The Census Tract Map Method

Another approach to small area analysis is simply to take available indicators and plot the indicators by quartiles on census tract maps. In one San Francisco study five independent map studies were made by various analysts, and an indicator was judged "useful" if it was found on at least four of the five studies to delineate "high risk areas." The assumptions involved were not elaborate and were based on "expert opinion", rather than extensive empirical analysis(1).

To further test this method, the data were subjected to a factor analysis. This is a mathematical treatment of correlation coefficients which results in grouping the indicators into a number of factors and constructs. Each factor accounts for a certain percentage of the variance between the indicators and is composed of all the indicators, with varying weights assigned to each indicator. The authors assumed that the factor with high loadings for the largest number of social indexes represent a factor of "high risk". The "high risk" factor in the San Francisco study accounted for 43.5 percent of the total variance, and no other factor accounted for more than 13 percent.

The results of the two methods were found to be mutually supporting in judging the "usefulness" of social indexes. Of the 29 indicators (health and social) nine were determined to be adequate in delineating the city, six social indexes (income, education, development, overcrowding, family status, and unwed parenting and three health indicators (prenatal care, prematurity and tuberculosis incidence).

This modification of the Shevky-Bell methodology and its application to problems of planning social services supported the earlier work. Its major limitation was its dependence on available published reports of the 1960 census(2).

In the following sections on education, joblessness, the elderly, and poverty and deprivation, we have applied the census tract map method in the strict sense of dividing the indicators into quartiles. Figure 1 is a blank "do it yourself" map. The reader can do his or her own census tract map of, for example, unemployment, by using Table 8a. Simply rank the 119 tracts (using the standard procedure for handling ties) according to the unemployment rate (from the highest rate to the lowest rate). Then divide by four and color the map four different colors. The quartile with the highest rates is the 'highest risk' area for manpower planning.

In the following chapter, the last four US censuses and the 2005-2009 ACS data will be used to analyze trends in Cincinnati as they affect various elements of the population, especially African Americans and Appalachians. The emphasis is on these groups because they are large

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components of the population and, in many respects, the future of the city and metropolitan area are tied to their welfare. Reference is also made to Hispanics, women, poverty, the elderly and children.

Neighborhood Classifications

In the second edition of this study (1986) one of the unique features was a classification of neighborhoods as African American, white, or Appalachian. In the current edition references are made to these three categories with somewhat different criteria. The median number of the particular indicator is used. The neighborhoods are classified if the indicator is more than this median number. For example, in Figure 5 neighborhoods are considered African American if the percent African American population is above the tract median of 46 percent.

Classification of an Appalachian neighborhood used different criteria. A neighborhood is classified as Appalachian if it meets the criteria established in the 1986 edition as recently up-

dated by Christopher Auffrey. The criteria used includes poverty indicators, racial composition, adult education levels, school dropout rates, teen jobless rates, occupation, family size, and the expert opinions of social agency staff and community residents in the affected areas. Table 5c (in Chapter 5) is a list of census tracts and neighborhoods. Nine neighborhoods were classified as Appalachian in 1986. There are now parts of ten neighborhoods on this list. Even though the criteria used to define Appalachian enclaves are essentially negative and circular there is a broad consensus that they do accurately identify Appalachian population concentrations. One reason these criteria work is that most white collar and professional Appalachians do not cluster together in definable neighborhoods. Another is that low formal education levels, teen joblessness, etc., are still a reality of life in urban Appalachian blue collar areas.