

2018-2022 American Community Survey State-to-County Migration Flows Documentation

Introduction:

Each year, the U.S. Census Bureau releases migration flows tables for selected geographic summary levels based on the American Community Survey (ACS) 5-year dataset. The state-to-county migration flows estimates were first introduced in calendar year 2023 using the 2017-2021 ACS 5-year dataset.¹ As of 2016, all ACS migration flows estimates were made available in the Census application programming interface (API) through the Census Developers site.² The rest of this document will help users navigate the state-to-county migration flows tables and will outline key components of these files.

Blank Values:

There are blank cells within the state-to-county migration flows tables. These blank cells may exist for the following reasons:

1. The estimate is out of scope for the ACS sample – such as statistics for world regions (e.g., Africa).
2. The estimate does not exist – such as “Movers from Different County, Same State” for the District of Columbia.
3. State-to-county pairs with no reported migration flows are not included in the files. These flows are considered zero count estimates and are presented as blank cells. The margins of error (MOE) for these zero count estimates cannot be calculated using the standard replicate variance formula.^{3,4}

2018-2022 ACS 5-year Data: Connecticut

The 2018-2022 ACS 5-year state-to-county migration flows suppressed estimates of migration within the state of Connecticut and from the state of Connecticut to another state or Puerto Rico. Data users should exercise caution when comparing 2018-2022 5-year state-to-county migration flows estimates to those from prior data years. For more information, visit:

<https://www.census.gov/programs-surveys/acs/technical-documentation/errata/143.html>.

¹ The ACS program combines consecutive yearly datasets to increase the sample size and provide reliable estimates for smaller geographic areas. Estimates produced for the 1-year ACS are limited to geographic areas with populations of at least 65,000. The 5-year ACS provides estimates for all counties and county equivalents in the United States. Group quarters were included in the sample beginning in 2006.

² The Census Developers site is located at <<https://www.census.gov/data/developers.html>>.

³ More on the model to compute ACS margins of error for zero-estimate counts can be found at <http://www2.census.gov/programs-surveys/acs/tech_docs/user_notes/KValueUserNote.pdf>.

⁴ For more information about the calculation of margins of error, see Chapter 12 of the American Community Survey and Puerto Rico Community Survey Design and Methodology report <https://www2.census.gov/programs-surveys/acs/methodology/design_and_methodology/2022/acs_design_methodology_report_2022.pdf>.

Coverage and Group Quarters Population:

The ACS covers the entire population residing in the United States and Puerto Rico, including both housing units and group quarters facilities. Each year, independent housing unit address samples are selected for each county or county equivalent in the United States and Puerto Rico. Samples of group quarters facilities and persons in group quarters are drawn at the state level, including for Puerto Rico and the District of Columbia. To provide better representation of group quarters estimates, whole person imputation into group quarters facilities not originally captured in the ACS group quarters sample began with the 2011 ACS.⁵

The group quarters population includes people living in correctional institutions, juvenile detention facilities, nursing homes, other long-term care facilities, college dormitories, military facilities, and other noninstitutionalized facilities. The estimated group quarters population for a county can be found in detailed [table B26001 on data.census.gov](#).

Application Programming Interface (API):

Beginning in 2016, the ACS migration flows data became available in the Census API through the Census Developers site.⁶ The API files contain the same estimates that were released in table form; the data are provided in a different layout to allow developers to design web and mobile apps that include Census Bureau statistics.

⁵ For more information about ACS group quarters small area estimation, see <https://www2.census.gov/programs-surveys/acs/tech_docs/user_notes/GQSAE_User_Note.pdf>.

⁶ The Census Developers site is located at <<https://www.census.gov/data/developers.html>>.

State-to-County Flows Files⁷:

The state-to-county migration flows files are provided in two formats. One is a fixed-length national text file (.txt) sorted by current residence geography. The other is an Excel file (.xlsx) containing a worksheet for each state of current residence, including Puerto Rico and the District of Columbia.

Any data product that the Census Bureau releases must be reviewed and approved by the Disclosure Review Board to assure the confidentiality of respondents.⁸

Alongside the state and county of current residence, state of residence 1 year ago, and the number of movers from the state of residence 1 year ago to the county of current residence, the files contain additional geographic mobility estimates and the margin of error (MOE) at the 90 percent confidence level.

The table below provides the layout of the text (.txt) file:

Field Description	Field Position
Current Residence State Code	1-3
Current Residence County Code	4-6
Residence 1 Year Ago State/U.S. Island Area/Foreign Region Code	7-9
State of Current Residence	10-30
County of Current Residence	31-51
Residence 1 Year Ago State/U.S. Island Area/Foreign Region Name	52-72
Movers from State of Previous Residence to County of Current Residence - Estimate	73-80
Movers from State of Previous Residence to County of Current Residence - Margin of Error (MOE)	81-87
Population 1 Year and Over - County of Current Residence - Estimate	88-95
Population 1 Year and Over - County of Current Residence - MOE	96-102
Nonmovers - County of Current Residence - Estimate	103-110
Nonmovers - County of Current Residence - MOE	111-117
Total Domestic Movers - County of Current Residence - Estimate	118-125
Total Domestic Movers - County of Current Residence - MOE	126-132
Movers within Same County - County of Current Residence - Estimate	133-140
Movers within Same County - County of Current Residence - MOE	141-147
Movers from Different County, Same State - County of Current Residence - Estimate	148-155
Movers from Different County, Same State - County of Current Residence - MOE	156-162

⁷ The Excel file layout for the state-to-county migration flows changed between data years 2017-2021 and 2018-2022. For the 2017-2021 file format, see the Appendix Table.

⁸ For more information on how Census data are protected see <https://www.census.gov/about/policies/privacy.html>.

Movers from Different State - County of Current Residence - Estimate	163-170
Movers from Different State - County of Current Residence - MOE	171-177
Movers from Abroad - County of Current Residence - Estimate	178-185
Movers from Abroad - County of Current Residence - MOE	186-192
Population 1 Year and Over - Residence 1 Year Ago - Estimate	193-200
Population 1 Year and Over - Residence 1 Year Ago - MOE	201-207
Nonmovers - Residence 1 Year Ago - Estimate	208-215
Nonmovers - Residence 1 Year Ago - MOE	216-222
Total Movers within the United States or Puerto Rico - Residence 1 Year Ago - Estimate	223-230
Total Movers within the United States or Puerto Rico - Residence 1 Year Ago - MOE	231-237
Movers to Puerto Rico from Previous Residence State - Estimate	238-345
Movers to Puerto Rico from Previous Residence State - MOE	246-252

The table below provides the layout of the Excel (.xlsx) file:

Field Name		Field Description	Column
Current Residence State Code		The three-digit state FIPS code for the state of current residence	A
Current Residence County Code		The three-digit county FIPS code for the county of current residence	B
Residence 1 Year Ago State/U.S. Island Area/Foreign Region Code		The three-digit state FIPS code, U.S. Island Area region code, or Foreign Region code for residence 1 year ago	C
State of Current Residence		The name of the state of current residence	D
County of Current Residence		The name of the county of current residence	E
Residence 1 Year Ago State/U.S. Island Area/Foreign Region Name		The name of the State/U.S. Island Area/Foreign Region of residence 1 year ago	F
Movers from State of Previous Residence to County of Current Residence		The numeric estimate of movers from the state of residence 1 year ago (Column F) to the county of current residence (Column E).	G
		Margin of Error for Column G	H
County of Current Residence	Population 1 Year and Over	The numeric estimate of people aged 1 year and over in the county of current residence	I
		Margin of Error for Column I	J

	Nonmovers	The numeric estimate of nonmovers in the county of current residence	K
		Margin of Error for Column K	L
	Total Domestic Movers	The numeric estimate of all domestic movers in the county of current residence	M
		Margin of Error for Column M	N
	Movers within Same County	The numeric estimate of movers who moved to a different residence in the county of current residence	O
		Margin of Error for Column O	P
	Movers from Different County, Same State	The numeric estimate of movers from a different county in the same state in the county of current residence	Q
		Margin of Error for Column Q	R
	Movers from Different State	The numeric estimate of movers from a different state in the county of current residence	S
		Margin of Error for Column S	T
	Movers from Abroad	The numeric estimate of movers from outside of the United States in the county of current residence	U
		Margin of Error for Column U	V
State/U.S. Island Area/Foreign Region of Residence 1 Year Ago	Population 1 Year and Over	The numeric estimate of people aged 1 year and over in the state/U.S. Island Area/foreign region of residence 1 year ago	W
		Margin of Error for Column W	X
	Nonmovers	The numeric estimate of nonmovers in the state/U.S. Island Area/foreign region of residence 1 year ago	Y
		Margin of Error for Column Y	Z
	Total Movers within the United States or Puerto Rico	The numeric estimate of movers who moved from somewhere within the United States or Puerto Rico in the state/U.S. Island Area/foreign region of residence 1 year ago	AA
		Margin of Error for Column AA	AB
		The numeric estimate of movers to Puerto Rico	AC

	Movers to Puerto Rico from Previous Residence State	Margin of Error for Column AC	AD
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How to obtain estimates from the State-to-County Migration Flows Fixed-Length National Text File:

To obtain an estimate of the *state-to-county migration flow for any single geography*, use Fields 73-87. Fields 73-80 contain the numeric estimate of movers from the sending geography (i.e., state of residence 1 year ago) to the receiving geography (i.e., county of current residence). Fields 81-87 contain the margin of error for numeric estimates.

To obtain *geographic mobility information for the county of current residence*, use Fields 88-192.

To obtain *geographic mobility information for the state of residence 1 year ago*, use Fields 193-252.

How to obtain estimates from the State-to-County Migration Flows Excel File:

To obtain an estimate of the *state-to-county migration flow for any single geography*, use Columns G and H. Column G contains the numeric estimate of movers from the sending geography (i.e., state of residence 1 year ago) to the receiving geography (i.e., county of current residence). Column H contains the margin of error for numeric estimates in Column G. Estimates are organized alphabetically by county of current residence within each state of current residence sheet.

To obtain *geographic mobility information for the county of current residence*, use Columns I through V.

To obtain *geographic mobility information for the state of residence 1 year ago*, use Columns W through AD.

Appendix Table: 2017-2021 State-to-County Migration Flows Excel (.xlsx) File Layout

Field Name		Field Description	Column
Current Residence State Code		The three-digit state FIPS code for the state of current residence	A
Current Residence County Code		The three-digit county FIPS code for the county of current residence	B
Residence 1 Year Ago State/U.S. Island Area/Foreign Region Code		The three-digit state FIPS code, U.S. Island Area region code, or Foreign Region code for residence 1 year ago	C
State of Current Residence		The name of the state of current residence	D
County of Current Residence		The name of the county of current residence	E
Residence 1 Year Ago State/U.S. Island Area/Foreign Region Name		The name of the State/U.S. Island Area/Foreign Region of residence 1 year ago	F
Movers from State of Previous Residence to County of Current Residence		The numeric estimate of movers from the state of residence 1 year ago (Column F) to the county of current residence (Column E).	G
		Margin of Error for Column G	H
County of Current Residence	Population 1 Year and Over	The numeric estimate of people aged 1 year and over in the county of current residence	I
		Margin of Error for Column I	J
	Nonmovers	The numeric estimate of nonmovers in the county of current residence	K
		Margin of Error for Column K	L
	Total Domestic Movers	The numeric estimate of all domestic movers in the county of current residence	M
		Margin of Error for Column M	N
	Movers within Same County	The numeric estimate of movers who moved to a different residence in the county of current residence	O
		Margin of Error for Column O	P
	Movers from Different County, Same State	The numeric estimate of movers from a different county in the same state in the county of current residence	Q
		Margin of Error for Column Q	R

	Movers from Different State	The numeric estimate of movers from a different state in the county of current residence	S
		Margin of Error for Column S	T
	Movers from Abroad	The numeric estimate of movers from outside of the United States in the county of current residence	U
		Margin of Error for Column U	V
State/U.S. Island Area/Foreign Region of Residence 1 Year Ago	Population 1 Year and Over	The numeric estimate of people aged 1 year and over in the state/U.S. Island Area/foreign region of residence 1 year ago	W
		Margin of Error for Column W	X
	Nonmovers	The numeric estimate of nonmovers in the state/U.S. Island Area/foreign region of residence 1 year ago	Y
		Margin of Error for Column Y	Z
	Total Movers within the United States or Puerto Rico	The numeric estimate of movers who moved from somewhere within the United States or Puerto Rico in the state/U.S. Island Area/foreign region of residence 1 year ago	AA
		Margin of Error for Column AA	AB
	Movers to Puerto Rico from Previous Residence State	The numeric estimate of movers to Puerto Rico	AC
		Margin of Error for Column AC	AD