

# **How do the ACS five-year migration data compare to the 2000 Census migration data?**

## **PAA Extended Abstract**

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9/21/2011

From 1940 to 2000, the long form of the Decennial Census asked respondents about their migration patterns. The Journey to Work and Migration Statistics Branch has provided the public with an array of origin-destination migration flow data products, though county-to-county migration flows in particular continue to be a staple product. For Census 2000, a migration DVD with counts of movers was produced that contained a county-to-county flow table, and tables of mover counts by characteristics.

After Census 2000, the long form data was replaced by the American Community Survey (ACS). The 2010 Census and future decennial censuses have no migration data, making the ACS a primary source of migration data. ACS started collecting data in 1996 in four test sites. The scope of the survey grew and sampled housing units in all counties in the U.S. and Puerto Rico beginning in 2005. Group quarters (e.g., college dormitories, prisons, nursing homes, military barracks) were added to the sample in 2006.

One major difference between the Census and the ACS migration questions is the time between the previous residence and the current residence at the time of the survey. Census 2000 asked where the person lived 5 years ago (as of April 1, 1995) while the ACS asks where the person lived 1 year ago. The time period was changed to reflect the on-going data collection of the ACS, and allows for annual estimates of geographical mobility.

However, because the migration question in the 2000 Census spans 5 years, it includes movers who moved 1, 2, 3, 4, and 5 years ago, while the 2005-2009 ACS question picks up people who only moved in the last year. The ACS is more likely to pick up more temporary movers like college students than the 2000 Census. It is important to note that although the 2005-2009 ACS is a 5-year dataset, it is 5 years of aggregated 1-year datasets, and is not meant to approximate the 2000 Census data though it is the best comparison file to use.

The 2005-2009 ACS migration data product will be released in late December 2011. Because decennial censuses will no longer be a source for migration data, it is the goal of this paper is to help data users understand three things: First, how the number of movers between counties changed from 2000 to 2005-2009. Second, why a response to the 5-year question is not the same as a response to 5 one-year aggregated questions. Third, data users will learn how to interpret the

ACS migration data for use in time series analyses with migration data from previous decennial censuses.

This analysis presents eight tables, two for origin and destination flows and two tables for the origins and destinations of movers from the 2000 Census and the 2005-2009 ACS, along with four correlation matrices. Table 5 is a correlation of flows out of counties in the 2000 Census and 2005-2009 ACS, and Table 6 is a correlation of flows into counties. Table 7 is a correlation matrix of the movers out of counties in 2000 Census and in 2005-2009 ACS; Table 8 is a correlation matrix of the movers into counties. The correlations are presented as a scatter plot to better visualize the differences between datasets, and to also analyze outliers that indicate changes in migration flows over time from 2000 to 2005-2009.

Attached is Table 1, a list of the top 50 origin and destination counties by number of flow pairs. According to the cumulative percents, the top 50 origin counties account for about 11% of the total flow counts and the top 50 destination counties account for about 13% of the total flow counts. In a preliminary analysis, this indicates that the choices for destination counties are slightly more concentrated among the top 50 compared to origin counties.

We are expecting to find a larger number of movers in the 2000 Census data because it includes movers who moved between 1 and 5 years ago. We are also predicting that most of the county-to-county migration flow ratios will be relatively similar, though some outliers are expected like Clark County, Nevada. As the analysis proceeds, additional tables are expected to be included as necessary.

**Table 1. Flow Counts, 2005-2009 ACS**

Origin				Destination			
County, State	Flow Count	Percent Flows	Cumulative Percent	County, State	Flow Count	Percent Flows	Cumulative Percent
1 Maricopa County, AZ	976	0.4%	0.4%	1 Maricopa County, AZ	1,136	0.5%	0.5%
2 Harris County, TX	805	0.3%	0.8%	2 Los Angeles County, CA	1,078	0.5%	0.9%
3 San Diego County, CA	785	0.3%	1.1%	3 Cook County, IL	1,019	0.4%	1.4%
4 Los Angeles County, CA	733	0.3%	1.4%	4 San Diego County, CA	958	0.4%	1.8%
5 Cook County, IL	721	0.3%	1.7%	5 Harris County, TX	948	0.4%	2.2%
6 Bexar County, TX	717	0.3%	2.0%	6 Clark County, NV	845	0.4%	2.5%
7 Clark County, NV	680	0.3%	2.3%	7 Dallas County, TX	747	0.3%	2.8%
8 Tarrant County, TX	670	0.3%	2.6%	8 Tarrant County, TX	709	0.3%	3.1%
9 Richland County, SC	617	0.3%	2.8%	9 Hillsborough County, FL	705	0.3%	3.4%
10 Dallas County, TX	611	0.3%	3.1%	10 Orange County, FL	679	0.3%	3.7%
11 El Paso County, CO	592	0.3%	3.3%	11 Bexar County, TX	660	0.3%	4.0%
12 Pima County, AZ	550	0.2%	3.6%	12 Fulton County, GA	636	0.3%	4.3%
13 Onslow County, NC	549	0.2%	3.8%	13 El Paso County, CO	627	0.3%	4.5%
14 Hillsborough County, FL	547	0.2%	4.0%	14 King County, WA	625	0.3%	4.8%
15 Muscogee County, GA	543	0.2%	4.3%	15 Orange County, CA	619	0.3%	5.1%
16 King County, WA	540	0.2%	4.5%	16 San Bernardino County, CA	619	0.3%	5.3%
17 Wake County, NC	532	0.2%	4.7%	17 Miami-Dade County, FL	617	0.3%	5.6%
18 Escambia County, FL	518	0.2%	4.9%	18 Broward County, FL	612	0.3%	5.9%
19 Davidson County, TN	514	0.2%	5.2%	19 Riverside County, CA	604	0.3%	6.1%
20 Pinellas County, FL	512	0.2%	5.4%	20 Wayne County, MI	602	0.3%	6.4%
21 Travis County, TX	512	0.2%	5.6%	21 Pinellas County, FL	586	0.2%	6.6%
22 Franklin County, OH	510	0.2%	5.8%	22 Palm Beach County, FL	571	0.2%	6.9%
23 Hennepin County, MN	509	0.2%	6.0%	23 Hennepin County, MN	560	0.2%	7.1%
24 Orange County, FL	506	0.2%	6.2%	24 Duval County, FL	559	0.2%	7.3%
25 Honolulu County, HI	506	0.2%	6.5%	25 Anchorage Municipality, AK	557	0.2%	7.6%
26 Mecklenburg County, NC	506	0.2%	6.7%	26 Franklin County, OH	557	0.2%	7.8%
27 Fulton County, GA	500	0.2%	6.9%	27 Honolulu County, HI	552	0.2%	8.0%
28 Fairfax County, VA	493	0.2%	7.1%	28 Pima County, AZ	545	0.2%	8.3%
29 Cumberland County, NC	479	0.2%	7.3%	29 Fairfax County, VA	545	0.2%	8.5%
30 Polk County, FL	474	0.2%	7.5%	30 Kings County, NY	544	0.2%	8.7%
31 Orange County, CA	469	0.2%	7.7%	31 Davidson County, TN	521	0.2%	8.9%
32 Virginia Beach city, VA	464	0.2%	7.9%	32 Shelby County, TN	516	0.2%	9.2%
33 Duval County, FL	463	0.2%	8.1%	33 Mecklenburg County, NC	512	0.2%	9.4%
34 Pierce County, WA	460	0.2%	8.3%	34 Travis County, TX	502	0.2%	9.6%
35 Shelby County, TN	458	0.2%	8.5%	35 New York County, NY	497	0.2%	9.8%
36 San Bernardino County, CA	457	0.2%	8.7%	36 Lee County, FL	494	0.2%	10.0%
37 Lee County, FL	457	0.2%	8.9%	37 Virginia Beach city, VA	487	0.2%	10.2%
38 Riverside County, CA	456	0.2%	9.0%	38 Wake County, NC	486	0.2%	10.4%
39 St. Louis County, MO	450	0.2%	9.2%	39 Oakland County, MI	480	0.2%	10.6%
40 Jefferson County, KY	449	0.2%	9.4%	40 Sacramento County, CA	474	0.2%	10.8%
41 Palm Beach County, FL	442	0.2%	9.6%	41 Denver County, CO	474	0.2%	11.0%
42 New York County, NY	433	0.2%	9.8%	42 Salt Lake County, UT	473	0.2%	11.2%
43 Oklahoma County, OK	427	0.2%	10.0%	43 Marion County, IN	472	0.2%	11.4%
44 Allegheny County, PA	427	0.2%	10.2%	44 Orleans Parish, LA	471	0.2%	11.6%
45 Broward County, FL	425	0.2%	10.3%	45 Volusia County, FL	470	0.2%	11.8%
46 Marion County, IN	425	0.2%	10.5%	46 District of Columbia	469	0.2%	12.0%
47 Bell County, TX	425	0.2%	10.7%	47 Philadelphia County, PA	466	0.2%	12.2%
48 Salt Lake County, UT	425	0.2%	10.9%	48 Cuyahoga County, OH	462	0.2%	12.4%
49 Denton County, TX	421	0.2%	11.1%	49 Allegheny County, PA	462	0.2%	12.6%
50 Tulsa County, OK	413	0.2%	11.2%	50 Brevard County, FL	461	0.2%	12.8%
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3142 Loving County, TX	1	0.0%	100.0%	3141 Loving County	1	0.0%	100.0%
Total	236,478	100.0%		Total	236,478	100.0%	

Tables:

Table 1. Flow Counts, 2005-2009 ACS (Preliminary)

Table 1a. Number of Origin Flows

Table 2. Number of Destination Flows

Table 3. Number of Movers by Origin

Table 4. Number of Movers by Destination

Table 5. Correlation of Origin Flows

Table 6. Correlation of Destination Flows

Table 7. Correlation of Origin Movers

Table 8. Correlation of Destination Movers