

NOTE FOR Workforce Information Database Users: Fields which are used for housing census tract geography codes (AREA in GEOGXZIP and SUBAREA in ZIPXGEOG) have been expanded to nine characters to enable them to store the three-digit county FIPS code and six-digit tract code necessary to ensure primary key integrity.

HUD USPS ZIP Code Crosswalk Files

One of the many challenges that social science researchers and practitioners face is the difficulty of relating United States Postal Service (USPS) ZIP codes to Census Bureau geographies. There are valuable data available only at the ZIP code level that, when combined with demographic data tabulated at various Census geography levels, could open up new avenues of exploration.

While some acceptable methods of combining ZIP codes and Census geography exist, they have limitations. To provide additional avenues for merging these data, PD&R has released the [HUD-USPS Crosswalk Files](#). These unique files are derived from data in the quarterly [USPS Vacancy Data](#). **They originate directly from the USPS; are updated quarterly, making them highly responsive to changes in ZIP code configurations; and reflect the locations of both business and residential addresses.** The latter feature is of particular interest to housing researchers because many of the phenomena that they study are based on housing unit or address. By using an allocation method based on residential addresses rather than by area or by population, analysts can take into account not only the spatial distribution of population, but also the spatial distribution of residences. This enables a slightly more nuanced approach to allocating data between disparate geographies.

How to Read the HUD-USPS ZIP Crosswalk Files:

There are six types of crosswalk files available for download. The first 3 crosswalk files are used to allocate ZIP codes to Census tracts, counties or Core Based Statistical Areas (CBSA). The last three are used to allocate Census tracts, counties or Core Based Statistical Areas to ZIP codes. It is important to note that the relationship between the two types of crosswalk files is not a perfectly inverse one. That is to say, you cannot use the ZIP to Tract crosswalk to allocate Census tract data to the ZIP code level. For that you would have to use the Tract to ZIP crosswalk file.

Allocating ZIP Codes to Census tracts, Counties, or CBSA

The address ratios in 3 files listed below can be used to allocate data from the ZIP code to Census tracts, counties, or Core Based Statistical Areas (CBSA). In these files the denominators used to calculate the address ratios are the ZIP code totals. All three files share an identical structure with the exception of the geographic codes in the second column, which differs between the three crosswalk files – tract, county, and CBSA – respectively.

- ZIP - Tract
- ZIP - County

- ZIP - CBSA

When a ZIP is split by any of the other geographies, that ZIP code is duplicated in the crosswalk file. In the example below, ZIP code 03870 is split by two different Census tracts, 33015066000 and 33015071000, which appear in the tract column. The ratio of residential addresses in the first ZIP-Tract record to the total number of residential addresses in the ZIP code is .0042 (.42%). The remaining residential addresses in that ZIP (99.58%) fall into the second ZIP-Tract record. So, for example, if one wanted to allocate data from ZIP code 03870 to each Census tract located in that ZIP code, one would multiply the number of observations in the ZIP code by the residential ratio for each tract associated with that ZIP code. Note that the sum of each ratio column for each distinct ZIP code may not always equal 1.00 (or 100%) due to rounding issues.

ZIP	TRACT	RES_RATIO	BUS_RATIO	OTH_RATIO	TOT_RATIO
03870	33015066000	0.0042	0.0000	0.0000	0.0039
03870	33015071000	0.9958	1.0000	1.0000	0.9961

ZIP	5 digit USPS ZIP code
TRACT	11 digit unique 2000 Census tract code consisting of state + county + tract code. The decimal is implied and leading and trailing zeros have been preserved.
COUNTY	5 digit unique 2000 Census county code consisting of state + county.
CBSA	5 digit CBSA code for Micropolitan and Metropolitan Areas as defined by OMB in December of 2009. ZIP codes with a CBSA code of '99999' are not located within a CBSA.
RES_RATIO	The ratio of residential addresses in the ZIP – Tract, County, or CBSA part to the total number of residential addresses in the entire ZIP.
BUS_RATIO	The ratio of business addresses in the ZIP – Tract, County, or CBSA part to the total number of residential addresses in the entire ZIP.
OTH_RATIO	The ratio of other addresses in the ZIP – Tract, County, or CBSA part to the total number of other addresses in the entire ZIP.
TOTAL_RATIO	The ratio of all addresses in the ZIP – Tract, County, or CBSA part to the total number of all types of addresses in the entire ZIP.

Allocating Census tracts, Counties or CBSA to ZIP Codes

The address ratios in 3 files listed below can be used to allocate data from Census tracts, counties, or Core Based Statistical Areas (CBSA) to ZIP codes. In these files the denominators used to calculate the address ratios are the totals of each type of address in the tract, county or CBSA. All three files share an identical structure with the exception of the geographic codes in the first column, which differs between the three crosswalk files – CBSA, County, and Tract – respectively.

- Tract - ZIP

Source: http://www.huduser.org/portal/datasets/usps_crosswalk.html

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- County - ZIP
- CBSA - ZIP

When a Census tract, county or CBSA is split by a ZIP code, that tract, county or CBSA code is duplicated in the crosswalk file. In the example below tract 01001020200 is split by two different ZIP codes, 36008 and 36067, which appear in the ZIP column. The ratio of residential addresses in the first tract-ZIP record to the total number of residential addresses in the tract is .0272 (2.72%). The remaining residential addresses in that tract (97.28%) fall into the second tract-ZIP record. So, for example, if one wanted to allocate data from Census tract 01001020200 to the ZIP code level, one would multiply the number of observations in the Census tract by the residential ratio for each ZIP code associated with that Census tract. Note that the sum of each ratio column for each distinct ZIP code may not always equal 1.00 (or 100%) due to rounding issues.

TRACT	ZIP	RES_RATIO	BUS_RATIO	OTH_RATIO	TOT_RATIO
01001020200	36008	0.0272	0.0034	0.0278	0.0217
01001020200	36067	0.9728	0.9966	0.9722	0.9783

TRACT	11 digit unique 2000 Census tract code consisting of state + county + tract code. The decimal is implied and leading and trailing zeros have been preserved.
COUNTY	5 digit unique 2000 Census county code consisting of state + county.
CBSA	5 digit CBSA code for Micropolitan and Metropolitan Areas as defined by OMB in December of 2009. ZIP codes with a CBSA code of '99999' are not located within a CBSA.
ZIP	5 digit USPS ZIP code
RES_RATIO	The ratio of residential addresses in the Tract, County, or CBSA-ZIP part to the total number of residential addresses in the entire Tract, County, or CBSA.
BUS_RATIO	The ratio of business addresses in the Tract, County, or CBSA-ZIP part to the total number of residential addresses in the entire Tract, County, or CBSA.
OTH_RATIO	The ratio of other addresses in the Tract, County, or CBSA-ZIP part to the total number of other addresses in the entire Tract, County, or CBSA.
TOTAL_RATIO	The ratio of all addresses in the Tract, County, or CBSA-ZIP part to the total number of all types of addresses in the entire Tract, County, or CBSA.

A Note about Geocoding

HUD is unable to geocode a small number of records that we receive from the USPS. As a result, there may be some 5-digit USPS ZIP codes that will not be included in these crosswalk files. Less than 1% of the total number of active 5-digit ZIP codes in the country are excluded from the current version of the crosswalk files. Since the HUD geocoding base map is updated regularly, an effort is made to re-geocode these records with every new quarter of data. As a result, these crosswalk files will be generated on a quarterly basis and may differ slightly from quarter to quarter.

Feedback

Source: http://www.huduser.org/portal/datasets/usps_crosswalk.html
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Questions regarding these crosswalk files can be directed to [Robert Renner](#) with the subject line HUD-USPS Crosswalks.