# New & Updated Census Data Tools

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U.S. Department of Commerce
Economics and Statistics Administration
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# Agenda

- **Overview of Census Bureau Programs/Surveys**

- **Overview of the Local Employment Dynamics (LED) Program**

- **Census Business Builder**

- **Census API/CitySDK**

- **Census.data.gov (CEDSCI)**

- **Questions**

# What does the Census Bureau do?

## Decennial Census

Every 10 years, Counts Residents

## American Community Survey (ACS)

Annual Social, Economic and
Housing data

## Other Surveys and Censuses

- ✓ Current Population Survey (CPS)
- ✓ National Crime and Victimization Survey (NCVS)
- ✓ Health Interview Survey (HIS)
- ✓ Consumer Expenditure Survey (CE)
- ✓ Population Estimates
- ✓ Economic Census
- ✓ Census of Governments

## Periodical Surveys

American Housing Survey (2015)

> *The Census Bureau's mission is to serve as the leading source of quality data about the nation's people and economy.*

census.gov/programs-surveys/surveys-programs

# LED Program

# Local Employment Dynamics (LED) Data

- Provides unprecedented detail about America's jobs, workers and local economies.
- Provides longitudinal record of U.S. Employment
- Integrates existing data from state-supplied administrative records on workers and employers
- LED is an integral part of the DOC Open Government Plan to unlock public access to high-value government data
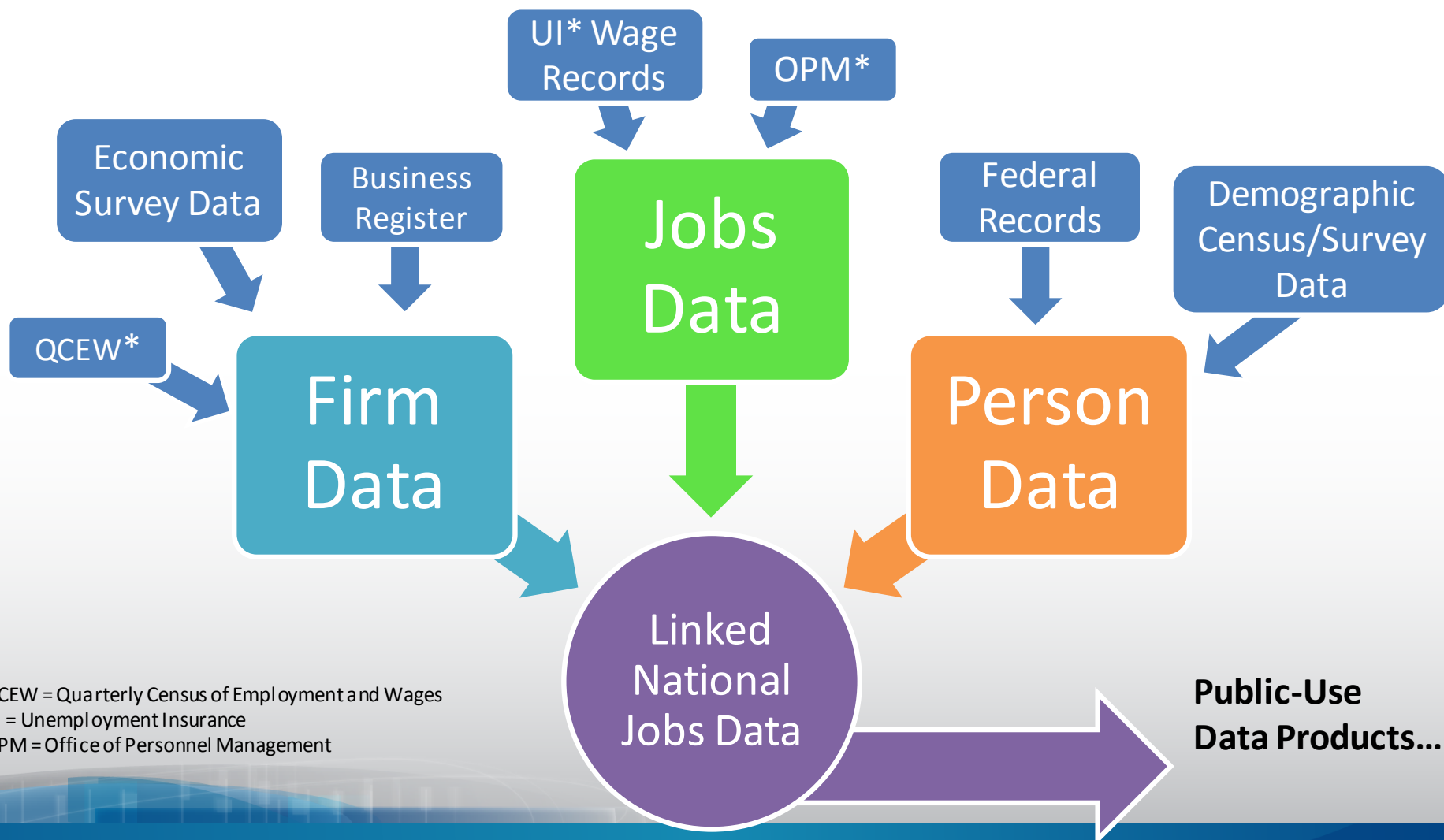
# Local Employment Dynamics Partnership

- Then: Local Employment Dynamics (LED)
    - Begun in late 1990s with a few states
    - Goal to generate **new labor market statistics** from existing records (UI and firm info)
- Now: Local Employer-Household Dynamics (LEHD)
    - 53 partner states/territories*
    - 3 data products
    - 5 web-based data tools
    - A culture of innovation and cost savings

# Building on State Inputs

- We combine **state records** with other admin/census/survey data from the **Census Bureau** and **other Federal agencies**
- We can then create public statistics on:
    - Firms & Establishments
    - Jobs & Workers
    - By Firm and Person Characteristics
- Without new respondent burden

# Admin. Records & LEHD Infrastructure

UI* Wage Records

OPM*

Economic Survey Data

Business Register

Jobs Data

Federal Records

Demographic Census/Survey Data

QCEW*

Firm Data

Person Data

Linked National Jobs Data

**Public-Use Data Products...**

QCEW = Quarterly Census of Employment and Wages
UI = Unemployment Insurance
OPM = Office of Personnel Management

# Important to Know

- Contains only UI-covered jobs: no US Post Office, no military jobs, no self-employed, 1099s, *etc.*

- Excludes some secretive 3-letter agencies (NSA, FBI)

- Employment and wages measured at start of Q2

- "Distance" is a straight-distance calculation: reported primary place of work, reported home location. Not on a road network, not a commute measurement

- 2-digit NAICS in the data now; working on 3-digit

# Choosing Among LED Data Products

| What do you want? | Potential Drawbacks | Data Product |
|---|---|---|
| Employment, hires, separations, turnover, or earnings by detailed firm and person characteristics; quarterly time resolution; relatively short data lag | No geography below county; no residential information | QWI |
| Employment for detailed or customized geography; residential patterns of the workforce; relationship between worker employment and home locations | Annual time resolution; less detailed firm/person characteristics | LODES |
| Transitions between jobs by timing and firm or worker characteristics; transitions to/from nonemployment | No worker characteristics by firm characteristics (except geography), no geography below states | J2J |

# Choosing Among LED Data Access Points

| Data Product | Explore the data, answer questions, or get visualizations | Bulk data for use in analysis process/software | Live queries for building web applications |
|---|---|---|---|
| **QWI** | QWI Explorer | LED Extraction Tool Raw data download | Census Bureau API |
| **LODES** | OnTheMap OnTheMap for Emergency Management | Raw data download | Future development |
| **J2J** | Job-to-Job Explorer | Raw data download | Future Development |

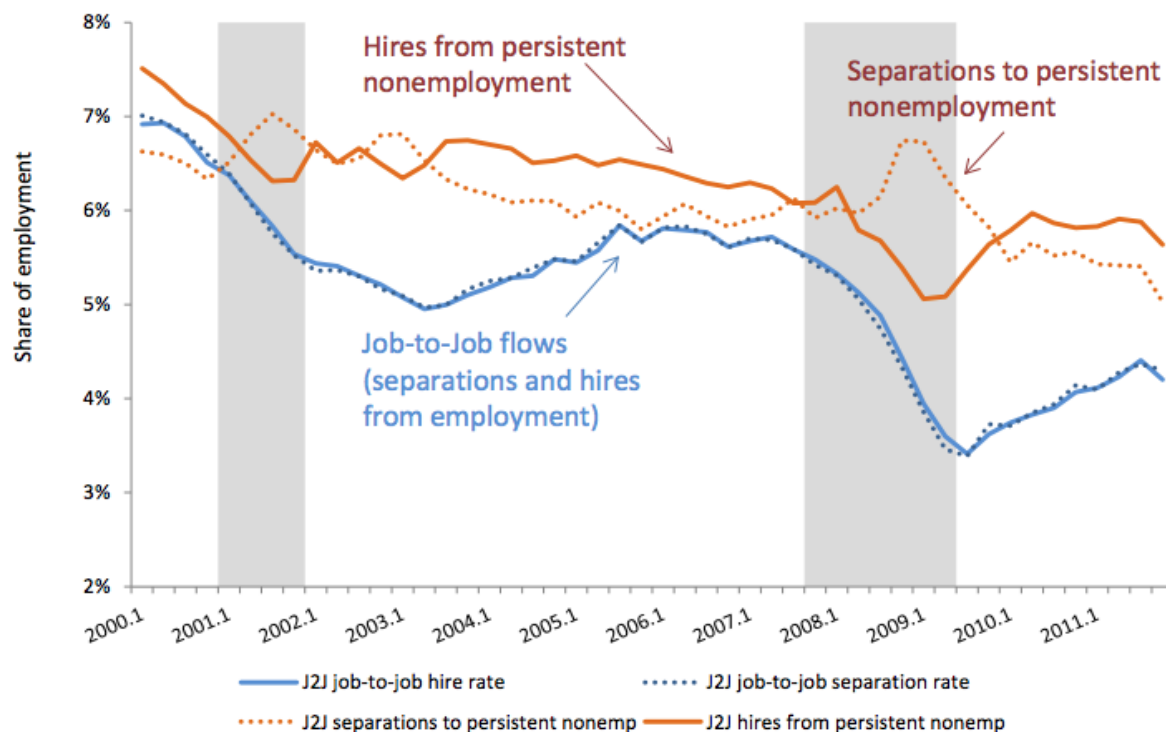# Job-to-Job Flows (J2J) Fills Important Data Gap

- Job-to-Job Flows is a beta release of new national statistics on job mobility in the U.S.

- With this data, users can learn more about workers entering and exiting nonemployment as well as those moving from one job to another.

- It therefore fills an important gap that other available data sources do not currently cover.

# Job-to-Job Flows

- Types of questions that can be answered:
  - How did the growth and decline in construction jobs in the last decade impact the ability of low-wage workers to move to better jobs?
  - Where are workers coming from/going?
- Download data from
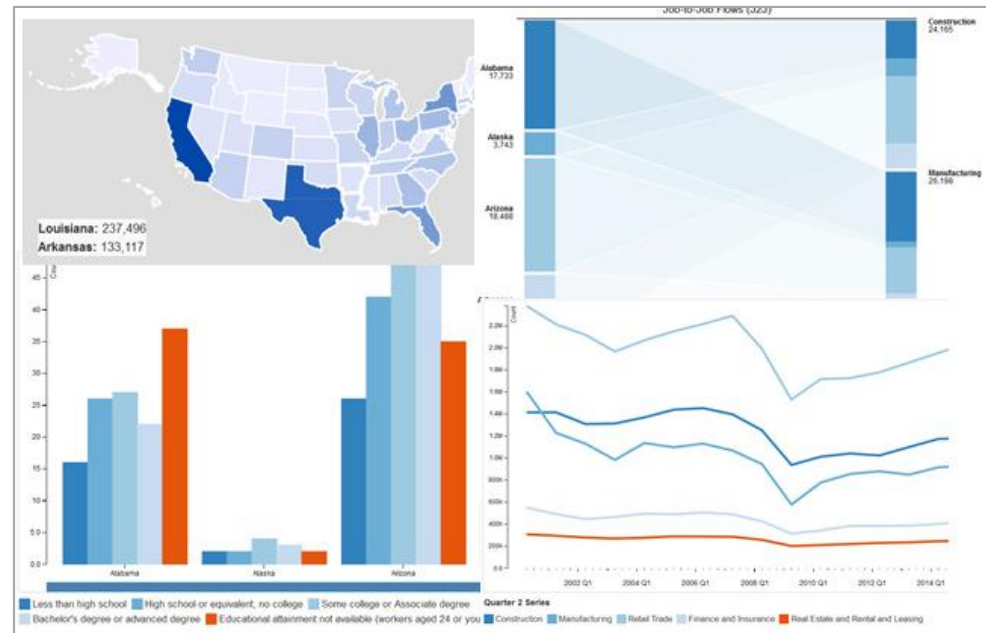  http://lehd.ces.census.gov/data/j2j_beta.html

# Job-to-Job flows



National Job-to-Job (J2J) flows series:

Note: Shaded regions indicate NBER recession quarters. All data are seasonally adjusted. These J2J tabulations do not include planned adjustments to the J2J series to account for partially-missing geography early in the time series.

# J2J Explorer



- ✓ 40 Measures of Worker Reallocation
- ✓ Six Visualization Modules with a flexible dashboard interface
- ✓ Export reports to Excel or CSV
- ✓ Trace worker movements through industries, geographic labor markets, and to/from employment
- ✓ Analyze/report by origin and destination geographies:
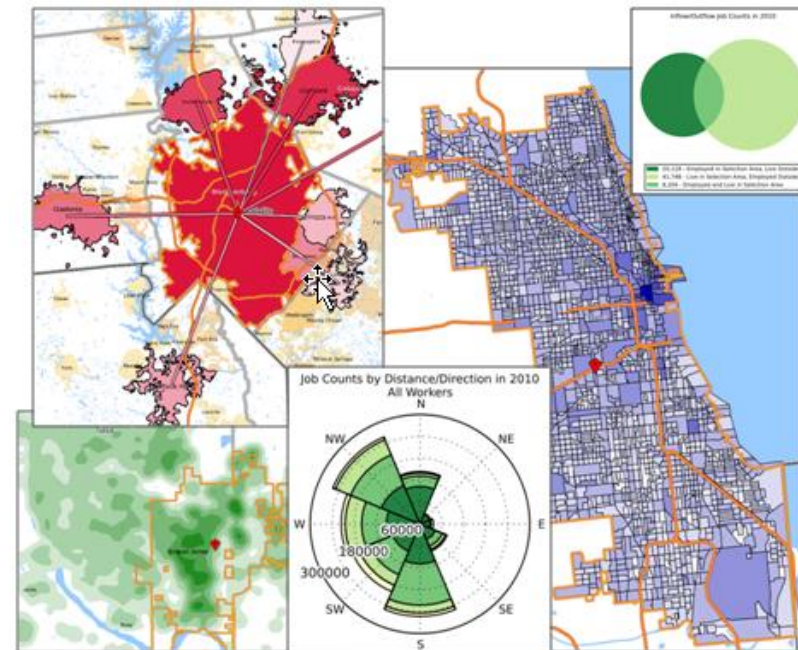  national and state-level tabulations

- ✓ Analyze/report by origin and destination firm characteristics:
  NAICS Sector, firm age, and firm size
- ✓ Analyze/report by worker demographics: age, earnings, race, ethnicity, educational attainment, and sex
- ✓ Data updated every quarter

# OnTheMap

Recognized by United Nations as a major U.S. statistical innovation



- ✓ Where do workers live?
- ✓ Where do residents work?
- ✓ What are the commuter flows of a particular area?
- ✓ Analyze/report by worker demographics: age, earnings, race, ethnicity, educational attainment, and sex
- ✓ Analyze/report by firm characteristics: NAICS Sector, firm age, and firm size

- ✓ 2002-2014 annual data (2015 coming soon!)
- ✓ 50 states available (plus DC)
- ✓ User-selected areas
- ✓ Based on Census Blocks
- ✓ Disclosure protection
- ✓ Flexible Inputs/Outputs

# OnTheMap for Emergency Management
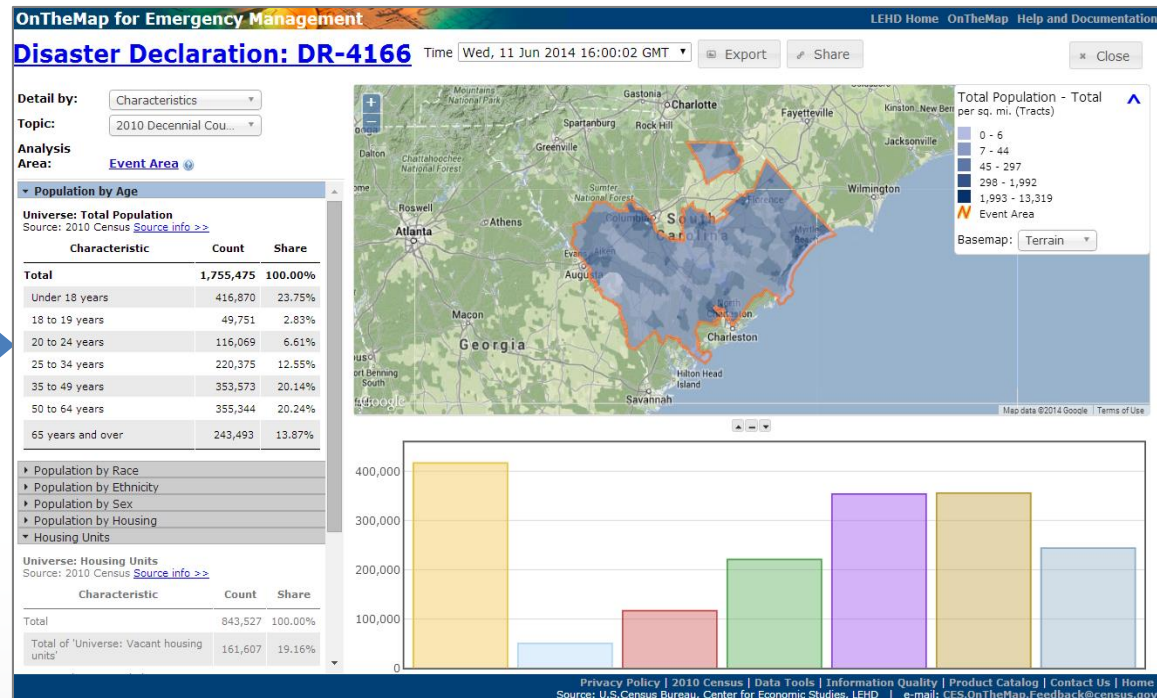
Hurricanes, Floods, Winter Storms

Disaster Areas
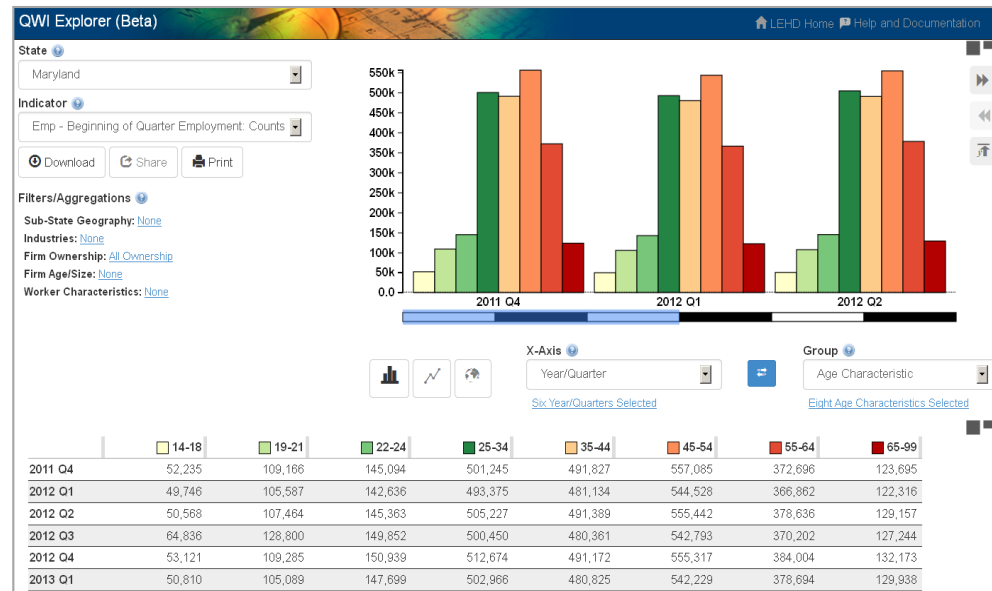
Wildfires

Demographic & Economic Data



**New Public Data Service for Emergency Preparedness & Response**

- Comprehensive Reports
- Real-time Data Updates
- Easy-to-use & Interoperable
- Historical Event Archive
- Flexible Analyses & Visualizations

# QWI Explorer

✓ 32 Quarterly Workforce Indicators

✓ Flexible Pivot Table and Map/Chart interface

✓ Data on detailed interactions between firms and workers include employment, employment change (individual and firm), and earnings

✓ Analyze/report by worker demographics: age, earnings, race, ethnicity, educational attainment, and sex



✓ Analyze/report by firm characteristics: NAICS classification (sector, 3, 4), firm age, and firm size

✓ Quarterly data very current (9-12 months old)

✓ National and 50 states available (plus DC)

# **Takeaways**

- The LED Partnership provides unique workforce information and analysis tools at a relatively low cost

- LED data products (QWI, LODES, J2J) can give insight into **local** and regional economies and labor markets

- LED's web tools provide free, 24/7 access for users to analyze and visualize the data

# Web Addresses for Public Data Tools

- QWI Explorer
  - [qwiexplorer.ces.census.gov/](qwiexplorer.ces.census.gov/)
- J2J Explorer
  - [j2jexplorer.ces.census.gov/](j2jexplorer.ces.census.gov/)
- OnTheMap
  - [onthemap.ces.census.gov/](onthemap.ces.census.gov/)
- OnTheMap for Emergency Management
  - [onthemap.ces.census.gov/em.html](onthemap.ces.census.gov/em.html)
- LED Extraction Tool
  - [ledextract.ces.census.gov/](ledextract.ces.census.gov/)

# Useful Links

- **QWI Explorer**
  - [Video Walkthrough](#)
  - [Example Scenarios](#)
- **J2J Explorer**
  - [Analysis Guides](#)
  - [FAQs](#)
- **OnTheMap**
  - [Getting Started](#)
  - [Analysis Guides](#)
  - [Other Tutorials](#)

# Other Ways to Access Data

- [ACS Main Page](#)
- [Data Tables and Tools](#)
- [Narrative  Profiles](#)
- [QuickFacts](#)
- [CensusExplorer](#)
- [Census Business Builder](#)
- [My Congressional District](#)
- [My Tribal Area](#)
- [American  FactFinder](#)
- [Application  Programming Interface (API)](#)
- [Census Reporter](#)

# Census Business Builder

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# *Census Business Builder*
# Guiding Principles

- Easy to use
- Customer focused
- Census data and more
- Leverage existing Census investments and current technologies
- Free CBB Main

# CBB: DATA SOURCES

2011-2015 American Community Survey 5-year Estimates
• Demographic Characteristics
• Socioeconomic Characteristics
• Housing Characteristics

2012 Economic Census
• Number of Employer Establishments; Employment; Annual Payroll; Sales, Shipments, Receipts, Revenue, Work Done

2014 County Business Patterns
• Number of Employer Establishments, Employment, Annual Payroll

2014 Nonemployer Statistics
• Number of Nonemployer Establishments, Total Revenue

2015 Consumer Spending Data
• Spending on: Dining Out, Entertainment/Recreation, Financial Services, Health Care, Household Services, Housing, Personal Care, Transportation, and Travel

2012 Survey of Business Owners Data (RAE Only)
 • Information on selected economic and demographic characteristics for businesses and business owners by gender, ethnicity, race, and veteran status.

# Census Business Builder
## *Small Business Edition*

The Small Business Edition offers prospective business owners selected Census Bureau statistics to guide their research into opening their new business or expanding an existing one.

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# Determine the Best Location for Your Business

## 1. What type of business do you want to research?

Select your type of business by either selecting from the "Most Popular" broad categories and then from the detailed list provided...

Construction

Food Services

Healthcare

Personal Services

Prof & Biz Services

Retail

or Search for your type of business

Q Industry Title, Keyword, or NAICS Code

## 2. Where are you considering locating the business?

Select the proposed location for your business by either clicking on the My Location button or by searching for it

My Location

or

Q State, County, City/Town, or ZIP Code

Click "Go to Map" to browse the information about your potential customers and competitors for your proposed location and surrounding locations OR...

Go to Map

... Click "Create Report" to go straight to the report for your type of businesses and location
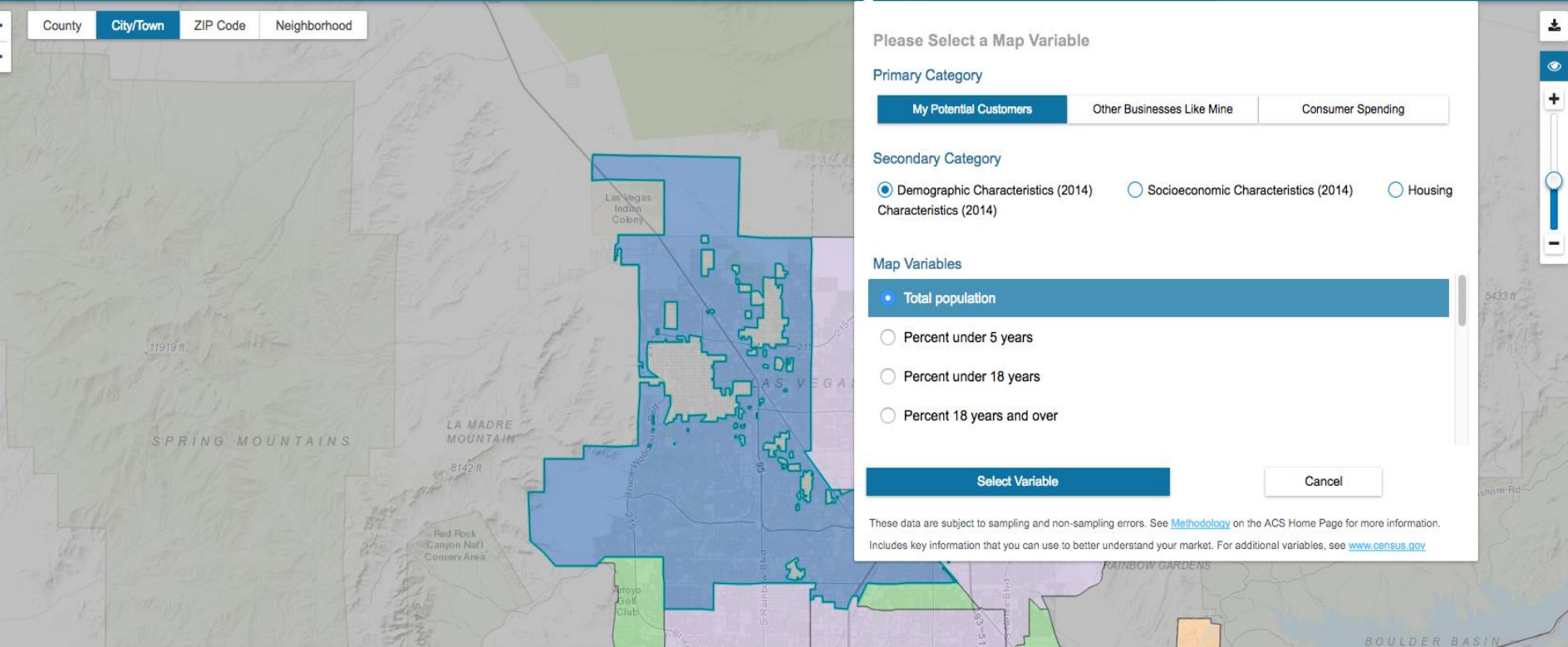
Create Report

Change Your Industry

Food Services, Food trucks ▾

Change Your Location

Las Vegas city, Nevada ▾

Select Map Variable

Total population ▾

Select Your Filter

Not Applied ▾

County | **City/Town** | ZIP Code | Neighborhood

### Please Select a Map Variable

**Primary Category**

| My Potential Customers | Other Businesses Like Mine | Consumer Spending |

**Secondary Category**

⦿ Demographic Characteristics (2014)    ◯ Socioeconomic Characteristics (2014)    ◯ Housing Characteristics (2014)

**Map Variables**

⦿ **Total population**
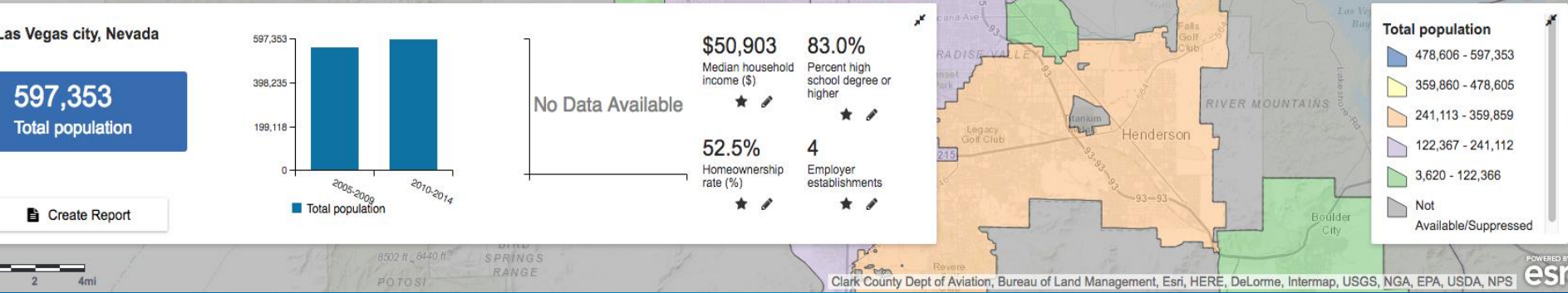
◯ Percent under 5 years

◯ Percent under 18 years

◯ Percent 18 years and over

| Select Variable | | Cancel |

These data are subject to sampling and non-sampling errors. See Methodology on the ACS Home Page for more information.

Includes key information that you can use to better understand your market. For additional variables, see www.census.gov

**Las Vegas city, Nevada**

**597,353**
**Total population**

597,353
398,235
199,118
0
2005-2009    2010-2014

■ Total population

No Data Available

**$50,903**
Median household income ($)
★ ✎

**83.0%**
Percent high school degree or higher
★ ✎

**52.5%**
Homeownership rate (%)
★ ✎

**4**
Employer establishments
★ ✎

📄 Create Report

**Total population**

■ 478,606 - 597,353
■ 359,860 - 478,605
■ 241,113 - 359,859
■ 122,367 - 241,112
■ 3,620 - 122,366
■ Not Available/Suppressed

Clark County Dept of Aviation, Bureau of Land Management, Esri, HERE, DeLorme, Intermap, USGS, NGA, EPA, USDA, NPS
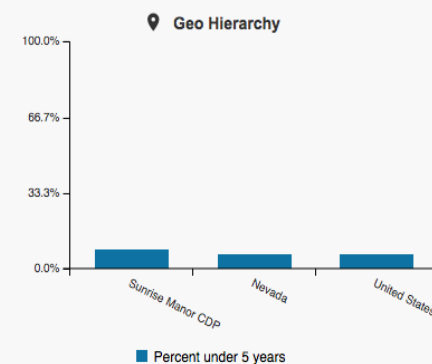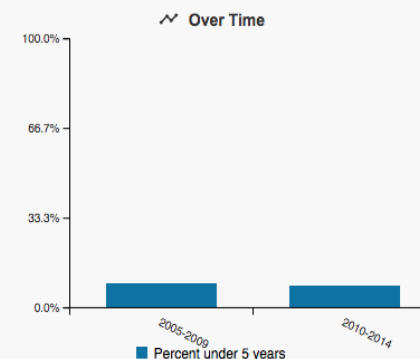
POWERED BY esri

## Contents

### My Potential Customers

Includes information on total population and population by age, race, and ethnicity from the 2005-2009 and the 2010-2014 American Community Survey 5-Year Estimates

**Demographic Characteristics (2014)**

| Name | Estimate | | |
|------|----------|---|---|
| Total population | 187,647 | 〰 | 📍 |
| Percent under 5 years | 8.3% | 〰 | 📍 |
| Percent under 18 years | 28.8% | 〰 | 📍 |
| Percent 18 years and over | 71.2% | 〰 | 📍 |
| Percent 65 years and over | 9.6% | 〰 | 📍 |
| Percent White | 58.76% | 〰 | 📍 |
| Percent Black or African American | 12.12% | 〰 | 📍 |
| Percent American Indian and Alaska Native | 0.61% | 〰 | 📍 |
| Percent Asian | 5.96% | 〰 | 📍 |
| Percent Native Hawaiian and Other Pacific Islander | 0.60% | 〰 | 📍 |
| Percent some other race | 17.67% | 〰 | 📍 |
| Percent two or more races | 4.29% | 〰 | 📍 |
| Percent Hispanic (of any race) | 49.98% | 〰 | 📍 |

**〰 Over Time**


Percent under 5 years

**📍 Geo Hierarchy**


Percent under 5 years

These data are subject to sampling and non-sampling errors. See Methodology on the ACS Home Page for more information.

Includes information on total population and population by age, race, and ethnicity from the 2005-2009 and the 2010-2014 American Community Survey 5-Year Estimates

**〰 Over Time**

# Census Business Builder:
## *Regional Analyst Edition*

The CBB: Regional Analyst Edition allows organizations to easily navigate & use key demographic and economic data to help guide their research into their region by county or city/town.

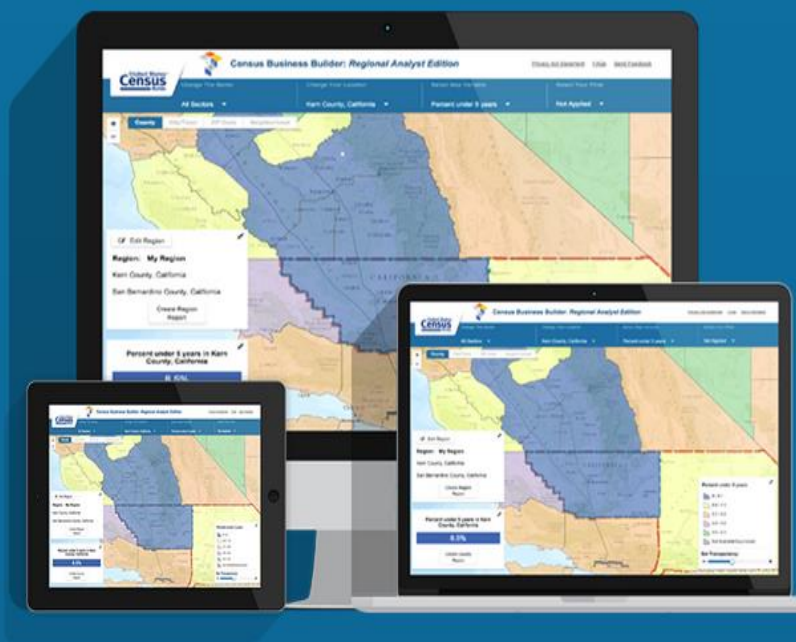United States™
**Census**
Bureau

# Define your region



## 1. What is the primary county or city/town in your region?

Select the primary county or city/town in your region by either clicking on the My Location button or by searching for it

My Location

or

🔍 County or City/Town

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**Census Business Builder:** *Regional Analyst Edition*

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| Change The Sector | Change Your Location | Select Map Variable | Select Your Filter |
|---|---|---|---|
| All Sectors ▾ | Clark County, Nevada ▾ | Total population ▾ | Not Applied ▾ |

County | City/Town | ZIP Code | Neighborhood

**Please Select a Map Variable**

**Primary Category**

| Consumers/Residents | Businesses | Consumer Spending |

**Secondary Category**

● Demographic Characteristics (2014)    ○ Socioeconomic Characteristics (2014)    ○ Housing Characteristics (2014)

**Map Variables**

● Total population

○ Percent under 5 years

The percentage of those persons usually resident in a particular area that are under 18 years old.

○ Percent under 18 years

○ Percent 18 years and over

○ ~~Percent 65 years and over~~

| Select Variable | Cancel |

These data are subject to sampling and non-sampling errors. See Methodology on the ACS Home Page for more information. Includes key information that you can use to better understand your market. For additional variables, see www.census.gov

**Region 1**

**Clark County, Nevada**

**2,003,613**
Total population

| 2.8 | $69,106 |
| Average household size | Average income ($) |

| 40,969 | 84.2% |
| Employer establishments (County - 2013, City - 2012) | Percent high school degree or higher |

📄 Create County Report

**Total population**

| ▢ | 1,663,925 - 2,078,586 |
| ▢ | 1,249,264 - 1,663,924 |
| ▢ | 834,604 - 1,249,263 |
| ▢ | 419,943 - 834,603 |
| ▢ | 5,282 - 419,942 |
| ▢ | Not Available/Suppressed |

**Set Transparency:**
— ⬤ ＋

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Change The Sector

**All Sectors**

Change Your Location

**Esmeralda County, Nevada**

Select Map Variable

**Total population**

Select Your Filter

**Not Applied**

**County** | City/Town | ZIP Code | Neighborhood

**Region:  My Region**

Esmeralda County, Nevada

Douglas County, Nevada

Mineral County, Nevada

Lincoln County, Nevada

Create Region Report | ✐ **Edit Region**

**Esmeralda County, Nevada**

**1,041**
Total population

2.2
Average household size

$43,148
Average income ($)

14
Employer establishments (County - 2013, City - 2012)

85.4%
Percent high school degree or higher

📄 Create County Report

**Total population**

■ 1,663,077 - 2,078,586
■ 1,247,568 - 1,663,076
■ 832,059 - 1,247,567
■ 416,550 - 832,058
■ 1,041 - 416,549
■ Not Available/Suppressed

**Set Transparency:**
− ———————○——— +

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# Census API/City SDK

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# Application Programming Interface (API)

## Developers

API Forum
About this Section
App Gallery
Available APIs
Geography
News
Terms of Service
Updates

The Census Bureau has begun rolling out our datasets via APIs. Check out our Discovery Tool. Sign up for our newsletter to get the latest updates and newest dataset addition. We also invite you to make requests for features / data via our forum.

Read More

CITYSDK

NEW: JavaScript Toolkit!

Developers' Forum

NEWS

Join the Mailing List

Request a KEY

### Latest

| Available APIs | News | Updates |
|---|---|---|

**Survey of Business Owners**
*February 03, 2016*
(Non)employer firms, sales/receipts, payroll, employment, by gender, ethnicity, race, veteran status for states, metro/micropolitan areas, counties and places

**County Business Patterns and Nonemployer Statistics (2008-2013)**
*January 27, 2016*
Annual statistics on U.S. businesses with and without paid employees or payroll at detailed levels of geography and industry. Both surveys use NAICS codes.

**Population Estimates and Projections (2015, 2014, 2013 and 2012)**
*December 22, 2015*
Both programs use births, deaths, and migration to gauge population change since 2010. Estimates are past and present. Projections are future. Geographies vary.

**View All Available APIs**

**When to use**:
The Census application programming interface (API) lets developers create custom apps to reach new users and makes key demographic, socio-economic and housing statistics more accessible than ever before.

census.gov/developers

# Datasets Available

- Census Bureau's most popular aggregate datasets:

  - ACS Estimates

    - 1, 3, 5-Year Products, Supplemental Tables, Summary Files, Data Profiles

  - Economic Indicators Time Series

  - Decennial Census (SF1/SF3) 1990, 2000, 2010

  - Economic Census 2007, 2012

  - CBP and Nonemployer Statistics 2011-13

  - Population Estimates 2013, 2014 and Projections 2012-2060

  - Business Dynamics Statistics 1972-2012

- Complete list located: http://api.census.gov/data.html

# What an API URL Looks Like

http://api.census.gov/data/2014/acs1?get=NAME,B01001_001E&for=state:*

# Build the URL

1) Identify the dataset you want to use
   - http://www.census.gov/data/developers/data-sets.html
2) Identify items needed
   - Variables names /variables.html
   - Geography codes (usually FIPS)
3) Build the query
   - ?get=variable,names,separated,by,commas
   - &for=geography level:code
4) Put it all together
   - http://api.census.gov/data/2014/acs1?get=NAME,B01001_001E&for=state:*

# How To Do a Query

**http://api.census.gov/data**/2014/acs1?get=
NAME,B01001_001E&for=state:*


1. Start your query with:
   http://api.census.gov/data

# How To Do a Query

http://api.census.gov/data**/2014**/acs1?get=NAME,B01001_001E&for=state:*

2. Add the data year to the URL. This is usually the year the data were collected.

Skip this step for Time Series datasets.

# How To Do a Query

http://api.census.gov/data/2014**/acs1**?get= NAME,B01001_001E&for=state:*


3. Add the datset name.

A full list is available here: http://api.census.gov/data.html

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# How To Do a Query

[http://api.census.gov/data/2014/acs1**?**get=](http://api.census.gov/data/2014/acs1?get=)
NAME,B01001_001E&for=state:*

4. Start your query with a ?

# How To Do a Query

[http://api.census.gov/data/2014/acs1?**get=**](http://api.census.gov/data/2014/acs1?get=)**NAME,B01001_001E**&for=state:*

5. Add variables.

   A full list is available here:
   [http://api.census.gov/data/2014/acs1/variables.html](http://api.census.gov/data/2014/acs1/variables.html)

# How To Do a Query

http://api.census.gov/data/2014/acs1?get=NAME,B01001_001E**&for=state:***

6.  Add geography.

A full list is available here:
http://api.census.gov/data/2014/acs1/geography.html

# Output

## Returns data in json format that looks like this:

[["NAME","B01001_001E","state"],

["Alabama","4849377","01"],

["Alaska","736732","02"],

["Arizona","6731484","04"],

["Arkansas","2966369","05"],

["California","38802500","06"]…

The response for all queries is formatted as a two dimensional JSON array where the first row provides column names and subsequent rows provide data values.

# C I T Y S D K

- Interactive Query Builder
- Example
- Census Module

**CitySDK Project Page:**
http://uscensusbureau.github.io/citysdk/

Tutorial

# Resources

- Dataset Discovery tool:
  - http://api.census.gov/data.html
  - http://api.census.gov/data.xml
  - http://api.census.gov/data.json
- Census developer page:
  - http://www.census.gov/developers/
- Convert JSON to CSV data:
  - http://www.convertcsv.com/json-to-csv.htm

# The Future of Census Bureau Data Dissemination Depends on YOU!



Visit [data.census.gov](data.census.gov) and provide your feedback!

Please remember:

- *This is an early preview; phased releases will continue as we develop, test, and incorporate user feedback.*

- *For official Census Bureau data, continue to use the tools available on Census.gov.*

# Continue the Conversation

@uscensusbureau
#ACSdata

facebook.com/uscensusbureau

@uscensusbureau

youtube.com/user/uscensusbureau

Source us:
*"U.S. Census Bureau's American Community Survey"*

*YYYY-YYYY American Community Survey 1//5-year estimates/statistics/data release*
- *2015 American Community Survey 1-year estimates*
- *2011-2015 American Community Survey 5-year estimates*

# Resources: Need Assistance?

**U.S. Census Bureau**
**Data Dissemination Specialist**

# Lia Bolden
**(510) 406-8841**
elaine.lia.bolden@census.gov

**Toll-free number:**
**1-844-ASK-DATA (1-844-275-2342)**

**For general questions:**

census.askdata@census.gov

# Questions?

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