Instructions on Joining the ACS Summary File to the TIGER/Line Shapefiles

TIGER/Line Shapefiles allow data users to directly link geographic areas to data from the American Community Survey and other surveys. The TIGER/Line Shapefiles are designed for use with geographic information system (GIS) software. Learn more about TIGER products at www.census.gov/geo/maps-data/data/tiger.html.

Before using the instructions below, you may want to check out the TIGER/Line Shapefiles that are pre-joined with ACS 5-year estimates in geodatabase format. You can access these files on the TIGER Products page at www.census.gov/geo/maps-data/data/tiger-data.html.

The variable GEOID joins the ACS Summary File to the TIGER/Line Shapefiles. For the ACS Summary File, GEOID is located in column AW of the geography file. It is not found in the estimates or margins of error files. (As discussed in the ACS Summary File Technical Document, the variable LOGRECNO is needed to join together the parts that make up the Summary File: the geography, estimates, and margins of error files). GEOID's corresponding variable in the TIGER/Line Shapefiles is also GEOID.

We will walk through an example of joining these files using Kent County, Delaware and the 2012 ACS 1-year estimates. In the ACS Summary File, the GEOID is 05000US10001. In the TIGER/Line Shapefiles, the GEOID is 10001. (GEOID is a concatenation of all the codes associated with a given geographic area, such as the state FIPS code, county FIPS code, etc. The exact concatenation varies by geographic area. In this example, 10=state FIPS code and 001=county FIPS code.)

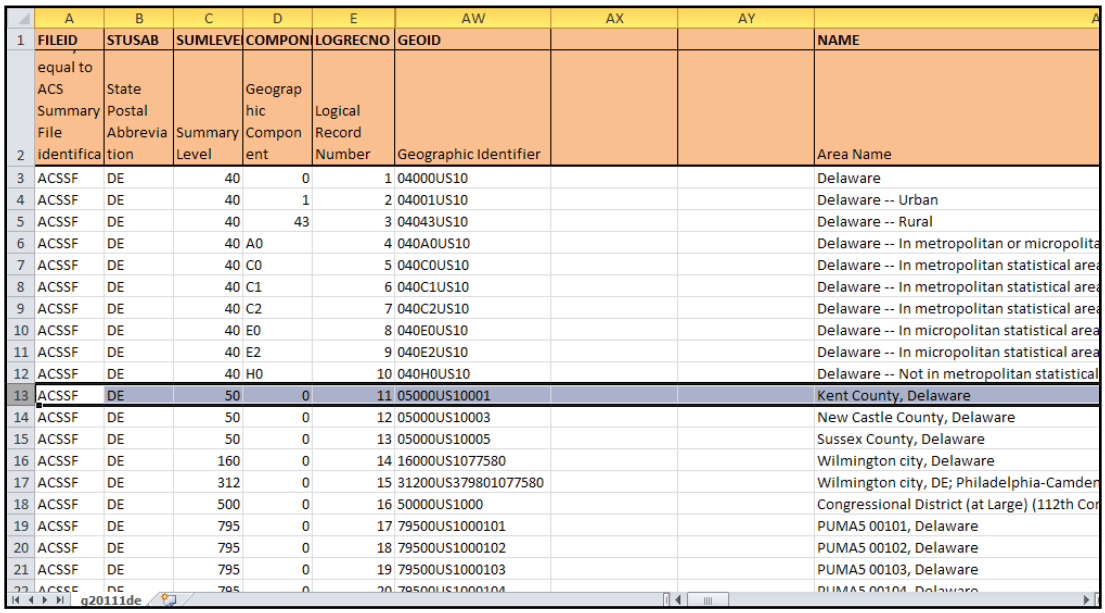
The ACS Summary File GEOID contains the necessary information to connect to the TIGER/Line Shapefiles, but it needs to be modified in order to exactly match up. Notice that the ACS GEOID, 05000US10001, contains the TIGER/Line GEOID string, 10001.

In order to create an exact match of both GEOIDs, it is necessary to remove all of the characters before and including the letter "S" in the ACS Summary File. By removing these characters, the new GEOID in the ACS Summary File exactly matches the field GEOID in the TIGER/Line Shapefiles.

The following is an example of how to modify the ACS Summary File's GEOID in Excel 2007 so it can be joined with TIGER/Line Shapefiles:

1) Open the ACS Summary File comma delimited geography file in Excel. This example uses Delaware's geography file (20121de.csv) available at www2.census.gov/acs2012_1yr/summaryfile/ with the column headers from the geography file template copied into Delaware's geography file. Learn more about the geography file template in Chapter 2.4 in the ACS Summary File Technical Document.

2) Insert 2 blank columns to the right of the column "GEOID." Your modified GEOID will eventually go into the second column. (Note: Columns F through AV in the diagrams following are hidden for illustrative purposes.)



	A	B	C	D	E	AW	AX	AY	A
1	FILEID	STUSAB	SUMLEVE	COMPON	LOGRECNO	GEOID			NAME
2	equal to ACS Summary File identifica	State Postal Abbrevia tion	Summary Level	Geograp hic Compon ent	Logical Record Number	Geographic Identifier			Area Name
3	ACSSF	DE	40	0	1	04000US10			Delaware
4	ACSSF	DE	40	1	2	04001US10			Delaware -- Urban
5	ACSSF	DE	40	43	3	04043US10			Delaware -- Rural
6	ACSSF	DE	40	A0	4	040A0US10			Delaware -- In metropolitan or micropolita
7	ACSSF	DE	40	C0	5	040C0US10			Delaware -- In metropolitan statistical area
8	ACSSF	DE	40	C1	6	040C1US10			Delaware -- In metropolitan statistical area
9	ACSSF	DE	40	C2	7	040C2US10			Delaware -- In metropolitan statistical area
10	ACSSF	DE	40	E0	8	040E0US10			Delaware -- In micropolitan statistical area
11	ACSSF	DE	40	E2	9	040E2US10			Delaware -- In micropolitan statistical area
12	ACSSF	DE	40	H0	10	040H0US10			Delaware -- Not in metropolitan statistical
13	ACSSF	DE	50	0	11	05000US10001			Kent County, Delaware
14	ACSSF	DE	50	0	12	05000US10003			New Castle County, Delaware
15	ACSSF	DE	50	0	13	05000US10005			Sussex County, Delaware
16	ACSSF	DE	160	0	14	16000US1077580			Wilmington city, Delaware
17	ACSSF	DE	312	0	15	31200US379801077580			Wilmington city, DE; Philadelphia-Camden
18	ACSSF	DE	500	0	16	50000US1000			Congressional District (at Large) (112th Cor
19	ACSSF	DE	795	0	17	79500US1000101			PUMA5 00101, Delaware
20	ACSSF	DE	795	0	18	79500US1000102			PUMA5 00102, Delaware
21	ACSSF	DE	795	0	19	79500US1000103			PUMA5 00103, Delaware
22	ACSSF	DE	795	0	20	79500US1000104			PUMA5 00104, Delaware

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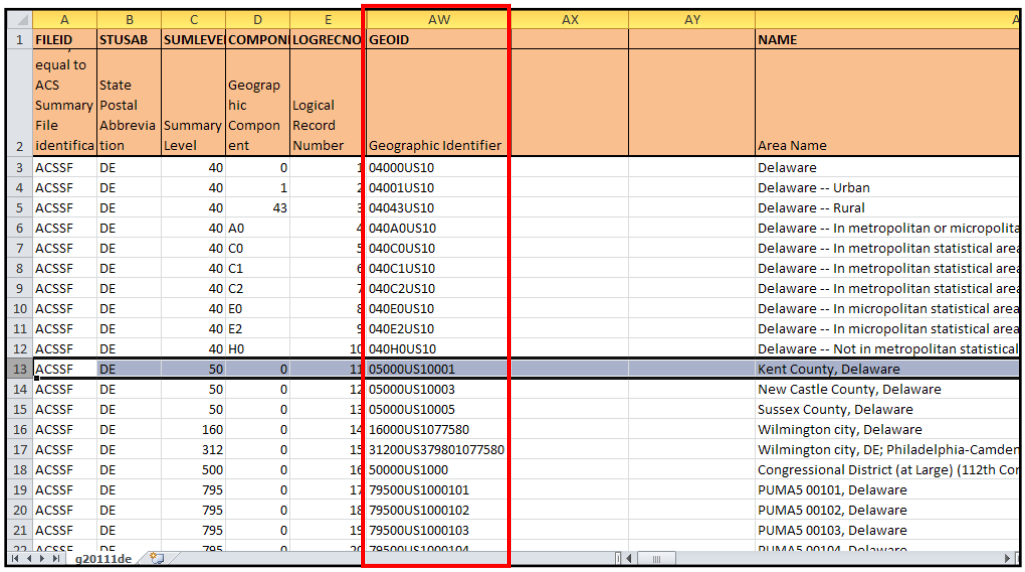
3) Next, select the column "GEOID."



	A	B	C	D	E	AW	AX	AY	A
1	FILEID	STUSAB	SUMLEVE	COMPON	LOGRECNO	GEOID			NAME
2	equal to ACS Summary File identifica	State Postal Abbrevia tion	Summary Level	Geograp hic Compon ent	Logical Record Number	Geographic Identifier			Area Name
3	ACSSF	DE	40	0	1	04000US10			Delaware
4	ACSSF	DE	40	1	2	04001US10			Delaware -- Urban
5	ACSSF	DE	40	43	3	04043US10			Delaware -- Rural
6	ACSSF	DE	40	A0	4	040A0US10			Delaware -- In metropolitan or micropolita
7	ACSSF	DE	40	C0	5	040C0US10			Delaware -- In metropolitan statistical area
8	ACSSF	DE	40	C1	6	040C1US10			Delaware -- In metropolitan statistical area
9	ACSSF	DE	40	C2	7	040C2US10			Delaware -- In metropolitan statistical area
10	ACSSF	DE	40	E0	8	040E0US10			Delaware -- In micropolitan statistical area
11	ACSSF	DE	40	E2	9	040E2US10			Delaware -- In micropolitan statistical area
12	ACSSF	DE	40	H0	10	040H0US10			Delaware -- Not in metropolitan statistical
13	ACSSF	DE	50	0	11	05000US10001			Kent County, Delaware
14	ACSSF	DE	50	0	12	05000US10003			New Castle County, Delaware
15	ACSSF	DE	50	0	13	05000US10005			Sussex County, Delaware
16	ACSSF	DE	160	0	14	16000US1077580			Wilmington city, Delaware
17	ACSSF	DE	312	0	15	31200US379801077580			Wilmington city, DE; Philadelphia-Camden
18	ACSSF	DE	500	0	16	50000US1000			Congressional District (at Large) (112th Cor
19	ACSSF	DE	795	0	17	79500US1000101			PUMA5 00101, Delaware
20	ACSSF	DE	795	0	18	79500US1000102			PUMA5 00102, Delaware
21	ACSSF	DE	795	0	19	79500US1000103			PUMA5 00103, Delaware
22	ACSSF	DE	795	0	20	79500US1000104			PUMA5 00104, Delaware

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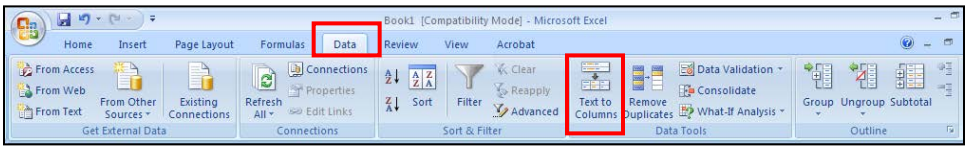
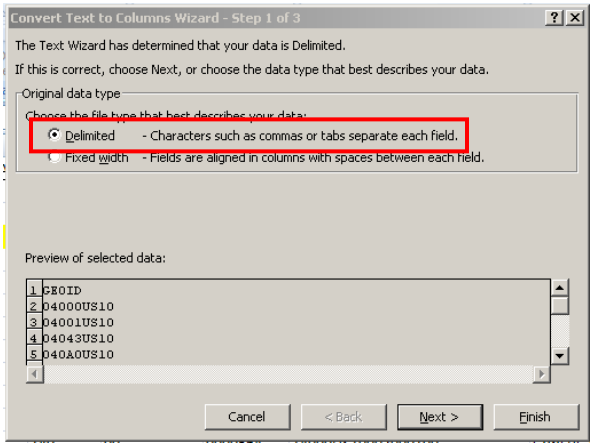
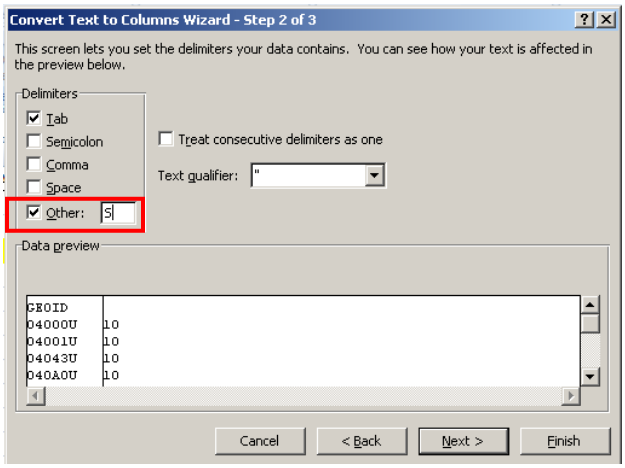
4) Select the "Data" tab from the top menu, then select "Text to Columns." The "Convert Text to Columns Wizard" box should pop up.



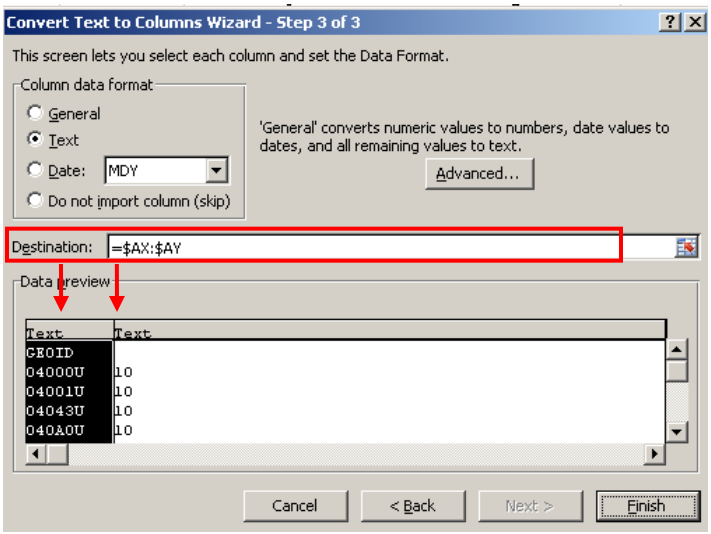
5) In the "Convert Text to Columns Wizard," select "Delimited" under "Choose the file type that best describes your data:" then click "Next."



6) Check "Other" as the delimiter and type the letter "S" into the box. Click "Next."



7) In the "Data preview" window, click on the top of both columns in "Data preview" and select "Text" under "Column data format." In "Destination," select the two blank columns that you created in Step 1. Click "Finish."



8) Column AY should now contain the modified ACS GEOID that corresponds to GEOID in the TIGER/Line Shapefiles. The second screenshot shows the TIGER/Line Shapefile for Kent County, Delaware.

	A	B	C	D	E	AW	AX	AY	AZ
1	FILEID	STUSAB	SUMLEVEL	COMPONENT	LOGRECNO	GEOID	GEOID		NAME
2	equal to ACS Summary File identifica	State Postal Abbrevia tion	Summary Level	Geographic Component	Logical Record Number	Geographic Identifier	Geographic Identifier		Area Name
3	ACSSF	DE	40	0	1	04000US10	04000U	10	Delaware
4	ACSSF	DE	40	1	2	04001US10	04001U	10	Delaware -- Urban
5	ACSSF	DE	40	43	3	04043US10	04043U	10	Delaware -- Rural
6	ACSSF	DE	40	A0	4	040A0US10	040A0U	10	Delaware -- In metropolitan or micropolitan sta
7	ACSSF	DE	40	C0	5	040C0US10	040C0U	10	Delaware -- In metropolitan statistical area
8	ACSSF	DE	40	C1	6	040C1US10	040C1U	10	Delaware -- In metropolitan statistical area -- in
9	ACSSF	DE	40	C2	7	040C2US10	040C2U	10	Delaware -- In metropolitan statistical area -- no
10	ACSSF	DE	40	E0	8	040E0US10	040E0U	10	Delaware -- In micropolitan statistical area
11	ACSSF	DE	40	E2	9	040E2US10	040E2U	10	Delaware -- In micropolitan statistical area -- no
12	ACSSF	DE	40	H0	10	040H0US10	040H0U	10	Delaware -- Not in metropolitan statistical area
13	ACSSF	DE	50	0	11	05000US10001	05000U	10001	Kent County, Delaware
14	ACSSF	DE	50	0	12	05000US10003	05000U	10003	New Castle County, Delaware
15	ACSSF	DE	50	0	13	05000US10005	05000U	10005	Sussex County, Delaware
16	ACSSF	DE	160	0	14	16000US1077580	16000U	1077580	Wilmington city, Delaware
17	ACSSF	DE	312	0	15	31200US379801077580	31200U	3.79801E+11	Wilmington city, DE; Philadelphia-Camden-Wil
18	ACSSF	DE	500	0	16	50000US1000	50000U	1000	Congressional District (at Large) (111th Congres
19	ACSSF	DE	795	0	17	79500US1000101	79500U	1000101	PUMA5 00101, Delaware
20	ACSSF	DE	795	0	18	79500US1000102	79500U	1000102	PUMA5 00102, Delaware
21	ACSSF	DE	795	0	19	79500US1000103	79500U	1000103	PUMA5 00103, Delaware
22	ACSSF	DE	795	0	20	79500US1000104	79500U	1000104	PUMA5 00104, Delaware
23	ACSSF	DE	795	0	21	79500US1000200	79500U	1000200	PUMA5 00200, Delaware

	A	B	C	D	E	F	G	H	I	J	K
1	STATEFP	COUNTYFP	COUNTYNS	GEOID	NAME	NAMELSAD	LSAD	CLASSFP	MTFCC	CSA	CBSAF
420	05	069	00066862	05069	Jefferson	Jefferson County	06	H1	G4020	340	38220
421	10	001	00217271	10001	Kent	Kent County	06	H1	G4020		20100
422	05	019	00066845	05019	Clark	Clark County	06	H1	G4020		11660
423	12	097	00295748	12097	Osceola	Osceola County	06	H1	G4020	422	36740
424	05	105	00069171	05105	Perry	Perry County	06	H1	G4020	340	30780
425	05	111	00069174	05111	Poinsett	Poinsett County	06	H1	G4020	308	27860

9) The ACS Summary File and the TIGER/Line Shapefile should now be ready to be joined using GIS software. Visit the How To Guides at https://www.census.gov/geo/education/howtos.html to learn more about how to access and use the TIGER/Line Shapefiles.