

## 6. Counts, Rates, and Densities



The raw data collected during decennial censuses are **counts**--whole numbers that represent people and housing units. The Census Bureau aggregates counts to geographic areas such as counties, tracts, block groups, and blocks, and reports the aggregate totals. In other cases, summary measures, such as **averages** and **medians**, are reported. Counts can be used to ensure that redistricting plans comply with the constitutional requirement that each district contain equal population. Districts are drawn larger in sparsely populated areas, and smaller where population is concentrated. Counts, averages, and medians cannot be used to determine that districts are drawn so that minority groups have an equal probability of representation, however. For this, pairs of counts must be converted into **rates** or **densities**. A rate, such as Hispanic population as a percentage of total population, is produced by dividing one count by another. A density, such as persons per square kilometer, is a count divided by the area of the geographic unit to which the count was aggregated. In this chapter, we'll consider how the differences between counts, rates, and densities influence the ways in which the data may be processed in geographic information systems and displayed on thematic maps.

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### The Nature of Geographic Information

 

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