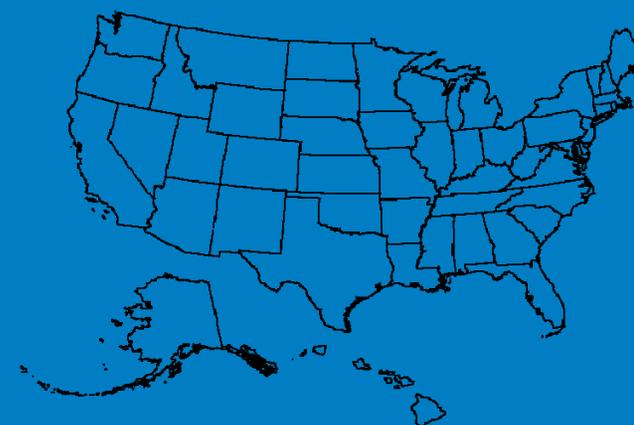


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# 2010 Census and American Community Survey: Opportunities and Challenges

**Unleashing the Power of Local Data**  
**October 13, 2011**  
**Richmond, Virginia**



PRESENTATION BY **MARK MATHER**

POPULATION REFERENCE BUREAU | [www.prb.org](http://www.prb.org)

# Focus of Presentation

- New data from the 2010 Census and ACS: What's coming out and when?
- Issues around data accuracy and comparability
- Some practical guidelines for working with ACS data

## Data Overload?

2000	→	State counts				
2001	→	C2SS	PL 94-171	SF1		
2002	→	SS01	SF2	SF3		
2003	→	ACS 1-year	SF4			
2004	→	ACS 1-year				
2005	→	ACS 1-year				
2006	→	ACS 1-year				
2007	→	ACS 1-year				
2008	→	ACS 1-year	ACS 3-year			
2009	→	ACS 1-year	ACS 3-year			
2010	→	ACS 1-year	ACS 5-year	State counts		
2011	→	ACS 1-year	ACS 3-year	ACS 5-year	PL 94-171	SF1

# Uses of Decennial Census Data

- Determines apportionment of the U.S. House of Representatives
- Used for congressional and legislative redistricting
- Benchmark for surveys and other population and statistical reporting purposes
- Affects the allocation of more than \$400 BILLION in federal funding **per year** to local, state and tribal governments

# 2010 Census Questionnaire

- Short-Form Only

- Questions include:

- Name
- Gender
- Age
- Hispanic/Latino Origin
- Race
- Relationship
- Renter/Owner status

United States Census 2010

This is the official form for all the people at this address. It is quick and easy, and your answers are protected by law.

U.S. DEPARTMENT OF COMMERCE  
Economic and Statistics Administration  
U.S. CENSUS BUREAU

Use a blue or black pen.  
**Start here**

The Census must count every person living in the United States on April 1, 2010.  
Before you answer Question 1, count the people living in this house, apartment, or mobile home using our guidelines.

- Count all people, including babies, who live and sleep here most of the time.

The Census Bureau also conducts counts in institutions and other places, so:

- Do not count anyone living away either at college or in the Armed Forces.
- Do not count anyone in a nursing home, jail, prison, detention facility, etc., on April 1, 2010.
- Leave these people off your form, even if they will return to live here after they leave college, the nursing home, the military, jail, etc. Otherwise, they may be counted twice.

The Census must also include people without a permanent place to stay, so:

- If someone who has no permanent place to stay is staying here on April 1, 2010, count that person. Otherwise, he or she may be missed in the census.

1. How many people were living or staying in this house, apartment, or mobile home on April 1, 2010?  
Number of people =

2. Were there any additional people staying here April 1, 2010 that you did not include in Question 1? Mark  all that apply.

- Children, such as newborn babies or foster children
- Relatives, such as adult children, cousins, or in-laws
- Nonrelatives, such as roommates or live-in baby sitters
- People staying here temporarily
- No additional people

3. Is this house, apartment, or mobile home — Mark  ONE box.

- Owned by you or someone in this household with a mortgage or loan? Include home equity loans.
- Owned by you or someone in this household free and clear (without a mortgage or loan)?
- Rented?
- Occupied without payment of rent?

4. What is your telephone number? We may call if we don't understand an answer.  
Area Code + Number  
 -  -

OMB No. 0507-0919-C; Approval Expires 12/31/2011.  
Form **D-61** (2-25-2008)

5. Please provide information for each person living here. Start with a person living here who owns or rents this house, apartment, or mobile home. If the owner or renter lives somewhere else, start with any adult living here. This will be Person 1.  
What is Person 1's name? Print name below.  
Last Name   
First Name  MI

6. What is Person 1's sex? Mark  ONE box.  
 Male  Female

7. What is Person 1's age and what is Person 1's date of birth? Please report babies as age 0 when the child is less than 1 year old.  
Print numbers in boxes.  
Age on April 1, 2010   
Month  Day  Year of birth   
→ NOTE: Please answer BOTH Question 8 about Hispanic origin and Question 9 about race. For this census, Hispanic origins are not races.

8. Is Person 1 of Hispanic, Latino, or Spanish origin?  
 No, not of Hispanic, Latino, or Spanish origin  
 Yes, Mexican, Mexican Am., Chicano  
 Yes, Puerto Rican  
 Yes, Cuban  
 Yes, another Hispanic, Latino, or Spanish origin — Print origin, for example, Argentinian, Colombian, Dominican, Nicaraguan, Salvadoran, Spaniard, and so on.

9. What is Person 1's race? Mark  one or more boxes.  
 White  
 Black, African Am., or Negro  
 American Indian or Alaska Native — Print name of enrolled or principal tribe.   
 Asian Indian  Japanese  Native Hawaiian  
 Chinese  Korean  Guamanian or Chamorro  
 Filipino  Vietnamese  Samoan  
 Other Asian — Print race, for example, Hmong, Laotian, Thai, Pakistani, Cambodian, and so on.   
 Other Pacific Islander — Print race, for example, Fijian, Tongan, and so on.   
 Some other race — Print race.

10. Does Person 1 sometimes live or stay somewhere else?  
 No  Yes — Mark  all that apply.  
 In college housing  For child custody  
 In the military  In jail or prison  
 At a seasonal or second residence  In a nursing home  
 For another reason

→ If more people were counted in Question 1, continue with Person 2.

U.S. CENSUS BUREAU

# 2010 Census Timetable

- Three key data releases in 2011
  - Redistricting data
  - Demographic Profiles
  - Summary File 1
  
- Key data coming out in 2012-2013
  - Summary File 2 (Dec. 2011-April 2012)
  - Public use Microdata Sample (Dec. 2012-April 2013)
  
- Complete release of all data products by Fall 2013  
(See [www.census.gov/population/www/cen2010/glance/](http://www.census.gov/population/www/cen2010/glance/))

# About the American Community Survey

- ACS is a continuous survey of 3 million addresses each year (3.5 million starting this year)
- Designed to provide reliable and timely demographic, socioeconomic, and housing data
- Replaces the long form of the Decennial Census in 2010

# ACS Estimates are Period Estimates

- ACS estimates collected over a period of time
  - 1-year (12 months)
  - 3-year (36 months)
  - 5-year (60 months)
- 5-year estimates were designed to replace the Decennial Census long form
- First 5-year estimates based on data collected from Jan. 1, 2005-Dec. 31, 2009

# Population Thresholds for ACS Data

	<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

# Geographic Areas Available for 5-Year ACS Estimates

- States, counties, cities, towns, census tracts (neighborhoods), state legislative districts, block groups, and many other areas
- Block group data not available through FactFinder—only through raw data files
- Visit the Census Bureau's website for complete list:

[http://www.census.gov/acs/www/data\\_documentation/5\\_year\\_preview/#geos](http://www.census.gov/acs/www/data_documentation/5_year_preview/#geos)

# Timetable for ACS Data

- Sept. 2011: -ACS 2010 (1-year)
- Oct. 2011: -ACS 2008-2010 (3-Year)
- Dec. 2011: -ACS 2006-2010 (5-year)
- Fall-Winter 2012: -ACS 2011 (1-Year)  
-ACS 2009-2011 (3-Year)  
-ACS 2007-2011 (5-Year)

# What's New in the 2010 ACS Data Series

- First non-overlapping three-year estimates
- New American FactFinder data dissemination tool
- New population controls based on 2010 Census
- New geographic boundaries based on 2010 Census
- 2006-2010 five-year data the “true” replacement for census long form

# Using the ACS to Look at Trends

- Use 2005-2009 ACS to look back
  - Compare with Census 2000
  - Uses Census 2000 geographic boundaries / population controls
- Use 2006-2010 ACS as the starting point to look forward
  - Replacement for Census 2010 long form
  - Uses 2010 Census geographies / population controls

# ACS Comparability With Census 2000

- Differences between ACS and Census 2000

- Universe
- Question wording
- Residence rules
- Reference periods
- Ways data are tabulated

- Census Bureau provides guidance

- Characteristics that can be compared
- Characteristics that should not be compared because of differences listed above
- Visit Census Bureau website:

[www.census.gov/acs/www/guidance for data users/2009 table comparisons](http://www.census.gov/acs/www/guidance%20for%20data%20users/2009%20table%20comparisons)

## Other Considerations in Using the ACS to Make Comparisons

Use caution in making comparisons with 2005 and earlier ACS, which excluded group quarters

When comparing ACS estimates, use the same period length for each estimate

Use caution in comparing multiyear estimates with overlapping years

# Guidelines for Making Comparisons Between Data Sources

	Census 2000	Census 2010	2005 ACS	2006 ACS	2007 ACS	2008 ACS	2009 ACS	2010 ACS	2005- 2007 ACS	2006- 2008 ACS	2007- 2009 ACS	2008- 2010 ACS	2005- 2009 ACS	2006- 2010 ACS
Census 2000	--	Compare	Compare with caution	Compare	Compare	Compare	Compare	Compare with caution	Compare	Compare	Compare	Compare	Compare	Compare with caution
Census 2010	--	--	Compare with caution											
2005 ACS	--	--	--	Compare with caution	Do not compare									
2006 ACS	--	--	--	--	Compare	Compare	Compare	Compare	Do not compare	Do not compare	Do not compare	Do not compare	Do not compare	Do not compare
2007 ACS	--	--	--	--	--	Compare	Compare	Compare	Do not compare	Do not compare	Do not compare	Do not compare	Do not compare	Do not compare
2008 ACS	--	--	--	--	--	--	Compare	Compare	Do not compare	Do not compare	Do not compare	Do not compare	Do not compare	Do not compare
2009 ACS	--	--	--	--	--	--	--	Compare with caution	Do not compare					
2010 ACS	--	--	--	--	--	--	--	--	Do not compare					
2005-2007 ACS	--	--	--	--	--	--	--	--	--	Compare with caution	Compare with caution	Compare with caution	Do not compare	Do not compare
2006-2008 ACS	--	--	--	--	--	--	--	--	--	--	Compare with caution	Compare with caution	Do not compare	Do not compare
2007-2009 ACS	--	--	--	--	--	--	--	--	--	--	--	Compare with caution	Do not compare	Do not compare
2008-2010 ACS	--	--	--	--	--	--	--	--	--	--	--	--	Do not compare	Do not compare
2005-2009 ACS	--	--	--	--	--	--	--	--	--	--	--	--	--	Compare with caution
2006-2010 ACS	--	--	--	--	--	--	--	--	--	--	--	--	--	--

	<b>Compare</b>
	<b>Compare with caution</b>
	<b>Do not compare</b>

## Reliability of ACS vs. Census 2000

	<b>Census 2000</b>	<b>ACS 5-Year</b>
Initial Addresses	18 million	14.5 million
Final interviews	16.4 million	10 million
HH Sampling Rate	1-in-6	1-in-9

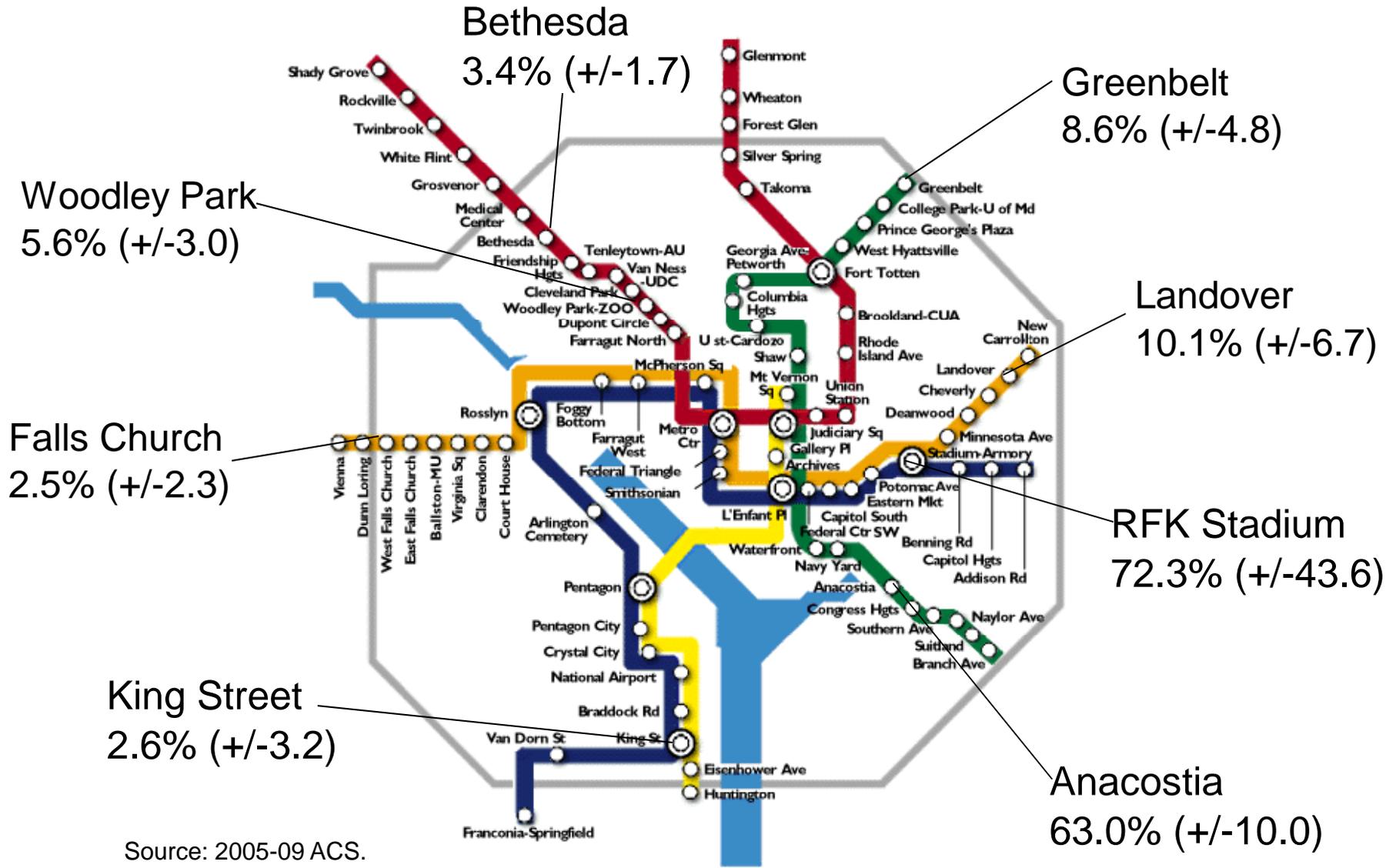
# Reliability of the ACS Poverty Data Differs Across Tracts of Varying Size

Tract population	Number of tracts	Mean CV*
Less than 1,000	1,291	47.3
1000-2999	16,108	35.3
3000-4999	24,114	32.0
5000-6999	13,855	31.2
7000+	9,108	28.5

\*CV = (Standard error / estimate)\*100.

Source: PRB analysis of 2005-09 ACS data.

# Using the ACS for Geographic Comparisons

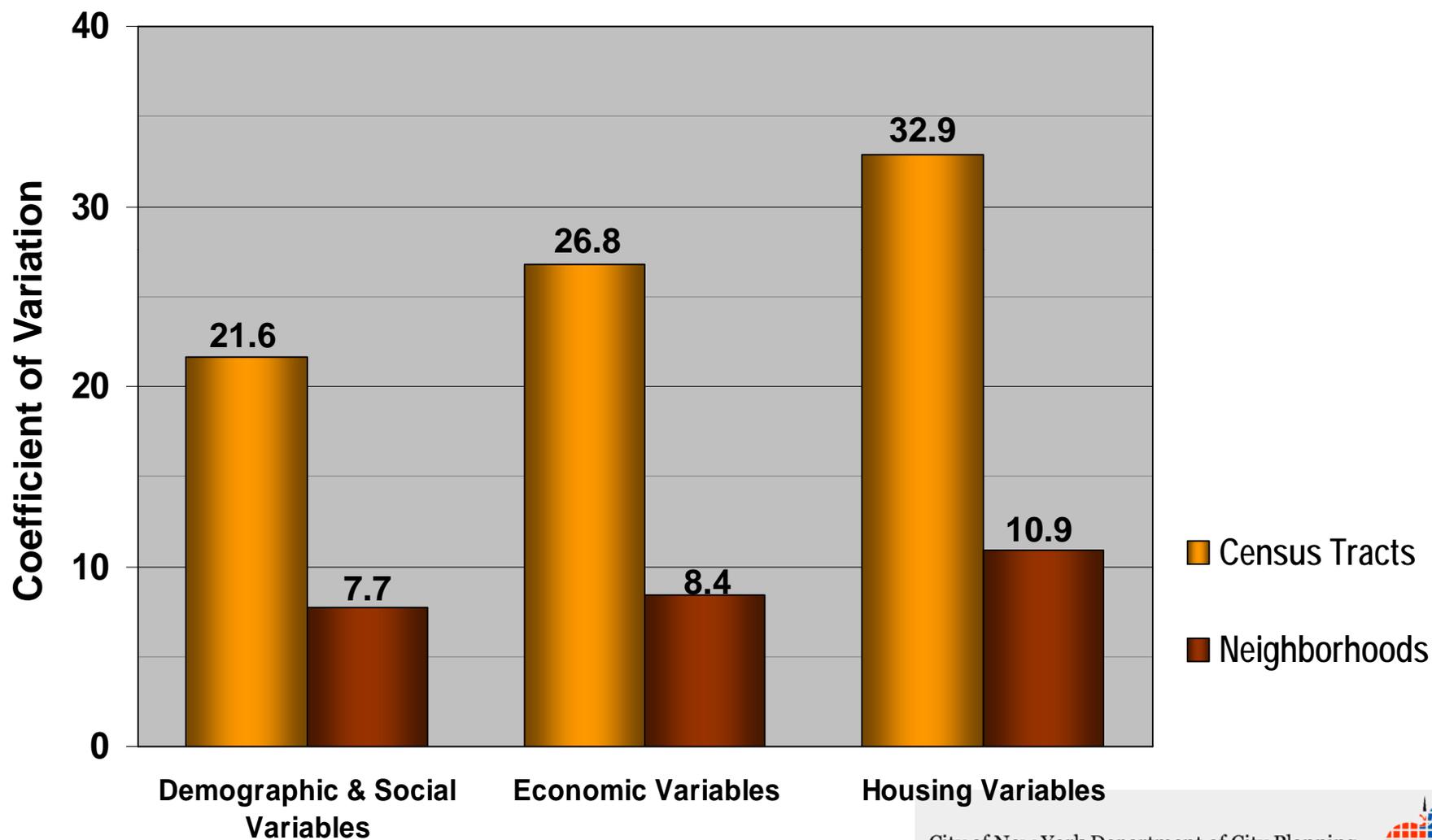


Source: 2005-09 ACS.

# Options for Dealing with Small Numbers

- Ignore the error (not recommended)
- Present measures of reliability (MOEs are best for nontechnical audiences)
- Suppress unreliable estimates
- Aggregate data across years, categories, or geographic areas

# Median Coefficients of Variation for Bronx Tracts and Neighborhoods, 2001-2005



# Combine Sub-Groups to Create Fewer Categories and Increase Reliability

	Loudoun County, Virginia	
	Estimate	Margin of Error
Total:	86,607	+/-2,282
Less than \$10,000	1,859	+/-803
\$10,000 to \$14,999	641	+/-374
\$15,000 to \$19,999	1,116	+/-643
\$20,000 to \$24,999	1,119	+/-737
\$25,000 to \$29,999	2,145	+/-800
\$30,000 to \$34,999	1,389	+/-587
\$35,000 to \$39,999	1,604	+/-572
\$40,000 to \$44,999	2,169	+/-971
\$45,000 to \$49,999	2,151	+/-771
\$50,000 to \$59,999	3,573	+/-842
\$60,000 to \$74,999	9,349	+/-1,685
\$75,000 to \$99,999	11,724	+/-1,608
\$100,000 to \$124,999	12,894	+/-1,615
\$125,000 to \$149,999	10,348	+/-1,339
\$150,000 to \$199,999	11,527	+/-1,391
\$200,000 or more	12,999	+/-1,519



	Loudoun County, Virginia	
	Estimate	Margin of Error
Total:	86,607	+/-2,282
Less than \$10,000	1,859	+/-803
\$10,000 to \$14,999	641	+/-374
\$15,000 to \$24,999	2,235	+/-956
\$25,000 to \$34,999	3,534	+/-1,080
\$35,000 to \$49,999	5,924	+/-1,335
\$50,000 to \$74,999	12,922	+/-1,791
\$75,000 to \$99,999	11,724	+/-1,608
\$100,000 to \$149,999	23,242	+/-2,192
\$150,000 to \$199,999	11,527	+/-1,391
\$200,000 or more	12,999	+/-1,519

# Combine Sub-Groups to Create Fewer Categories and Increase Reliability

<u>Full Distribution</u>	<u>CV</u>		<u>Collapsed Distrib.</u>	<u>CV</u>
< \$10,000	26%			
\$10K - \$14,999	35%			
\$15K - \$19,999	35%	→	\$15K - \$24,999	26%
\$20K - \$24,999	40%			
\$25K - \$29,999	23%	→	\$25K - \$34,999	19%
\$30K - \$34,999	27%			
\$35K - \$39,999	22%	→	\$35K - \$49,999	14%
\$40K - \$44,999	27%			
\$45K - \$49,999	22%			
\$50K - \$59,999	14%	→	\$50K - \$74,999	8%
\$60K - \$74,999	11%			

# Using ACS Data: Avoiding Pitfalls

- Don't rely on the ACS for population counts
- Use caution in comparing ACS data with data from the decennial census or other sources
- Don't ignore sampling error
- Don't make a big deal out of small differences between estimates
- Don't interpret annual fluctuations in the data as long-term trends

## For More Information about the ACS

- Visit Census Bureau's website:  
[www.census.gov/acs/www/guidance\\_for\\_data\\_users/guidance\\_main/](http://www.census.gov/acs/www/guidance_for_data_users/guidance_main/)
- PRB Workshop on the ACS held in June
  - Focused on 5-year ACS estimates
  - Collected feedback from data users and input from Census Bureau staff
  - Visit PRB's website:  
[www.prb.org/Articles/2011/acs-workshop-2011.aspx](http://www.prb.org/Articles/2011/acs-workshop-2011.aspx)

# Contact Information

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