Exploring Census Data
Webinar Series:
Webinar #2 – Employment

A Look into Demographic and Public Sector Employment Data

Tuesday, May 21st, 2019

Presented by: Melinda Caskey and Chase Sawyer
U.S. Census Bureau
Exploring Census Data Webinar Series

- Monthly webinars on key topics
- Topics may change based on attendee feedback
- Will follow real-life use cases
- Presented by Census subject matter experts
- Will include Q&A
- Will be recorded and posted for later reference
- Learn more at https://www.census.gov/data/training-workshops.html

<table>
<thead>
<tr>
<th>Topic</th>
<th>Session Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>International Trade</td>
<td>April 25, 2019</td>
</tr>
<tr>
<td>Employment</td>
<td>May 21, 2019</td>
</tr>
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<td>Emergency Management</td>
<td>June 5, 2019</td>
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<tr>
<td>Healthcare</td>
<td>July 25, 2019</td>
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<tr>
<td>Small &amp; Minority-owned Businesses</td>
<td>August 22, 2019</td>
</tr>
<tr>
<td>Hidden Gems</td>
<td>September 25, 2019</td>
</tr>
</tbody>
</table>
About the Census Bureau

• The U.S. Census Bureau is the federal government’s largest statistical agency.

• We conduct more than 100 censuses and surveys each year, including
  - The Decennial Census — the once-a-decade population and housing count of all 50 states and U.S. territories
  - The American Community Survey — the ongoing annual survey of the nation’s population
  - The Economic Census — the official five-year measure of American businesses

• Our mission is to serve as the leading source of quality data about America’s people, places, and economy.
The Decennial Census

Purpose:
To conduct a census of population and housing and disseminate the results to the President, the States, and the American People

Apportion representation among states as mandated by Article 1, Section 2 of the U.S. Constitution:

Representatives and direct Taxes shall be apportioned among the several States which may be included within this union, according to their respective Numbers ...

The actual Enumeration shall be made within three Years after the first Meeting of the Congress of the United States, and within every subsequent Term of ten years, in such Manner as they shall by Law direct.

Primary Uses of Decennial Census Data:
• Apportion representation among states as mandated by Article 1, Section 2 of the U.S. Constitution
• Draw congressional and state legislative districts, school districts, and voting precincts
• Distribute more than $675 billion federal dollars annually to states
• Inform federal, tribal, state, and local government planning decisions
• Inform business and nonprofit organization decisions (e.g., where to locate, size of the market)
When it’s time to respond, most households will receive an invitation in the mail (some will be delivered by a census taker).

Every household will have the option of responding online, by phone, or by mail.
What You Can Do To Get Involved to Help Make the 2020 Census a Complete and Accurate Count Of the Nation’s People

• Actively support a complete and accurate count for the 2020 Census.
• Spread the word about more than 500,000 temporary census jobs that peak in the spring of 2020.
• https://2020census.gov/jobs
• Research the characteristics and projected self-response rates for your own neighborhood and strategically think through how you can improve the count among your family, friends, and neighbors. https://www.census.gov/roam
• Urge everyone you are connected with to self-respond to the census in late March and April 2020.
  1. The Census is Important
  2. The Census is Easy
  3. The Census is Safe
• Join your local Complete Count Committee and lend your expertise to ensure all segments of your community are accurately counted in 2020.
• https://2020census.gov

How will our country look in 2020?
Today’s Webinar

• Census Bureau data on Employment
  • Using State and Local Government Employment
    • Scope and Composition
    • Payroll
  • Using the American Community Survey employment data
    • Examine industry patterns
    • Occupational differences

Our use case: New York
Employment in the U.S.

The Annual Survey of Public Employment & Payroll (ASPEP)

- Provides number of public employees and their gross payroll for the month of March
- Data shown at the local government and state government levels
- First collected in 1957
- Full census conducted every 5 years (last in 2017)

https://www.census.gov/programs-surveys/apes.html

Key stats from the 2017 Census State & Local data:

- March total payroll: $80.3 Billion
- Full-time Employment: 14.6 million
- Part-time Employment: 4.9 million
- Part-time Hours Worked: 341.6 million
- Full-time Equivalent Employment: 16.6 million
Important Details

• ASPEP differs from American Community Survey data in that we survey governments directly. ACS is self-reported by individuals.

• NAICS does have a code for Public Administration: Sector 92
  • Does not always include all government functions
  • Might find Sector 92 in Economic Datasets
  • Can find more about Sector 92 on page 591 of the 2017 classification manual at https://www.census.gov/eos/www/naics/
Total Full Time & Part Time, State & Local Employees by State

Employees

Thousands

-100

Source: 2017 Survey of Public Employment and Payroll, U.S. Census Bureau
Total State & Local Employees by Function

Source: 2017 Survey of Public Employment and Payroll, U.S. Census Bureau
Top 15 Functions: Total Employment

- Elementary & Secondary Education
- Higher Education
- Hospitals
- Police Protection
- Corrections
- Public Welfare
- Highways
- All other and unallocable
- Health
- Financial Administration
- Fire Protection
- Judicial and Legal
- Parks and Recreation
- Other Government Administration
- Transit

Source: 2017 Survey of Public Employment and Payroll, U.S. Census Bureau
Total State & Local March Payroll by Function (whole dollars)

Source: 2017 Survey of Public Employment and Payroll, U.S. Census Bureau
New York Total State & Local Employees

Source: 2017 Survey of Public Employment and Payroll, U.S. Census Bureau
New York Total State Employees

Source: 2017 Survey of Public Employment and Payroll, U.S. Census Bureau
New York Total Local Employees

Source: 2017 Survey of Public Employment and Payroll, U.S. Census Bureau
New York Total Local Employees
(minus the Elementary and Secondary Education Function)

Source: 2017 Survey of Public Employment and Payroll, U.S. Census Bureau
New York State & Local Elementary and Secondary Education

Full Time:
- Education - Elementary and Secondary Instructional: 75%
- Education - Elementary and Secondary Other: 25%

Part Time:
- Education - Elementary and Secondary Instructional: 56%
- Education - Elementary and Secondary Other: 44%

Source: 2017 Survey of Public Employment and Payroll, U.S. Census Bureau
New York State & Local Higher Education

Full Time Employment

- Education - Higher Education Instructional: 36%
- Education - Higher Education Other: 64%

Part Time Employment

- Education - Higher Education Instructional: 50%
- Education - Higher Education Other: 50%

Source: 2017 Survey of Public Employment and Payroll, U.S. Census Bureau
State & Local Full-time Equivalent Transit Employees for Select States

- New York: 68 thousand Employees
- California
- Illinois
- Pennsylvania
- Texas
- District of Columbia
- New Jersey
- Washington
- Florida
- Ohio
- GA

Source: 2017 Survey of Public Employment and Payroll, U.S. Census Bureau
### State & Local Government Snapshot

#### Link to the Snapshot Tool


#### Others Actions to Change the Tool Display

- Select different years
- Select State, Local or State and Local Governments
- Select Variable to Display; Revenues, Expenditures, or Employment
- Select a State

#### Webinar on the Snapshot Tool

[https://www.census.gov/data/training-workshops/listed-webinars/listing.html#par_textimage_1007352740](https://www.census.gov/data/training-workshops/listed-webinars/listing.html#par_textimage_1007352740)
The American Community Survey (ACS)

• Provides 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

• Provides data for many different geographies

• For more information on the ACS, see [census.gov/acs](http://census.gov/acs)

Our industry:

Educational Services and Health Care and Social Assistance

• *Educational Services*
Selected Census Geographies

Nation

Regions

States

Counties

Census Tracts

Metropolitan and Micropolitan Areas

Urban Areas

American Indian/Alaska Native Areas/Hawaiian Home Lands

Zip Code Tabulation Areas

Congressional Districts

School Districts

Public Use Microdata Areas (PUMAs)

Alaska Native Regional Areas

State Legislative Districts

Places

805,000+ Geographic Areas

35,000+ Communities

Block Groups
Considerations for ACS Data

• Demographic/Household Based Survey
• All Types of Workers
  • Employer Businesses
  • Self-Employed
  • Government
• Most Tables are Based on Where Someone Lives
• 1-Year and 5-Year Estimates
• Industry Breakout Using Census Codes, not NAICS
  • [https://www2.census.gov/programs-surveys/acs/tech_docs/code_lists/2017_ACS_Code_Lists.pdf](https://www2.census.gov/programs-surveys/acs/tech_docs/code_lists/2017_ACS_Code_Lists.pdf)
Industry and Occupation

Industry

b. What was the name of this person’s employer, business, agency, or branch of the Armed Forces?


c. What kind of business or industry was this? Include the main activity, product, or service provided at the location where employed. (For example: elementary school, residential construction)


d. Was this mainly – Mark (X) ONE box.

- manufacturing?
- wholesale trade?
- retail trade?
- other (agriculture, construction, service, government, etc.)?

Occupation

e. What was this person’s main occupation? (For example: 4th grade teacher, entry-level plumber)


f. Describe this person’s most important activities or duties. (For example: instruct and evaluate students and create lesson plans, assemble and install pipe sections and review building plans for work details)
Industry Overview

- Agriculture, forestry, fishing and hunting, and mining: 0.3%
- Arts, entertainment, and recreation, and accommodation and food services: 10.5%
- Construction: 5.2%
- Educational services, and health care and social assistance: 26.7%
- Finance and insurance, and real estate and rental and leasing: 9.3%
- Information: 3.9%
- Manufacturing: 3.2%
- Other services, except public administration: 5.6%
- Professional, scientific, and management, and administrative and waste management services: 13.8%
- Public administration: 3.7%
- Retail trade: 9.3%
- Transportation and warehousing, and utilities: 6.6%
- Wholesale trade: 2.0%

Source: 2017 ACS 1-Year Estimates, Table DP03 New York City
Note: Line represents national estimates
Industry Overview
Educational Services, and Health Care, and Social Assistance

Source: 2017 ACS 1-Year Estimates, Table DP03 New York City
Note: Line represents national estimates
Occupation Overview

- Management, business, science, and arts occupations: 41.2%
- Natural resources, construction, and maintenance occupations: 6.2%
- Production, transportation, and material moving occupations: 8.5%
- Sales and office occupations: 21.3%
- Service occupations: 22.8%

Source: 2017 ACS 1-Year Estimates, Table DP03 New York City
Note: Line represents national estimates
Management, business, science and arts occupations

-Education, legal, community service, arts, media

-Education, training, and library occupations

-Postsecondary Teachers: 46,828
-Pre-school and kindergarten teachers: 11,837
-Elementary and middle school teachers: 91,676
-Secondary school teachers: 12,934
-Special education teachers: 6,155
-Librarians, curators, and archivists: 8,431
-Other teachers and instructors, education, training, and library occupations: 79,497

Source: 2017 ACS 1-Year Estimates, Table B24010 New York City
<table>
<thead>
<tr>
<th>Industry</th>
<th>Service occupations</th>
<th>Management, business, science, and arts occupations</th>
<th>Sales and office occupations</th>
<th>Production, transportation, and material moving occupations</th>
<th>Natural resources, construction, and maintenance occupations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, forestry, fishing and hunting, and mining</td>
<td>0.0</td>
<td>1.2</td>
<td>0.3</td>
<td>0.5</td>
<td>1.9</td>
</tr>
<tr>
<td>Arts, entertainment, and recreation, and accommodation and food services</td>
<td>260.0</td>
<td>103.4</td>
<td>57.7</td>
<td>15.6</td>
<td>3.2</td>
</tr>
<tr>
<td>Construction</td>
<td>2.9</td>
<td>31.5</td>
<td>8.5</td>
<td>7.9</td>
<td>166.5</td>
</tr>
<tr>
<td>Educational services, and health care and social assistance</td>
<td>332.1</td>
<td>644.0</td>
<td>128.5</td>
<td>9.0</td>
<td>6.3</td>
</tr>
<tr>
<td>Finance and insurance, and real estate and rental and leasing</td>
<td>41.6</td>
<td>203.4</td>
<td>129.7</td>
<td>4.0</td>
<td>10.0</td>
</tr>
<tr>
<td>Information</td>
<td>4.4</td>
<td>118.0</td>
<td>28.3</td>
<td>2.9</td>
<td>7.5</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>4.3</td>
<td>42.0</td>
<td>21.6</td>
<td>61.8</td>
<td>5.8</td>
</tr>
<tr>
<td>Other services, except public administration</td>
<td>115.7</td>
<td>52.3</td>
<td>24.6</td>
<td>21.5</td>
<td>19.4</td>
</tr>
<tr>
<td>Professional, scientific, and management, and administrative and waste management services</td>
<td>98.9</td>
<td>359.9</td>
<td>91.2</td>
<td>19.7</td>
<td>7.7</td>
</tr>
<tr>
<td>Public administration</td>
<td>58.8</td>
<td>61.3</td>
<td>31.9</td>
<td>2.2</td>
<td>2.8</td>
</tr>
<tr>
<td>Retail trade</td>
<td>22.8</td>
<td>61.6</td>
<td>267.1</td>
<td>31.7</td>
<td>7.4</td>
</tr>
<tr>
<td>Transportation and warehousing, and utilities</td>
<td>12.8</td>
<td>24.2</td>
<td>59.3</td>
<td>164.0</td>
<td>16.1</td>
</tr>
<tr>
<td>Wholesale trade</td>
<td>1.2</td>
<td>21.2</td>
<td>44.6</td>
<td>14.8</td>
<td>3.1</td>
</tr>
</tbody>
</table>

Note: Data are shown in thousands
Source: 2017 ACS 1-Year Estimates, Table C24050 New York City
Additional Breakouts
• Race and Ethnicity
• Sex
• Class of Worker
• Earnings
• Commuting/Journey to Work
Earnings by Occupation

Education, training, and library occupations

• United States
  • $50,307 (+/-142)
• New York
  • $62,046 (+/-681)
• New York City
  • $61,230 (+/-987)

Source: 2017 ACS 1-Year Estimates, Table B24021
Difference between Earnings and Income
Commuting / Journey to Work

How many people, including this person, usually rode to work in the car, truck, or van LAST WEEK?
Person(s)

What time did this person usually leave home to go to work LAST WEEK?
Hour: 00
Minute: 00
a.m.
p.m.

How did this person usually get to work LAST WEEK? If this person usually used more than one method of transportation during the trip, mark (X) the box of the one used for most of the distance.

- Car, truck, or van
- Bus or trolley bus
- Streetcar or trolley car
- Subway or elevated
- Railroad
- Ferryboat
- Taxi
- Motorcycle
- Bicycle
- Walked
- Worked at home → SKIP to question 29a
- Other method

Ten metros with some of the longest average commutes

<table>
<thead>
<tr>
<th>Metro</th>
<th>Minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Stroudsburg, PA</td>
<td>41</td>
</tr>
<tr>
<td>New York-Newark-Jersey City, NY-NJ-PA</td>
<td>40.4</td>
</tr>
<tr>
<td>Washington-Arlington-Alexandria, DC-VA-MD-WV</td>
<td>39.9</td>
</tr>
<tr>
<td>San Francisco-Oakland-Hayward, CA</td>
<td>39.7</td>
</tr>
<tr>
<td>Riverside-San Bernardino-Ontario, CA</td>
<td>39.7</td>
</tr>
<tr>
<td>Chicago-Naperville-Egin, IL-IN-WI</td>
<td>39.7</td>
</tr>
<tr>
<td>Stockton-Lodi, CA</td>
<td>39.6</td>
</tr>
<tr>
<td>Atlanta-Sandy Springs-Roswell, GA</td>
<td>39.5</td>
</tr>
<tr>
<td>Hammond, LA</td>
<td>39.5</td>
</tr>
<tr>
<td>Vallejo-Fairfield, CA</td>
<td>39.3</td>
</tr>
</tbody>
</table>

Ten metros with some of the shortest average commutes

<table>
<thead>
<tr>
<th>Metro</th>
<th>U.S. average: 26.1 minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fargo, ND-MN</td>
<td></td>
</tr>
<tr>
<td>Manhattan, KS</td>
<td></td>
</tr>
<tr>
<td>Dubuque, IA</td>
<td></td>
</tr>
<tr>
<td>Wichita Falls, TX</td>
<td></td>
</tr>
<tr>
<td>Waterloo-Cedar Falls, IA</td>
<td></td>
</tr>
<tr>
<td>Cheyenne, WY</td>
<td></td>
</tr>
<tr>
<td>Lewiston, Idaho-WA</td>
<td></td>
</tr>
<tr>
<td>Great Falls, MT</td>
<td></td>
</tr>
<tr>
<td>Grand Forks, ND-MN</td>
<td></td>
</tr>
<tr>
<td>Walla Walla, WA</td>
<td></td>
</tr>
</tbody>
</table>

Note: Data are based on a sample and are subject to sampling variability. The differences in percentages in this table may not be statistically different from one another, or other metro areas not shown.
Health Insurance

Upcoming Webinar:
Exploring Census Data Webinar Series:
Healthcare – Key Census Data on Healthcare

More Information:

Is this person CURRENTLY covered by any of the following types of health insurance or health coverage plans? Mark “Yes” or “No” for EACH type of coverage in items a – h.

- a. Insurance through a current or former employer or union (of this person or another family member)
- b. Insurance purchased directly from an insurance company (by this person or another family member)
- c. Medicare, for people 65 and older, or people with certain disabilities
- d. Medicaid, Medical Assistance, or any kind of government-assistance plan for those with low incomes or a disability
- e. TRICARE or other military health care
- f. VA (including those who have ever used or enrolled for VA health care)
- g. Indian Health Service
- h. Any other type of health insurance or health coverage plan – Specify

United States Census Bureau
U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU
census.gov
Selected Ways to Access Data

• QuickFacts
• OnTheMap for Emergency Management
• Census Business Builder
• American FactFinder
• data.census.gov
• Application Programming Interface (API)
• Public Use Microdata Sample (PUMS)
Summary

How can local business and economic development organizations utilize these data to help make businesses in their areas more successful?

- State and Local Government Employment data to understand the scope and composition of government employment.
- American Community Survey data to examine employment patterns across the United States.
Where did all this great data come from, and how can we help ensure it’s high quality?

• Promote usage of the data from our ongoing Monthly, Quarterly, and Annual businesses surveys

• Promote response to these same surveys, including the baseline/benchmark Economic Census
Exploring Census Data Webinar Series

• Next webinar scheduled for June 5, 2019

• Will cover key Emergency Management data available from the Census Bureau
  • Learn more at https://www.census.gov/data/training-workshops.html
Q & A and Thank You!

Contact Me At:
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robert.c.sawyer@census.gov
301-763-8688

For detailed questions concerning the Employment data, contact:
301-763-1487

For detailed questions concerning the 2020 Decennial, contact:
301-763-INFO or 800-923-8282

To schedule additional training with a Census Data Dissemination Specialist in
your area, please call 844-Ask-Data

Or email us at: census.askdata@census.gov
Reference Materials
North American Industry Classification System (NAICS)

- A hierarchical classification system that groups establishments into industries based on the business activities in which they are primarily engaged.
- A comprehensive system covering the entire field of business activities.
- Used to collect, tabulate, analyze, and disseminate statistics.
- A common language used among the United States, Canadian, and Mexican statistical agencies.
- Updated every five years
### NAICS Structure - 20 Sectors

<table>
<thead>
<tr>
<th>Sector Code</th>
<th>Industry Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>Agriculture, Forestry, Fishing and Hunting</td>
</tr>
<tr>
<td>21</td>
<td>Mining, Quarrying, and Oil and Gas Extraction</td>
</tr>
<tr>
<td>22</td>
<td>Utilities</td>
</tr>
<tr>
<td>23</td>
<td>Construction</td>
</tr>
<tr>
<td>31-33</td>
<td>Manufacturing</td>
</tr>
<tr>
<td>42</td>
<td>Wholesale Trade</td>
</tr>
<tr>
<td>44-45</td>
<td>Retail Trade</td>
</tr>
<tr>
<td>48-49</td>
<td>Transportation and Warehousing</td>
</tr>
<tr>
<td>51</td>
<td>Information</td>
</tr>
<tr>
<td>52</td>
<td>Finance and Insurance</td>
</tr>
<tr>
<td>53</td>
<td>Real Estate and Rental and Leasing</td>
</tr>
<tr>
<td>54</td>
<td>Professional, Scientific, and Technical Services</td>
</tr>
<tr>
<td>55</td>
<td>Management of Companies and Enterprises</td>
</tr>
<tr>
<td>56</td>
<td>Administrative and Support and Waste Management and Remediation Services</td>
</tr>
<tr>
<td>61</td>
<td>Educational Services</td>
</tr>
<tr>
<td>62</td>
<td>Health Care and Social Assistance</td>
</tr>
<tr>
<td>71</td>
<td>Arts, Entertainment, and Recreation</td>
</tr>
<tr>
<td>72</td>
<td>Accommodation and Food Services</td>
</tr>
<tr>
<td>81</td>
<td>Other Services (except Public Administration)</td>
</tr>
<tr>
<td>92</td>
<td>Public Administration</td>
</tr>
</tbody>
</table>
# NAICS Hierarchy

<table>
<thead>
<tr>
<th>Level</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sector</td>
<td>51</td>
<td>Information</td>
</tr>
<tr>
<td>Subsector</td>
<td>515</td>
<td>Broadcasting (except Internet)</td>
</tr>
<tr>
<td>Industry Group</td>
<td>5151</td>
<td>Radio and Television Broadcasting</td>
</tr>
<tr>
<td>Industry</td>
<td>51511</td>
<td>Radio Broadcasting</td>
</tr>
<tr>
<td>U.S. Industry</td>
<td>515112</td>
<td>Radio Stations</td>
</tr>
</tbody>
</table>
Explore Census Data

The Census Bureau is the leading source of quality data about the nation's people and economy.

I'm looking for...

Advanced Search

Send Feedback
cedsci.feedback@census.gov
Application Programming Interface (API)
Public Use Microdata Sample (PUMS)

- Anonymized
- Downloadable
  - SAS and CSV
  - AFF, FTP, DataFerrett
- Individual Responses
  - Must be tabulated and weighted by user
- Representative Sample of the Population
  - 1-year (1%)
  - 5-year (5%)

[Link to PUMS documentation: census.gov/programs-surveys/acs/data/pums.html]
Handbooks

• Understanding and Using American Community Survey Data:
  • What All Data Users Need to Know – *available now*
  • What the Business Community Needs to Know – *available now*
  • What State and Local Governments Need to Know – *available now*

https://census.gov/programs-surveys/acs/guidance/handbooks.html