

# Early Childhood Population Estimates

## American Community Survey

### Special Export User Guide

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## Recommended Citation Format

Source: Title of Chart. U.S. Census Bureau, American Community Survey, 2011 thru 2015. Minnesota Early Childhood Longitudinal Data System. Access Date. [eclds.mn.gov](http://eclds.mn.gov)

## Introduction

Early childhood administrators are responsible for federal, state, and local funding streams. Accountability for these funding streams typically includes a community assessment involving identifying their service area's strengths and challenges. Part of this includes representing the number of children and families in different groups at the population level. As early childhood services are offered in many different venues, no one source holds the majority of this population information, unlike K-12 services. The U.S. Census Bureau's American Community Survey (ACS) provides a great deal of information that can improve what we know about families with young children.

The ACS is one of over 130 surveys conducted by the United States Census Bureau (USCB). We used data from the ACS because it focuses on families, communities, and poverty – key components in early childhood programming and policy.

The counts provided in this resource may be aligned with information on early childhood providers in your area to better target outreach services. All data represented here has been reviewed by the USCB's Disclosure Review Board to ensure privacy is protected. There are additional suppression rules in place explained later in this document.

This data resource uses five-year estimates from the ACS (2011-15) with the exception of two questions related to home computer availability and internet access. These questions were added in 2017 so only one year is available. Because this resource uses data from five-year estimates, data will be updated every three to five years.

The USCB opted to provide Minnesota with tables that contain data for the entire nation, as the effort to generate one state's tables could produce tables for all states and territories. The query tool allows users to search by state and counties within each state. We hope that the questions selected for Minnesota will also be helpful to your state's early childhood work and we welcome your feedback at [eclds.support@state.mn.us](mailto:eclds.support@state.mn.us).

## Potential Uses

Early childhood administrators may use this information to inform strategic planning, collaborations, fund-raising, and reporting responsibilities for community needs assessments. Information can be used to compare geographic areas (county to county, county to state, state to state, state to nation) estimates on a specific element. It can also be used to inform a policy direction, as long as all estimates considered are within usable bounds for the margin of error. For example, where is the highest level of need in my multi-county service area?

## Age Bands

One of the challenges to using USCB data for early childhood program planning is the overly broad 0-5 age group by which data are typically reported. In early childhood, many programs focus on specific ages within this 0-5 age span. Minnesota initially requested counts by the single-year age bands (newborns, 1 year olds, 2 year olds, etc.) but this level of granularity was not permissible by the USCB Disclosure Review Board for a majority of the

United States. Two-year age groupings were allowable in order to provide some delineation for infant/toddler and preschool services. These age bands are 0-1 year olds, 2-3 year olds, and 4-5 year olds.

## Topic Areas Included for Estimates

- Active Duty Status
- Counts of Children
- Child Relation to Head of Household
- Education Attainment Level
- Employment
- Ethnicity
- Gross Rent
- Health Insurance Coverage
- Hearing Difficulties
- Home Attributes
- Home Languages - Selected
- Household Size
- Independent Living
- Industry of Employment
- Migration into Area
- Owner Costs
- Poverty
- Race
- Risk Levels – Income and Other Factors
- Sex
- Travel Time and Time Leaving Home
- Transportation
- Tribal
- Vehicles
- Vision Difficulties
- Weeks Worked

## Geographic Areas Represented

The data in this resource are represented at multiple geographic levels. For most ACS questions, the geographic levels include the United States, state, county, and tribal statistical areas. Puerto Rico and the District of Columbia are included in these estimates.

Data for smaller geographies such as cities and school districts are not available in this data set.

Note – The ACS collects data for the 50 states, the District of Columbia and Puerto Rico. In essence, Puerto Rico is treated as a state for tabulation purposes. The Virgin Islands, American Samoa, Northern Mariana Islands, and Guam are not part of the American Community Survey. The latest data available for these areas is the 2010 Census.

## Margin of Error

ACS data are estimated and there is always error when data are estimated. That is, the true count of individuals in a given category will vary by some amount. The USCB bases its estimates on a 90% confidence interval which means that 90% of the time the true count will occur within the bounds of the estimate in a series of samples. The bounds are defined by the + or – range of the error for a given estimate. Users should take this range into account when using estimates. This is particularly important in smaller communities or for small cell counts.

Some secondary providers of USCB data have summarized the interpretation of these error ranges in ways that label the reliability as high, medium, or low. These reliability labels can help users have a better understanding of the estimates’ use for their purposes. Details of how to calculate these reliability labels are included in Appendix A. The following information can help users gain a basic understanding of how to think about the margins of error included in the ECLDS.

Each table contains the following layout. First, the information needed to calculate the range for the estimate is located in the “CEST” and “CME” columns.

tblid	SUMLEVEL	GEOID	geoname	title	ORDER	CEST	CME
CHILDREN UNDER 6 YEARS							
Universe: Children under 6 years in households							
4	S48400	40 04000US01	Alabama	Total:	1	354,385	+/-1,728
5	S48400	40 04000US01	Alabama	0 and 1 year	2	111,335	+/-2,158
5	S48400	40 04000US01	Alabama	2 and 3 years	3	120,485	+/-2,140
7	S48400	40 04000US01	Alabama	4 and 5 years	4	122,565	+/-2,495
3	S48400	40 04000US02	Alaska	Total:	1	65,805	+/-603
3	S48400	40 04000US02	Alaska	0 and 1 year	2	21,595	+/-726
0	S48400	40 04000US02	Alaska	2 and 3 years	3	22,540	+/-761

CME is the character margin of error and CEST is the estimate for the population.

To understand the possible range of each estimate, a user can take the CEST, then add or subtract the CME value. For example, for the total of children under age 6 in Alabama the range would be 352,657 to 356,113.

tblid	SUMLEVEL	GEOID	geoname	title	ORDER	CEST	CME	SOURCE	Lower	Upper
4	S48400	40 04000US01	Alabama	Total:	1	354,385	+/-1,728	1728	352,657	356,113
5	S48400	40 04000US01	Alabama	0 and 1 year	2	111,335	+/-2,158	2158	109,177	113,493

This information may be sufficient to make a judgement about the reliability of the estimate.

Another way to make a judgement about the reliability of a USCB estimate is to calculate a coefficient of variation (see Appendix A) and make an assessment based on a reliability range. This is how the red, yellow, green labeling on the ECLDS tool was developed. Users will see that at the state level, most estimates are green (high reliability) but at estimates with smaller counts and for smaller areas, they become moderately reliable (yellow) and the very smallest, red (low reliability).

Educational Attainment of Householder by Children Age												
Universe: Children under 6 years in households												
tblid	SUMLEVEL	GEOID	geoname	title	ORDER	CEST	CME	SOURCE	Lower	Upper	Coefficient of Variation	
4	S48419	50 05000US01001	Autauga County, Alabama	Total:	1	3,920	+/-178		178	3,742	4,098	2.760374667
5	S48419	50 05000US01001	Autauga County, Alabama	Less than 9th grade	2	15	+/-32		32	-17	47	129.6859169
5	S48419	50 05000US01001	Autauga County, Alabama	0 and 1 year	3	0	+/-27		27	-27	27	
7	S48419	50 05000US01001	Autauga County, Alabama	2 and 3 years	4	15	+/-32		32	-17	47	129.6859169
3	S48419	50 05000US01001	Autauga County, Alabama	4 and 5 years	5	0	+/-27		27	-27	27	
9	S48419	50 05000US01001	Autauga County, Alabama	9th to 12th grade, no dipl	6	285	+/-143		143	142	428	30.50178638
0	S48419	50 05000US01001	Autauga County, Alabama	0 and 1 year	7	90	+/-65		65	25	155	43.90408646
1	S48419	50 05000US01001	Autauga County, Alabama	2 and 3 years	8	75	+/-60		60	15	135	48.63221884
2	S48419	50 05000US01001	Autauga County, Alabama	4 and 5 years	9	120	+/-81		81	39	201	41.03343465
3	S48419	50 05000US01001	Autauga County, Alabama	High School graduate (inc	10	830	+/-242		242	588	1,072	17.72439301
4	S48419	50 05000US01001	Autauga County, Alabama	0 and 1 year	11	320	+/-122		122	198	442	23.17629179
5	S48419	50 05000US01001	Autauga County, Alabama	2 and 3 years	12	275	+/-108		108	167	383	23.87399834
6	S48419	50 05000US01001	Autauga County, Alabama	4 and 5 years	13	230	+/-97		97	133	327	25.63763711
7	S48419	50 05000US01001	Autauga County, Alabama	Some college, no degree	14	1,265	+/-372		372	893	1,637	17.87666543
8	S48419	50 05000US01001	Autauga County, Alabama	0 and 1 year	15	425	+/-204		204	221	629	29.17933131
9	S48419	50 05000US01001	Autauga County, Alabama	2 and 3 years	16	440	+/-194		194	246	634	26.80298425
10	S48419	50 05000US01001	Autauga County, Alabama	4 and 5 years	17	405	+/-168		168	237	573	25.21670607
11	S48419	50 05000US01001	Autauga County, Alabama	Associate's degree	18	280	+/-146		146	134	426	31.6977855
12	S48419	50 05000US01001	Autauga County, Alabama	0 and 1 year	19	140	+/-94		94	46	234	40.81632653
13	S48419	50 05000US01001	Autauga County, Alabama	2 and 3 years	20	65	+/-43		43	22	108	40.21510404
14	S48419	50 05000US01001	Autauga County, Alabama	4 and 5 years	21	75	+/-61		61	14	136	49.44275583
15	S48419	50 05000US01001	Autauga County, Alabama	Bachelor's degree	22	810	+/-226		226	584	1,036	16.96123682
16	S48419	50 05000US01001	Autauga County, Alabama	0 and 1 year	23	205	+/-109		109	96	314	32.32263326
7	S48419	50 05000US01001	Autauga County, Alabama	2 and 3 years	24	300	+/-170		170	130	470	34.44782168
8	S48419	50 05000US01001	Autauga County, Alabama	4 and 5 years	25	305	+/-145		145	160	450	28.90029399
9	S48419	50 05000US01001	Autauga County, Alabama	Graduate or professional	26	435	+/-214		214	221	649	29.90601963
10	S48419	50 05000US01001	Autauga County, Alabama	0 and 1 year	27	110	+/-74		74	36	184	40.89527494
11	S48419	50 05000US01001	Autauga County, Alabama	2 and 3 years	28	220	+/-152		152	68	372	42.00055264
12	S48419	50 05000US01001	Autauga County, Alabama	4 and 5 years	29	105	+/-73		73	32	178	42.263714
13	S48419	50 05000US01003	Baldwin County, Alabama	Total:	1	12,940	+/-621		621	12,319	13,561	2.917369388
14	S48419	50 05000US01003	Baldwin County, Alabama	Less than 9th grade	2	335	+/-260		260	75	595	47.18051082
15	S48419	50 05000US01003	Baldwin County, Alabama	0 and 1 year	3	245	+/-252		252	-7	497	62.52713851
16	S48419	50 05000US01003	Baldwin County, Alabama	2 and 3 years	4	40	+/-44		44	-4	84	66.86930091

**Important note:** These reliability labels are only intended to be a guide. Users must make their own determinations of the usefulness of these ACS data based on their needs and the knowledge they have of their local communities.

## Suppression Rules

In compliance with the USCB Disclosure Review Board, there must be at least 150 unweighted cases of children under 6 in households and at least 40 unweighted cases in each of the 3 age categories (0 to 1, 2 to 3, 4 to 5) per geographic area to provide a count that appears on this resource. Blank cells in tables indicate that the data did not meet this minimum requirements for release.

## ACS Questions Overview

ACS questions were selected based on their relevance to early childhood policies in the areas of education, health, and human services in 2018. Based on user feedback and Census questions, the list of elements may be revised as resources are available. Data from some desired ACS questions or combinations of questions could not be obtained due to low counts (e.g. income by race and ethnicity, or income by type of transportation). Users of this resource on Minnesota's ECLDS are encouraged to develop an understanding of the data they intend to use from the ACS, and can visit the [ACS website](#) for more information.

## Data Elements from the ACS (listed alphabetically)

- **Active Duty Military Service and Veteran Status:** This represents active military status for householders over the age of 17.
- **Computer Availability:** This question was not listed on the survey until 2017. Single year data are available as provided. This includes laptops, smart phones, tablets or desktops.
- **Employment Status:** For the householder, active duty military is reported and combined with employed.
- **Health Insurance:** If the primary householder has health insurance it is assumed that the child is also covered.
- **Income:** Only the primary income source is provided. Additional jobs may bring additional income and may not be reported here.
- **Internet Accessibility:** This is the household's access to the internet. This question was not listed on the survey until 2017. We provide the single year estimate.
- **Language:** These charts focus on the top five languages with more than one million speakers in the U.S.
- **Living on Tribal Lands:** This includes Federal American Indian Reservations and Off-Reservations Trust Lands, Hawaiian Home Lands, Oklahoma Tribal Statistical Areas, Alaskan Native Village Statistical Areas, Tribal Designated Statistical Areas, State American Indian Reservations, and State Designated Tribal Statistical Areas.
- **Migration:** This question asks respondents whether they were or were not in their current residence one year prior to the time of completing the ACS. (It does not indicate homeless status.)
- **Mother's Age:** This is reported if the householder is female. There may or may not be a biological relationship with the child under age five.
- **Owner Costs as a Percentage of Household Income:** This is inclusive of the mortgage and rent payments. It also includes deeds, contracts, taxes, insurance, utilities, condominium fees, mobile home costs, registration fees.
- **Poverty:** This is defined as the ratio of income to poverty as defined by the U.S. Census. (There is no adjustment in the poverty level for Alaska or Hawaii in the Census definition.)
- **Race and Ethnicity:** This is the reported race and ethnicity of the household member.
- **Risk:** This chart represents the unduplicated number of children that may be at risk due to either income and/or other potential parent risk factor as well as the number of children with no risk factor. The Income Factor is defined as having a Census Poverty to Income Ratio up to 200%. See notes below.

Other parent risk factors including:

- Incomplete kitchen or plumbing
- Householder has less than a high school education
- Householder is an English Learner who speaks English less than very well
- Householder/child with vision or hearing issues
- Householder with difficulty dressing or bathing
- Householder with difficulty running errands alone
- Householder with cognitive or ambulatory challenges
- Householder with a family member with a disability

- **Transportation:** Private is defined as car, truck or van (alone or carpoled), bicycle, walked, motorcycle, worked at home, taxicab and other method. Public is defined as bus or trolley bus, streetcar or trolley car, subway or elevated train, railroad, and ferryboat. See notes.

**Notes:**

1. For the number of children at or below 100% of the Census poverty definition, see the Poverty table.
2. Children accessing Child Welfare are not represented in this count but are reported in the relation to Householder chart. Families accessing public subsidies are covered by the income ratio.
3. We recognize transportation is a large budget item for many early childhood programs. We do report modes of transportation in the Transportation tables. There were many conversations trying to identify families with transportation challenges. No resolution was found at that time.
4. Typically populations with risk factors are undercounted by the Census for a number of reasons. The Census has implemented a number of public relations campaigns to encourage responses by families with young children. More efforts are always an option. Contact your state demographer's office for information about efforts in your state.

## **For More Information**

[American Community Survey](#)  
[Education Demographic and Geographic Estimates](#) (EDGE)  
[U.S. Census Bureau](#)

## Appendix A – Reliability Calculation Detail

The U.S. Census Bureau does not issue reliability guidance because “each individual user needs to understand their own reliability needs: what is a sufficiently small coefficient of variance for one user may not be small enough for another” (U.S. Census Bureau statistician, email communication 11/28/17).

### ESRI Reliability Calculation Option<sup>1</sup>

Each table contains the following layout. First, the information needed to calculate the range for the estimate is located in the “CEST” and “CME” columns.

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3	S48400	40	04000US02	Alaska	0 and 1 year	2	21,595	+/-726
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CME is the character margin of error and CEST is the estimate for the population.

To understand the possible range of each estimate, take the CEST and add and subtract the CME value. For example, for the total of children under age 6 in Alabama the range would be 352,657 to 356,113.

	A	B	C	D	E	F	G	H	I	J	K	L
1	CHILDREN UNDER 6 YEARS											
2	Universe: Children under 6 years in households											
3	tblid	SUMLEVEL	GEOID	geoname	title	ORDER	CEST	CME	SOURCE		Lower	Upper
4	S48400	40	04000US01	Alabama	Total:	1	354,385	+/-1,728		1728	352,657	356,113
5	S48400	40	04000US01	Alabama	0 and 1 year	2	111,335	+/-2,158		2158	109,177	113,493

If the user would like to have a sense of the degree to which they might rely on the estimate, calculating the coefficient of variation is an option. This is calculated by the following formula:

$$CV = \frac{[CME]}{1.645 \times CEST} \times 100$$

ESRI has created a reliability range that can be used with the coefficient of variation.

If

- CV ≤ 12 = high reliability
- 12 < CV ≤ 40 = medium reliability
- CV > 40 = low reliability

<sup>1</sup> [http://downloads.esri.com/esri\\_content\\_doc/dbl/us/J10020\\_American\\_Community\\_Survey\\_2018.pdf](http://downloads.esri.com/esri_content_doc/dbl/us/J10020_American_Community_Survey_2018.pdf).

Note that this is only one possible range of reliability. A user may choose to set their CV thresholds higher or lower. In the ECLDS tool, these CV results are color-coded to help guide users:

$CV \leq 12$  = high reliability (green; use with some confidence)

$12 < CV \leq 40$  = medium reliability (yellow; use with some caution)

$CV > 40$  = low reliability (red; may want to use with great care)