



Population Data Sources



Counting A Population

Population Data Sources

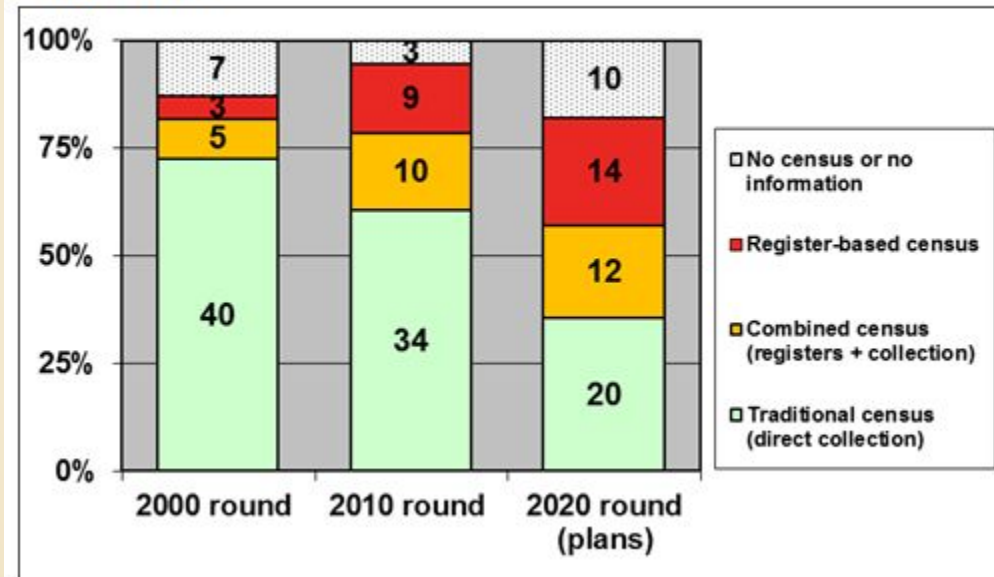
- **Population counts and the traditional Census**
- **Collects essential information on residing population**
- **Full enumeration of Population through home visits**
- **Accounting for non-traditional living arrangements**
- **Large financial and logistical undertaking***
 - **US: Taken every ten years**
 - **Lebanon has not had a census since 1932**
 - **Mexico: Census every ten years with supplemental records in between**

UN Recommended Topics of Inquiry

- **Age, Sex, Ethnicity, and Social Characteristics**
- **Migration**
- **Household Characteristics**
- **Fertility and Mortality**
- **Educational and Economic Characteristics**
- **Disability**
- **Agriculture**
- **Living Arrangement**

Population Data Sources

Figure 1. Number of UNECE countries by census method in the 2000-2020 census rounds



Register Based Census

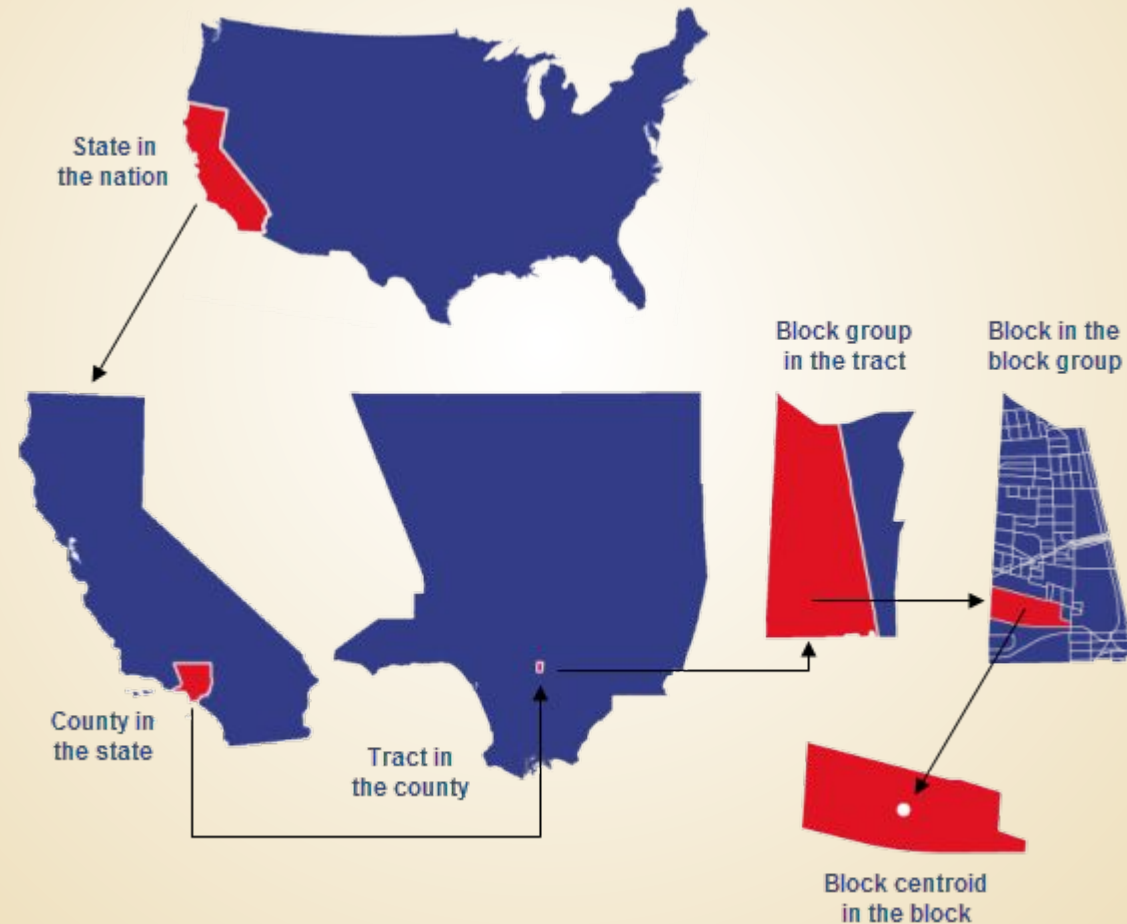
- **Derived from administrative records**
 - Building registers
 - Social Security
 - Business registers
 - Tax filings
 - Student/Educational Registers
- **Less additional overhead**
- **Embedded social information**
- **Rolling Updates**

US Census

Population Measurement in the United States

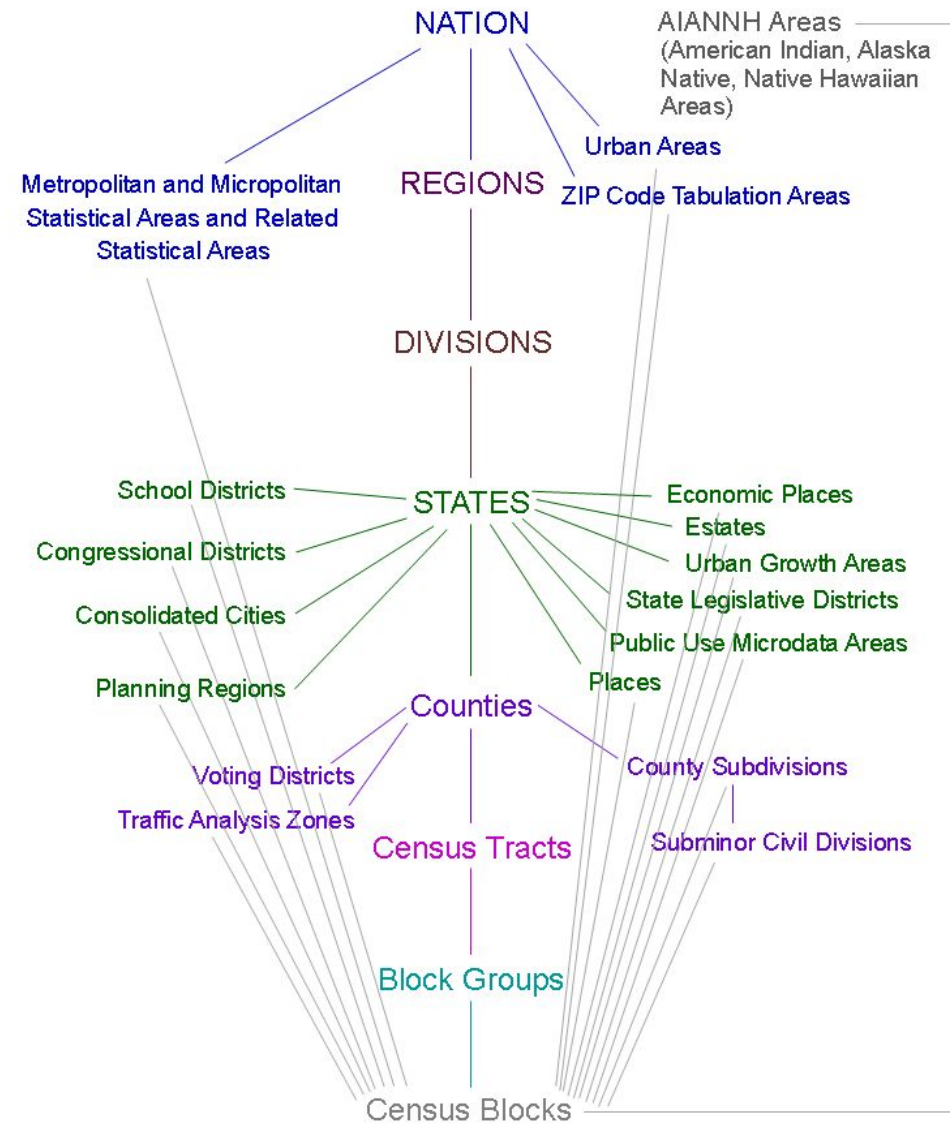
- **Decennial Census every ten years**
- **Questions asked for each household**
 - Position of each household member
 - D.O.B., Race/ethnicity, Sex of each member of the household
- **Not traditional living arrangements**
 - Group quarters
 - Populations experiencing homelessness
- **Data products**
 - Census Block Resolution data
 - Information on Age, Sex, and Race/ethnicity compositions

Census Geographies



Census Geographies

Standard Hierarchy of Census Geographic Entities



Inter-Censal Years

Intercensal Data Population Estimates

- Important for city planning
- Vital for survey population weighting
- Also uses IRS, Medicare, and SSA data
- Reports on age, sex, race, and ethnicity
- Estimates produced for states, counties, cities, and towns
 - Cities and Town are only population totals
- Released Annually

Intercensal Years

- When population total registers are not available
- Characterized by estimates rather than by data
- Estimates require leveraging of demographic balancing equation
- $P_t = P_{t-1} + B_t - D_t + I_t - O_t$
 - t-1 in this case will be a census year
 - Population of next year requires accurate data on
 - Births
 - Deaths
 - In Migration
 - Out Migration

Sources of Intercensal Data in United States

- **Mortality**
 - Death Certificate Data (hosted by CDC)
- **Fertility**
 - Birth Records data (hosted by CDC)
- **Migration**
 - Visa Records
 - LPR Records
 - H2A and H1B Visas
 - TPS and Refugees
 - Out Migration?
 - Undocumented Migration?

Washington State Specific Population Estimates

- States often undertake their own estimation for planning
- **WA OFM population estimates**
 - Population Density
 - Housing
 - Decompositions
 - Public transportation benefit area population estimate
 - Small area estimation
- **Estimations broken down by**
 - Age
 - Race
 - Sex
 - Hispanic Origin

Census Bureau Products

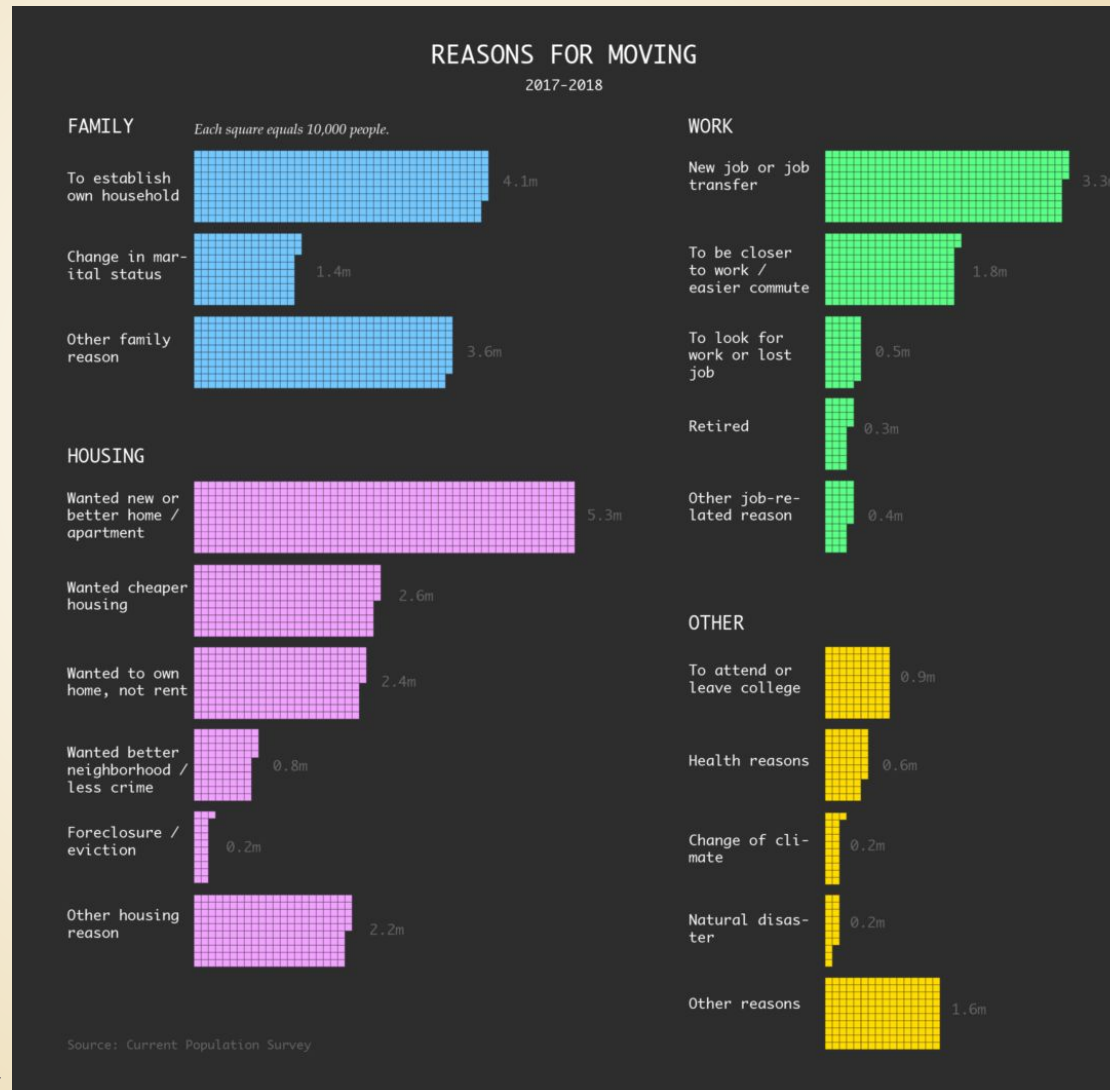
American Community Survey (ACS)

- Replaced the census long form after 2000
- Data collected on a rolling basis reported yearly
- 1 in 50 sample of households that occurs annually
- Releases a subset of data as microdata with less geographic precision
- Tabular data released for larger populations
- Smaller areas are reported on in 5 year averages
- Topics (see IPUMS USA)

Current Population Survey (CPS)

- **BLS and Census Bureau joint undertaking**
- **Monthly survey of economic characteristics**
- **60,000 households sampled**
- **Surveys are conducted with core and cycling modules**

Current Population Survey (CPS)



Other Constructed Population Denominators

Table 1. Population Denominator Data Consistent with Information in the HCUP Databases

This table lists possible sources of population denominator data. Please consult the description of the data source for more details. A list of abbreviations appears at the conclusion of this table.

	National	Region	State	County	ZIP Code
DEMOGRAPHIC					
Age and Gender	Census ACS Vendor	Census	Census ACS Vendor	Census ACS ARF	Vendor
Race (modified 1990 definitions)	Vendor		Vendor	ARF	Vendor
Race (2000 Census definitions)	Census ACS		Census ACS	Census ACS	
Median Household Income	Vendor CPS ACS		Vendor CPS ACS	ACS	Vendor
Personal Income, Wages, Salaries	BEA BLS SIPP		BEA BLS	BEA BLS	
Health Insurance Payer/Coverage	CMS CPS (coverage) SAHIE SIPP MEPS		CMS CPS (coverage) SAHIE	SAHIE	
AREA CHARACTERISTICS					
Urban-Rural Location	Census ERS	Census ERS		Census ERS	WWAMI RHRC
Health Professionals Shortage Areas				HRSA	

Other Constructed Population Denominators

	National	Region	State	County	ZIP Code
DISEASE PREVALENCE (FROM SURVEY AND DISEASE REGISTRIES)					
Disease Prevalence	NHIS BRFSS NHANES NSDUH NCS-R SLAITS NAS	SLAITS	BRFSS NSDUH SEER		
OTHER					
Births	NVSS - Natality		NVSS - Natality	NVSS - Natality	
Deaths	NVSS - Mortality		NVSS - Mortality	NVSS - Mortality	
COMBINATION – COMPILATION OF DATA FROM OTHER SOURCES					
Collection of demographic, health status, and resource information	Health System Measurement Project Health US KFF NWHIC US Stat	NWHIC US Stat	AARP Health US KFF NWHIC US Stat	ARF NWHIC	

Global Data Sources

IPUMS (or the artist fka Integrated Public Use Microdata Series)

- **Census data harmonized, digitized and disseminated**
 - Steve Ruggles started with US microdata (individual)
 - Steve Ruggles & Robert McCaa → over 100 countries today
 - 10% samples (goal), sometimes 5%
- **Current products**
 - IPUMS-USA: U.S Census & American Community Survey (ACS)
 - IPUMS-CPS: Current Population Survey
 - IPUMS-NHGIS: U.S. GIS and census data products
 - IPUMS-Time Use: U.S. time use data
 - IPUMS-Health Surveys: U.S. health survey data
 - IPUMS-Higher ed: U.S. STEM workforce data
 - IPUMS-International: non-U.S. census data
 - IPUMS-IHGIS: non-U.S. GIS and census data products
 - IPUMS-Global Health: health surveys from Asia & Africa

Countries with pie-in-the-sky data

- **Human Mortality Database (HMD)**
 - 38 countries, extensive review for eligibility
 - Cohort and period life tables and related quantities (by demographers, for demographers)
 - often far back in time, because of the countries who meet data demands (guess who)
 - UC Berkeley and Max Planck Institute for Demographic Research
 - <https://www.mortality.org/>
 - US Mortality Database <https://usa.mortality.org/>
 - Human Life Table Database <https://www.lifetable.de/cgi-bin/index.php>

Countries with insufficient vital registration of births and deaths

- **Demographic & Health Surveys (DHS)**
 - USAID & national statistical offices
 - since late 1980s over 400 surveys in over 90 countries in the world
 - Malaria Indicator Survey (MIS), Service Provision Assessment (SPA)
 - <https://dhsprogram.com/>, <https://spatialdata.dhsprogram.com/home/>
 - IPUMS-DHS integration: <https://www.idhsdata.org/idhs/>
- **Multiple Indicator Cluster Surveys (MICS)**
 - UNICEF & countries
 - 46 MICS surveys in 118 countries
 - faster, cheaper, shorter than DHS
 - targeted populations
 - <https://mics.unicef.org/>

Data: International Estimates & Projections

- **World Population Prospects, United Nations Population Division**
 - National estimates & projections to 2100
 - coarse in age and time, but becoming finer
 - Originally deterministic
 - Adrian Raftery (and others) from UW + CSDE → **UNCERTAINTY!!**
 - Based on demographic transition theory
 - Based on data provided to the UN by countries
 - R packages: <https://cran.r-project.org/web/packages/wpp2019/index.html>
 - <https://population.un.org/wpp/>
- **Child mortality, UN IGME**
 - National estimates & projections to 2019
 - recently subnational
 - Leontine Alkema, Laina Mercer, Jon Wakefield, others from UW + CSDE → **UNCERTAINTY!!**
 - Based on DHS, MICS, Census, ...
 - <https://childmortality.org/>

Data: International and Subnational Estimates & Projections/Surfaces

Institute for Health Metrics & Evaluation, UW

- **Global Burden of Disease**
 - 286 causes of death, 369 diseases and injuries, and 87 risk factors in 204 countries and territories
 - Subnational estimation original endeavor by, now defunct, Local Burden of Disease
 - <http://www.healthdata.org/gbd/about>
 - <http://www.healthdata.org/gbd/gbd-2019-resources>
- **King County**
 - <http://www.healthdata.org/data-visualization/king-county-census-tracts-data-visualization>

Data: International & Subnational Estimates/Surfaces

WorldPop

- **Global spatial and demographic data**
 - Population mapping, population dynamics, population movements, maternal health, mapping poverty
 - Tends toward continuous space
- **University of Southampton**
- **https://www.worldpop.org/focus_areas**

DHS

- **Final reports or STATCompiler**
- **Many countries consider the numbers in the final reports the de-facto truth for the period before survey collection**

GIS Shapefiles: Small Area Estimation & Continuous surfaces

- **GADM**
 - <https://gadm.org/>
- **DHS Spatial Repository**
 - <https://spatialdata.dhsprogram.com/home/>
- **WorldPop**
 - https://www.worldpop.org/focus_areas
- **SEDAC**
 - <https://sedac.ciesin.columbia.edu/data/set>
- **IPUMS-NHGIS + IPUMS-IHGIS**
 - <https://www.nhgis.org/>
 - <https://ihgis.ipums.org/>



Exploration of US Data Sources

Exploring Data Sources

U.S. Census Bureau

Income, Poverty & Health Insurance Coverage

New on the Site

Data Tools

U.S. Census

Catalog

Publications

Are You in a Survey?

Data Access Tools

You are here: [Census.gov](#) > Data Tools

- [The American FactFinder](#) - This interactive and the latest Population Estimates.
- [Census 2000 EEO Data Tool](#) - Using the data estimates available present information
- **Interactive Internet Tools**
 - [Censtats](#) - Applications available and more.
 - [QuickFacts](#) - State and County Quick Facts
 - [Online Mapping Tools](#) - using TIGER
 - [US Gazetteer](#) - Place names and ZIP codes
 - [DataFerrett](#) is a tool for data mining, recoding, creating new variables, and more.

U.S. Census Bureau

Click Here to LAUNCH DATAFERRETT!

What is DataFerrett?

Welcome to the DataFerrett for TheDataWeb

What is DataFerrett?

DataFerrett helps you locate and retrieve the data you need across the Internet to your desktop or system, regardless of where the data resides. DataFerrett is a unique data mining and extraction tool. DataFerrett allows you to select a database full of variables and then recode those variables as you need. You can then develop and customize tables. Selecting your results in your table you can create a chart or graph for a visual presentation into an HTML page. Save your data in the database and save your table for continued reuse.

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