

# 2010 Census American Community Survey Population Estimates

2010 Census Training  
November, 2011

NEW JERSEY STATE DATA CENTER

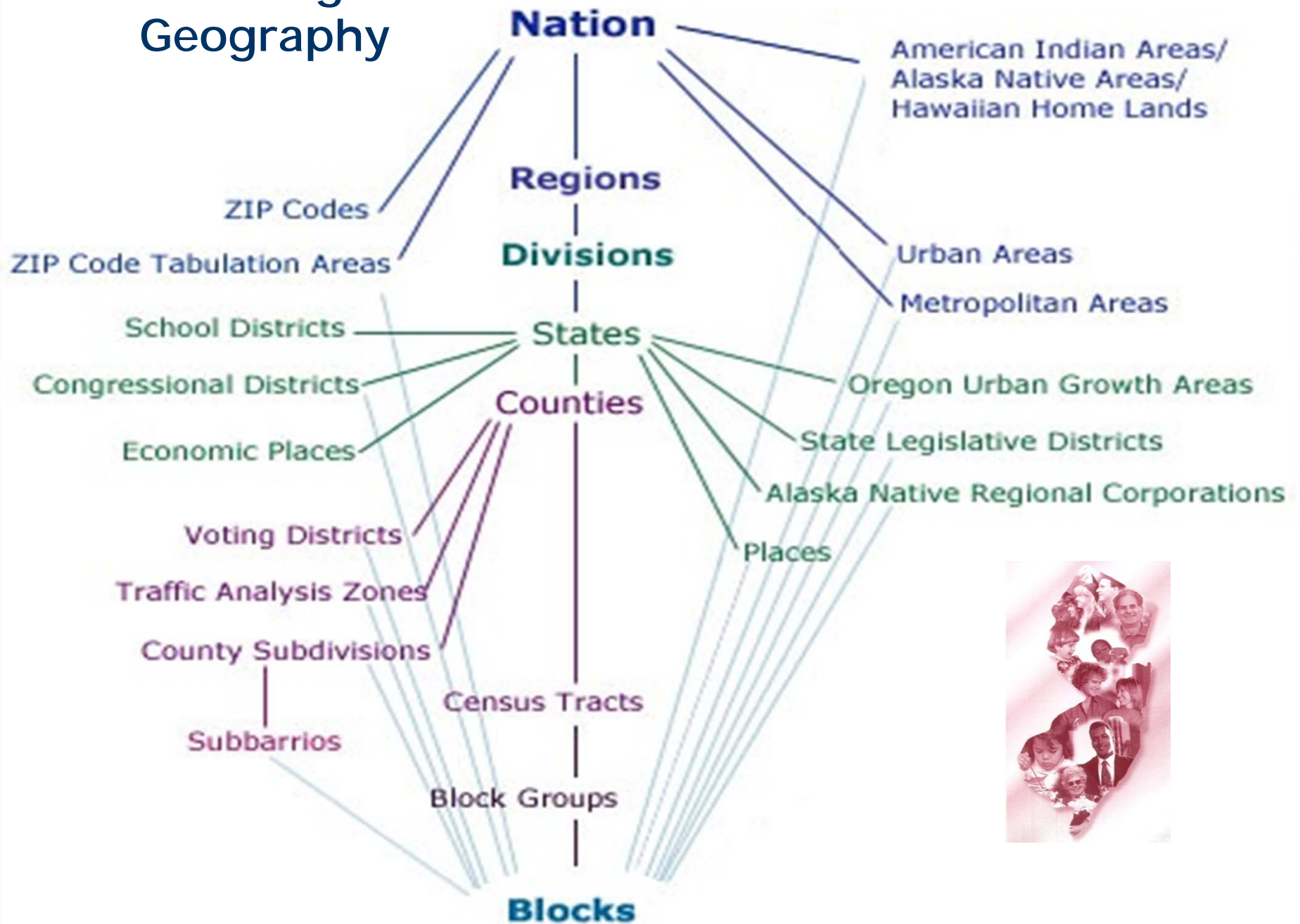


NEW JERSEY STATE DATA CENTER



- Cooperative project of the State of New Jersey and the U.S. Bureau of the Census serving data users in the public, private, and academic sectors since 1980.
- Each state has an SDC acting as secondary distributors of Census data providing value added products and expertise for their respective state
- The NJSDC maintains a data dissemination network of over 110 state, county, regional, and local agencies.
  - Includes:
    - All 21 county planning boards
    - Metropolitan Planning Organizations – DVRPC, NJTPA
    - Representatives from 19 State Departments/Agencies
    - Federal Depository Libraries including the New Jersey State Library, Rutgers and Princeton University Libraries

# Understanding Census Geography



# Geographic Areas in NJ

<b>New Jersey</b>	<b>2000</b>	<b>2010</b>
● Counties	21	21
● Municipalities	566	566
● Tracts	1,950	2,010
● Blocks	141,629	169,588

- Census 2010 Tract and Block Numbers will be different from Census 2000
- Census Redistricting Map Suite:
  - [http://www.census.gov/rdo/data/2010\\_census\\_redistricting\\_map\\_suite.html](http://www.census.gov/rdo/data/2010_census_redistricting_map_suite.html)

## 2010 Census Data Releases

- Apportionment Totals 12/21/2010
- PL94-171 Redistricting Data 2/03/2011
- Advance Group Quarters File 4/20/2011
- Demographic Profile (DP1) 5/26/2011
- Summary File 1 8/10/2011
- Summary File 2 (Scheduled Dec 2011 – Apr 2012)
- <http://www.census.gov/population/www/cen2010/glance/index.html>

# American Community Survey (ACS)

- ACS provides estimates not counts
  - Complete population counts are still completed decennially
- Collection methods different from decennial census
  - Census counts population and certain housing characteristics as of a specific date – Census Day April 1<sup>st</sup> 2010
    - Combination of Long and Short forms
  - ACS estimates population and housing characteristics from a rolling monthly sample – controlled to population estimates.
- Not Always Comparable to Decennial Census
  - Example: ACS Income question asks how much income in previous 12 months. ( Income is collected over a two year period and adjusted to CPI)

# What is Margin of Error and Why is it Important?

## Basic Concepts – Margin of Error

- Sampling error is introduced due to sampling, selection of a subset of the population to draw inferences about the entire population.
- The sampling error is often reported as the estimate “plus or minus” the **margin of error**, a measure of how precise the estimate is.



## Basic Concepts – Margin of Error

- The margin of error describes the precision of the estimate at a given confidence level.
  - Large MOE indicates lower precision level of an estimate while a small MOE indicates a higher precision level
- The confidence level measures the likelihood that the true value is within the margin of error of the sample estimate.
- The Census Bureau statistical standard for published data is to use the 90 percent confidence level.

# Margin of Error

- The margin of error is important because relying on statistical inference can save you from drawing incorrect conclusions from data based on a sample.
- It can help prevent you from interpreting small or nonexistent differences as important.

# Margin of Error

## 2007 American Community Survey Median Family Income

	Estimate	Margin of Error	Lower Bounds	Upper Bounds
1 Maryland	82,404	+/-856	81,548	83,260
2 New Jersey	81,823	+/-755	81,068	82,578
3 Connecticut	81,421	+/-1,081	80,340	82,502
4 Massachusetts	78,497	+/-771	77,726	79,268
5 New Hampshire	74,625	+/-1,538	73,087	76,163

*Top 3 estimates are not statistically significantly different from each other's estimate  
 Based on Margin of Error the top three results could be interchangeable!*

# Coefficient of Variation

- Important in determining reliability or “fitness for use”.
- Important for smaller geographies and determining if you should use a 5-year estimate rather than 3-year estimate or collapse less reliable geographies or characteristics into more reliable ones.

# Beyond Today's Presentation

- Calculating Standard Error
- Calculating Margin of Error
- Calculating Confidence Intervals
- Calculating Margin of Error of Derived Estimates
- Tests for Statistical Significance
- Calculating Coefficients of Variation

# Recommended Reading

- ACS Compass Products  
Appendix 3  
A-11 thru A-17
- What General Data Users  
Need to Know
- Excellent Resource



<http://www.census.gov/acs/www/Downloads/handbooks/ACSGeneralHandbook.pdf>



# What are multiyear estimates?

# What is a Period Estimate?

## Definition

An estimate that describes the average characteristics of an area over a specific time period

Period for ACS 1-year estimates is the calendar year

Different from a point-in-time estimate



# What is a Multiyear Estimate?

## Definition

A period estimate that encompasses more than one calendar year

Period for ACS multiyear estimates is either 3 or 5 calendar years

# ACS One-Year Estimates

- The 2010 ACS 1-year estimates are based on data collected between **January 2010** and **December 2010**.
- Published for selected geographic areas with populations of **65,000** or greater
- Have smaller sample size than the 3-year and 5-year estimates
- Are more current than the 3-year estimates and 5-year

# ACS Three-Year Estimates

- The 2008-2010 ACS 3-year estimates are based on data collected between **January 2008** and **December 2010**.
- Published for selected geographic areas with populations of **20,000** or greater
- Have larger sample size than the 1-year estimates but smaller than the 5-year
- Are less current than the 1-year estimates however more current than the 5-year

# ACS Five-Year Estimates

- The 2006-2010 ACS 5-year estimates are based on data collected between **January 2006** and **December 2010**.
- Published for small geographic areas
- Have larger sample size than the 1-year and 3-year estimates
- Are less current than the 1-year and 3-year estimates

# Population Thresholds for ACS Estimates



	<b>1-year estimates</b>	<b>3-year estimates</b>	<b>5-year estimates</b>
65,000 + people	X	X	X
20,000+ people		X	X
Less than 20,000 people			X

## Use Multiyear Estimates When ...

- No 1-year estimate is available
- Margins of error for 1-year estimates are larger than desired
- Analyzing data for small population groups

# Currency vs. Reliability

Currency	Reliability
1-year estimates provide information based on the last year	Larger sample sizes produce estimates that are more statistically reliable
3-year estimates provide information based on the last year and the 2 years before that	3-year estimates are based on 3 times as many sample cases as 1-year estimates
5-year estimates provide information based on the last year and the 4 years before that	5-year estimates are based on 5 times as many sample cases as 1-year estimates



# What should I be aware of when using multiyear estimates?



# Inflation Adjustment

- Dollar-valued data items are inflation adjusted to the most recent year for the period
- Income, rent, home value, and energy costs
- Adjusted using inflation factors based on the Consumer Price Index (CPI)
- Adjustment designed to put the data into dollars with equal purchasing power

# Population Controls

- Estimates of housing units and people are controlled to the population estimates derived from the Population Estimates Program
- Multiyear estimates are controlled to the average of the individual year's estimates for the period
- Population Estimates are revised every year while ACS estimates are not.



# How can I use multiyear estimates to make comparisons?

# Comparing Across Geographies

- Only compare the same type of estimate
  - 1-year estimates to other 1-year estimates
  - 3-year estimates to other 3-year estimates
  - 5-year estimates to other 5-year estimates
- Same time period

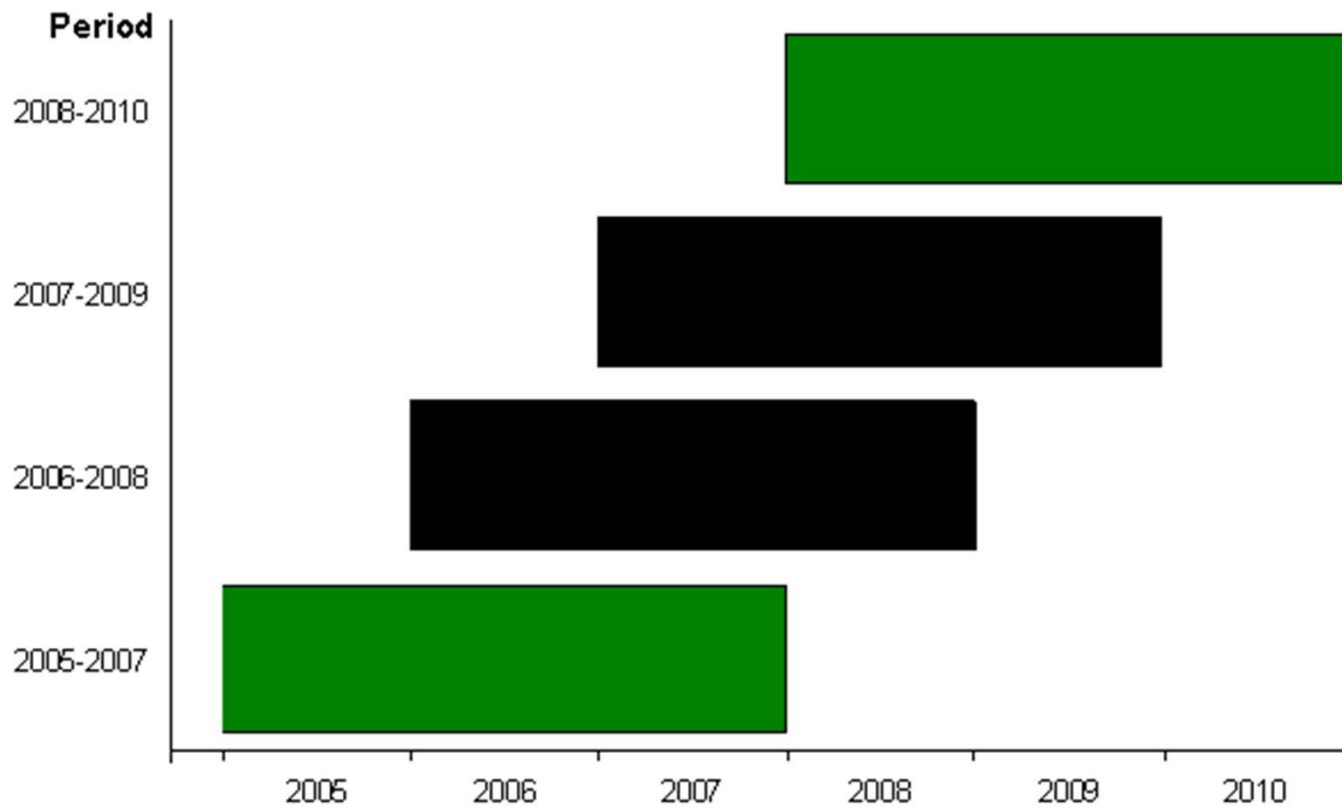
# Comparing 2010 ACS Data

	2010	2008-2010	2006-2010
Adams County Pop: 195,000	X	X	X
Franklin County Pop: 45,000		X	X
Jefferson County Pop: 15,000			X

# Comparing Across Time Periods

- Same geographic area
  - Use caution if geographic boundaries have changed over time
  - Easier to compare non-overlapping periods
  - Make comparisons using the same length time period

# Overlapping Periods



# Comparing ACS Data with Census 2000

- Global differences exist between ACS and Census 2000
  - There are differences in the **universe, question wording, residence rules, reference periods, and the way in which the data are tabulated** which can impact comparability.
- Comparisons can be made for most population and housing subjects



# Comparing ACS Multiyear Estimates Guidance

- Resources:

[http://www.census.gov/acs/www/guidance\\_for\\_data\\_users/comparing\\_data/](http://www.census.gov/acs/www/guidance_for_data_users/comparing_data/)

[http://www.census.gov/acs/www/guidance\\_for\\_data\\_users/2009\\_comparison\\_quick\\_guide/](http://www.census.gov/acs/www/guidance_for_data_users/2009_comparison_quick_guide/)

[http://www.census.gov/acs/www/guidance\\_for\\_data\\_users/2009\\_table\\_comparisons/](http://www.census.gov/acs/www/guidance_for_data_users/2009_table_comparisons/)

- E-tutorial:

[http://www.census.gov/acs/www/guidance\\_for\\_data\\_users/e\\_tutorial/](http://www.census.gov/acs/www/guidance_for_data_users/e_tutorial/)

# 2010 American Community Survey Release Dates

- One-Year Estimates 9/22/2011
- Three-Year Estimates October 2011
- Five-Year Estimates December 2011

# Recommended Reading

- ACS Compass Products
- What General Data Users Need to Know
- Excellent Resource



<http://www.census.gov/acs/www/Downloads/handbooks/ACSGeneralHandbook.pdf>

# Population Estimates

- Prepared by the Population Estimates Program of the US Census Bureau, with the assistance of the Federal-State Cooperative Program for Population Estimates (FSCPE).
- Existing data series such as births, deaths, Federal tax returns, medicare enrollment, and immigration, are used to update the decennial census base counts.
- The program publishes total resident population for the nation, states, counties and municipalities on annual basis. Demographic characteristics (age, race, sex and Hispanic origin) for the nation, states and counties are also available.
- With each new issue of July 1 estimates, previous years' estimates are revised back to last Census.

# Population Estimates

- Population estimates are used in federal funding allocations, as denominators for vital rates, crime rates and per capita time series, as survey controls (CPS ACS, etc.), and in monitoring recent demographic changes.
- Production schedule for the 2011 population estimates:
  - December 2011 – total population by state
  - March 2012 – Total population by county
  - June 2012 – Total population by municipality
  - July 2012 – State and county population by age, race, sex, and Hispanic origin

# Additional Information

- Leonard Preston
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- New Jersey State Data Center
- NJ Department of Labor and Workforce Development
- (609) 984-2216
- [www.nj.gov/labor/](http://www.nj.gov/labor/)  
(Left Navigation: Labor Market Information)  
Click on NJSDC logo
- US Census Bureau, [www.census.gov](http://www.census.gov)



**Thank You**

