Identifying Diverse Library Markets

In order to ensure that comparisons were as valid as possible and available on a nationwide scale, all data used were from either the 2010 U.S. Census or from the American Community Survey's (ACS) 2010 5-year estimates data set, which is considered to be the most reliable for smaller geographic areas.   Data were calculated at the block group level of detail whenever possible.

Diversity Measures Used

Demographic and socioeconomic factors were used to identify potential diverse library markets based on data collected for either the 2010 Census or the ACS. These factors were:

Data Source	Type of Factor	Factor	Derived from:
2010 Census	Demographic	Sex	P12 table
2010 Census	Demographic	Race	P3 table
2010 Census	Demographic	Hispanic	P4 table
2010 Census	Demographic	Age	P12 table
2010 Census	Demographic	Household with Children	P20 table
2010 Census	Socioeconomic	Housing	H4 table
2010 ACS	Demographic	Education	B15002 table
2010 ACS	Demographic	Linguistic Isolation	B16002 table
2010 ACS	Demographic	Language X Age	B16004 table
2010 ACS	Socioeconomic	Poverty X Age	B17001 table (Census tract level)
2010 ACS	Socioeconomic	Median Household (HH) Income	B19013 table
2010 ACS	Socioeconomic	HH with Social Security Income	B19055 table
2010 ACS	Socioeconomic	HH with Public Assistance	B19057 table
2010 ACS	Socioeconomic	Per Capita Income	B19301 table
2010 ACS	Socioeconomic	Median Rent	B25058 table
2010 ACS	Socioeconomic	Median Home Value	B25077 table
2010 ACS	Demographic	Work in Home	B08301 table
2010 ACS	Demographic	Household X Race	B25006 table
2010 ACS	Socioeconomic	Vehicles X Occupancy	B25044 table
2010 ACS	Demographic	Public Transportation	C08134 table

How is Diversity Within a Factor Calculated?

For each factor, the national average within a category was calculated among all U.S. block groups. To keep the averages comparable across block groups despite population fluctuations among block groups,

the percentage of the population for each category within each block group was used as the standard for comparison whenever possible.

The standard deviation around the average value among all block groups can also be calculated. Any block group that had a value two or more standard deviation from the national average was considered to represent diversity for that particular factor.

For example, the average percentage of individuals aged zero to five years of age within a block group across all U.S. block groups was 6.35% during the 2010 Census. The standard deviation around the average is 2.47%. Therefore, any block group that had 11.31% or more of its population between the ages of zero to five (6.35% + (2 X 2.47%) = 11.31%) has an unusually high number of very young individuals and hence is considered diverse for that particular factor.

Some factors such as age can have multiple categories which can lead to diversity. For example, block groups that have 27.6% of their population between the ages of five to 17 or with 17.15% of their population over the age of 75 are also diverse with respect to the age factor. For the purposes of this study, it just takes one particular category (e.g., percentage of population from ages zero to five) to make the block group diverse for the entire factor (i.e., age in this particular example). Appendix 1 contains a list of all the categories for each factor that was used in identifying diversity.

How is the Library Market Area Calculated?

The latitude - longitude value for each library outlet contained in the Institute of Museum and Library Services public library data files is presumed to be the correct library location. The library market area for each library outlet is assumed to be a two-mile radius around the library location. Any block group that is wholly or partially-contained within the two-mile radius of a library is assumed to be served by that outlet (i.e., in the library outlet's market area). Note that under this scenario it is possible for a block group to be contained in the library market areas for different library outlets, especially in heavily urbanized areas where public libraries may be located closer than two miles to each other.