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Bureau of the Census

Proposed Urban Area Criteria for the 2010 Census; Notice

DEPARTMENT OF COMMERCE

Bureau of the Census

[Docket Number 100701026–0260–02]

Proposed Urban Area Criteria for the 2010 Census

AGENCY: Bureau of the Census, Department of Commerce.

ACTION: Notice of proposed criteria and request for public comment.

SUMMARY: This notice provides the Bureau of the Census' (hereafter, Census Bureau's) proposed criteria for defining urban areas based on the results of the 2010 Decennial Census (the term "urban area" as used throughout this notice refers generically to urbanized areas of 50,000 or more population and urban clusters of at least 2,500 and less than 50,000 population). It also provides a description of the changes from the final criteria used for Census 2000. The Census Bureau is requesting public comment on these proposed criteria.

The Census Bureau's urban-rural classification is fundamentally a delineation of geographical areas, identifying both individual urban areas and the rural areas of the nation. The Census Bureau's urban areas represent densely developed territory, and encompass residential, commercial, and other non-residential urban land uses. The Census Bureau delineates urban areas after each decennial census by applying specified criteria to decennial census and other data. Since the 1950 Census, the Census Bureau has reviewed and revised these criteria, as necessary, for each decennial census. The revisions over the years reflect the Census Bureau's desire to improve the classification of urban and rural territory to take advantage of newly available data, as well as advancements in geographic information processing technology.

DATES: Any comments, suggestions, or recommendations concerning the criteria proposed herein should be submitted in writing no later than November 22, 2010.

ADDRESSES: Please submit written comments on the proposed criteria to Timothy Trainor, Chief, Geography Division, U.S. Census Bureau, Washington, DC 20233–7400.

FOR FURTHER INFORMATION CONTACT: Vincent Osier, Chief, Geographic Standards and Criteria Branch, Geography Division, U.S. Census Bureau, via e-mail at *vincent.osier@census.gov* or telephone at 301–763–9039.

SUPPLEMENTARY INFORMATION: The Census Bureau's urban-rural classification is fundamentally a delineation of geographical areas, identifying both individual urban areas and the rural areas of the nation. The Census Bureau's urban areas represent densely developed territory, and encompass residential, commercial, and other non-residential urban land uses. The boundaries of this "urban footprint" have been defined using measures based primarily on population counts and residential population density, but also through criteria that account for non-residential urban land uses, such as commercial, industrial, transportation, and open space that are part of the urban landscape. Since the 1950 Census, when densely settled urbanized areas (UAs) of 50,000 or more people were first defined, the urban area delineation process has addressed non-residential urban land uses through criteria designed to account for commercial enclaves, special land uses such as airports, and densely developed noncontiguous territory.

In delineating urban and rural areas, the Census Bureau does not take into account or attempt to meet the requirements of any nonstatistical uses of these areas or their associated data. Nonetheless, the Census Bureau recognizes that some federal and state agencies use the Census Bureau's urban-rural classification for allocating program funds, setting program standards, and implementing aspects of their programs. The agencies that use the classification and data for such nonstatistical uses should be aware that the changes to the urban area criteria also might affect the implementation of their programs.

The Census Bureau is not responsible for the use of its urban-rural classification in nonstatistical programs. If a federal, tribal, state, or local agency voluntarily uses the urban-rural classification in a nonstatistical program, it is that agency's responsibility to ensure that the classification is appropriate for such use. In considering the appropriateness of the classification for use in a nonstatistical program, the Census Bureau urges each agency to consider permitting appropriate modifications of the results of implementing the urban-rural classification specifically for the purposes of its program. When a program permits such modifications, the Census Bureau urges each agency to describe and clearly identify the different criteria being applied to avoid confusion with the Census Bureau's official urban-rural classifications.

I. History

Over the course of a century in defining urban areas, the Census Bureau has introduced conceptual and methodological changes to ensure that the urban-rural classification keeps pace with changes in settlement patterns and with changes in theoretical and practical approaches to interpreting and understanding the definition of urban areas. Prior to the 1950 Census, the Census Bureau primarily defined "urban" as any population, housing, and territory located within incorporated places with a population of 2,500 or more. That definition was easy and straightforward to implement, requiring no need to calculate population density; to understand and account for actual settlement patterns on the ground in relation to boundaries of administrative units; or to consider densely settled populations existing outside incorporated municipalities. For much of the first half of the twentieth century, that definition was adequate for defining "urban" and "rural" in the United States, but by 1950 it became clear that it was incomplete.

Increasing suburbanization, particularly outside the boundaries of large incorporated places led the Census Bureau to adopt the UA concept for the 1950 Census. At that time, the Census Bureau formally recognized that densely settled communities outside the boundaries of large incorporated municipalities were just as "urban" as the densely settled population inside those boundaries. Due to the limitations in technology for calculating and mapping population density, delineation of UAs was limited to cities of at least 50,000 people and their surrounding territory. The geographic units used to analyze settlement patterns were enumeration districts, but to facilitate and ease the delineation process, each incorporated place was analyzed as a single unit—that is, the overall density of the place was calculated and if it met the minimum threshold, it was included in its entirety in the UA. Outside UAs, "urban" was still defined as any place with a population of at least 2,500. The Census Bureau recognized the need to identify distinct unincorporated communities existing outside the UAs, and thus created the "census designated place" (CDP) [1] and designated those with populations of at least 2,500 as urban.

[1] A CDP is a statistical geographic entity encompassing a concentration of population, housing, and commercial structures that is clearly identifiable by a single name, but is not within an incorporated place. CDPs are the statistical counterparts of incorporated places.

Starting with the 1960 Census and continuing through the 1990 Census, the Census Bureau made a number of changes to the methodology and criteria for defining UAs, but retained the 1950 Census basic definition of "urban," which was defined as UAs with a population of 50,000 or more and defined primarily on the basis of population density; and places with a population of 2,500 or more located outside UAs. The enhancements made by the Census Bureau to the methodology and criteria used during this period included:

(1) Lowering, and eventual elimination, of minimum population criteria for places that formed the "starting point" for delineating a UA. This made recognition of population concentrations independent of the size of any single place within the concentration.

(2) Identification of "extended cities"—incorporated places containing substantial amounts of territory with very low population density, which were divided into urban and rural components using 100 persons per square mile (ppsm) as the criterion. This kept the extent of urban territory from being artificially exaggerated by thinly settled corporate annexations.

(3) Implementation for the 1990 Census of nationwide coverage by census blocks, and use of interactive analysis of population density patterns at the census block level, or by groups of blocks known as "analysis units," using Census Bureau-developed delineation software. This enhancement allowed greater flexibility when analyzing and defining potential UAs, as opposed to using enumeration districts and other measurement units defined prior to data tabulation.

(4) Implementation of qualification criteria for incorporated places and CDPs for inclusion in a UA based on the existence of a densely populated "core" containing at least fifty percent of the place's population. This eliminated certain places from the urban area classification because much of their population was scattered rather than concentrated.

For Census 2000, the Census Bureau took advantage of technological advances associated with geographic information systems (GIS) and spatial data processing to classify urban and rural territory on a more consistent and nationally uniform basis than had been possible previously. Rather than delineating urban areas in an interactive and manual fashion, the Census Bureau developed and utilized software that automated the examination of population densities and other aspects of the criteria to delineate urban areas. This new automated urban area delineation methodology provided for a more objective application of criteria compared to previous censuses in which individual geographers applied the urban area criteria to delineate urban areas interactively. This new automated approach also established a baseline for future delineations to enable the Census Bureau to provide comparable data for subsequent decades.

Changes for Census 2000

The Census Bureau adopted six substantial changes to its urban area criteria for Census 2000:

(1) Defining urban clusters (UCs). Beginning with Census 2000, the Census Bureau created and implemented the concept of an urban cluster. Urban clusters are defined as areas of at least 2,500 and less than 50,000 people using the same residential population density-based criteria as applied to UAs. This change provided for a conceptually consistent, seamless classification of urban territory. For previous censuses, the lack of a density-based approach for defining urban areas of less than 50,000 people resulted in underbounding of urban areas where densely settled populations existed outside place boundaries or overbounding when cities annexed territory with low population density. Areas where annexation had lagged behind expansion of densely settled territory, or where communities of 2,500 up to 50,000 people were not incorporated and were not defined as CDPs, were most affected by the adoption of density-based UCs. As a result of this change, the Census Bureau no longer needed to identify urban places located outside UAs for the purpose of its urban-rural classification.

(2) Disregarding incorporated place and CDP boundaries when defining UAs and UCs. Taking place boundaries into account in previous decades resulted in the inclusion of territory with low population density within UAs when the place as a whole met minimum population density requirements, and excluded densely settled population when the place as a whole fell below minimum density requirements. Implementation of this change meant that territory with low population density located inside place boundaries (perhaps due to annexation, or the way in which a CDP was defined) no longer necessarily qualified for inclusion in an urban area. However, it also meant that non-residential urban land uses located inside a place's boundary and located on the edge of an urban area might not necessarily qualify to be included in a UA or UC.

(3) Adoption of 500 persons per square mile (ppsm) as the density criterion for recognizing some types of urban territory. The Census Bureau adopted a 500 ppsm population density threshold at the same time that it adopted its automated urban area delineation methodology. This ensured that census blocks that might contain a mix of residential and non-residential urban uses, but might not have a population density of at least 1,000 ppsm, could qualify for inclusion in an urban area. For the 1990 Census, geographers could interactively modify analysis units to include census blocks with low population density that might contain non-residential urban uses, while still achieving an overall population density of at least 1,000 ppsm. Adoption of the lower density threshold facilitated use of the automated urban area delineation methodology, and provided for comparability with the 1990 methodology. This change did not result in substantial increases to the extent of urban areas.

(4) Increase in the jump distance from 1.5 to 2.5 miles. The Census Bureau increased the jump distance from 1.5 to 2.5 miles. A "jump" is the distance across territory with low population density separating noncontiguous qualifying territory from the main body of an urban area. The increase in the jump distance was a result of changing planning practices that led to the creation of larger clusters of single-use development. In addition, research conducted prior to Census 2000 showed that some jumps incorporated in UA definitions in 1990 were actually longer than 1.5 miles as a result of the subjective identification of undevelopable territory. As used in previous censuses, only one jump was permitted along any given road connection.

(5) Introduction of the hop concept to provide an objective basis for recognizing small gaps within qualifying urban territory. For Census 2000, the Census Bureau officially recognized the term "hops," which is defined as gaps of 0.5 miles or less within a qualifying urban territory. Hops are used primarily to account for territory in which planning and zoning processes result in alternating patterns of residential and non-residential development over relatively short distances. This provided for a more consistent treatment of short gaps with low population density, some of which had been treated as jumps in the 1990 urban area delineation process (and not

permitted if identified as a second jump), while others were interpreted as part of the pattern of urban development and grouped with adjacent, higher density blocks to form qualifying analysis units.

(6) Adoption of a zero-based approach to defining urban areas. The urban area delineation process in previous censuses had generally been an additive process, where the boundary of a UA from the previous census providing the starting point for review for the next census. The changes made for Census 2000 were substantial enough to warrant the Census Bureau to re-evaluate the delineation of all urban areas as if for the first time, rather than simply making adjustments to the existing boundary. The Census Bureau adopted this zero-based approach to ensure that all urban areas were defined in a consistent manner.

The six changes described above represent the major modifications implemented for the 2000 Census. They illustrate the substantial shift in approach adopted by the Census Bureau in its procedure for delineating urban areas. However, the availability of new datasets and continued research since the 2000 Census show the potential for further improvements for the 2010 Census.

II. Differences Between the Proposed 2010 Census Urban Area Criteria and the Census 2000 Urban Area Criteria

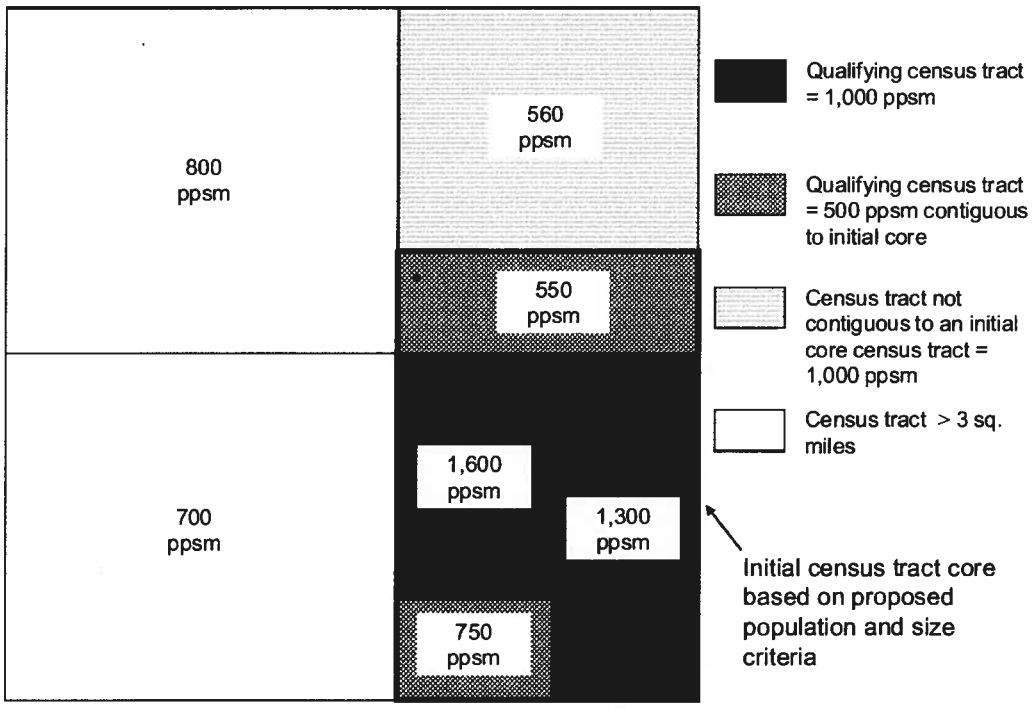
For the 2010 Census, the Census Bureau proposes moderate changes and enhancements to the criteria to improve upon the classification of urban and rural areas while continuing to meet the objective of a uniform application of criteria nationwide. The proposed changes and enhancements recognize that the Census Bureau's urban-rural classification provides an important national baseline definition of urban and rural areas.

The following summary describes the differences between the Census 2000 urban area criteria and the urban area criteria proposed for the 2010 Census.

Use of Census Tracts as Analysis Units in the Initial Phase of Delineation

For the Census 2000 urban area delineation process, the Census Bureau used blocks and block groups as analysis units (geographic building blocks). For the 2010 Census delineation process, the Census Bureau proposes replacing block groups with census tracts as the analysis unit during the delineation of the initial urban area core. Similar to the way block groups were used in 2000, if a census tract does not meet specified proposed area measurement and density criteria, the focus of analysis will shift to individual census blocks within the tract, and delineation will continue at the block level. During the initial urban area core delineation (*see* section B.1 in the proposed urban area criteria below for a description of an initial urban area core), the maximum size threshold for qualifying census tracts will be three square miles compared to the two square mile threshold adopted for block groups for Census 2000 (Figure 1). Changing the urban area core delineation analysis unit to the census tract offers advantages of increased consistency and comparability, since census tracts are more likely to retain their boundaries over time than block groups.

Figure 1: Initial Delineation Core Using Census Tract Analysis Units



Although census tracts will be used in the delineation of initial urban area cores, as in Census 2000 census blocks will continue to form the analysis units when analyzing territory beyond the qualifying tracts, for example on the edge of the urban area or when including noncontiguous territory via hops and jumps.

Test delineations of initial cores in selected areas of the United States

(Figure 2) show slight decreases in territory and only slight increases in population qualifying as urban when the initial analysis unit is changed from the block group to the census tract.[2]

Figure 2: Initial Core Test Delineation Regions

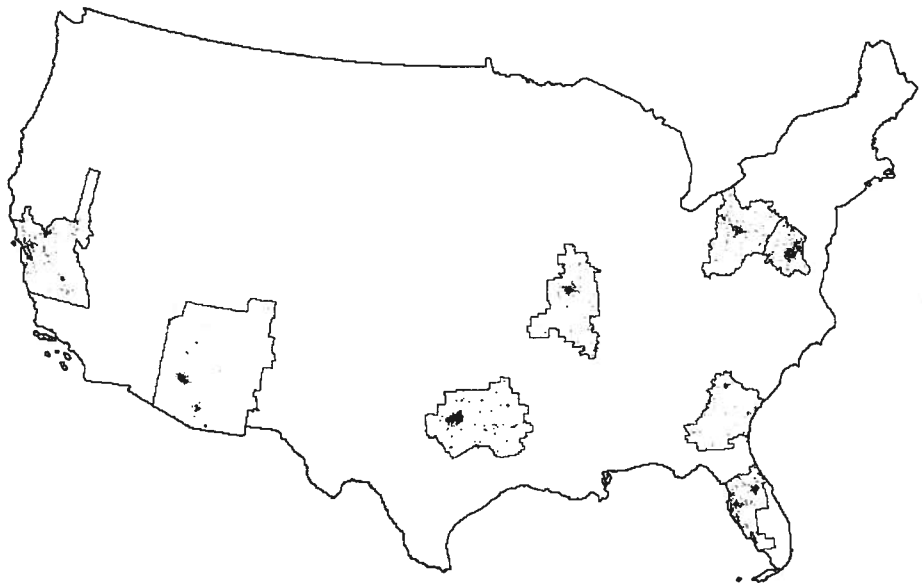


Table 1 provides a comparison of the number of cores defined using block groups as analysis units with the number defined using census tracts. Population, land area, and population density for the cores also are provided for comparison.

TABLE 1—COMPARISON OF INITIAL URBAN AREA CORES DEFINED USING BLOCK GROUPS OR CENSUS TRACTS AS ANALYSIS UNITS

	Number of cores	Population in cores (Census 2000)	Land area (sq. miles)	Population density (people per square mile)
Block group as analysis unit when defining cores	904	42,213,521	15,027	2,809
Census tract as analysis unit when defining cores	924	42,384,952	14,525	2,918

The small reduction in initial urban area core territory shown by the test data is due to the use of census tracts, which are larger geographic units, and therefore less likely than block groups to qualify under the density requirements. As a result, when using census tracts, the delineation process shifts to census block-level analysis sooner than would be the case when using block groups.

Maximum Distances of Jumps

The Census Bureau is considering reducing the maximum jump distance to 1.5 miles based on data users' comments that the 2.5 mile distance adopted for the 2000 Census was too generous in some situations and resulted in the overextension of urban area territory. The Census Bureau seeks comment on whether the jump distance should revert to the 1.5 mile maximum that was in use from 1950 through 1990.

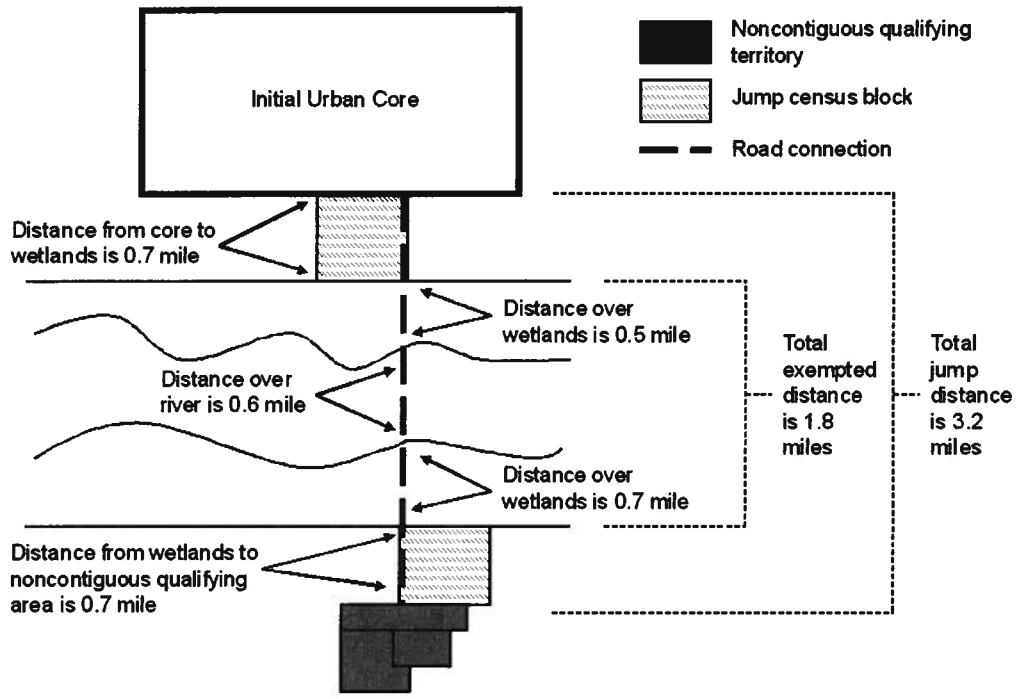
Use of Land Use/Land Cover Data

The Census Bureau plans to use the newly available National Land Cover Database (NLCD) developed by the Multi-Resolution Land Characteristics Consortium to identify business districts and commercial zones, located both on

[2] Two initial core test delineations were performed for eight test delineation regions covering an area of approximately 392,900 square miles. The first initial core test delineation used the same population count, population density, geographic area, and proximity criteria used for the Census 2000 urban area delineation. The second test used the proposed criteria for the same items, but also reflected the 2010 Census proposed use of census tracts in the identification of initial cores. Both tests used Census 2000 population counts and geography and implemented the impervious surface and enclave criteria proposed for the 2010 Census in this notice.

the edge and in the interior of an urban area that would not qualify as urban based on residential population measures alone. The NLCD is a consistently defined national land cover dataset [3] that would enable the Census Bureau to add further territory to the list of exempted territory and enforce its qualification criteria objectively (Figure 3). This nationwide dataset will assist the Census Bureau in identifying, and qualifying as urban, sparsely populated urban-related territory associated with a high degree of impervious surface land cover. It also will assist the Census Bureau to identify land cover types that restrict development, such as marshes, wetlands, and estuaries, which will be included as exempted territory. Without such recognition, these types of undevelopable land covers would otherwise prohibit two or more communities to connect via a jump, even though they share functional ties.

Figure 3: Wetlands as an Additional Exempted Territory



Qualification of Airports for Inclusion in Urban Areas

For Census 2000, airports with an annual enplanement (departing passengers) of 10,000 or greater qualified for inclusion in an urban area if adjacent to other qualifying territory. For the 2010 Census, the Census Bureau proposes lowering the minimum annual enplanement threshold to 2,500 passengers to provide a better inclusion of airports, particularly those adjacent to smaller initial urban cores. Based on annual passenger boarding and all-cargo data published by the Federal Aviation Administration for the 2007 calendar year, lowering the enplanement threshold would result in an additional 152 airports included in urban areas.[4]

Elimination of the Central Place Concept

The Census Bureau proposes to discontinue identifying central places as part of the 2010 Census urban area delineation process. A central place is the most populous place within an urban area or any other place that meets specified population criteria. Starting with the 1990 Census, the identification of central places was no longer necessary for the process of delineating urban areas. For Census 2000, the urban area delineation process moved away from a "place-based" definition of urban areas, which caused some central places to be split between urban and rural territory. Moreover, the Office of Management and Budget (OMB) identifies principal cities as part of the metropolitan and micropolitan statistical areas program.[5] The list of principal cities identified by the OMB is quite similar to what would emerge if the urban area process created a list of central places. The Census Bureau no longer sees a need for a second representation of the same concept in its statistical and geographic data products. Therefore, the Census Bureau proposes to eliminate the use of central places in the 2010 Census urban area delineation criteria.

Requirement for Minimum Population Residing Outside Institutional Group Quarters

The Census 2000 urban area delineation criteria resulted in the identification of 24 urban clusters consisting entirely or predominantly of

[3] The NLCD includes data for the entirety of the United States, Puerto Rico, and the U.S. Virgin Islands.

[4] The Federal Aviation Administration (FAA) annual passenger boarding and all-cargo data extracted from the Air Carrier Activity Information System published for the 2007 calendar year reports 409 airports had an annual enplanement of at least 10,000 passengers in any year between 2000 and 2007.

[5] See the "2010 Standards for Delineating Metropolitan and Micropolitan Statistical Areas," **Federal Register**, Vol. 75, No. 123, Monday, June 28, 2010.

population residing in institutional group quarters (GQs). Most of these urban clusters comprised only the few census blocks in which the institutional GQ was located. These blocks met the population density requirements specified in the Census 2000 criteria, and encompassed at least 2,500 persons. Although the population densities of these areas exceed the minimum thresholds specified in the Census 2000 urban area criteria, and the total populations exceed 2,500, they lack most of the residential, commercial, and infrastructure characteristics typically associated with urban territory. The Census Bureau proposes that in addition to at least 2,500 total population, an area must contain at least 1,500 persons who reside outside institutional GQs to qualify as urban.

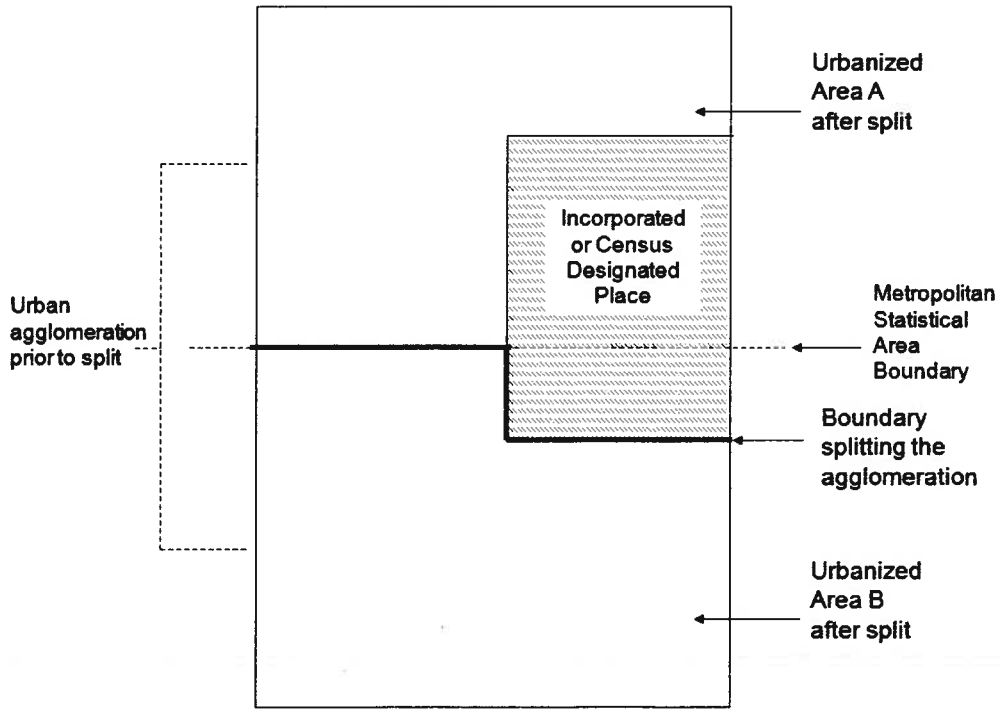
Splitting Large Urban Agglomerations

Similar to the delineation process used for the 2000 Census, the Census Bureau will use the same automated urban area delineation methodology for determining urban and rural areas in the 2010 Census. Use of this approach will result in some exceptionally large urban agglomerations of continuously developed territory. Although such areas do reflect the reality of urbanization at one scale, the areas may be cumbersome and less satisfactory for more localized applications. For example, an area of virtually continuous urbanization exists from northeastern Maryland through the Philadelphia area, central New Jersey, the New York City area, and central Connecticut to beyond Springfield, MA. This area of near-continuous urbanization encompasses nine UAs defined for Census 2000. Another area of continuous urbanization exists in the San Francisco Bay area, including the San Francisco-Oakland, San Jose, and several smaller areas.

The Census Bureau anticipates that many data users would find these large agglomerations to be inconvenient for meaningful analysis, and therefore, proposes that they be split in some consistent fashion. For example, the Census Bureau split large agglomerations for Census 2000 by using metropolitan statistical area and primary metropolitan statistical area (PMSA) boundaries as a guide to identify the narrowest area along the high density "corridor" between larger core areas. For instance, the corridor of high residential population density between Baltimore, MD, and Washington, DC, was narrowest in northern Prince George's County, MD, in the area of Beltsville, MD, and near the boundary between the Washington PMSA and the Baltimore PMSA.

For the 2010 Census urban area delineation process, the Census Bureau proposes splitting large agglomerations along metropolitan statistical area boundaries, resulting in the identification of individual UAs. In New England, large agglomerations would be split based on the boundaries of metropolitan New England city and town areas (NECTAs). In areas where an incorporated place or a CDP crosses the metropolitan statistical area or NECTA boundary, the boundary splitting the large agglomeration would be modified to follow the incorporated place or CDP boundary. The incorporated place or CDP would be assigned to the resulting UA that contains the largest proportion of the place's land area (Figure 4). Urban clusters would not be created as a result of splitting.

Figure 4: Splitting Large Urban Agglomerations



This approach has the advantage of simplicity and ease of implementation. It also maintains some comparability with previous decades' criteria and definitions. This approach, however, results in some circularity of outcomes—the metropolitan statistical area and NECTA definitions that would be used to split large agglomerations are

those that were defined on the basis of Census 2000 data, including Census 2000 urban area definitions; the 2010 UAs resulting from the splitting process will form the cores of metropolitan statistical areas and NECTAs. In addition, this approach will result in the movement of some territory and population from one UA to another. For example, the split between the Washington and Baltimore UAs would occur along the Howard County, MD-Prince George's County, MD boundary; territory in northern Prince George's County, MD that currently is in the Baltimore UA would be included in the Washington UA. The split between the San Francisco-Oakland and San Jose UAs would shift northward to follow the San Mateo County, CA-Santa Clara County, CA boundary.

Based on Census 2000 UAs, the Census Bureau has identified 52 potential agglomerations consisting of multiple and currently separate UAs. These agglomerations contain UAs that currently are contiguous as well as some that are in close proximity to each other and that potentially could form a continuous agglomeration when areas are redefined based on 2010 Census data (note, however, that inclusion in the list below does not necessarily mean that contiguity will exist between two UAs when redefined). The following table lists the potential agglomerations, the component UAs, and the estimated population based on the 2006–2008 ACS 3-year estimates (margins of error are not noted in the table below; 3-year estimates were used because not all UAs met the 65,000 person threshold for ACS 1-year estimates). The Census Bureau is considering applying a 1,000,000 person minimum population threshold to identify agglomerations to be split, but seeks comment on the appropriate population size threshold to determine which large agglomerations would be split. Other minimum population thresholds under consideration are 500,000 and 250,000. Based on 2006–2008 ACS estimates, 27 of the 52 potential agglomerations have populations less than 1,000,000; 14 have populations less than 500,000; and four have populations less than 250,000. If a threshold of 1,000,000 people is chosen as the minimum for splitting large agglomerations, all formerly separate UAs in agglomerations of less than 1,000,000 people would be merged to form a single UA. If 500,000 people is adopted as the minimum threshold, then all formerly separate UAs in agglomerations of less than that threshold would be merged. Because UAs form the cores of metropolitan statistical areas, the merger of formerly separate UAs might affect the delineation of metropolitan and micropolitan statistical areas. It is important to note that some of the agglomerations listed below are contained within the same metropolitan statistical area, and as a result, would not be split, regardless of the threshold chosen. The agglomerations are: Dallas-Fort Worth; Houston-Texas City; Phoenix-Mesa; San Diego-Mission Viejo; St. Louis-Alton; Pittsburgh-Uniontown-Monessen; Kansas City-Lee's Summit; Charlotte-Gastonia-Concord; Nashville-Murfreesboro; Oklahoma City-Norman; Honolulu-Kailua; Stockton-Lodi-Manteca; Boise City-Nampa; Modesto-Turlock; Santa Rosa-Petaluma; Beaumont-Port Arthur; and Fairfield-Vacaville.

TABLE 2—POTENTIAL URBAN AGGLOMERATIONS

Potential urban agglomeration	Census 2000 UAs contained within the potential agglomeration	2006–2008 ACS 3-year estimated population
New York-Philadelphia-Connecticut	New York-Newark, NY-NJ-CT; Philadelphia, PA-NJ-DE-MD; Allentown-Bethlehem, PA-NJ; Lancaster, PA; Pottstown, PA; Reading, PA; Trenton, NJ; Hightstown, NJ; Vineland, NJ; Poughkeepsie-Newburgh, NY; Bridgeport-Stamford, CT; Danbury, CT-NY; Hartford, CT; New Haven, CT; Norwich-New London, CT; Waterbury, CT; Springfield, MA-CT.	29,028,337
Los Angeles-Riverside-San Bernardino	Los Angeles-Long Beach-Santa Ana, CA; Riverside-San Bernardino, CA; Camarillo, CA; Hemet, CA; Oxnard, CA; Santa Barbara, CA; Santa Clarita, CA; Simi Valley, CA; Temecula-Murrieta, CA; Thousand Oaks, CA.	15,492,749
Chicago-Kenosha-Racine-Round Lake Beach	Chicago, IL-IN; Kenosha, WI; Round Lake Beach-McHenry-Grayslake, IL-WI; Racine, WI.	8,944,789
Boston-Providence-Worcester	Boston, MA; Providence, RI-MA; Worcester, MA-CT; Barnstable Town, MA; Leominster-Fitchburg, MA; New Bedford, MA; Dover-Rochester, NH; Manchester, NH; Nashua, NH; Portsmouth, NH.	6,692,295
Baltimore-Washington	Aberdeen, MD; Baltimore, MD; Washington, DC-VA-MD; St. Charles, MD	6,585,315
San Francisco-Oakland-San Jose	San Francisco-Oakland, CA; San Jose, CA; Antioch, CA; Concord, CA; Livermore, CA; Vallejo, CA.	5,870,212
Dallas-Fort Worth	Dallas-Fort Worth-Arlington, TX; Denton-Lewisville, TX; McKinney, TX	5,006,527
Houston-Texas City	Houston, TX; Texas City, TX; Galveston, TX; The Woodlands, TX	4,599,176
Detroit-Ann Arbor-Port Huron	Detroit, MI; Ann Arbor, MI; Port Huron, MI; South Lyon-Howell-Brighton, MI	4,326,040
Atlanta-Gainesville	Atlanta, GA; Gainesville, GA	4,196,670
San Juan-Aguadilla-Ponce	San Juan, PR; Aguadilla-Isabela-San Sebastián, PR; Arecibo, PR; Fajardo, PR; Florida-Barceloneta-Bajadero, PR; Guayama, PR; Juana Díaz, PR; Mayagüez, PR; Ponce, PR; San Germán-Cabo Rojo-Sabana Grande, PR; Yauco, PR.	3,591,491
Phoenix-Mesa-Avondale	Phoenix-Mesa, AZ; Avondale, AZ	3,328,183
San Diego-Mission Viejo	San Diego, CA; Mission Viejo, CA	3,273,255
Seattle-Bremerton-Marysville	Seattle, WA; Bremerton, WA; Marysville, WA	3,206,057
Cleveland-Akron-Canton-Lorain-Elyria	Cleveland, OH; Akron, OH; Canton, OH; Lorain-Elyria, OH	2,722,194
Tampa-St. Petersburg-Lakeland-Winter Haven	Tampa-St. Petersburg, FL; Lakeland, FL; Winter Haven, FL; Brooksville, FL.	2,719,812
Cincinnati-Dayton-Middletown	Cincinnati, OH-KY-IN; Dayton, OH; Middletown, OH; Springfield, OH	2,426,070
Denver-Boulder-Longmont	Denver-Aurora, CO; Boulder, CO; Longmont, CO; Lafayette-Louisville, CO	2,339,587
St. Louis-Alton	St. Louis, MO-IL; Alton, IL	2,184,037

TABLE 2—POTENTIAL URBAN AGGLOMERATIONS—Continued

Potential urban agglomeration	Census 2000 UAs contained within the potential agglomeration	2006–2008 ACS 3-year estimated population
Orlando-Ocala-Kissimmee	Orlando, FL; Ocala, FL; Kissimmee, FL; Lady Lake, FL; Leesburg-Eustis, FL.	1,814,061
Pittsburgh-Uniontown-Monessen	Pittsburgh, PA; Uniontown-Connellsville, PA; Monessen, PA	1,792,892
Kansas City-Lee's Summit	Kansas City, MO-KS; Lee's Summit, MO	1,468,106
Salt Lake City-Ogden-Layton	Salt Lake City, UT; Ogden-Layton, UT	1,439,004
Indianapolis-Anderson	Indianapolis, IN; Anderson, IN	1,367,392
Charlotte-Gastonia-Concord	Charlotte, NC-SC; Gastonia, NC; Concord, NC; Rock Hill, SC	1,282,839
Nashville-Murfreesboro	Nashville-Davidson, TN; Murfreesboro, TN	983,180
Raleigh-Durham	Raleigh, NC; Durham, NC	974,582
Palm Bay-Melbourne-Titusville-Vero Beach	Palm Bay-Melbourne, FL; Titusville, FL; Vero Beach-Sebastian, FL; Port St. Lucie, FL.	938,675
Oklahoma City-Norman	Oklahoma City, OK; Norman, OK	875,469
Honolulu-Kailua (Honolulu County)	Honolulu, HI; Kailua (Honolulu County), HI	854,430
McAllen-Harlingen	McAllen, TX; Harlingen, TX	753,816
Greensboro-High Point-Winston-Salem	Greensboro, NC; High Point, NC; Winston-Salem, NC	741,457
Sarasota-Bradenton-Punta Gorda	Sarasota-Bradenton, FL; North Port-Punta Gorda, FL	726,695
Bonita Springs-Naples-Cape Coral	Bonita Springs-Naples, FL; Cape Coral, FL	659,480
Harrisburg-York-Lebanon	Harrisburg, PA; York, PA; Lebanon, PA	651,160
Greenville-Spartanburg	Greenville, SC; Spartanburg, SC; Mauldin-Simpsonville, SC	568,737
Pensacola-Fort Walton Beach	Pensacola, FL-AL; Fort Walton Beach, FL	506,715
Stockton-Lodi-Manteca	Stockton, CA; Lodi, CA; Manteca, CA	501,544
Spokane-Coeur d'Alene	Spokane, WA-ID; Coeur d'Alene, ID	441,042
Boise City-Nampa	Boise City, ID; Nampa, ID	422,639
Modesto-Turlock	Modesto, CA; Turlock, CA	414,571
South Bend-Elkhart	South Bend, IN-MI; Elkhart, IN-MI	408,373
Salinas-Santa Cruz-Watsonville	Salinas, CA; Santa Cruz, CA; Watsonville, CA	388,071
Charleston-Huntington	Charleston, WV; Huntington, WV-KY-OH	354,568
Santa Rosa-Petaluma	Santa Rosa, CA; Petaluma, CA	351,752
Rockford-Beloit	Rockford, IL; Beloit, WI-IL	337,215
Atlantic City-Wildwood	Atlantic City, NJ; Wildwood-North Wildwood-Cape May, NJ	280,698
Appleton-Oshkosh	Appleton, WI; Oshkosh, WI	263,213
Beaumont-Port Arthur	Beaumont, TX; Port Arthur, TX	249,716
Macon-Warner Robins	Macon, GA; Warner Robins, GA	232,780
Kingsport-Johnson City	Kingsport, TN–VA; Johnson City, TN	208,241
Fairfield-Vacaville	Fairfield, CA; Vacaville, CA	207,859

Proposed Urban Area Criteria for the 2010 Census

The proposed criteria outlined herein apply to the United States,[6] Puerto Rico, and the Island Areas.[7] The Census Bureau proposes the following criteria and characteristics for use in identifying the areas that will qualify for designation as urbanized areas and urban clusters for use in tabulating data from the 2010 Census, the American Community Survey (ACS), the Puerto Rico Community Survey, and potentially other Census Bureau censuses and surveys.

A. 2010 Census Urban Area, Urbanized Area, and Urban Cluster Definitions

For the 2010 Census, an urban area will comprise a densely settled core of census tracts[8] and/or census blocks[9] that meet minimum population density requirements, along with adjacent territory containing non-residential urban land uses as well as territory with low population density included to link outlying densely settled territory with the densely settled core. To qualify as an urban area, the territory identified according to the proposed criteria mentioned above must encompass at least 2,500 people, at least 1,500 of which reside outside institutional group quarters. Urban areas that contain 50,000 or more people are designated as urbanized areas (UAs); urban areas that contain at least 2,500 and less than 50,000 people are designated as urban clusters (UCs). The term "urban area" refers to both UAs and UCs. The term "rural" encompasses all population, housing, and territory not included within an urban area.

As a result of the urban area delineation process, an incorporated place or census designated place (CDP) may be partly within and partly outside an urban area. Any place that is split by an urban area boundary is referred to as an extended place. Any census geographic areas, with the exception of census blocks, may be partly within and partly outside an urban area.

All proposed criteria based on land area, population, and population density, reflect the information contained in the Census Bureau's Master Address File/Topologically Integrated Geographic Encoding and Referencing (MAF/TIGER) Database (MTDB) at the time of the initial delineation. All calculations of

[6] For Census Bureau purposes, the United States includes the 50 States and the District of Columbia.

[7] For Census Bureau purposes, the Island Areas include American Samoa, the Commonwealth of the Northern Mariana Islands, Guam, the U.S. Virgin Islands, and the U.S. Minor Outlying Islands. The U.S. Minor Outlying Islands are an aggregation of nine U.S. territories: Baker Island, Howland Island, Jarvis Island, Johnston Atoll, Kingman Reef, the Midway Islands, Navassa Island, Palmyra Atoll, and Wake Island.

[8] A census tract is made up of from one to ten census block groups within a single county. A census block group is a collection of one to 999 census blocks within a single census tract.

[9] A census block is the smallest geographic area for which the Census Bureau tabulates data and is an area normally bounded by visible features, such as streets, rivers or streams, shorelines, and railroads, and by nonvisible features, such as the boundary of an incorporated place, MCD, county, or other 2010 Census tabulation entity.

population density include only land; the areas of water contained within census tracts and census blocks are not used to calculate population density.

B. Proposed UA and UC Delineation Criteria

The Census Bureau proposes to define urban areas primarily on the basis of residential population density measured at the census tract and census block levels of geography. Two population density thresholds are utilized in the delineation of urban areas: 1,000 ppsm and 500 ppsm. The higher threshold is consistent with final population density criteria used in the 1960 through 1990 urban area delineation processes; it is used to identify the starting point for delineation of individual, potential urban areas and ensures that each urban area contains a densely settled core area that is consistent with previous decades' delineations. The lower threshold was adopted for the Census 2000 process when the Census Bureau adopted an automated delineation methodology; it ensures that additional territory that may contain a mix of residential and non-residential urban uses can qualify for inclusion in an urban area.

1. Identification of Initial Urban Area Cores

The Census Bureau proposes to begin the delineation process by identifying and aggregating contiguous census tracts, each having a land area less than three square miles and a population density of at least 1,000 ppsm. If a qualifying census tract does not exist, then one or more contiguous census blocks that have a population density of at least 1,000 ppsm are identified and aggregated. This aggregation of continuous census tracts or census blocks, as appropriate, would be known as the "initial urban area core."

After the initial urban area core with a population density of 1,000 ppsm or more is identified, a census tract is included in the initial urban area core if it is adjacent to other qualifying territory and has a land area less than three square miles and a population density of at least 500 ppsm.

A census block [10] is included in the initial urban area core if it is adjacent to other qualifying territory and

a. Has a population density of at least 500 ppsm; or

b. At least one-third of the census block consists of territory with a level of imperviousness of at least twenty percent,[11] and is compact in nature as defined by a shape index. A census block is considered compact when the shape index is at least 0.185 using the following formula: $I = 4\pi A/P^2$ where I is the shape index, A is the area of the entity, and P is the perimeter of the entity.

The Census Bureau would apply proposed criteria 1.a and 1.b above until there are no blocks to add to the urban area.

2. Inclusion of Noncontiguous Territory Separated by Exempted Territory

The Census Bureau proposes to identify and exempt territory in which residential development is substantially constrained or not possible due to either topographic or land use conditions.[12] Such "exempted" territory offsets urban development due to particular land use, land cover, or topographic conditions. For the 2010 Census, the Census Bureau proposes the following to be exempted territory:

- Bodies of water; and
- Wetlands (belonging to one of eight wetlands class definitions [13]).

Noncontiguous qualifying territory would be added to a core when separated by exempted territory, provided that:

a. The road connection across the exempted territory (located on both sides of the road) is no greater than five miles; and

b. The road connection does not cross more than a total of 2.5 miles of territory not classified as exempted (those segments of the road connection where exempted territory is not on both sides of the road); and

c. The total length of the road connection (exempt distance and non-exempt distance) is no greater than five miles for a jump and no greater than 2.5 miles for a hop.

3. Inclusion of Noncontiguous Territory via Hops and Jumps

Noncontiguous territory that meets the proposed population density criteria specified in section B.1.a and b above, but is separated from an initial urban area core of 1,000 or more people, may be added via a "hop" along a road connection of no more than 0.5 miles. Multiple hops may be made along a single road connection, thus accounting for the nature of contemporary urban development which often encompasses alternating patterns of residential and non-residential uses.

After adding territory to an initial urban area core via hop connections, the Census Bureau will identify all cores that have a population of 1,500 or more and add other qualifying territory via a jump connection.[14] Jumps are used to connect densely settled noncontiguous territory separated from the core by territory with low population density measuring greater than 0.5 and no more than 2.5 road miles across. This process recognizes the existence of larger areas of non-residential urban uses or other territory with low population density that does not provide a substantial barrier to interaction between outlying territory with high population density and the main body of the urban area. Because it is possible that any given densely settled area could qualify for inclusion in multiple cores via a jump connection, the identification of jumps in an automated process starts with the initial urban area core that has the largest total population and continues in descending order based on the total population of each initial urban area core. Only one jump is permitted along any given road connection. This limitation, which has been in place since the inception of the urban area delineation process for the 1950 Census, prevents the artificial extension of urban areas over large distances that result in the inclusion of communities that are not commonly perceived as connected to the particular initial urban area core. Exempted territory is not taken into account when measuring road distances across hop and jump corridors.

In addition to the distance criteria listed above, a hop or a jump will qualify if:

a. The census tracts and blocks identified in the high density destination and along the hop or jump corridor have a combined overall

[10] Due to imposed restrictions on the selection of features that could be used as census block boundaries within military installations for the 2010 Census, blocks on military installations that have a population of 2,500 or more are treated as having a population density of 1,000 ppsm if the density is less than 1,000 ppsm. Census blocks that have a population greater than 1,000 and less than 2,500 are treated as having a population density of 500 ppsm.

[11] The Census Bureau has found in testing the NLCD that territory with an impervious percent less than twenty percent results in the inclusion of road and structure edges, and not the actual roads or buildings themselves.

[12] The land cover and land use types used to define exempted territory are limited to only those that are included in or can be derived from the Census Bureau's MTDB or the MRLC's 2001 NLCD nationally, consistently, and with some reasonable level of accuracy.

[13] For the MRLC's 2001 NLCD, wetlands are identified as belonging to one of eight wetlands class definitions including woody, palustrine forested, palustrine scrub/shrub, estuarine forested, estuarine scrub/shrub, emergent herbaceous, palustrine emergent (persistent), or estuarine emergent.

[14] All initial urban area cores with a population less than 1,500 are not selected to continue the delineation as separate urban areas; however, these cores still are eligible for inclusion in an urban area using subsequent proposed criteria and procedures.

population density of at least 500 ppsm, or

b. The high density destination to be added via the hop or jump has a total population of 1,000 or more.

No additional jumps may originate from a qualifying area after the first jump in that direction unless the territory being included as a result of the jump was an initial urban area core with a population of 50,000 or more.

4. Inclusion of Airports

After all territory has been added to the initial core via hop and jump connections, the Census Bureau will then add whole tabulation blocks that approximate the territory of major airports, provided at least one of the blocks that represent the airport is included within or adjacent to the initial core. An airport is identified as a "major airport" if it had an annual enplanement of at least 2,500 passengers in any year between 2000 and the last year of reference in the Federal Aviation Administration's (FAA) Air Carrier Activity Information System.

5. Inclusion of Enclaves

The Census Bureau will add enclaves within the urban area, provided that they are surrounded only by land, by territory that qualified for inclusion in the urban area based on the proposed population density criteria, and at least one of the following conditions is met:

a. The area of the enclave must be less than five square miles; or

b. All area of the enclave is surrounded by territory that qualified for inclusion in the initial core, and is more than a straight-line distance of 2.5 miles from a land block that is not part of the initial core; or

c. The area of the enclave is less than five square miles, is surrounded by both land that qualified for inclusion in the initial core and water, and the length of the line of adjacency with the water is less than the length of the line of adjacency with the land.

6. Inclusion of Indentations

The Census Bureau proposes to evaluate and include territory that forms an indentation within the urban area. Including such territory will produce a smoother and more manageable boundary for each urban area. It would also recognize that small sparsely settled areas that are wholly or partially enveloped by urban territory are more likely to be affected by and integrated with adjacent urban territory and may become more densely settled by future development.

To determine whether an indentation should be included in the urban area, the Census Bureau proposes to identify a "closure line," defined as a straight line no more than one mile in length, that extends from one point along the edge of the urban area across the mouth of the indentation to another point along the edge of the urban area.

A census block located wholly or partially within an indentation will be included in the urban area if at least 75 percent of the area of the block is inside the closure line. The total area of those blocks that meet or exceed the proposed 75 percent criterion is compared to the area of a circle, the diameter of which is the length of the closure qualification line. The territory within the indentation will be included in the urban area if its area is at least four times the area of the circle and less than five square miles.

If the collective area of the census blocks inside the closure line does not meet the criteria listed above, the Census Bureau will define successive closure lines within the indentation, starting at the mouth and working inward toward the base of the indentation, until the criteria for inclusion are met or it is determined that the indentation will not qualify for inclusion.

7. Splitting Large Agglomerations

The automated urban area delineation methodology that will be used for the 2010 Census may result in large urban agglomerations of continuously developed territory. If such results occur, the Census Bureau proposes splitting large agglomerations of 1,000,000 or more people along metropolitan statistical area boundaries to identify individual UAs. In New England, large agglomerations will be split based on the boundaries of metropolitan New England city and town areas (NECTAs). In situations where an incorporated place or a CDP crosses the metropolitan statistical area or metropolitan NECTA boundary, the boundary splitting the large agglomeration will be modified to follow the incorporated place or CDP boundary. The incorporated place or CDP will be assigned to the resulting UA that contains the largest proportion of the place's land area. Urban clusters would not be created as a result of splitting.

8. Assigning Urban Area Titles

A clear, unambiguous title based on commonly recognized place names helps provide context for data users, and ensures that the general location and setting of the urban area can be clearly identified and understood. The title of an urban area identifies the place(s) that is (are) most populated within the urban area. All population requirements for places and MCDs apply to the portion of the entity's population that is within the specific urban area being named. The Census Bureau proposes the following criteria to determine the title of a urban area:

a. The most populous incorporated place with a population of 10,000 or more within the urban area will be listed first in the urban area title.

b. If there is no incorporated place with a population of 10,000 or more, the urban area title will include the name of the most populous incorporated place or CDP having at least 2,500 people in the urban area.

Up to two additional places, in descending order of population size, may be included in the title of an urban area, provided that:

a. The place has 250,000 or more people in the urban area; or

b. The place has at least 2,500 people in the urban area, and that population is at least two-thirds of the urban area population of the most populous place in the urban area.

If the urban area does not contain a place of at least 2,500 people, the Census Bureau will use the following rules to identify an urban area title, applying each in order until a title is identified:

a. The governmental MCD having the largest total population in the urban area; or

b. A local name recognized for the area by the United States Geological Survey (USGS)' Geographic Names Information System (GNIS), with preference given to names recognized by the United States Postal Service (USPS).

The urban area title will include the USPS abbreviation of the name of each state or statistically equivalent entity into which the urban area extends. The order of the state names is the same as the order of the related place names in the urban area title.

If a single place or MCD qualifies as the title of more than one urban area, the largest urban area will use the name of the place or MCD. The smaller urban area will have a title consisting of the place or MCD name and the direction (North, South, East, or West) of the smaller urban area as it relates to the larger urban area.

If any title of an urban area duplicates the title of another urban area within the same state, or uses the name of an incorporated place, CDP, or MCD that is duplicated within a state, the name of the county that has most of the population of the largest place or MCD is appended, in parentheses, after the duplicate place or MCD name for each

urban area. If there is no incorporated place, CDP, or MCD name in the urban area title, the name of the county having the largest total population residing in the urban area will be appended to the title.

C. Definitions of Key Terms

Census Block: A geographic area bounded by visible and/or invisible features shown on a map prepared by the Census Bureau. A block is the smallest geographic entity for which the Census Bureau tabulates decennial census data.

Census Designated Place (CDP): A statistical geographic entity encompassing a concentration of population, housing, and commercial structures that is clearly identifiable by a single name, but is not within an incorporated place. CDPs are the statistical counterparts of incorporated places for distinct unincorporated communities.

Census Tract: A small, relatively permanent statistical geographic division of a county defined for the tabulation and publication of Census Bureau data. The primary goal of the census tract program is to provide a set of nationally consistent small, statistical geographic units, with stable boundaries that facilitate analysis of data across time.

Contiguous: Refers to two or more areas sharing common boundaries.

Core Based Statistical Area (CBSA): A statistical geographic entity defined by the U.S. Office of Management and Budget, consisting of the county or counties associated with at least one core (urbanized area or urban cluster) of at least 10,000 population, plus adjacent counties having a high degree of social and economic integration with the core as measured through commuting ties with the counties containing the core. Metropolitan and micropolitan statistical areas are the two types of core based statistical areas.

Exempted Territory: Pre-existing landcover that offsets the pattern of urban development.

Group Quarters (GQs): A place where people live or stay, in a group living arrangement, that is owned or managed by an entity or organization providing housing and/or services for the residents. These services may include custodial or medical care, as well as other types of assistance, and residency is commonly restricted to those receiving these services. This is not a typical household-type living arrangement. People living in GQs are usually not related to each other. GQs include such facilities as college residence halls, residential treatment centers, skilled nursing facilities, group homes, military barracks, correctional facilities, and workers' dormitories.

Impervious Surface: Paved, man-made surfaces, such as roads and parking lots.

Incorporated Place: A type of governmental unit, incorporated under state law as a city, town (except in New England, New York, and Wisconsin), borough (except in Alaska and New York), or village, generally to provide specific governmental services for a concentration of people within legally prescribed boundaries.

Metropolitan Statistical Area: A core based statistical area associated with at least one urbanized area that has a population of at least 50,000. A metropolitan statistical area comprises a central county or counties containing an urbanized area, plus adjacent outlying counties having a high degree of social and economic integration with the central county as measured by commuting.

Micropolitan Statistical Area: A core based statistical area associated with at least one urban cluster that has a population of at least 10,000, but less than 50,000. A micropolitan statistical area comprises a central county or counties containing an urban cluster, plus adjacent outlying counties having a high degree of social and economic integration with the central county as measured by commuting.

Minor Civil Division (MCD): The primary governmental or administrative division of a county in 29 states and the Island Areas having legal boundaries, names, and descriptions. MCDs represent many different types of legal entities with a wide variety of characteristics, powers, and functions depending on the state and type of MCD. In some states, some or all of the incorporated places also constitute MCDs.

New England City and Town Area (NECTA): A statistical geographic entity that is delineated by the U.S. Office of Management and Budget using cities and towns in the New England states as building blocks, and that is conceptually similar to the metropolitan and micropolitan statistical areas.

Noncontiguous: Refers to two or more areas that do not share common boundaries, such that the areas are separated by intervening territory.

Rural: Territory not defined as urban.

Topologically Integrated Geographic Encoding and Referencing (TIGER): Database developed by the Census Bureau to support its mapping needs for the decennial census and other Census Bureau programs. The topological structure of the TIGER database defines the location and relationship of boundaries, streets, rivers, railroads, and other features to each other and to the numerous geographic areas for which the Census Bureau tabulates data from its censuses and surveys.

Urban: Generally, densely developed territory, encompassing residential, commercial, and other non-residential urban land uses within which social and economic interactions occur.

Urban Area: The generic term used to refer collectively to urbanized areas and urban clusters.

Urban Cluster (UC): A statistical geographic entity consisting of a densely settled core created from census tracts or blocks and adjacent densely settled territory that together have at least 2,500 people but fewer than 50,000 people.

Urbanized Area (UA): A statistical geographic entity consisting of a densely settled core created from census tracts or blocks and adjacent densely settled territory that together have a minimum population of 50,000 people.

Executive Order 12866

This notice has been determined to be not significant under Executive Order 12866.

Paperwork Reduction Act

This notice does not contain a collection of information subject to the requirements of the Paperwork Reduction Act, 44 United States Code, Chapter 35.

Dated: August 17, 2010.

Robert M. Groves,

Director, Bureau of the Census.

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