2010 Census Boundary Update to the 2009 NHTS Release Notes

July 1, 2014

At the time of the 2009 NHTS release, the 2010 Census data had not yet been made available. Therefore, all geocoding was performed with Census-defined areas using 2000 Census definitions. This 2010 Census Boundary update adds geographic variables based on 2010 Census definitions, and in so doing, builds a bridge to the 2015 NHTS.

A Brief Primer on Census Metropolitan Areas

The Census Bureau has defined Metropolitan Statistical Areas (MSA) throughout the lifespan of the NPTS/NHTS data series. These area designations have been useful in terms of both identifying the general area in which a surveyed household is located, in addition to providing for the population size of that area. Prior to 2003, Census also defined, based on the 2000 and prior censuses, Consolidated MSAs (CSMA), in which multiple MSAs were merged if two adjoining MSAs had combined populations over 1 million, as well as meeting other requirements.

In 2003, Census scrapped their existing definition structure, and created new Metropolitan Statistical Areas (keeping the MSA name), in addition to smaller areas (population 10,000-50,000) called *Micro*politan Statistical Areas. Collectively, Metropolitan and Micropolitan Statistical Areas are termed Core-Based Statistical Areas, or CBSAs. If two or more adjoining CBSAs have "substantial employment interchange" they are combined into a Consolidated Statistical Area (CSA).[1] However, unlike CMSAs, Census does not recommend using CSAs and CBSAs interchangeably.[2] Thus, the 2010 Census Boundary update variables based on CBSA status do not take CSA into account. This is a slight change from the use of CMSAs/MSAs created based on the 2000 Census. However, such a change is consistent with the guidance from Census, with the added benefit of being slightly less confusing to the end user.

CBSA-Related Variables as Future CMSA Replacements

The 2010 Census Boundary update contains CBSA designations in the variable HH_CBSA. These designations are based on CBSAs as of the 2007 Tiger/Line files derived from the 2000 Census. Additionally, CMSA-related variables are found on the 2009 dataset, as well as all previous datasets. Since the Census Bureau has stopped using CMSA designations, replacing them with CBSA designations, CMSA-related variables in the NHTS will have to be revised with CBSA data in future surveys. These variables consist of the following:

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[1] http://factfinder2.census.gov/help/en/glossary/c/combined_statistical_ares_csa_.htm
[2] http://www.census.gov/geo/reference/gtc/gtc_cbsa.html

Variable Name	Description
HHC_MSA	CMSA FIPS code for HH address
MSASIZE	MSA population size for the HH home address
MSACAT	MSA category for the HH home address
RAIL	MSA heavy rail status for HH

Fortunately, all such data for CBSAs currently exist, so while some transitional changes should be expected, particularly since CBSAs tend to be a bit smaller than CMSAs, analogous variables will be available to be included in the 2015 NHTS. Below is a table of proposed variable names for the 2015 NHTS, as well as the name of that variable for the 2010 Census Boundary update file:

CMSA Variable	CBSA Variable	2010 Census Boundary Update Variable Name	CBSA Variable Description
HHC_MSA	HH_CBSA*	HHCBSA10	CBSA FIPS code for HH address
MSASIZE	CBSASIZE	CBSASIZE10	CBSA population size for the HH home address
MSACAT	CBSACAT	CBSACAT10	CBSA category for the HH home address
RAIL	RAIL	RAIL10	CBSA heavy rail status for HH

* Note that HH_CBSA is on the 2009 NHTS V2.1 files.

For the 2010 Census Boundary update file, CBSA-based variables were obtained using 2013 Tiger/Line files (using 2010 Census definitions) from Census, available at (http://www.census.gov/geo/maps-data/data/tiger-line.html as of December 19, 2013), and using Maptitude 4.8 as a geo-tagging tool. The file shapefile tl_2013_us_cbsa.shp was used. In order to avoid confusion with current variables, the HH_CBSA and RAIL variables for the 2010 Census definitions have been renamed HHCBSA10 and RAIL10, respectively.

Additional Notes on RAIL

The 2009 NHTS V2.1 files defined the RAIL variable based on whether the household was in a CMSA where heavy rail existed. Heavy rail is defined as a subway system or equivalent. Similarly, for the 2010 Census Boundary update, the definition of RAIL10 based on CBSA is limited to the presence of heavy rail within a CBSA. Below is a summary of CMSAs with heavy rail (as designated in V2.1), and the corresponding CBSA(s) with those same rail lines:

Metro Area and Heavy Rail Line	CMSA/MSA Code	CBSA(s)/CBSA Code
Atlanta (Metro) 1979	Atlanta, GA (0520)*	Atlanta-Sandy Springs-Marietta, GA (12060)
Baltimore (Metro) 1983	Washington--Baltimore, DC--MD--VA--WV (8872)	Baltimore-Towson, MD (12580)
Boston (Red, Blue, Orange Lines) 1901; also CR (MBTA)	Boston--Worcester--Lawrence, MA--NH--ME--CT (1122)	• Boston-Cambridge-Newton, MA-NH (14460) • Providence-Warwick, RI-MA (39300)
Chicago ("L") 1892, also CR (Metra)	Chicago--Gary--Kenosha, IL--IN--WI (1602)	Chicago-Naperville-Elgin, IL-IN-WI (16980)
Cleveland (Red Line) 1955	Cleveland--Akron, OH (1692)	Cleveland-Elyria, OH (17460)
Los Angeles (Red line) 1990; also CR (MetroLink)	Los Angeles--Riverside--Orange County, CA (4472)	• Los Angeles-Long Beach-Anaheim, CA (31080) • Oxnard-Thousand Oaks-Ventura, CA (37100) • Riverside-San Bernardino-Ontario, CA (40140)
Miami (MetroRail) 1984; also CR (TriRail)	Miami--Fort Lauderdale, FL (4992)	Miami-Fort Lauderdale-West Palm Beach, FL (33100)
New York City - Newark (NYCTA IRT, IND-BMT, and SIRT Lines) 1867, (PATH Lines) 1908; also CR (LIRR, Metro North, NJT)	New York--Northern New Jersey--Long Island, NY--NJ--CT--PA (5602)	• New York-Newark-Jersey City, NY-NJ-PA (35620) • New Haven-Milford, CT (35300) • Bridgeport-Stamford-Norwalk, CT (14860)
Philadelphia (PATCO Lindenwold Line) 1969, (SEPTA Market-Frankford, Broad Street) 1908; also CR (NJT, SEPTA)	Philadelphia--Wilmington--Atlantic City, PA--NJ--DE--MD (6162)	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD (37980)
San Francisco - Oakland (BART) 1972; also CR (CalTrain)	San Francisco--Oakland--San Jose, CA (7362)	• San Francisco-Oakland-Hayward, CA (41860) • San Jose-Sunnyvale-Santa Clara, CA (41940)
Washington, DC (Metro) 1976; also CR (MARC, VRE)	Washington--Baltimore, DC--MD--VA--WV (8872)	Washington-Arlington-Alexandria, DC-VA-MD-WV (47900)

* Note: Atlanta was technically an MSA, not a CMSA.

Urban Area Variables

In addition to CBSAs, the 2010 Census Boundary update contains variables with Urban Area definitions updated using the 2010 Census. NHTS households were geocoded using the tl_2010_us_uac10.shp shapefile found at http://www.census.gov/geo/reference/ua/urban-rural-2010.html (accessed

December 19, 2013). The following table details the resulting variables, including the original 2009 NHTS variable name based on 2000 Urbanized Areas, and the variable name based on 2010 definitions.

2000 Variable	2010 Census Boundary Update Variable	Variable Description
URBAN	URBAN10	Home address in urbanized area
URBANSIZE	URBANSIZE10	Size of urban area in which home address is located
URBRUR	URBRUR10	Household in urban/rural area