

Speaker Notes:

Geographic Areas and Concepts from the American Community Survey

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This presentation is designed to give data users a quick overview of the kinds of geographic areas that are or will be used to present data from the Census Bureau's American Community Survey.

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The primary goal of this presentation is to familiarize data users with basic geographic area concepts, especially for those geographic areas most likely to be used or encountered by data users.

It will cover basic Census Bureau geographic area concepts and criteria. We will concentrate on geographic areas for which American Community Survey data are available and the concept and definition issues you should be aware of when using American Community Survey data.

We will also provide general background information about the Census Bureau's geographic database as well as the Boundary and Annexation Survey, which is the annual program through which we obtain updates to boundaries for legal and administrative entities, such as cities and towns.

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We will refer to census tracts and block groups as the building blocks of Census geography. However, this presentation will not cover concepts, criteria, and issues relating to small geographic areas, such as block groups, census tracts, and zip code tabulation areas, among others.

American Community Survey data will not be available for these geographic areas until the release of the five-year period estimates planned for 2010. Therefore, this presentation will cover the geographies and concepts that are relevant to currently available data. When we get closer to releasing the five-year estimates, we will offer additional information on small area geographies. For those who need data for these small geographic areas, you should use data from Census 2000.

This presentation also does not address various geographic products, such as maps, shapefiles, and geographic area codes that are available from the Census Bureau.

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Census geographic areas can be divided into two types: legal/administrative and statistical. Legal/administrative areas have legally described boundaries; they may provide governmental

services or may be used to administer programs. The difference between legal and administrative areas is that administrative areas generally do not have elected officials and are created solely to administer elections or other government functions.

Statistical geographic areas are defined primarily for data tabulation and presentation purposes. They may relate to other kinds of geographic concepts. For instance, census tracts in urban and suburban areas can be thought of as roughly similar to neighborhoods. Census designated places represent unincorporated places that are known locally and may be identified by name in the landscape through street signs, business names, and so forth, but do not have legally defined boundaries. Statistical areas may be defined to represent geographic concepts, such as urbanization or metropolitanization. Urban areas and metropolitan and micropolitan statistical areas, respectively, are representations of discernible patterns on the landscape, such as urbanization, and less visible processes of social and economic interaction between an urban center and a surrounding region.

Examples of legal and administrative entities include: the nation, states, counties, minor civil divisions, incorporated places, congressional districts, school districts, voting districts, and ZIP code tabulation areas.

Examples of statistical areas include: regions and divisions, census county divisions, Census designated places, metropolitan and micropolitan statistical areas, urban and rural areas, Census tracts, block groups, and Public Use Microdata Areas.

Some legal/administrative areas have statistical counterparts. For instance, census county divisions are the statistical equivalents of minor civil divisions, with both types referred to generically as “county subdivisions.” Census designated places are the statistical counterparts of incorporated places; both are referred to generically as “places” in Census Bureau products.

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The table on the slide shows five types of geographic areas for which American Community Survey data are currently available. For example, the fourth line down shows that there are a total of 952 Metropolitan and Micropolitan Statistical Areas in the United States. 53.6 percent of those areas received one-year estimates from the 2007 American Community Survey. When the 2005-2007 American Community Survey three-year estimates are released in December, data will be available for 96.8 percent of the 952 Metropolitan and Micropolitan Statistical Areas in the United States. In addition, data are available for geographic components, such as the urban and rural portions of a state.

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This diagram depicts the geographic hierarchy, as a series of nesting relationships, based on the legal, administrative, or areal relationships of the entities. For example, a line joining the lower-level entity “place” and the higher-level entity “state” means that a place cannot cross a state boundary.

Census Bureau geographers often refer to “nesting” relationships between geographic areas. By this, we mean that one type of geographic area will be located within another geographic area. The central axis in this diagram represents those geographic areas in which there is a clear set of hierarchical relationships; that is, block groups aggregate to tracts; tracts to counties; counties to states; divisions encompass groups of states; and so on. Another way to look at this is, a block group will never cross a tract boundary; a tract will never cross a county boundary; counties never cross state boundaries. And, as a result of these logical nesting relationships, a block group will never cross county or state boundaries.

Off to either side of the central axis are geographic areas that do not nest neatly within all levels of the geographic hierarchy. For instance, a place boundary may split a block group, a tract, or a county, but will never cross a state boundary. An urban area or a metropolitan area may cross all other geographic area boundaries except the Nation’s. We can define urban areas and metropolitan areas that cross from one state to another, or from one region to another. For instance, the El Paso, TX-NM urbanized area is in both the South and the West regions. However, we would never define an urban area that crosses from the U.S. to either Canada or Mexico. For instance, a vast urban area exists that encompasses Ciudad Juarez in Mexico and the El Paso area, but the Census Bureau only defines and produces data for the portion in the U.S., just as Mexico only defines and produces data for the portion in the State of Chihuahua.

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The Census Bureau tabulates and presents data for two types of county subdivisions: minor civil divisions or MCDs and census county divisions or CCDs. States contain either MCDs or CCDs, but never a mix of MCDs and CCDs.

An MCD is the primary governmental or administrative division of a county or statistically equivalent entity in many states and statistically equivalent entities. An MCD is created to govern or administer an area rather than a specific population. Examples of MCDs include Towns, Townships, and Districts. The American Community Survey produces data for MCDs in 28 states, the District of Columbia, and Puerto Rico.

A CCD is a statistical subdivision of a county, delineated by the Census Bureau in cooperation with state and local government officials for data presentation purposes. If a state does not have MCDs, typically CCDs will be defined for that state. A CCD usually represents one or more communities, trading centers or, in some instances, major land uses. CCDs are designed to be stable from census to census, and correspond to more obvious physical boundaries.

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MCD and CCD distinctions are important because a wider range of Census Bureau data are available for governmentally active MCDs. Less data are available for non-functioning MCDs. It’s also important to realize that one-year and three-year estimates from the American Community

Survey are not available for CCDs and non-functioning MCDs, as only a small percentage have populations of 65,000 or more.

On this map, MCDs exist in the states shaded either purple or lavender. States shaded dark purple, such as Pennsylvania, are considered “strong MCD” states. The MCDs in these states have actively functioning governments, such as towns, townships, cities, or boroughs. These types of MCDs receive the fullest range of data from the Census Bureau.

The states shaded a lighter purple color, such as Indiana, also contain MCDs with active governments. However, the MCDs in these states do not necessarily provide as many services and functions as provided by the “strong MCDs.” These types of MCDs receive data from the decennial census, Population Estimates, and the American Community Survey.

The states shaded lavender, such as West Virginia, contain non-functioning MCDs, such as election districts or election precincts. These types of MCDs only receive data from the decennial census and the American Community Survey.

The states with cross-hatching contain a mix of functioning and non-functioning MCDs.

The states shaded green, such as Texas, contain CCDs, which receive data from the decennial census and the American Community Survey.

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The Census Bureau tabulates and presents data for two kinds of places– incorporated places and census designated places or CDPs. Incorporated places are recognized legally according to laws of their respective states, and generally have active, functioning governments providing a variety of services for their residents. CDPs on the other hand represent unincorporated communities that typically do not have a legally specified boundary. The Census Bureau works with local and tribal officials to identify CDPs and their boundaries for use in presenting Census Bureau data.

Two examples of CDPs are Columbia, Maryland and Paradise, Nevada. Columbia, Maryland is a large, planned community located approximately halfway between Baltimore and Washington. According to Census 2000 and ACS data, it is the second most populous place in Maryland, after Baltimore city. Paradise CDP is located in Clark County, Nevada and contains most of the hotels and casinos along the “Vegas Strip” as well as the airport. Paradise CDP is separate from Las Vegas city.

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The graphic above illustrates an example of the "Places" concept. Salem County in New Jersey has a mix of CDPs and incorporated places. Salem and Woodstown are two of the incorporated places in Salem County, while Carneys Point and Pennsville are a few of the CDPs in Salem County.

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It is important to note that not all unincorporated communities are defined as CDPs. This is the case in Doña Ana County in New Mexico. The map on the screen highlights two communities in Doña Ana County – La Mesa on the left side of the map and Vado on the right side of the map. The Vado community is defined as a CDP, however the La Mesa community is not defined as a CDP.

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The Census Bureau defines two kinds of urban areas: urbanized areas and urban clusters. Urbanized areas have 50,000 or more people and urban clusters have at least 2,500 people but less than 50,000 people. Both areas are defined primarily on the basis of population density at the census block and block group levels, starting with a core area with a density of at least 1,000 people per square mile. Urban classification cuts across other hierarchies and can be in metropolitan or non-metropolitan areas.

Urban areas are defined following each census. Census 2000 urban area boundaries are currently used to present American Community Survey data. Because of this, urban areas do not reflect any urbanization that has occurred since Census 2000. These areas will be redefined following the 2010 Census.

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Rural Areas are defined as all territory not within an urban area. Rural classification cuts across other hierarchies and can be in metropolitan or non-metropolitan areas. Based on the Census Bureau's urban/rural classification, 51% of the rural population in the United States resided within metropolitan statistical areas.

Geographic entities such as places, counties, metropolitan statistical areas, etc., are often split between urban and rural territory, and the population and housing units they contain are then classified as part urban and part rural.

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This map depicts urbanized areas and urban clusters in central Tennessee, with the Nashville-Davidson urbanized area at the center. The boundaries of the Nashville-Davidson urbanized area cross several county boundaries, however no one county is entirely contained within the urbanized area.

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Metropolitan and micropolitan statistical areas are geographic entities defined by the U.S. Office of Management and Budget for use by Federal statistical agencies in collecting, tabulating, and

publishing Federal statistics. They are collectively referred to as Core Based Statistical Areas or CBSAs.

A metropolitan statistical area contains a core urban area of 50,000 or more population, and a micropolitan statistical area contains an urban core of at least 10,000, but less than 50,000, population.

Each metropolitan or micropolitan statistical area consists of one or more counties and includes the counties containing the core urban area. It also includes any adjacent counties that have a high degree of social and economic integration with the urban core. The degree of social and economic integration is measured by commuting to work patterns.

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The largest city in each metropolitan or micropolitan statistical area is designated as a principal city. Additional cities qualify if specified requirements are met concerning population size and employment. CDPs can be principal cities.

The title of each metropolitan or micropolitan statistical area consists of the names of up to three of its principal cities and the name of each state into which the metropolitan or micropolitan statistical area extends. Titles of metropolitan divisions are also typically based on principal city names but in certain cases consist of county names.

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This map shows several of the concepts that we have been discussing. Two Metropolitan Statistical Areas are shown – the Harrisonburg, Virginia Area and the Charlottesville, Virginia Area. The Harrisonburg Virginia Area comprises one county – Rockingham County– and the independent city of Harrisonburg, which is a county equivalent. The Harrisonburg Virginia Urbanized Area encompasses much of Harrisonburg city and some of the surrounding area.

The Charlottesville, Virginia Area differs in that it encompasses four counties – Greene, Albemarle, Fluvanna, and Nelson – and the independent city of Charlottesville.

This map also shows the Staunton-Waynesboro Micropolitan Statistical Area, which encompasses Augusta county and the independent cities of Staunton and Waynesboro. The Staunton Urban Cluster and the Waynesboro Urban Cluster are largely made up of their respective cities and adjacent areas.

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Public Use Microdata Areas or PUMAs are special, non-overlapping areas that partition a state. Drawn by state governments during Census 2000, each PUMA was designed to have a population of at least 100,000 and cannot cross a state line. PUMAs are the geographic entities for which the

Census Bureau provides specially selected extracts of raw data from a sample of American Community Survey records. All personal identifying information, such as name and address, has been removed from these records. The extract files are referred to as Public Use Microdata Sample or PUMS files. The PUMS files are briefly discussed in the presentation entitled “Data Products from the American Community Survey.”

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The American Community Survey also uses PUMAs to present summary data. Because each PUMA has a population of at least 100,000, annual estimates are available for each PUMA. This is of value for data users interested in data for sub-state areas, particularly in predominantly rural areas that otherwise would have to wait until 5-year period estimates are available.

Take West Virginia, for example, which has 55 counties. Only seven of these 55 counties are large enough to receive estimates from the 2007 American Community Survey. However, because West Virginia is partitioned into 12 PUMAs, each of these areas will receive 2007 American Community Survey estimates.

You can access maps of the PUMAs from the Geography Division’s web page, under Maps and Mapping Resources. You can also access the geographical equivalency files for PUMAs under the Documentation column of the American Community Survey PUMS download page on American FactFinder.

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On September 23, 2008 the Census Bureau released one-year American Community Survey data for over 6,500 geographic areas. In December 2008, the Census Bureau will release three-year American Community Survey data for more than 13,500 geographic areas. For many types of geographic areas, the release of three-year estimates allows a much larger number of areas to receive estimates. For example, 520 places are available for one-year data while 2,081 places are available for 3-year data. The large number of geographies receiving data can make it difficult to find out if the geographies you are interested in have data available.

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The 2007 Data Product Details page contains a tool that allows you to view the geographies available by state. Using the drop down menu at the top left of the page, you can select the state that you are interested in. It will produce the list of geographic areas that are published for that state.

The image on the slide shows the resulting list of available geographies for 2007 one-year data from the American Community Survey for the state of Wyoming. Wyoming is the least populous state in the United States, so only a few geographies are available. When the 2005-2007 American Community Survey data are released in December, more geographies will be available in Wyoming, as well as all other states.

Also, as shown in the image on the slide, once the total list has been produced, you can further modify the list by selecting only the geographic area types that interest you by clicking the appropriate boxes on the right side of the screen.

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The Census Bureau needs to account for geographic boundary changes that may occur for areas published in the multiyear estimates.

The Census Bureau will use the boundaries as of January 1 of the last year of the period to produce the multiyear estimates. These boundary changes are collected through the Boundary and Annexation Survey, a voluntary survey conducted by the Census Bureau.

Boundaries of other statistical areas, including urbanized areas, Public Use Microdata Areas, census tracts, and block groups will be updated every decade in conjunction with the decennial census.

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For example, in 2008, the Census Bureau tabulated one-year estimates for 2007 and three-year estimates based on data from 2005, 2006, and 2007. These estimates were tabulated using the boundaries that were in effect on January 1, 2007.

Looking at this slide, the area outlined in blue shows the boundaries for Amarillo city, Texas that were in effect on January 1, 2007. The estimates published in 2008 will reflect these boundaries.

However, Amarillo city annexed some territory in both 2005 and 2006, as noted by the orange and red portions of the map, respectively. The 2005 and 2006 one-year estimates were published using the 2005 and 2006 boundaries, respectively. The 2007 and the 2005-2007 three-year estimates will be published using the 2007 boundaries.

Please note that the American Community Survey will not update the 2005 and 2006 one-year estimates using the January 1, 2007 boundaries.

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The Census Bureau has established procedures and programs to identify changes in legal boundaries and to record when and where they occur. The Census Bureau conducts the Boundary and Annexation Survey, or BAS, annually to collect information about selected legally defined geographic areas. The BAS is used to update information about the legal boundaries and names of all governmental units in the United States. The Census Bureau uses the boundary information collected in the BAS to tabulate data for various censuses and surveys, such as the American Community Survey.

Beginning in 2008, all federally recognized American Indian areas, counties and county-equivalents, incorporated places, and MCDs will be surveyed. This survey includes approximately

40,000 entities and will be conducted each year to provide the geographic support needed for the American Community Survey. The number of entities included in the BAS in a particular year may vary after 2010 depending on funding and the needs of the Census Bureau in fulfilling the requirements for its censuses and surveys.

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The Master Address File or MAF is the Census Bureau's official inventory of known living quarters and selected non-residential units in the United States. The file contains mailing and location address information, geocodes, and other attribute information about each living quarters. The Census Bureau continues to update the MAF using the United States Postal Service Delivery Sequence File and various automated, computer assisted, clerical, and field operations. The sample for the American Community Survey is drawn from the MAF. The MAF is a confidential file protected by Title 13 and is not accessible to the public.

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The MAF/TIGER database is the Census Bureau's geographic database. It links the MAF with the Census Bureau's Topologically Integrated Geographic Encoding and Referencing or TIGER system, creating a digital database containing addresses, a wide variety of landscape features such as roads, rivers, and railroads, and boundaries for geographic areas. All geographic products are derived from the MAF/TIGER database. Indeed, MAF/TIGER provides the underpinning for most demographic and geographic products.

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The MAF/TIGER database provides a resource for the production of maps, data tabulation, and the automated assignment of addresses to geographic locations in a process known as geocoding. The MAF/TIGER database maintains the relationships between housing units, landscape features, and geographic areas.

It is important to remember that regardless of the capabilities of the MAF/TIGER database, no Census Bureau data, including those from the American Community Survey, is released that would allow the identification of an individual household.

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This presentation gave you an overview of the Geographic Areas and Concepts for the American Community Survey.

The American Community Survey staff has developed the ACS Alert, which is an e-mail newsletter giving data users the latest news about the survey. You can subscribe to the newsletter by

contacting the American Community Survey staff or read past editions of the “ACS Alert” on the Internet at: <http://www.census.gov/acs/www/Special/Alerts.htm>

Please feel free to contact the Census Bureau if you have questions or need further information. If you have questions that are not answered by the Web site, please call 1-800-923-8282 or email acso.users.support@census.gov. If you have questions about geographic areas, you can call the Geographic Standards and Criteria Branch at 301-763-3056.