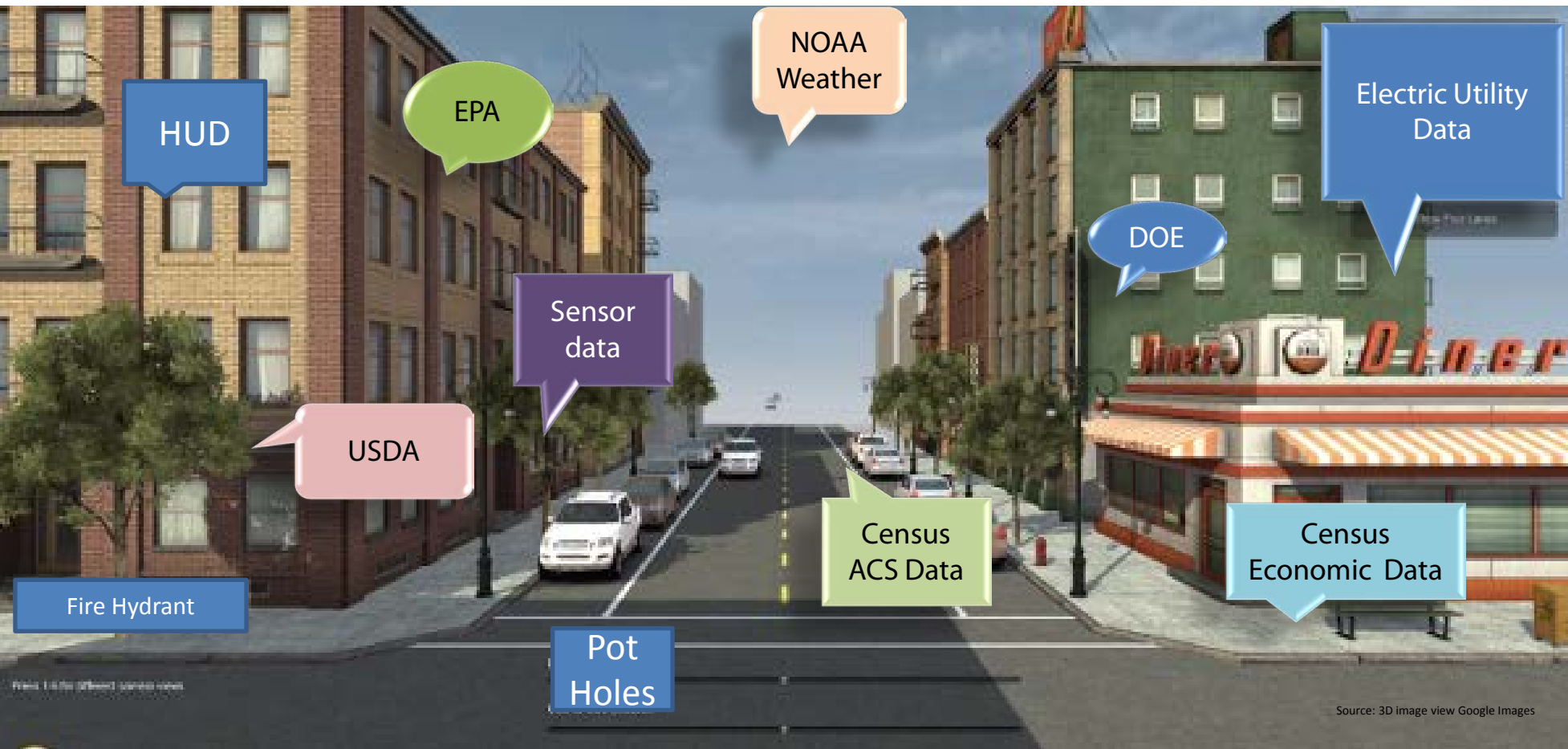
**Avi Bender**  
**Chief Technology Officer**  
**[avi.bender@census.gov](mailto:avi.bender@census.gov)**



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



# Every Community in the USA has Valuable Open Data



HEALTH SAFETY JOBS ENERGY TRANSPORTATION HOUSING ENVIRONMENT

# 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

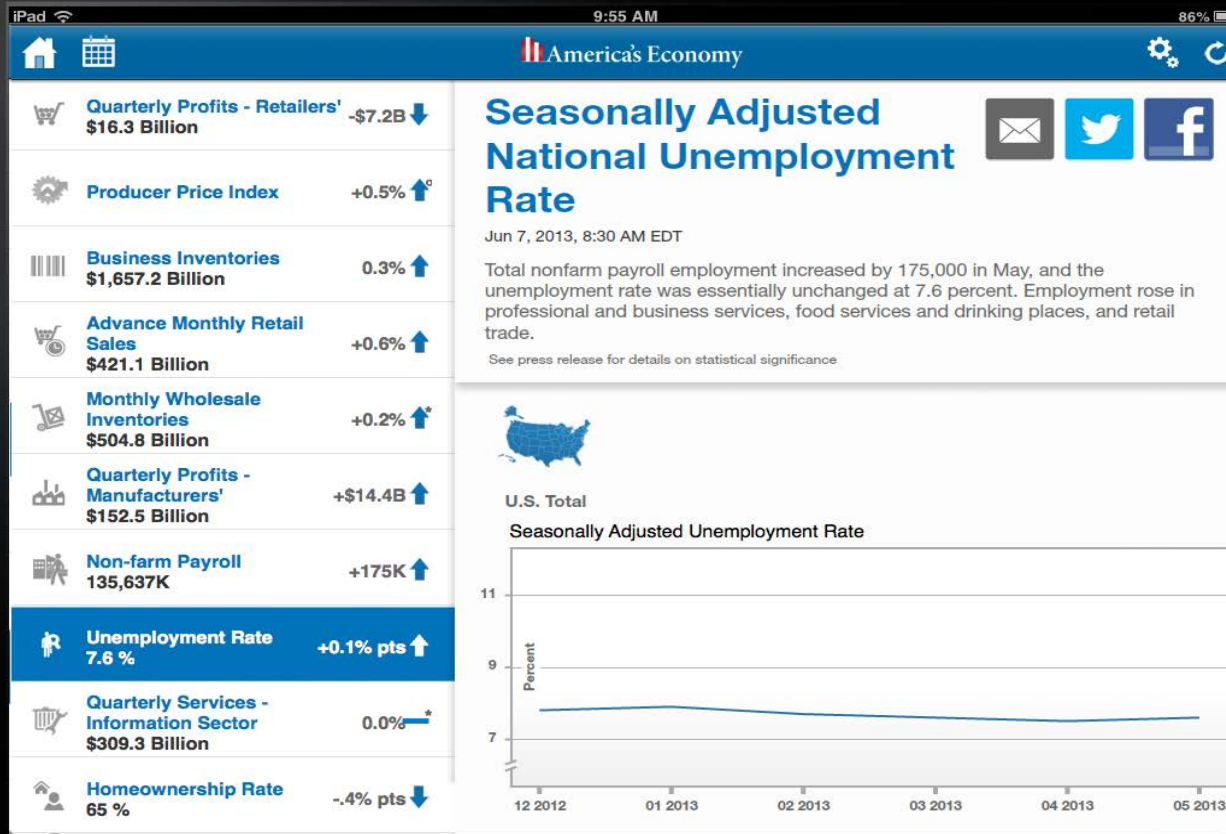


Import Statistics



Special Census Programs





# Open Data

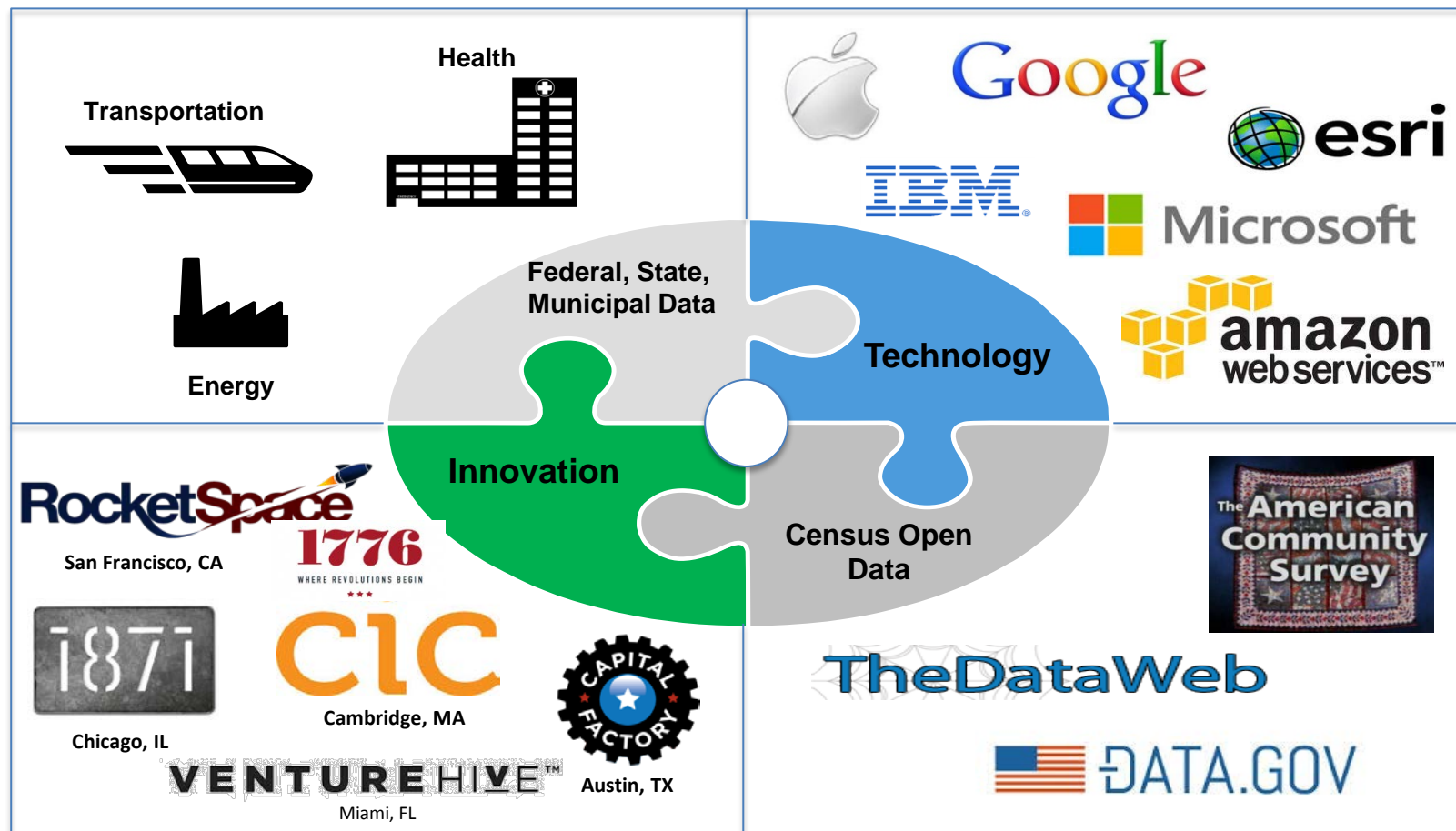
is a Valuable  
None-Depleteable  
National Resource

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



# Digital Strategy:

A Framework for Understanding the Census Digital Lifecycle



## OPPORTUNITIES TO PROMOTE PUBLIC INNOVATION

### GOALS

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



**ENABLING INNOVATION AND PUBLIC SERVICE THROUGH PUBLIC USE STATISTICAL DATA**

## 2 CONSUMER-CENTRIC EXTERNAL PORTAL

Search & find capability  
knowledge wiki

### Collaboration Forum

Experts reachback  
Collaborative research  
Q&A

### Developer Community

API for data access  
GitHub  
Q&A  
IdeaScale & Other

### Data Collection Channels

Mobile, web & telephone

### Government Collaboration

Challenge.gov  
Data.gov  
Apps showcase  
Census publications  
Interactive presentation of Census data

**CENSUS OPEN DATA PLATFORM**



## OPPORTUNITIES FOR OPERATIONAL EFFICIENCIES AND COST CONTROLS

### GOALS

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

## 3 ENABLING SERVICES IN CLOUD

Content management system

Ent metadata taxonomy/  
data dictionary

### Enterprise Service Bus

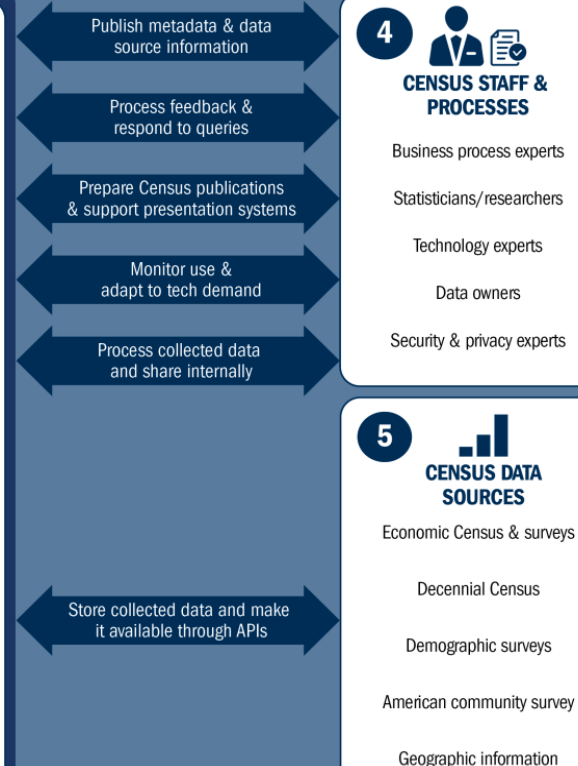
Collaboration services  
Data Collection Services  
Metadata Translation and Data Extraction Service  
Search service  
Security verification services

External APIs

Internal APIs

Internal data  
sharing system (DMS)

Census data presentation systems  
(Data Ferrett, AFF, IOE-Dev#1,2, etc)



Store collected data and make it available through APIs

### 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

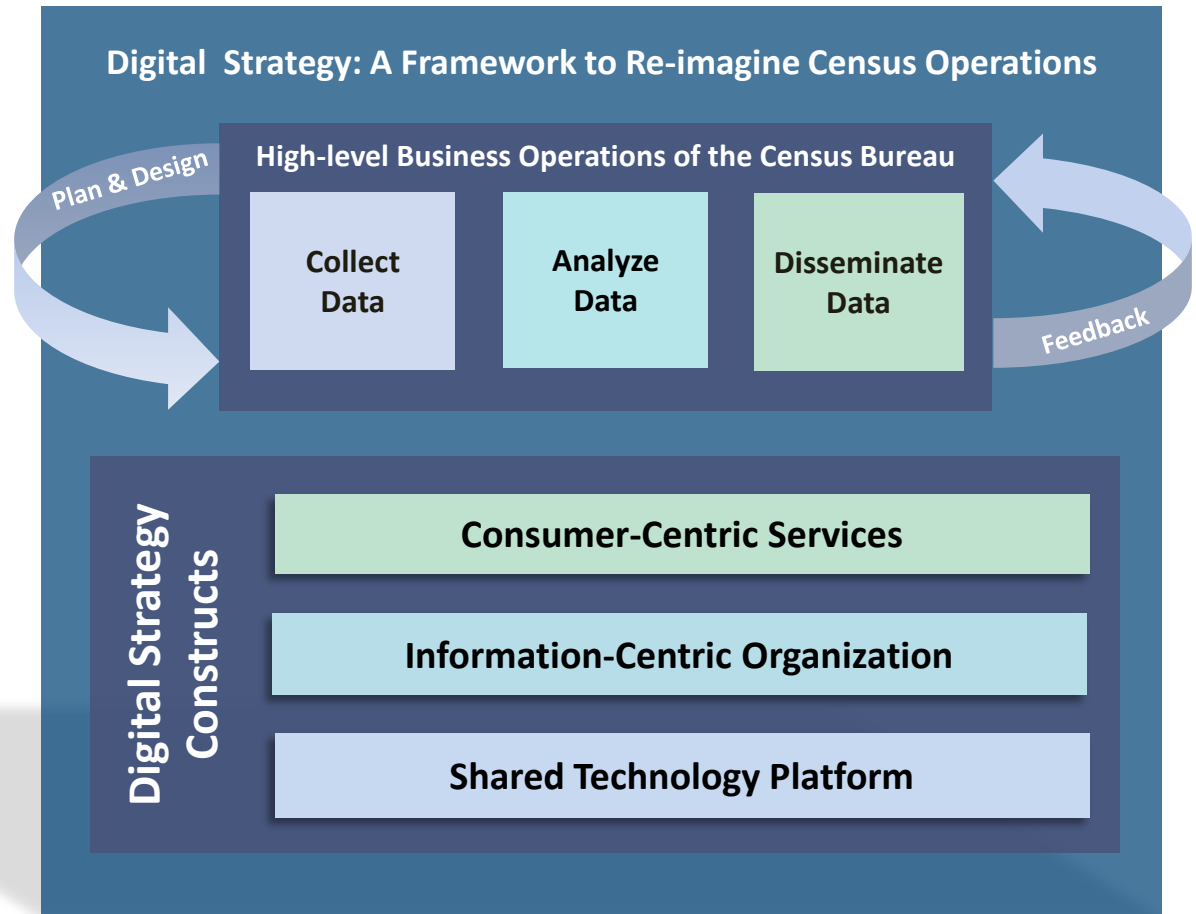
## A Set of Digital Design Guiding Principles



- 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

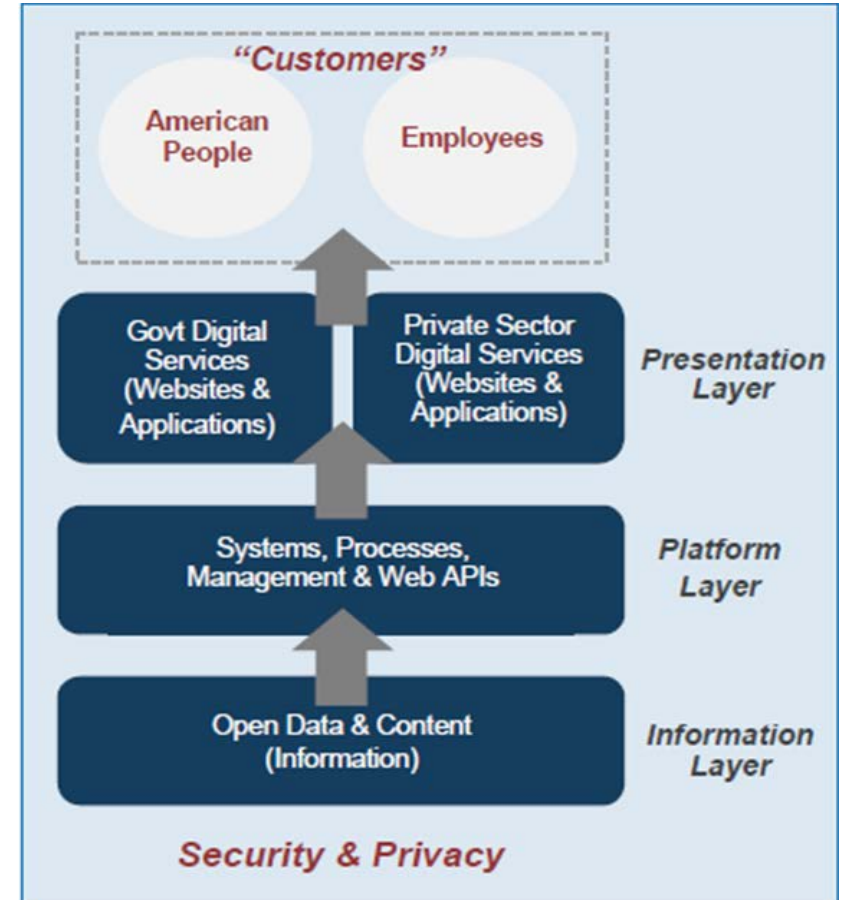
- The Digital Strategy provides a framework to effectively re-imagine Census business
- Providing access to government data in consumer-friendly ways to suit changing customer demands driven by technological innovation
- Through the Digital Transformation Strategy, the Census Bureau is addressing consumer-centric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



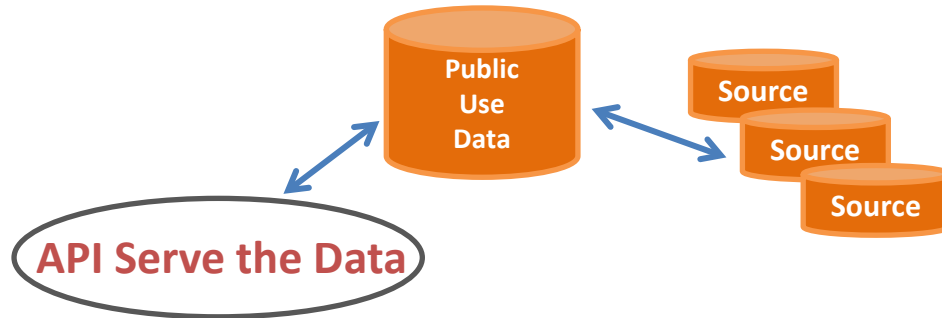


# A conceptual Model to Implement Digital Services

- **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

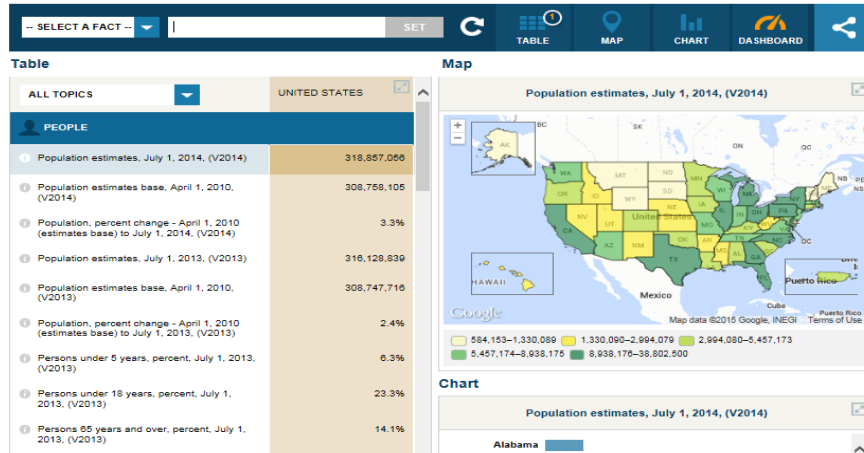


## Web Applications API enabled



QuickFacts Beta

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



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 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...

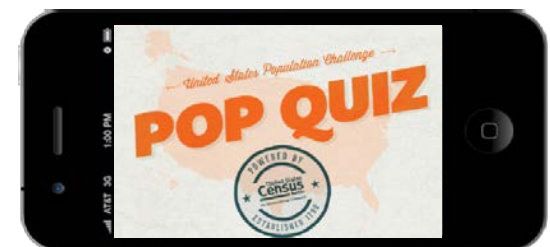
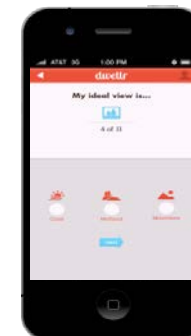
Carroll County, Maryland  
Carroll County Maryland: Population, 2013 estimate - 167,564; 5,928,814 ... Per capita money income in past 12 months (2013 dollars), 2009-2013: \$36,153; \$36,354...

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...

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

**Maryland**  
2013 Population Estimate  
5,928,814  
Source: 2013 Population Estimates  
Median Household Income  
\$73,638  
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  
10.5 %  
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

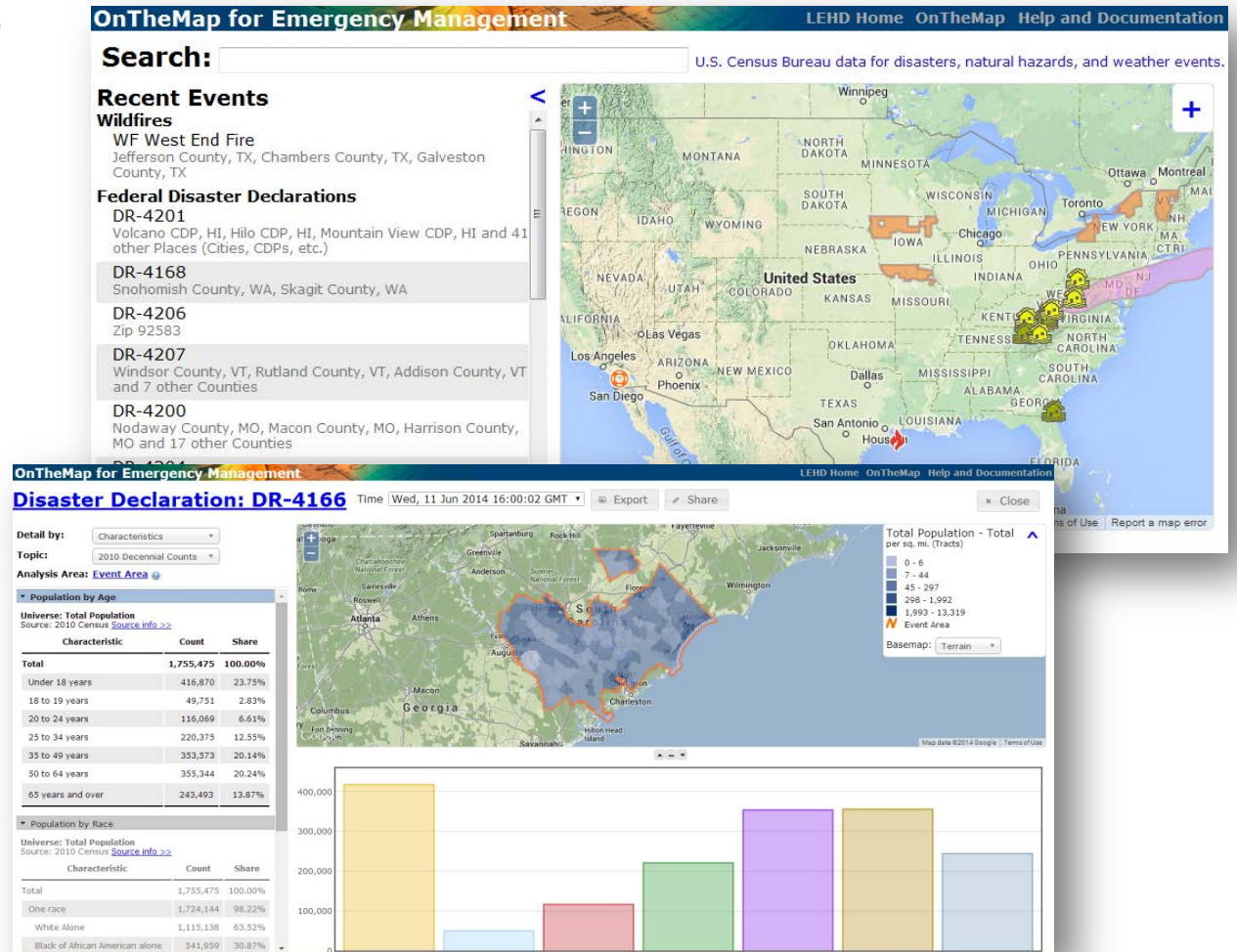
## Mobile Applications



# 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.



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".

### Chicago Public School Tiers an Open City app

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

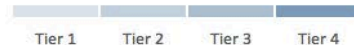
In Chicago, a student's chance of getting into the city's top, [selective schools](#) depends on where he or she lives.

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](#))

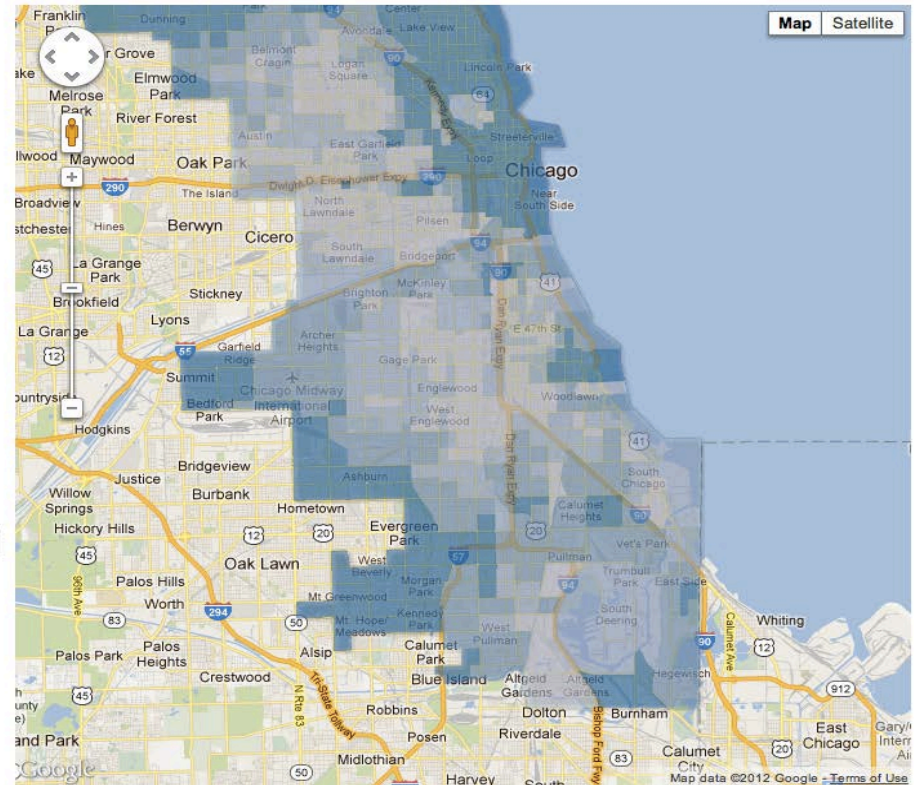
Search

[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.

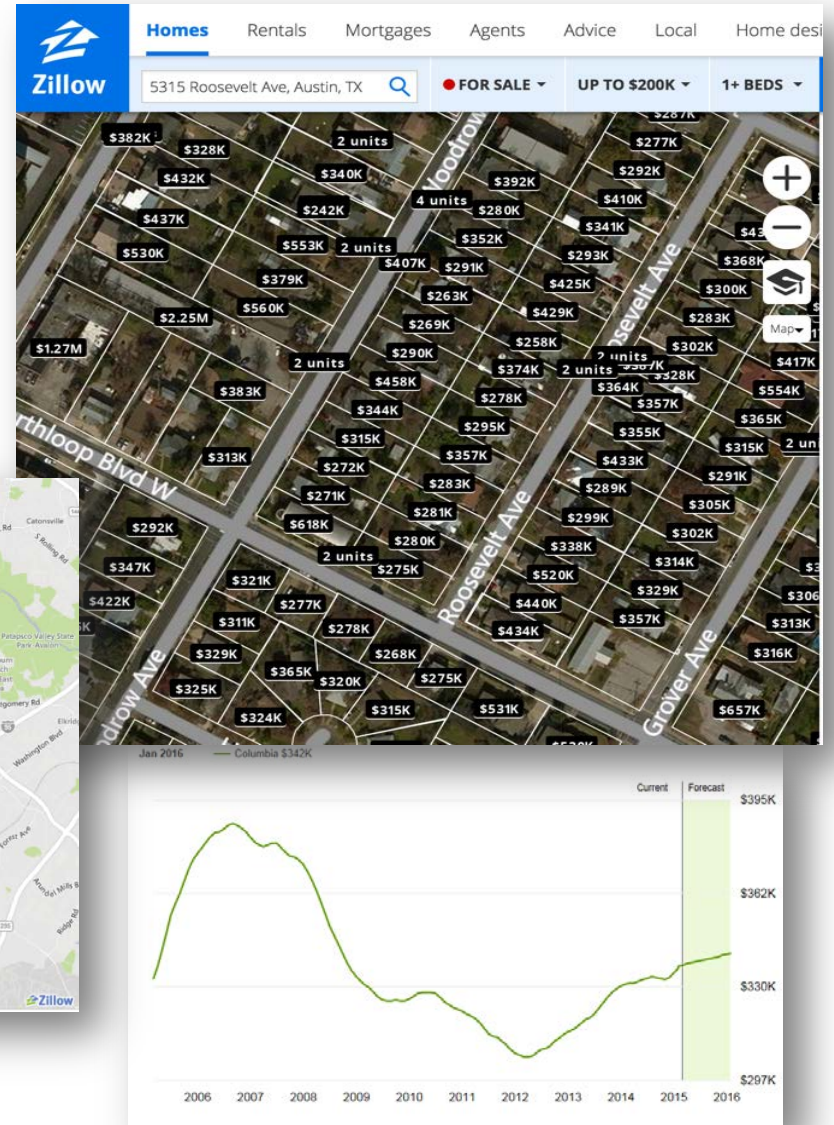
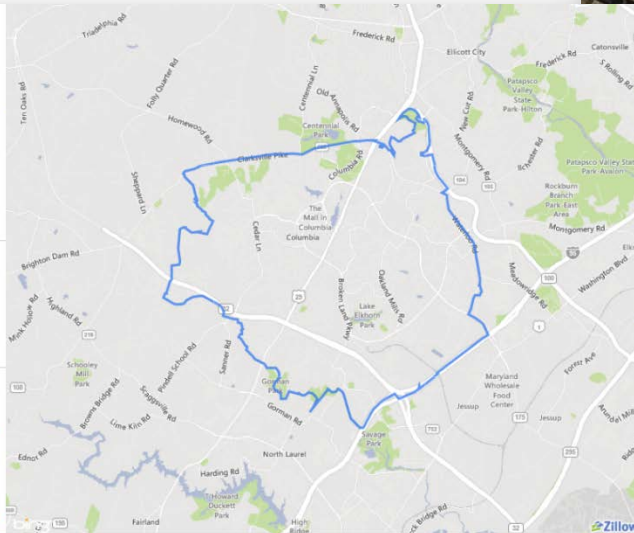
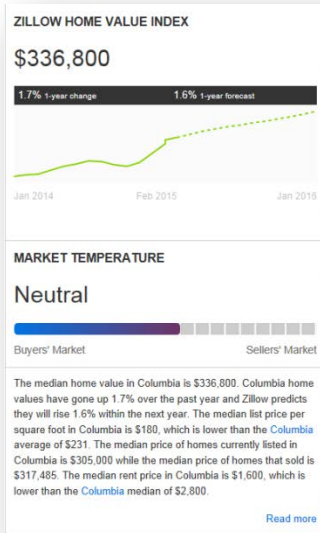


Source: <http://www.codeforamerica.org/blog/2012/03/15/educating-chicago/>

# 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.



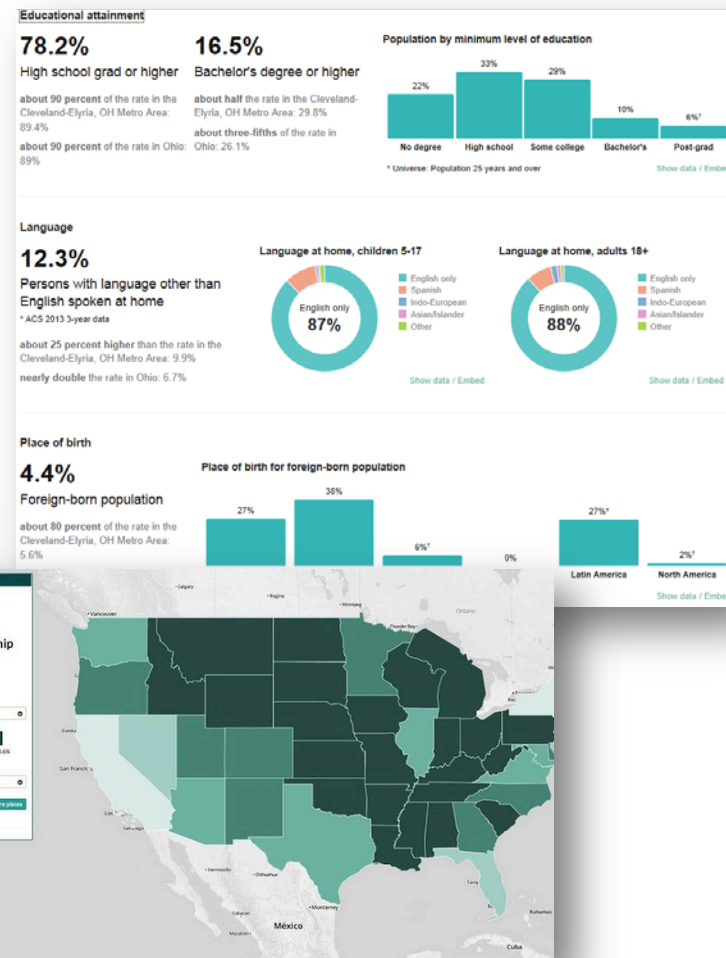
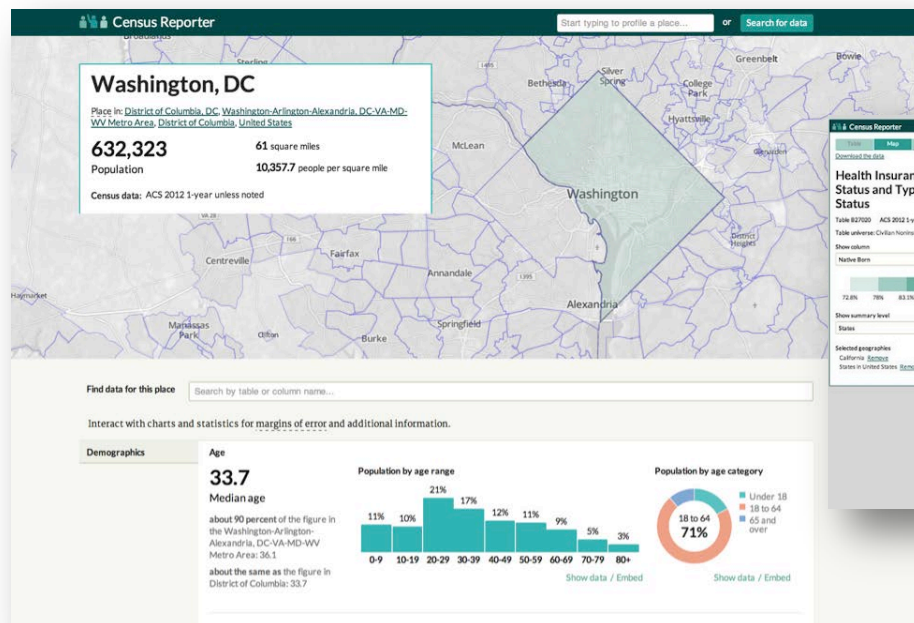
Source: <http://www.zillow.com>



# 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