

Introduction to the
Public Use Microdata Sample (PUMS)
File from the American Community Survey

Overview

- What is the ACS Public Use Microdata Sample (PUMS) file?
- What geographic areas are available in the ACS PUMS?
- How does the Census Bureau protect confidentiality in the ACS PUMS?
- How do I access ACS PUMS data?

What is the ACS PUMS file?

- A sample of population and housing unit records from the American Community Survey
- Allows users to create custom tables that are not available through pretabulated ACS products
- The 1-year ACS PUMS file represents 1 percent of the U.S. population

Summary Data and Microdata

What's the Difference?

- Summary data are predefined tables for specific geographic areas (states, counties, etc.)
- In the ACS microdata, the basic unit is an individual housing unit or person

Who Should Use the ACS PUMS?

- People who want to create tables that are not available through American FactFinder
- People who need data for small or unique population groups
- People interested in mapping population and housing characteristics

Sample Questions That the ACS PUMS Could Answer

- What proportion of children ages 5 to 9 live in households that do not have telephone service?
- What is the veteran status of college students living in Maine?
- What proportion of low-income workers in Kentucky commute 90+ minutes to work?

Geographic Areas in the ACS PUMS

- Nation
- All states, D.C., Puerto Rico
- Public Use Microdata Areas (PUMAs)

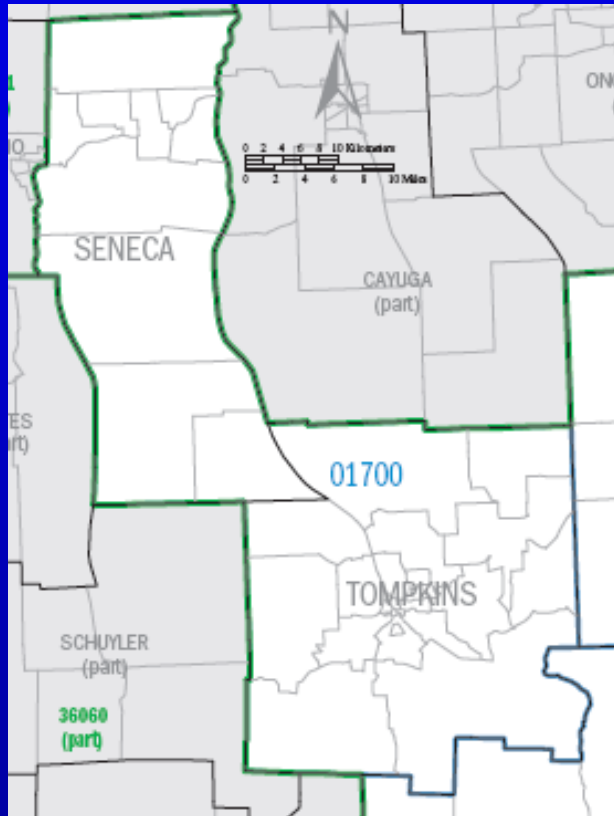
What are PUMAs?

- Predefined areas with 100,000+ residents
- Combinations of adjacent counties and census tracts within states
- PUMA boundaries match those used in Census 2000, with exception of Louisiana

Identifying PUMAs

- PUMAs are identified by a five-digit number, unique within each state
- Geographic equivalency files show how other areas align with PUMA boundaries
 - Located on the PUMS download page on American FactFinder:
http://factfinder.census.gov/home/en/acs_pums_2007_3yr.html
- Census 2000 PUMAs will continue to be used until after the 2010 Census

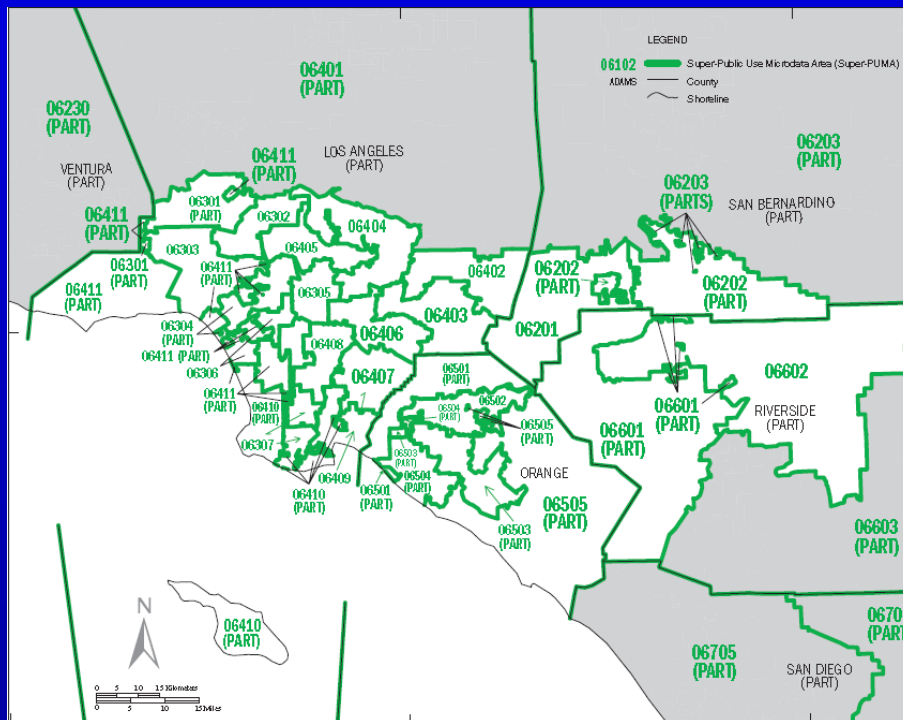
Sample PUMA Map – County Groupings



- State PUMA maps are available on the census website
www.census.gov/geo/www/maps/puma5pct.htm

Source: U.S. Census Bureau, accessed at http://ftp2.census.gov/geo/maps/puma/puma2k/ny_puma5.pdf.

Sample PUMA Map – Subdivided County



- PUMA boundary files available for download
www.census.gov/geo/www/cob/pu5_2000.html

Source: U.S. Census Bureau, accessed at http://ftp2.census.gov/geo/maps/puma/puma2k/ca_puma5.pdf

Protecting Confidentiality in the ACS PUMS

- Title 13 requires the Census Bureau to keep all personal information strictly confidential:
 - By stripping personal information from records
 - Through “data swapping,” “top coding,” and “bottom coding”
 - By including only a sample of ACS responses
 - By limiting geographic areas on the PUMS

Accessing PUMS Files

- Data can be downloaded through FactFinder and analyzed with statistical software
- Or accessed through the menu-driven DataFerrett system
- Refer to PUMS data dictionary
http://factfinder.census.gov/home/en/acs_pums_2007_1yr.html

Housing Topics Covered in ACS PUMS

- Bedrooms
- Condominium status
- Contract rent (monthly rent)
- Cost of utilities and fuels
- Family income
- Family and household relationships
- Farm status and value
- Fire, hazard, and flood insurance
- Food Stamps
- Fuels used
- Gross rent
- House heating fuel
- Household income
- Household type
- Kitchen facilities
- Linguistic isolation
- Meals included in rent
- Mortgage status and owner costs
- Plumbing facilities
- Presence and age of own children
- Presence of subfamilies in household
- Property value
- Real estate taxes
- Residence state
- Rooms
- Telephone in housing unit
- Tenure
- Units in structure
- Vacancy status
- Vehicles available
- Year householder moved into unit
- Year structure built

Person Topics Covered in ACS PUMS

- Ability to speak English
- Age
- Ancestry
- Citizenship
- Class of worker
- Disability status
- Educational attainment
- Fertility
- Hispanic origin
- Hours worked
- Income by type
- Industry
- Language spoken at home
- Last week work status
- Marital status
- Means of transportation to work
- Migration
- Military status and periods of service
- Mobility status
- Occupation
- Personal care limitation
- Place of birth
- Place of work
- Poverty status
- Race
- Relationship
- School enrollment and type of school
- Sex
- Time of departure for work
- Travel time to work
- Vehicle occupancy
- Weeks worked
- Work status
- Work limitation status
- Year of entry

Downloading ACS PUMS data

American FactFinder

The screenshot shows the American FactFinder website interface. At the top, there is a navigation bar with links for Main, Search, Feedback, FAQs, Glossary, Site Map, and Help. Below this is a sidebar menu with categories like POPULATION FINDER, FACT SHEET, PEOPLE, HOUSING, BUSINESS AND GOVERNMENT, ABOUT THE DATA, DATA SETS, DOWNLOAD CENTER, MAPS, and TOOLS AND REFERENCES. The 'DATA SETS' section is expanded to show 'AMERICAN COMMUNITY SURVEY'. The main content area displays a description of the American Community Survey and a list of 'Other Resources'. The '2007' section is selected, showing options for '2005-2007 American Community Survey 3-Year Estimates' and '2007 American Community Survey 1-Year Estimates'. The '2007 American Community Survey 1-Year Estimates' section is expanded, showing a list of data sources and a 'Download PUMS data' link highlighted with a red box.

U.S. Census Bureau

American FactFinder

Main Search Feedback FAQs Glossary Site Map Help

Data Sets

POPULATION FINDER

FACT SHEET

PEOPLE

HOUSING

BUSINESS AND GOVERNMENT

ABOUT THE DATA

DATA SETS

- Decennial Census
- American Community Survey
- Puerto Rico Community Survey
- Annual Population Estimates
- Economic Census
- Annual Economic Surveys

DOWNLOAD CENTER

MAPS

TOOLS AND REFERENCES

Main ► Data Sets

AMERICAN COMMUNITY SURVEY

[Load Query](#) | [Clear all selections](#)

The American Community Survey is a nationwide survey designed to provide communities a fresh look at how they are changing. The Puerto Rico Community Survey is the equivalent of the American Community Survey for Puerto Rico. [more...](#)

[2007 Quick Guide](#) | [Errata Notes](#)

Other Resources

- [American Community Survey Main Page](#)
- [Quality Measures](#)
- [Public Use Microdata Sample \(PUMS\) - download data and view documentation](#)
- [Download Center](#)
- [Download 1996-2004 data via FTP](#)

[Explain Table and Map Formats](#)

2007

2005-2007 American Community Survey 3-Year Estimates

- Data from the American Community Survey and the Puerto Rico Community Survey
- Collected during calendar years 2005, 2006 and 2007
- Available for geographic areas with populations of **20,000 or more**

[Explain 1-year vs. 3-year estimates](#)

2007 American Community Survey 1-Year Estimates

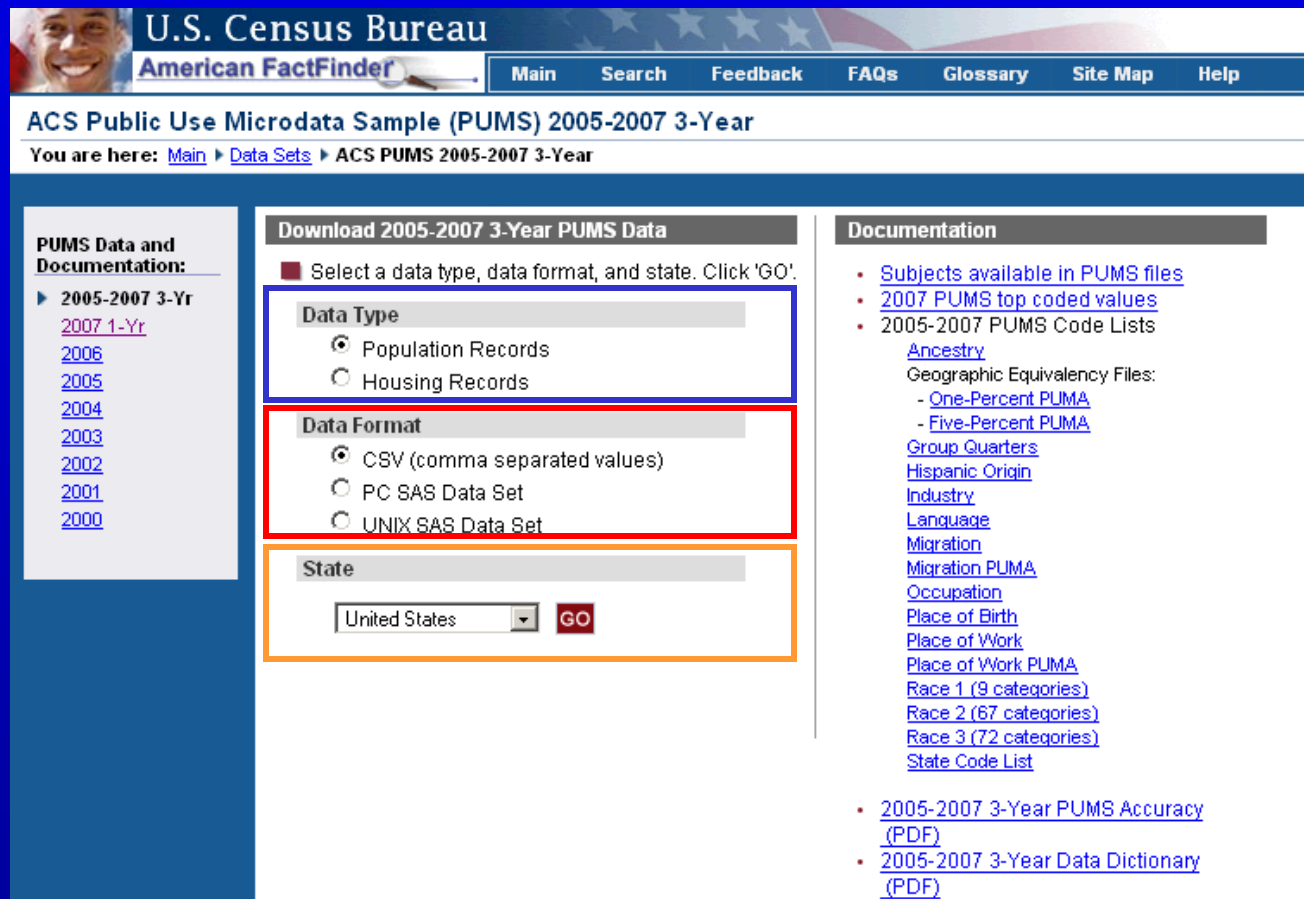
- Data from the American Community Survey and the Puerto Rico Community Survey
- Collected during calendar year 2007
- Available for geographic areas with populations of **65,000 or more**

Select from the following:

- [Data Profiles](#)
- [Selected Population Profiles](#)
- [Subject Tables](#)
- [Detailed Tables](#)
- [Geographic Comparison Tables](#)
- [Thematic Maps](#)
- [Reference Maps](#)
- [Custom Table](#)
- [Enter a table number](#)
- [List all tables](#)
- [List all maps](#)
- [Download PUMS data](#)
- [About this data set](#)

Downloading ACS PUMS data

American FactFinder



The screenshot shows the American FactFinder interface for downloading ACS PUMS data. The page title is "ACS Public Use Microdata Sample (PUMS) 2005-2007 3-Year". The navigation bar includes "Main", "Search", "Feedback", "FAQs", "Glossary", "Site Map", and "Help". The breadcrumb trail is "You are here: Main > Data Sets > ACS PUMS 2005-2007 3-Year".

Download 2005-2007 3-Year PUMS Data

Select a data type, data format, and state. Click 'GO'.

Data Type

- Population Records
- Housing Records

Data Format

- CSV (comma separated values)
- PC SAS Data Set
- UNIX SAS Data Set

State

United States

PUMS Data and Documentation:

- 2005-2007 3-Yr
 - [2007 1-Yr](#)
 - [2006](#)
 - [2005](#)
 - [2004](#)
 - [2003](#)
 - [2002](#)
 - [2001](#)
 - [2000](#)

Documentation

- [Subjects available in PUMS files](#)
- [2007 PUMS top coded values](#)
- 2005-2007 PUMS Code Lists
 - [Ancestry](#)
 - Geographic Equivalency Files:
 - [One-Percent PUMA](#)
 - [Five-Percent PUMA](#)
 - [Group Quarters](#)
 - [Hispanic Origin](#)
 - [Industry](#)
 - [Language](#)
 - [Migration](#)
 - [Migration PUMA](#)
 - [Occupation](#)
 - [Place of Birth](#)
 - [Place of Work](#)
 - [Place of Work PUMA](#)
 - [Race 1 \(9 categories\)](#)
 - [Race 2 \(67 categories\)](#)
 - [Race 3 \(72 categories\)](#)
 - [State Code List](#)
- [2005-2007 3-Year PUMS Accuracy \(PDF\)](#)
- [2005-2007 3-Year Data Dictionary \(PDF\)](#)

http://factfinder.census.gov/home/en/acs_pums_2007_3yr.html

Other PUMS Resources

American FactFinder

- Values used in top- and bottom-coding the variables
- Detailed codes for ancestry, occupation, etc.
- Links to geographic equivalency files
- Accuracy of the PUMS and methods of calculating sampling error

Analyzing PUMS Data

Statistical Software

- Use SERIALNO variable to merge housing and person records
- Apply person and housing weights to produce estimates of population and housing

Analyzing PUMS Data

Calculating Standard Errors

- Generalized variance formula
 - Easier, but less accurate results
- Replicate weights provided in the PUMS file
 - More complex, but more accurate results
- Both methods are described in *PUMS Accuracy of the Data*
www.census.gov/acs/www/Products/PUMS/pumsaccuracy_archived.html

Analyzing PUMS Data

DataFerrett

- Can be used to extract PUMS data using a menu-driven system
- Need to register to use DataFerrett
- Download DataFerrett and install it on your computer

DataFerrett Website

data: (da • ta) n. a collection of facts from which conclusions may be drawn

DataFerrett: For TheDataWeb

ferret: (fer' • it) v. To uncover and to bring to light by searching; to search intensively.

INSIDE TheDataWeb:


- What is DataFerrett
- What is TheDataWeb
- TheDataWeb Browser: DataFerrett
- Datasets Available
- TheDataWeb Services
- FAQ

DataFerrett HelpDesk:
Toll Free: 866-437-0171

DataFerrettTeam Email:
dsd_ferrett@census.gov

Use our Online Form for Comments, Questions, or Errors

DataFerrett



What Is DataFerrett?

Click on the ferret to view the DataFerrett video.

Click here if you don't have QuickTime.

NEW

July 17, 2007: Community Economic Development HotReport Released at Workforce Innovations Conference

The official unveiling of the Community Economic Development (CED) HotReport <http://ced.census.gov> took place on July 17, in Kansas City, MO. The groundbreaking product is the work of the Census Bureau's Data Integration Division. HotReports utilize TheDataWeb, DataFerrett and ReportWriter technology to retrieve and analyze data from myriad data sets in- and outside of the Census Bureau and display it visually on interactive web pages.

TheDataFerrett Forum

Connect to the DataFerrett staff and fellow Users:
Interact ... Ask questions ... Make Suggestions ... on the DataFerrett Forum for Users.

The BetaDataFerrett is the newest application code that is being tested.

Downloads

- BetaDataFerrett Vista
- BetaDataFerrett
- Download_DataFerrett
- DataFerrett WebVersion
- MacDataFerrett

HowTo

- DataFerrett Tutorials
- DataFerrett QuickTour
- DataFerrett Users' Guide
- DataFerrett Users' Guide.pdf
- Macintosh Users' Tutorial
- DataFerrett Examples

<http://dataferrett.census.gov/>

USCENSUSBUREAU

Availability of ACS PUMS Data

- Available each year beginning in 2000
- 2007 ACS 1-year PUMS released September 2008
- 2005-2007 ACS 3-year PUMS released January 2009

For more information

PUMS on the ACS website:

<http://www.census.gov/acs/www/Products/PUMS/index.html>

PUMS in *The ACS Compass Products*:

http://www.census.gov/acs/www/UseData/Compass/handbook_def.html

Contact by telephone:

1-800-923-8282

Contact by email:

acso.users.support@census.gov