

Selected Vital and Health Statistics In Poverty and Nonpoverty Areas Of 19 Large Cities United States, 1969-71

A descriptive and analytical study of differentials in selected vital and health statistics measures associated with residence in poverty and nonpoverty areas within 19 of the largest cities in the United States for the years 1969-71. Discusses characteristics of births (including birth weight, legitimacy status, prenatal care, and educational attainment of the mother), infant and fetal mortality, and deaths due to tuberculosis and to violent causes. Race or ethnic group is used as a control variable in the analysis.

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SELECTED VITAL AND HEALTH STATISTICS IN POVERTY AND NONPOVERTY AREAS OF 19 LARGE CITIES

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INTRODUCTION

The principal purpose of this report is to present an analysis of the differentials in selected vital and health statistics measures associated with residence in poverty and nonpoverty areas within 19 of the largest cities in the United States. Since there is a close relationship between race and residence in poverty or nonpoverty areas, race or ethnic group is used as a control variable throughout this discussion, but the principal focus of the report is on differentials associated with residence in poverty and nonpoverty areas. This analysis is based on 11 significant indexes of natality and mortality, tabulated by census tract or other small area of residence and race or ethnic group, for the 3-year period 1969-71. Areas of residence were classified as poverty or nonpoverty on the basis of U.S. Bureau of the Census definitions. The 1969-71 period was selected so that published population data from the 1970 census could be used to compute various rates for poverty and nonpoverty areas. Frequencies of annual vital statistics for these areas may show random fluctuations because of the small number of events in some cases. Thus, the 3-year period was used in computing rates, ratios, and percents in order to minimize the effect of such fluctuations on the findings of the report. (See appendix I for a description of methods used in the computation of statistics.)

The basic items tabulated for this report include the following: total live births and

deaths; births by birth weight, legitimacy status, prenatal care, and educational attainment of the mother; infant and fetal deaths; and deaths due to tuberculosis and to violent causes (accidents, suicides, and homicides). These items were selected because the data were readily available, and it was felt that they would have considerable significance in measuring the health and social status of the population. Included in the tabulations by race or ethnic group are data for the Negro population and, in three of the cities, for persons of Spanish heritage.

SOURCES OF DATA

Data for 16 of the 19 cities participating in this study are based on tabulations provided by city (or county) health departments; data for the remaining three cities were made available by their respective State health departments. In most cases the tabulations were submitted following a standard format supplied by the Division of Vital Statistics of the National Center for Health Statistics. Because it was not possible to obtain special tabulations, an effort was made to request tabulations that would be readily available in the health departments of as many of these cities as possible. As a result, the tabulations were limited to frequencies of each item by race or ethnic group and by census tract or other small area of residence. Thus, no cross-classifications of any of the variables, either with one another or with such demographic charac-

teristics as age and sex, were prepared. This report is therefore necessarily more descriptive than analytical in nature. It should also be remembered that this report attempts to analyze differences by the poverty status of whole areas of residence rather than of individuals.

The definitions of poverty areas are discussed in detail in the next section. Briefly, however, a census tract was defined as a poverty tract if 20 percent or more of its residents had inadequate incomes according to certain specified criteria. Thus, a poverty tract can have up to 80 percent of its population with incomes above the poverty level, and a nonpoverty tract may have up to 20 percent of its population with incomes below the poverty level.

Data were submitted on an annual basis for the 3 years 1969-71, with one exception: 1971 data for Los Angeles could not be made available in time for this report. Analysis of Los Angeles data, therefore, is limited to the years 1969 and 1970.

The original plans for this study included the 25 largest cities in the United States according to the 1960 census, but a variety of problems in data collection limited the number to only 19—Atlanta, Baltimore, Buffalo, Chicago, Cincinnati, Cleveland, Dallas, Denver, Indianapolis, Los Angeles, Memphis, Minneapolis, New York City, Philadelphia, Pittsburgh, San Diego, San Francisco, Seattle, and Washington, D.C.

The National Center for Health Statistics (NCHS) gratefully acknowledges the assistance and information provided by staff members of the Bureau of the Census and of the State and local health departments from which data for the study were obtained.

BACKGROUND INFORMATION

Definitions of Poverty Areas

In 1960 the U.S. Bureau of the Census identified tracts within large cities with large-scale concentrations of poor people by means of five equally weighted socioeconomic factors: proportion of families with low income, percent of housing that was substandard, percent of adults with low educational attainment, proportion of unskilled male laborers in the civilian

labor force, and percent of children in broken homes. Also taken into consideration when low-income areas were being identified was the judgment of local officials and contiguity of the tracts.

A less subjective measure of poverty in urban areas was subsequently developed by the Bureau based on data obtained from the 1970 Census of Population and by using criteria formulated by Mollie Orshansky of the Social Security Administration.^a Individuals having less than adequate incomes were identified by means of a poverty index which takes into account 124 separate cross-classifications of factors such as family size, sex and age of family head, farm-nonfarm residence, and income. One of the basic tenets of the index is that income should be sufficient to provide for an adequate diet. For example, it was determined that in urban areas an average family of four required a minimum income of \$3,743 to meet basic nutritional needs. It was decided to classify any census tract as a poverty area when 20 percent or more of its residents had inadequate incomes according to these criteria. It was determined that this classification system would identify areas of poverty generally approximating those designated as low income under the previous definition.¹ Appendix II contains maps provided by the Bureau of the Census that identify poverty or low-income areas within each city as they are used in this report.

The current Bureau of the Census definition of a poverty tract was adopted for this report to allow for the computation of vital and health indexes from published 1970 census population data for poverty areas in large cities. Tracts in which 20 percent or more of the population had low incomes were combined and considered the poverty area in a given city. The remainder of the city was considered the nonpoverty area. New York City and Chicago do not classify vital statistics data according to census tract: in New York City the smallest geographic unit of classification is the "health area," and in Chicago it is the "community area." In both cities these areas are combinations of individual census

^aFor a detailed explanation of the Social Security definition of poverty, see *Current Population Reports*, Series P-60, No. 98, "Characteristics of the Low-Income Population, 1973."

tracts. The poverty status of each health or community area was determined by the proportion of area residents with low incomes, in conformity with the criteria applied to individual tracts. Since the maps of New York City and Chicago (appendix II) show individual poverty tracts rather than health or community areas, there may not be complete correspondence between the poverty areas designated in the maps and those designated in the text and tabulations of this report because it is likely that some of the individual census tracts that are included in health or community areas designated as poverty are not themselves poverty tracts.

The current definition does not require contiguity of tracts within a poverty area, and consequently there are a number of isolated poverty tracts within generally higher-income areas.

One problem in classifying vital statistics data by the poverty status of individual tracts was due to changes in tract boundaries and annexation of territories during the 1969-71 period because of redefinitions of 1960 tracts based on information from the 1970 census. For some cities, 1969 data were received classified by 1960 census tract boundaries, and 1970 and 1971 data were classified by 1970 boundaries; other cities sent both 1969 and 1970 and in some instances 1971 data classified by 1960 boundaries. Comparable poverty areas for the 3-year period were determined with the assistance of the Bureau of the Census, which compiled lists of 1970 low-income tracts and the equivalent tract groups according to 1960 boundaries.

In interpreting the data the reader should keep in mind that in the present system of classification an entire tract or other small area is identified as poverty or nonpoverty. Variations in poverty level by race, ethnic group, or any other classification within a tract are obscured. For example, in the nonpoverty areas of these cities, 6 to 10 percent of the white population had incomes below the poverty level compared with 12 to 25 percent of the population of all other^b races (table A). In addition,

information for pockets of poverty within areas classified as nonpoverty is also lost. Despite the problems and caveats noted above, the present system of classification does make possible the comparison of certain indexes reflecting the health status of areas of different income levels.

Racial and Income Characteristics of the Population in Large Cities

For all cities in this study except Denver, Minneapolis, San Diego, San Francisco, and Seattle, well over half of the people residing in poverty areas were of races other than white (table B). For the 19 cities as a group, 37 percent of the residents in poverty areas were white and 63 percent were of races other than white.

The imbalance in race was far more pronounced in the higher-income areas of these cities. On the average, 83 percent of the people living in nonpoverty areas were white. In only three cities, Atlanta, Baltimore, and the District of Columbia, did the population of all other races comprise more than 25 percent of the population in nonpoverty areas.

For the 19 cities in this study, a much smaller proportion of the white population than the population of all other races had incomes below the poverty level (table A). This was true in both the poverty and nonpoverty areas of the cities, but the relative difference in incomes was far more pronounced in higher-income areas. In the low-income areas, between 29 and 42 percent of the population of all other races had incomes below the poverty level as compared with a range of 20 to 32 percent of the white population. As was noted above, 6 to 10 percent of the white population in the nonpoverty areas had incomes below the poverty level as compared with 12 to 25 percent of the population of all other races.

The pattern of greater disadvantage for races other than white is further illustrated by income data for the Negro and white populations derived from the 1970 Census of Population for the 50 largest cities in the United States.¹ There was a significantly higher proportion of Negro than white families living in poverty areas of large cities (62 percent compared with 13

^bAs used throughout this report the term "all other" refers to the combined grouping of all races other than white.

Table A. Percent of the population with income below the poverty level, by poverty status of area of residence and race for 19 selected cities: United States, 1970

City	Poverty areas				Nonpoverty areas			
	Total	White	All other		Total	White	All other	
			Total	Negro			Total	Negro
Average, 19 cities	31.8	28.4	33.8	34.1	9.1	8.3	13.4	13.7
Atlanta	38.1	29.6	39.9	40.0	10.7	8.3	15.2	15.3
Baltimore	34.3	24.1	37.3	37.3	9.7	8.4	12.5	12.5
Buffalo	29.6	24.8	32.3	32.4	11.1	10.4	18.6	18.2
Chicago	32.4	24.6	34.7	34.9	8.7	7.9	12.0	12.0
Cincinnati	35.9	29.6	40.1	40.1	9.2	8.4	14.3	14.2
Cleveland	34.6	27.3	36.9	37.0	10.7	9.2	15.3	15.4
Dallas	32.5	24.1	35.2	35.2	7.1	6.5	14.0	13.7
Denver	31.0	29.0	39.7	41.9	8.5	8.1	13.0	13.5
Indianapolis	29.0	24.3	32.3	32.3	6.9	5.9	14.1	14.3
Los Angeles	29.5	26.4	31.5	32.5	9.1	8.7	12.3	13.6
Memphis	38.4	19.8	42.1	42.2	7.1	6.1	25.1	25.9
Minneapolis	30.8	28.5	40.6	43.7	8.8	8.5	16.6	14.6
New York City	30.8	31.8	29.9	30.0	9.0	8.4	13.4	13.6
Philadelphia	32.5	26.0	35.3	35.4	9.4	8.0	14.4	14.3
Pittsburgh	33.5	26.0	38.3	38.4	10.5	9.4	20.8	21.0
San Diego	27.2	25.2	30.1	30.2	10.1	9.7	16.7	16.5
San Francisco	26.8	23.5	30.4	35.8	10.6	10.0	12.4	14.8
Seattle	31.4	32.0	30.5	34.2	8.8	8.2	13.9	18.1
Washington, D.C.	28.8	20.3	29.4	29.4	11.1	9.2	12.1	12.1

Source: U.S. Bureau of the Census. Census of Population: 1970. Subject Reports. Final Report PC(2)-9B, *Low-Income Areas in Large Cities*, Tables 1 and 6, Washington, D.C. U.S. Government Printing Office, 1973.

percent). Additionally, Negro families had generally lower incomes than white families, regardless of income area of residence. The median income in poverty areas of these cities was \$6,532 for white families and \$5,794 for Negro families, a difference of more than \$700. The median income in nonpoverty areas of these cities for white families was \$10,939, \$1,700 more than the median income of \$9,232 for Negro families. Almost 13 percent of the Negro families living in poverty areas had incomes of less than half the poverty threshold, in contrast with 8 percent of the white families.

When comparison of white and Negro family income is limited to families in low-income areas with incomes below the poverty level, the pattern of deeper poverty for Negro families is still evident. Half of the white families needed at least \$1,350 in additional income to raise them above the poverty mark, while the deficit for half the Negro families was \$1,613 or more.

Factors Affecting Intercity Comparisons

Several factors can affect any comparisons that might be made of the various vital statistics measures among the 19 cities. Two of particular relevance to this study are (1) variations in the percent of the population living in poverty areas (see basic data in table 1), and (2) variations in the racial composition of the cities (table B). A city with a high proportion of its population living in poverty areas will probably have a less favorable health status than a city with a relatively low proportion of its population living in poverty areas. Similarly, a city with a high proportion of persons of all other races will probably have, for example, a higher proportion of babies born of low birth weight than a city with a low proportion of persons in these racial groups. This is because variations in low birth weight appear to be greater by race than by socioeconomic status.

Table B. Percent distribution of population by poverty status of area of residence and race for 19 selected cities: United States, 1970

City	Poverty areas				Nonpoverty areas			
	Total	White	All other		Total	White	All other	
			Total	Negro			Total	Negro
Average, 19 cities	100.0	37.0	¹ 63.0	² 55.0	100.0	83.3	¹ 16.7	² 12.0
Atlanta	100.0	19.7	80.3	...	100.0	64.7	35.3	...
Baltimore	100.0	22.7	77.3	76.6	100.0	69.6	30.4	29.8
Buffalo	100.0	38.1	61.9	...	100.0	91.2	8.8	...
Chicago	100.0	22.6	77.4	75.8	100.0	79.7	20.3	18.6
Cincinnati	100.0	40.5	59.5	59.1	100.0	86.5	13.5	13.1
Cleveland	100.0	25.2	74.8	...	100.0	75.2	24.8	...
Dallas	100.0	25.8	...	74.2	100.0	92.2	...	7.8
Denver	100.0	81.5	18.5	15.3	100.0	91.3	8.7	7.3
Indianapolis	100.0	42.0	58.0	57.7	100.0	87.5	12.5	12.2
Los Angeles	100.0	39.9	60.1	54.1	100.0	86.9	13.1	8.4
Memphis	100.0	16.1	83.9	...	100.0	95.4	4.6	...
Minneapolis	100.0	82.3	17.7	12.1	100.0	95.9	4.1	2.8
New York City	100.0	48.0	52.0	48.6	100.0	86.5	13.5	11.6
Philadelphia	100.0	31.0	69.0	...	100.0	77.8	22.2	...
Pittsburgh	100.0	42.0	58.0	...	100.0	90.3	9.7	...
San Diego	100.0	62.5	37.5	30.9	100.0	93.2	6.8	3.8
San Francisco	100.0	52.5	47.5	29.0	100.0	76.6	23.4	9.2
Seattle	100.0	66.0	34.0	20.9	100.0	89.3	10.7	5.9
Washington, D.C.	100.0	7.8	92.2	...	100.0	37.3	62.7	...

Source: Based on table 1.

¹ Data for Dallas refer to Negro population.

² Average of 12 cities.

Another important factor is the difference in the definitions of some of the variables used by city health departments. For example, while most cities provided fetal death statistics for fetal deaths occurring after 20 weeks of gestation, two cities provided statistics for gestation periods of 16-17 weeks and longer, and three cities provided data for all fetal deaths regardless of period of gestation. Clearly, under such circumstances, comparisons of fetal death statistics must be made cautiously.

Measures such as the crude birth and death rates can be greatly affected by a fourth factor—variations in the population composition by such characteristics as age and marital status. For example, a city with a young population will likely have a lower crude death rate than a city with an older population. This topic is discussed in greater detail in the section on crude and standardized death rates.

This report does include some comparisons of data by city in the text and in the tabulations.

However, these comparisons are given more to suggest the range of values for a given variable than to identify specific cities with these values. The reader should be extremely cautious in making comparisons of this type and drawing conclusions.

SUMMARY OF GENERAL FINDINGS

There are wide differences in the health status of the populations living in poverty and nonpoverty areas of our largest cities. There are also substantial differences in the health status of the white population and that of the population of all other races. In general, the health condition of persons of races other than white is less favorable than that of the white population, regardless of residence in poverty or nonpoverty areas (table C and figures 1-10). Thus, according to the measures of health in this report, living in a nonpoverty area is associated with higher

Table C. Vital statistics measures for the United States, and by poverty status of area of residence and color for a total of 19 selected cities: 1969-71

Vital statistics measure	United States, 1969-71	Total, all cities			Poverty areas			Nonpoverty areas		
		Total	White	All other	Total	White	All other	Total	White	All other
Crude birth rate (per 1,000 population)	17.9	17.9	15.6	23.9	23.5	21.6	24.5	16.1	14.7	23.1
Fertility rate (per 1,000 women 15-44 years)	85.5	84.3	76.6	101.1	105.2	103.7	106.0	77.0	72.4	95.6
Crude death rate (per 1,000 population)	9.5	10.9	11.8	8.9	12.0	14.6	10.5	10.6	11.3	6.7
Low birth weight ¹ (2,500 grams or less) . . (per 100 live births)	7.9	9.9	7.4	13.9	13.1	9.3	15.1	8.3	7.0	12.4
Illegitimate births ¹ (per 100 live births)	10.7	22.3	10.3	41.6	40.8	23.7	49.5	13.1	7.3	30.9
Lack of prenatal care ² (Live births to mothers with no care) (per 100 live births)	1.7	2.8	1.9	4.2	5.0	4.2	5.3	1.8	1.5	2.8
Education of mother ³ (Live births to mothers with less than 12 years of education) (per 100 live births)	31.1	39.1	32.7	50.5	58.5	54.8	60.4	29.9	28.1	36.2
Infant mortality rate (per 1,000 live births)	20.0	23.2	18.6	30.7	30.2	24.2	33.4	19.7	17.4	27.0
Fetal death ratio ⁴ (per 1,000 live births)	13.9	18.3	13.6	25.7	23.5	17.4	25.9	16.0	13.0	25.4
Death rate for tuberculosis (per 100,000 population)	2.5	4.7	3.5	7.5	9.5	8.7	10.0	3.0	2.8	4.3
Death rate for violent causes (per 100,000 population)	76.4	75.3	65.8	98.6	115.5	112.7	117.1	61.9	59.0	75.7

¹ Percents based on 18 cities.

² Percents based on 12 cities.

³ Percents based on 6 cities.

⁴ Ratios based on 14 cities.

health status of persons of all other races relative to their counterparts in poverty areas, but still in each case this group is at a definite disadvantage relative to the white population. Some of the specific findings are summarized below.

Fertility and birth rates.—While fertility rates for white women averaged 43 percent higher in poverty than in nonpoverty areas (103.7 compared with 72.4 births per 1,000 women aged 15-44), fertility rates for all other women in poverty areas were only 11 percent greater than for their counterparts in higher income areas (106.0 compared with 95.6). On the average, the fertility rate for all other women in poverty areas was only 2 percent greater than that for

white women in poverty areas. This finding was partly a reflection of the fact that in poverty areas of New York and Los Angeles, fertility rates for all other women were 16-17 percent *lower* than those for white women. In nonpoverty areas, fertility of all other women exceeded the fertility of white women by about one-third.

Birth rates for the white population were 47 percent greater in poverty than in nonpoverty areas. For the population of all other races birth rates in poverty areas exceeded those in nonpoverty areas by only 6 percent. Disparities between racial groups in poverty and nonpoverty areas were more pronounced for birth rates than for fertility rates. Birth rates for the

population of all other races in poverty areas were 13 percent higher than for the white population (24.5 compared with 21.6 births per 1,000 population). Birth rates for the population of all other races in nonpoverty areas were more than half again as high as for white persons (23.1 compared with 14.7).

Crude and standardized death rates.—People living in poverty areas experienced far higher crude death rates (50 to 100 percent higher generally) than people living in higher income areas, regardless of race. This was true in spite of the generally younger population in poverty than in nonpoverty areas. Age-standardized death rates by race indicated a substantially higher level of mortality (up to 46 percent greater) for the population of all other races than for the white population in most cities.

Low birth weight.—The proportion of infants of low birth weight (2,500 grams or less, or 5 pounds 8 ounces or less) was considerably higher in poverty areas than in nonpoverty areas for each racial group. Among white babies, the incidence of low birth weight was 33 percent higher in poverty areas than in nonpoverty areas (9.3 compared with 7.0 percent). The differential by poverty status of area of residence was somewhat less for all other infants, with the incidence of low birth weight 22 percent higher in poverty areas than in nonpoverty areas (15.1 compared with 12.4 percent). Regardless of poverty status of area of residence, the proportion of infants of low birth weight was substantially higher among all other infants than among white infants. The differential was 62 percent in poverty areas and 77 percent in nonpoverty areas.

Illegitimate births.—There was a large differential in the incidence of illegitimacy between poverty and nonpoverty areas. The proportion of infants born to unmarried mothers was slightly more than three times higher in poverty areas (40.8 percent) than in nonpoverty areas (13.1 percent). Although absolute levels of illegitimacy were considerably lower for white infants than for infants of all other races, differences by poverty status of area of residence were much larger for white infants than for infants of all other races. Among white infants, 23.7 percent in poverty areas and 7.3 percent in nonpoverty areas were illegitimate;

among infants of all other races, the comparable proportions were 49.5 percent and 30.9 percent. Overall, the incidence of illegitimacy in poverty areas was twice as high for infants of all other races as for white infants; in nonpoverty areas the incidence was more than four times as high for all other infants as for white infants.

Lack of prenatal care.—Among mothers of both racial groups, those in poverty areas had markedly less prenatal care than those in nonpoverty areas, as shown by data for 12 of the cities. For the white population, on the average, nearly three times the proportion of mothers in poverty than in nonpoverty areas lacked prenatal care (4.2 percent compared with 1.5 percent). Although differences by poverty status of area of residence for women of all other races were not as great as those observed for white women, there was still a definite pattern of less prenatal care in poverty than in nonpoverty areas. Overall, in poverty areas the proportion of mothers of all other races who had no prenatal care was 5.3 percent as compared with 4.2 percent of white mothers. The race differential was larger in nonpoverty areas: 2.8 percent of mothers of all other races had no prenatal care as compared with 1.5 percent of white mothers.

Births to mothers with less than 12 years of education.—Data on births by the educational attainment of mothers were available from only six cities. For these cities there was a very large difference by poverty status of area of residence in the proportion of births to women who had completed less than 12 years of schooling. On the average, 58.5 percent of the mothers in poverty areas did not complete 12 years of schooling, compared with 29.9 percent of the mothers in nonpoverty areas. Differences by race within poverty areas were smaller—54.8 percent of white mothers, compared with 60.4 percent of mothers of all other races, failed to complete high school. The comparable proportions in nonpoverty areas were 28.1 percent for white women and 36.2 percent for women of all other races.

Infant mortality.—Among infants of both racial groups, mortality rates for infants residing in poverty areas were considerably higher than those for infants residing in nonpoverty areas. The differential by poverty status of area of residence was 39 percent for white infants (24.2

deaths of infants under 1 year of age per 1,000 live births in poverty areas as compared with 17.4 in nonpoverty areas). Among infants of all other races, the infant mortality rate was 24 percent higher in poverty areas (33.4) than in nonpoverty areas (27.0). Infant mortality rates were standardized for differences in birth weight, a factor which is considered especially critical in determining an infant's chances for survival during the first year of life and for which there are large race differentials. This standardization showed that reduced levels of low birth weight would have resulted in lower rates of infant mortality, particularly for infants of all other races.

Fetal mortality.—Data on spontaneous fetal deaths showed a definite pattern of increased risk among white women in low-income areas as compared with white women in higher income areas. Overall, fetal death ratios (number of fetal deaths per 1,000 live births) for the white population were 17.4 in poverty areas compared with 13.0 in nonpoverty areas. Fetal death ratios for the population of all other races were nearly the same in poverty and nonpoverty areas, 25.9 versus 25.4. These ratios were computed from data for 14 cities and exclude Atlanta, Buffalo, and New York City, three cities where the liberalization of abortion laws in the late 1960's and early 1970's is reflected in somewhat higher fetal death ratios. In New York City in 1971, there were 520.9 induced abortions per 1,000 live births in poverty areas and 508.2 per 1,000 live births in nonpoverty areas. In that city, the highest incidence of induced abortions, regardless of poverty status of area of residence, was for Negro women; generally the lowest was for Puerto Rican women.

Deaths from tuberculosis.—Rates of death from tuberculosis were considerably higher for poverty area residents than for residents of nonpoverty areas in all cities studied (overall, 9.5 compared with 3.0 deaths per 100,000 population). For the white population, the rates for persons residing in low-income areas were three times those for higher income area residents (8.7 compared with 2.8). Rates for persons of all other races were slightly more than twice as high in low-income areas (10.0) as in higher income areas (4.3). Differentials by race within poverty status groups were much wider in nonpoverty than in poverty areas.

Violent deaths.—Five percent of all deaths of white persons and 10 percent of all deaths of persons of all other races were from violent causes (deaths from accidents, suicides, and homicides). While violent death rates were generally higher in the poverty areas than in the nonpoverty areas for all race and color groups, the levels of these deaths were lower for the white population than for the population of all other races in both poverty and nonpoverty areas in most cities. For the white population, the rate in poverty areas averaged 112.7 violent deaths per 100,000 population as compared with 59.0 for the population in nonpoverty areas. The comparable rates for the population of all other races were 117.1 and 75.7, respectively.

SPECIFIC FINDINGS

Birth and Fertility Rates

Birth rates (births per 1,000 population) shown in this report should be used only as a general measure of the impact of fertility on the growth of the different population groups. Because of their dependence on the age-sex composition of the population to which they refer, these rates provide poor comparisons of the rate at which women bear children. A more valid index is the general fertility rate, defined as the number of births per 1,000 women aged 15 to 44 years, which is far less sensitive to variance in age composition.

Birth rates have been computed for all 19 cities in this study, but fertility rates for only 18 cities (see figures 1 and 2). It was not possible to compute fertility rates for Memphis; population data that would be geographically comparable with the vital statistics data by poverty status could not be obtained because of census tract boundary changes in 1969.

Fertility rates for white women were higher in poverty areas than in nonpoverty areas in all but two cities, Minneapolis and Philadelphia (table 3). The average excess in fertility for white women living in poverty areas was 43 percent (103.7 compared with 72.4 births per 1,000 women aged 15-44). In contrast, the fertility rate for women of all other races in poverty areas was only 11 percent greater than that for

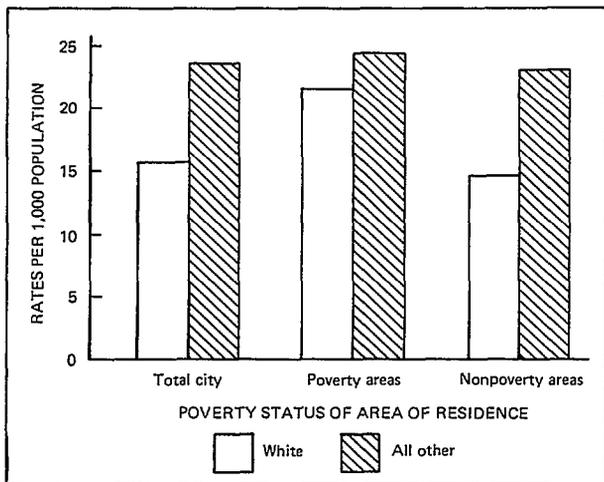


Figure 1. Birth rates, shown by poverty status of area of residence and color, for a total of 19 selected cities: United States, 1969-71 average.

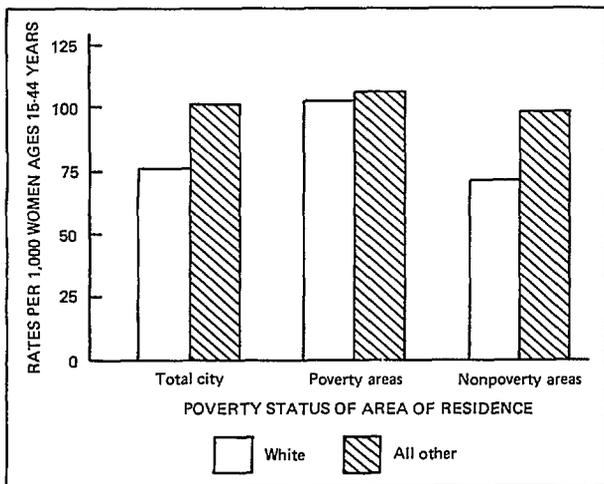


Figure 2. Fertility rates, shown by poverty status of area of residence and color, for a total of 18 selected cities: United States, 1969-71 average.

their counterparts living in higher income areas (106.0 versus 95.6); in only one city (New York) did the fertility rate in the nonpoverty area exceed the rate in the poverty area.

Although fertility rates for women of all other races were generally higher than for white women in poverty areas, in two of the largest cities, New York and Los Angeles, rates for all other women were 16 to 17 percent lower. In these cities, a substantial portion of the white births in poverty areas were to women of Spanish heritage (65 percent in New York City

and 78 percent in Los Angeles); this may account for the unexpected variation. Overall, the fertility rate for all other women in poverty areas was only 2 percent greater than for white women in poverty areas (106.0 compared with 103.7), a reflection of the low rates for all other women in New York and Los Angeles.

A much more consistent pattern of racial differences was found in the higher income areas. In all but one city (Cleveland), rates were substantially lower for white women. On the average, fertility of all other women in these areas exceeded the fertility of white women by about one-third (95.6 compared with 72.4). The magnitude of the disparity between rates for white and all other women in nonpoverty areas closely approximates differences found in national fertility data for the average of the years 1969-71, but the general level of fertility rates in nonpoverty areas was 11-14 percent lower than nationally.

Birth rates for the 19 cities in this study exhibited the same general pattern of racial differences within poverty and nonpoverty areas noted for fertility rates (table 2). However, the birth-rate disparities found by race were generally far more pronounced, a reflection of the varying age and sex compositions of these racial groups. Birth rates for the population of races other than white in poverty areas were 13 percent higher than those for the white population in poverty areas (24.5 compared with 21.6), and in nonpoverty areas the rates were more than half again as large as those for the white population in nonpoverty areas (23.1 compared with 14.7).

Crude and Standardized Death Rates

The level of mortality in an area provides an important measurement of the general health status of its population. Basic data on deaths by census tract and race were readily available from all cities in the study, permitting the calculation of crude death rates (deaths per 1,000 population) by race within poverty and nonpoverty areas. However, the magnitude of a crude death rate is greatly affected by the age structure of the population. A population with a high proportion of older persons will show a higher crude death rate than a population with a smaller proportion of older persons.

Substantial differences were evident in the age compositions of the populations living in poverty and nonpoverty areas, and even greater disparities were observed between age structures in the white population and those in the population of all other races. These can be illustrated by a comparison of the median age and percent of the population under age 25 in poverty and nonpoverty areas of the 50 largest U.S. cities in 1970.¹ Comparable data by color for the 19 cities included in this report show them to be quite representative of the 50 cities with respect to the following characteristics of the age distribution:

Color	19-city average	50 largest cities		
		Total	Poverty tracts	Nonpoverty tracts
Median age				
Total . . .	30.8	30.1	25.3	31.8
White	33.6	32.5	29.3	33.0
All other	24.4	24.2	23.4	25.6
Percent of population under age 25				
Total . . .	42.4	43.3	49.7	41.0
White	39.0	40.4	44.8	39.7
All other	51.1	51.4	53.0	49.1

The median age of the white population in large cities was 25 to 30 percent higher than the median age of all other races in both poverty and nonpoverty areas. Additionally, regardless of race, the population in poverty areas was younger than that in the nonpoverty portions of the cities.

Despite these differences in age composition, in 18 of the 19 cities in this study, people living in poverty areas experienced far higher crude death rates than people living in areas with more adequate incomes. Regardless of race (with the exception of the white population in New York City), death rates for persons living in poverty areas were generally 50 to 100 percent higher than in nonpoverty areas for most individual cities (table 4). For the 19 cities as a group, however, the death rate in poverty areas was

12.0 as compared with 10.6 in nonpoverty areas. Rates for the white population were 14.6 in poverty areas and 11.3 in nonpoverty areas; and for the population of all other races, the rates were 10.5 and 6.7, respectively.

An examination of the patterns of deaths from specific causes such as deaths from tuberculosis and deaths from violent causes again reveals consistently higher levels in poverty areas. These will be discussed in further detail in subsequent sections.

Although information was not available to adjust death rates for varying age structures within income areas, it was possible to do so for all income areas combined for all but four cities, thus obtaining a more valid basis for comparing death rates by race. Standardized death rates for the white population and the population of all other races were computed using the 1970 average age structure of the 19 participating cities as the standard population. Although the unadjusted death rates for the white population were consistently higher than the unadjusted death rates for the population of all other races in both poverty and nonpoverty areas, this relationship was reversed after adjustment and the rates for the population of all other races were as high or substantially higher (up to 46 percent greater) than for the white population in all but one city, San Francisco (see table 5).

These findings are consistent with the mortality experience for the United States as a whole. In 1970 the crude death rate of the white population in the United States was about 1 percent higher than that for all other races. However, after standardization to eliminate the effect of age differences, the adjusted rate for the white population was 30 percent less than the rate for all other races. The fact that death rates at each age level, except for the very elderly, are consistently lower for the white population than for the population of all other races is reflected in the drop in rates for the white population after standardization.

Low Birth Weight

The incidence of low birth weight babies, that is, those born weighing 2,500 grams or less (5 pounds 8 ounces or less), has been directly

related to a number of factors, including maternal nutrition and health status, poverty status, and access to prenatal care.² These are considered the principal variables determining the incidence of low birth weight in addition to any possible genetic factors. Low birth weight, in turn, has very serious consequences. Among them are higher rates of infant mortality, mental retardation, and birth defects.

The relationship between low birth weight and infant mortality is shown dramatically in table D, which is based on data from the National Natality and National Infant Mortality Surveys of 1964-65.³ Data from the same survey also show an inverse association of low birth weight with family income. Thus the interrelationships among poverty, low birth weight, and infant mortality are strong. Additionally, the relationship between low birth weight and problems in the infant's subsequent growth and development have been well documented.⁴ Very small infants continue to lag in both height and weight growth after infancy. These infants also have a higher incidence of respiratory and skin diseases in the first year of life. They are more likely to be admitted to the hospital and to remain there for longer periods in the first 2 years of life. Also, the incidence of conditions such as cerebral palsy and other mental and physical defects is notably higher among infants of low birth weight.

Data on birth weight were made available for use in this report by 18 cities. For these cities, it was clear that poverty status of area of residence made a difference in the proportion of low birth weight babies for all racial groups within all cities except for white births in Los Angeles

Table D. Estimated number of infant deaths per 1,000 legitimate live births, by birth weight and race: United States, 1964-65

Birth weight	All races	White	Negro
Total	23.5	21.0	40.7
2,500 grams or less	185.5	184.0	188.7
2,501-3,000 grams	19.4	18.2	24.6
3,001-3,500 grams	7.3	6.8	11.3
3,501-4,000 grams	6.6	5.9	14.0
4,001 grams or more	9.2	7.7	—

(table 6 and figure 3). Babies born to mothers residing in poverty areas were more likely to be of low birth weight than babies born to mothers residing in nonpoverty areas. This was true for white, all other, and Negro babies. However, apparently even larger than the differential by poverty status of area of residence was the differential by race. That is, infants of races other than white were far more likely to weigh 2,500 grams or less than were white infants, regardless of poverty status of area of residence.

The lowest incidence of low birth weight was observed for white infants in nonpoverty areas, for whom the 18-city average was 7.0 percent. This compares with a level of 9.3 percent for white infants in poverty areas. The national average for all white babies was 6.8 percent for the period 1969-71. The 18-city averages for infants of all other races were 12.4 percent (nonpoverty areas) and 15.1 percent (poverty areas). The 1969-71 national average proportion low birth weight for babies of races other than white was 13.2 percent.

As shown in table 6, differentials by race are very large, regardless of poverty status of area of residence. Within both low-income and higher income areas, the incidence of low birth weight for Negro infants was from 29 percent to 132 percent greater than for white infants. Some investigators have observed this race differential and have noted its persistence even after adjustments were made for such maternal characteristics as age and parity, socioeconomic status,

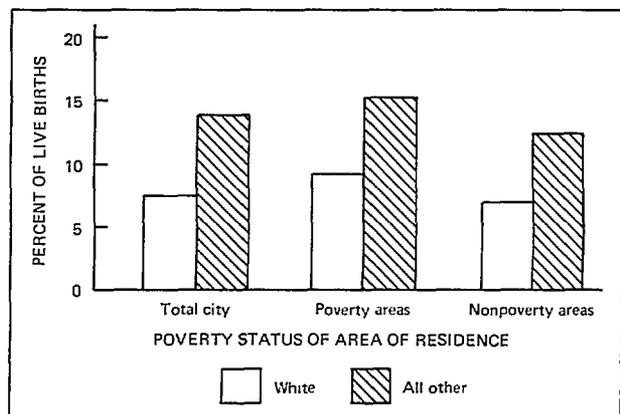


Figure 3. Percent of live births weighing 2,500 grams or less, shown by poverty status of area of residence and color, for a total of 18 selected cities: United States, 1969-71 average.

and cigarette smoking—factors which do account for some of the differential.^{5,6} It is possible that the differential persists because, compared with white mothers, mothers of all other races have less prenatal care, poorer nutrition, and generally less favorable circumstances even within separate socioeconomic status groups. In addition, there may be some genetic factors which account for part of the race differential.

Illegitimate Births

In a report on national trends in illegitimacy published in 1968 by the National Center for Health Statistics (NCHS),⁷ it was shown that illegitimate children are more likely than legitimate children to be of low birth weight. This is true for both white infants and infants of all other races although the gap between legitimate and illegitimate babies was wider for white births than for births of all other races. Recent NCHS data show that unmarried mothers receive less prenatal care than married mothers, and other data⁸ show that the risk of death during infancy is higher for illegitimate than for legitimate babies.

When discussing patterns of illegitimacy, it is usually preferable to relate illegitimate births to the population at risk to have such births, i.e., unmarried women of childbearing age (usually defined as 15-44 years). It was not possible to compute this measure, known as the illegitimacy rate, because the relevant population figures were not available. For this reason, the analysis of illegitimacy in this report is based on numbers of illegitimate births and the illegitimacy ratio. The illegitimacy ratio—the number of illegitimate births per 1,000 total live births—is a measure of the proportion of infants who are illegitimate and who, as a result, are more likely to be at a disadvantage with respect to their physical development at birth and their subsequent health.

Illegitimacy data were available for 18 of the 19 cities included in this study. For 10 of these cities,^c illegitimacy statistics were based on responses to an item on the birth certificate

asking for the child's legitimacy status. Since the birth certificates in use in the remaining eight cities do not include this particular item, legitimacy status for these cities was inferred from other information on the certificate, principally the presence or absence of the father's name. Evaluations of reported and inferred legitimacy status data carried out at NCHS^{7,9} showed that the two methods of determining legitimacy status yielded results that were remarkably consistent with one another, with a slightly higher level of illegitimacy resulting from the inferred method. Hence it is felt that comparisons of the incidence of illegitimacy based on the two sources can be properly made.

An examination of table 7 and figure 4 shows poverty status of area of residence to be an important variable associated with the level of illegitimacy. This was true for both white infants and infants of all other races. In addition, levels of illegitimacy differed greatly by race, irrespective of poverty status of area of residence.

Regardless of race, the average proportion of illegitimate births to mothers residing in poverty areas of the 18 cities was 40.8 percent, slightly more than three times higher than the level of 13.1 percent in the higher income areas. The differential by poverty status of area of residence was much larger for white infants than for those of all other races. The proportions of illegitimate white infants in poverty and nonpov-

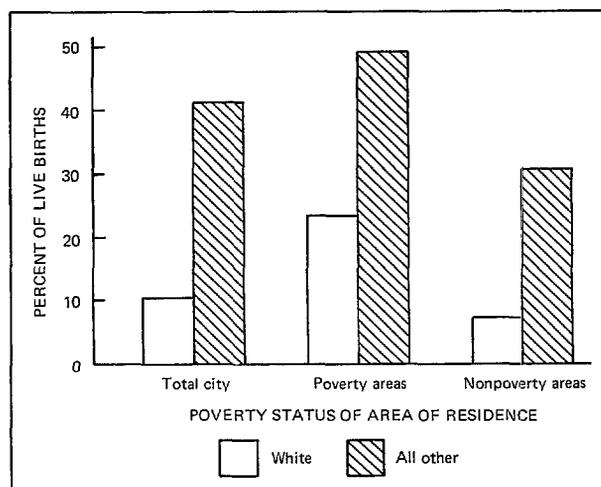


Figure 4. Percent of live births that are illegitimate, shown by poverty status of area of residence and color, for a total of 18 selected cities: United States, 1969-71 average.

^cChicago, Dallas, Denver, Indianapolis, Memphis, Minneapolis, Philadelphia, Pittsburgh, Seattle, and Washington, D.C.

erty areas were 23.7 and 7.3 percent, respectively; and the comparable proportions of all other babies were 49.5 and 30.9. Thus among babies of all other races in *nonpoverty* areas, the proportion born illegitimate was 30 percent higher than the corresponding proportion among white babies in *poverty* areas. This pattern is observed for all but 2 of the 18 cities (San Francisco and Seattle).

Many theories have been advanced in an effort to account for the persistence of the race differential in illegitimate fertility, even after controlling for socioeconomic status. One hypothesis is that differences in the timing of marriage after discovery of conception account for an important part of the differences between the incidence of illegitimacy for white women and that for women of all other races. White couples may be more likely to marry prior to the birth of the child than are couples of all other races.¹⁰ Another hypothesis suggests that the race differential may be due to differences in access to knowledge and availability of contraception, the degree of difficulty in obtaining an induced abortion, and financial ability to establish a family. Clearly more thorough research on this topic is needed before the validity of these or other hypotheses can be established.

Lack of Prenatal Care

For pregnant women, the adverse effects of chronic states of illness induced by such diseases as syphilis, tuberculosis, and diabetes, or resulting from poor nutritional status can be mitigated if these conditions are identified and treated during early pregnancy. Other adverse conditions such as preeclampsia and placenta praevia may develop later in pregnancy or immediately before labor. For these reasons, the initiation of prenatal care in early pregnancy and the continuous medical supervision of the pregnant woman throughout the gestational period are needed to ensure both the optimum development of the fetus and the well-being of the mother.

It has also been observed that the absence of medical supervision is associated with a greatly increased risk of an unfavorable outcome of pregnancy. A number of studies involving large

groups of births for recent years show a highly significant association between inadequate prenatal care, numbers of low birth weight infants and the rate of infant mortality.¹²⁻¹⁵

Only 14 of the 19 cities could provide information on mothers with no prenatal care, the definition of inadequate care chosen for this study. Two of these cities, Philadelphia and Washington, D.C., could not provide the data in the requested form.

If we look at the 12 cities for which we have generally comparable data (excluding Philadelphia and Washington, D.C.), prenatal care was markedly less utilized in poverty than in nonpoverty areas for all racial groups (table 8 and figure 5). For the white population, there were 2 to 4 times as many mothers in poverty areas having no medical care during pregnancy as mothers living in nonpoverty areas. In poverty areas the percent of white mothers who lacked prenatal care averaged 4.2 percent; only 1.5 percent of their counterparts in higher income areas lacked care. For women of all other races, the level of inadequate prenatal care was also consistently higher in poverty than in higher income areas, but the differences were not as great as those observed for white women. The proportion of women of all other races who received no care averaged 5.3 percent in poverty areas, and 2.8 percent in higher income areas of these cities.

Regardless of poverty status of area of residence, the proportion of all other women who had no prenatal care was generally greater than

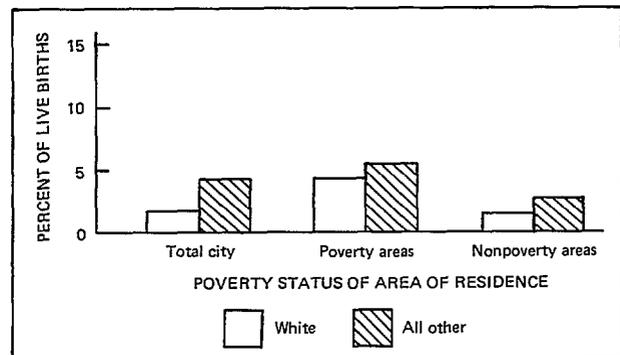


Figure 5. Percent of live births to mothers lacking prenatal care, shown by poverty status of area of residence and color, for a total of 12 selected cities: United States, 1969-71 average.

that of white women. However, in low-income areas of four cities—Cleveland, Dallas, San Diego, and San Francisco—relatively more white women than women of all other races received no care. In higher income areas, racial disparities were far greater than those found in low-income communities. In seven cities the proportion of all other women receiving no care was 2 to 4 times as great as for white women; and in only one city (San Francisco) was there a greater percent of white mothers than mothers of all other races receiving no care.

Births to Mothers with Less than 12 Years of Education

Items pertaining to the educational attainment of mothers and fathers have recently been added to birth certificates in many States, to provide an indication of socioeconomic status. However, information on educational background for this study was obtainable from only six cities. The number of birth certificates lacking this information did not exceed 2 percent of all certificates in any city, and was generally 1 percent or less.

For the cities providing information on educational attainment, more than half (58.5 percent) of the births to poverty area residents during 1969-71 were to women who had completed less than 12 years of schooling. The comparable proportion for nonpoverty area residents was 29.9 percent, about half as great as that noted in poverty areas. There were similarly large differences in the proportions of mothers who had completed high school within each race group by poverty status of area of residence. Among white mothers giving birth during 1969-71, 54.8 percent of poverty area residents and 28.1 percent of nonpoverty area residents did not have the equivalent of a high school diploma. The comparable proportions for all other women were 60.4 percent for poverty area residents and 36.2 percent for nonpoverty area residents (tables C and 9 and figure 6).

Infant Mortality

The infant mortality rate of a community has long been regarded as one of the most sensitive indicators of the general health of the popula-

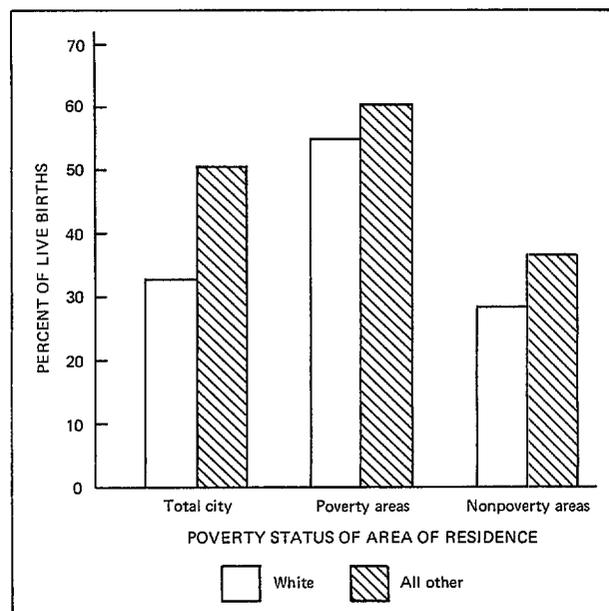


Figure 6. Percent of live births to mothers having less than 12 years of education, shown by poverty status of area of residence and color, for a total of 6 selected cities: United States, 1969-71 average.

tion and of the effectiveness of prevailing medical care. It can also be viewed as an indirect measure of the adequacy of prenatal care programs.

All 19 cities included in this study were able to provide data on infant mortality by race and census tract or other small geographic area. Rates in poverty areas for both racial groups were considerably higher than those in the nonpoverty areas of most cities. Additionally, for these cities, levels of infant mortality were almost always lower for white infants than for infants of all other races. This relationship was true in both poverty and higher income areas.

White infants in nonpoverty areas had the greatest chance of surviving the first year of life. Infant mortality rates in this group averaged 17.4 infant deaths per 1,000 live births, compared with 24.2 for white infants in poverty areas. Infants of all other races living in poverty areas had the poorest prospects of survival: The lowest rate, 20.9 (Denver), still exceeded the highest rates for white infants in nonpoverty areas; the highest rate, 39.4 (Pittsburgh), was 28 percent above the 19-city average of 30.7 for babies of all other races in all income strata. The

19-city average for babies of all other races in poverty areas was 33.4 compared with a rate of 27.0 in nonpoverty areas (see tables C and 10 and figure 7).

Past investigations^{3,16-18} have clearly identified birth weight as one of the critical variables determining an infant's chance of surviving the first year of life. A national study of matched birth and infant death certificates for infants born in 1960¹⁸ showed that infants weighing 2,500 grams or less at birth had an infant mortality rate 17 times higher than that for infants weighing 2,501 grams or more. The rates for the two birth-weight categories were 190.3 and 11.2 infant deaths per 1,000 live births, respectively. In the United States a much smaller percentage of white infants than infants of all other races are born weighing 2,500 grams or less. In 1970, for example, 6.8 percent of white babies had low birth weights, compared with 13.3 percent of babies of all other races. Since this racial difference in birth weight is especially evident in many poverty areas, an attempt was made to determine what the levels of infant mortality would have been for a given poverty-color group if the proportion of low birth weight were the same as in a selected standard population. Comparison of the observed infant mortality rate with the adjusted rate suggests the adverse effect that high levels of low birth weight, such as those observed for babies of all other races, have on infant mortality rates.

Infant mortality rates were recomputed for the 18 cities providing birth weight information

(excludes Atlanta), using data from the 1960 matched-record study as the standard for adjustment by the indirect method (see appendix I). For the 18 cities as a group the observed and birth-weight-adjusted infant mortality rates were as follows:

Area and color	Observed	Adjusted
Poverty areas		
White	24.2	21.8
All other	33.5	22.0
Nonpoverty areas		
White	17.4	18.4
All other	27.0	20.3

The adjusted rates shown above and in table E approximate what the rates of infant mortality would have been if each poverty-color group had experienced a rate of low birth weight of 7.8 percent, the percent observed in the United States in 1960. For example, if the percent low birth weight for births of all other races in poverty areas had been 7.8 instead of the observed 15.1, then the infant mortality rate would have been 22.0 instead of the actual 33.5. The actual levels of low birth weight were higher than 7.8 percent for all groups except for the white nonpoverty group. It is apparent then that lower levels of low birth weight for both color groups in poverty areas and for births of all other races in nonpoverty areas would have resulted in lower rates of infant mortality.

Fetal Mortality

Seventeen of the 19 participating cities were able to provide information on fetal deaths. However, requirements for reporting vary widely. For the majority of cities, fetal deaths are reported to health departments only when the gestation period is 20 weeks or more, thus effectively excluding most therapeutic abortions. Two cities (Philadelphia and Pittsburgh) include fetal deaths with shorter gestation periods; and three cities (Atlanta, Buffalo, and New York City) require the reporting of all fetal deaths, regardless of gestation period.

Due to the liberalization of the abortion law in New York State in mid-1970 and in Georgia in 1967, the number of reported fetal deaths in

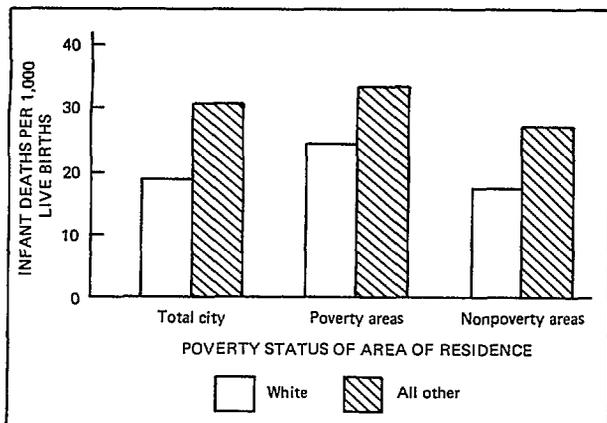


Figure 7. Infant mortality rates, shown by poverty status of area of residence and color, for a total of 19 selected cities: United States, 1969-71 average.

Table E. Observed and birth-weight-adjusted infant mortality rates, by poverty status of area of residence and color for 18 selected cities: United States, 1969-71 average

[Rates are infant deaths per 1,000 live births. Adjusted rates computed by indirect method]

City	Poverty areas				Nonpoverty areas			
	White		All other		White		All other	
	Observed rate	Adjusted rate	Observed rate	Adjusted rate	Observed rate	Adjusted rate	Observed rate	Adjusted rate
Baltimore	25.5	21.0	31.3	20.0	20.0	19.4	27.2	18.7
Buffalo	30.8	31.0	34.1	24.0	19.3	20.8	26.8	23.3
Chicago	23.0	23.0	38.8	25.3	20.0	21.1	28.7	21.2
Cincinnati	22.7	21.1	32.1	23.7	17.0	18.9	20.4	17.0
Cleveland	23.8	19.8	31.1	20.1	19.4	19.1	28.1	19.6
Dallas ¹	20.1	18.5	33.7	22.3	18.2	19.2	25.6	17.7
Denver	19.3	15.4	20.9	12.6	18.1	17.3	19.2	14.5
Indianapolis	28.2	24.7	37.4	25.5	18.3	19.8	25.8	21.1
Los Angeles ²	20.6	24.2	28.2	20.9	16.4	18.6	21.9	19.2
Memphis	26.9	24.2	26.1	17.4	14.9	15.8	25.8	21.4
Minneapolis	26.3	23.1	25.1	17.8	19.3	19.8	25.9	21.2
New York City	25.5	21.9	33.3	21.5	16.0	16.8	25.5	19.6
Philadelphia	24.6	21.2	36.9	22.4	17.5	17.6	33.8	23.2
Pittsburgh	31.1	28.0	39.4	23.5	17.1	16.9	32.3	22.3
San Diego	21.8	23.0	28.5	23.0	16.2	19.1	26.2	24.8
San Francisco	20.0	20.1	23.1	17.7	15.6	17.3	14.9	13.5
Seattle	22.2	20.3	32.9	26.6	16.8	18.5	29.0	22.4
Washington, D.C.	33.8	28.3	31.6	20.8	18.7	20.2	29.1	21.3

¹ White category includes all races other than Negro. "All other" category represents Negro only.

² Average of 1969 and 1970.

Buffalo, New York City, and Atlanta increased sharply after 1969. However, the 1970 data obtained from these cities do not distinguish between induced abortions and spontaneous fetal deaths. Although this distinction is made for 1971 New York City data, it was not possible to compute a 3-year fetal death ratio (number of fetal deaths per 1,000 live births) exclusive of therapeutic abortions for any of these cities. Fetal death ratios shown in table 11 for these three cities are therefore based on 1969 data only. It should be borne in mind, however, that even the 1969 ratios do not fully exclude therapeutic abortions.

Fetal death ratios published in this report should be used with caution since the extent of underreporting, although not known, may be significant. Additionally, variations in completeness of reporting are probable among these cities. Relatively high fetal death ratios may be indicative of better reporting in an area rather than of poorer health status of residents or of inferior medical care.

Intercity comparisons of fetal death ratios would lead to spurious conclusions due to differences in gestational reporting periods and to variations in the completeness of reporting. However, for the cities in this study there emerges a definite pattern of greatly increased risk of spontaneous fetal death among white women in low-income areas (figure 8). Excluding the cities of Atlanta, Buffalo, and New York, ratios averaged 17.4 fetal deaths per 1,000 live births for white women in poverty areas, compared with 13.0 for white women in higher income areas (table C). It has been noted that suboptimal nutrition during the reproductive period is a major contributing factor in the causation of spontaneous fetal deaths.^{16,19,20} This premise appears to be borne out by the pattern of greater risk for poverty-area women, who are less likely to obtain an adequate diet and who have less access to expert medical advice than women living in higher income areas.

Fetal deaths in New York City in 1971.—The greatly liberalized abortion law for New York

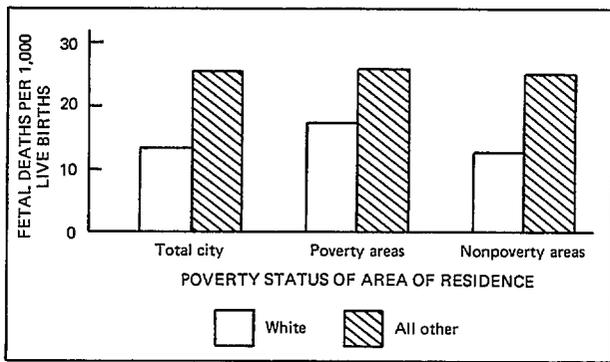


Figure 8. Fetal death ratios, shown by poverty status of area of residence and color, for a total of 14 selected cities: United States, 1969-71 average.

City went into effect on July 1, 1970. The law permits abortion virtually upon request up to the 24th week of pregnancy when performed by a licensed physician.²¹

The New York City Health Department published separate statistics by health area for the year 1971 on spontaneous fetal deaths and induced abortions, permitting the calculation of ratios separately for spontaneous fetal deaths and induced abortions by poverty status of area of residence of mother (table F). During 1971, there were slightly more than half as many pregnancies terminated spontaneously or therapeutically as there were live births (a combined total of 576.8 fetal deaths per 1,000 births). The combined fetal death ratio of 590.7 for women in low-income areas was 4 percent higher than that of 569.1 for women living in nonpoverty areas.

- *Spontaneous fetal deaths.*—The incidence of spontaneous fetal deaths in New York City in 1971 was 14 percent greater among poverty area women than among those living in nonpoverty areas (69.7 spontaneous fetal deaths per 1,000 births compared with 60.9). By race, the disparity in ratios was greatest for women of races other than white (79.6 fetal deaths per 1,000 births in poverty areas compared with 72.8 per 1,000 in nonpoverty areas) and least for Puerto Rican-born women^d (55.9 com-

^dFor information on the classification of the Puerto Rican population see section, "Vital Statistics for the Spanish-heritage Population." Data for Puerto Rican women are included as a subgroup of data for white women.

pared with 54.9 fetal deaths per 1,000 births).

Within the poverty and nonpoverty areas, there were notable differences in fetal death ratios among racial and ethnic groups. Among women in low-income areas, the ratio for Negro women was 35 percent higher than that for white women (81.0 fetal deaths per 1,000 births compared with 60.1). The ratio for Puerto Rican women was 7 percent less than the overall ratio for white women. Approximately the same racial and ethnic patterns were evidenced in nonpoverty areas: the ratio for Negro women exceeded that for white women by 37 percent and the ratio for Puerto Rican women was about 5 percent less than the ratio for all white women.

- *Induced abortions.*—The number of reported induced abortions increased dramatically from mid-1970 through 1971.²¹ During 1971, 22,970 therapeutic abortions were performed for poverty area residents, and 40,462 for nonpoverty area women. In this time period, the corresponding numbers of live births in poverty and nonpoverty areas were 44,094 and 79,617, respectively; and corresponding induced abortion ratios were, respectively, 520.9 and 508.2 per 1,000 live births. The incidence of induced abortions varied widely from borough to borough (equivalent to "county" data in table F) and by race within the defined poverty and nonpoverty areas. The highest ratios, irrespective of borough of residence or poverty status of area of residence, were for Negro women; generally, the lowest were for Puerto Rican women. The low ratios observed for Puerto Rican women have been attributed in part to the high frequency of contraceptive sterilization among Puerto Rican women and the Catholic-Hispanic tradition of rejecting abortion as a means of family planning.²¹

Although there was little variation by poverty status of area of residence in induced abortion ratios for white women (which include data for Puerto Rican women), Puerto Rican and Negro women living in nonpoverty areas had 29 percent

Table F. Spontaneous fetal death and induced abortion ratios, by poverty status of area of residence and race or ethnic group: New York City, 1971

[All periods of gestation. Ratios are fetal deaths or abortions per 1,000 live births in specified group]

County of residence	Total area				Poverty areas				Nonpoverty areas			
	White		All other		White		All other		White		All other	
	Total	¹ Puerto Rican	Total	Negro	Total	¹ Puerto Rican	Total	Negro	Total	¹ Puerto Rican	Total	Negro
Spontaneous fetal deaths												
New York City ..	58.2	55.6	76.5	80.2	60.1	55.9	79.6	81.0	57.5	54.9	72.8	79.0
Bronx County	48.0	51.8	47.0	47.8	54.6	54.8	49.2	49.6	43.1	44.8	44.1	45.3
Kings County	66.6	67.1	94.0	96.4	72.7	65.4	90.9	91.6	63.1	73.0	99.8	105.9
New York County ..	52.2	38.2	77.8	86.6	37.0	32.6	85.8	91.3	59.6	49.2	62.8	76.2
Queens County	53.2	51.9	62.9	67.9	159.1	*	57.9	58.0	53.0	52.5	63.5	69.3
Richmond County ..	82.9	50.6	92.0	88.2	...	...	...	...	82.9	50.6	92.0	88.2
Induced abortions												
New York City ..	439.7	336.1	667.0	694.9	436.5	309.2	607.9	618.6	440.8	398.9	738.1	796.1
Bronx County	361.0	316.2	572.2	584.8	354.7	286.3	522.6	525.0	365.7	386.4	639.9	672.5
Kings County	367.8	293.6	608.6	623.8	401.0	284.0	544.9	550.5	348.7	327.4	727.3	767.8
New York County ..	853.2	473.4	874.0	953.7	664.2	434.9	841.2	896.8	945.4	547.9	934.8	1,080.9
Queens County	384.0	366.4	731.1	802.4	*	*	684.9	686.0	381.4	369.4	736.4	818.2
Richmond County ..	292.7	392.4	552.2	581.3	...	...	...	...	292.7	392.4	552.2	581.3

¹ Based on information for women born in Puerto Rico.

more induced abortions than their counterparts in poverty areas. Racial and ethnic differences were clearly evident within the poverty areas. The ratio for Negro women was 42 percent higher than for white women (618.6 induced abortions per 1,000 live births compared with 436.5). The ratio for Puerto Rican women (309.2 induced abortions per 1,000 live births) was 29 percent lower than the overall ratio for white women; in contrast, the difference in spontaneous fetal death ratios for these two groups in poverty areas was only 7 percent (55.9 spontaneous fetal deaths per 1,000 live births for Puerto Rican women, compared with 60.1 for white women).

Racial differences were even more marked among nonpoverty area residents, where the induced abortion ratio of 796.1 for Negro women was 81 percent higher than the ratio of 440.8 for white women.

The substantial drop in the total number of live births, illegitimate births, and infant

deaths between 1970 and 1971 in New York City is probably a partial reflection of the concomitant increase in induced pregnancy terminations during 1970 and 1971. It is difficult to estimate the precise effect of the increased number of legal abortions, since an unknown percent of these abortions would have been obtained without legal sanction. In addition, other factors in operation during this period—e.g., the widespread availability of contraceptives and family planning services, better health services to the newborn, and a universal drop in the birth rate—would have tended to lower the number of infant deaths and illegitimate and legitimate births.

Deaths from Tuberculosis

The malnutrition, overcrowding, and poor sanitation so often prevalent in urban poverty areas is conducive to the contraction and spread of infectious disease, particularly tuberculosis.

Moreover, poorly nourished people have less ability to resist disease organisms; their infections tend to be more severe and there is more likelihood of a fatal outcome than for well-nourished individuals.^{22,23}

For the 19 large cities in this study, death rates for tuberculosis for the white population living in low-income areas were three times as high as those for white people in the remaining areas of the cities (8.7 compared with 2.8 deaths per 100,000 population), and slightly more than twice as high for people of all other races living in poverty areas as for their counterparts in higher income areas (10.0 compared with 4.3 deaths per 100,000, table C). In all cities studied, poverty area residents experienced a notably higher incidence of death from tuberculosis than people living in areas where more adequate incomes prevailed (table 12 and figure 9).

Racial differences in rates for these cities should be interpreted with caution since the median age of the population of all other races is substantially lower than that of the white population in large cities. (For further details, see section on the crude death rate.) The overall death rate for tuberculosis would tend to be depressed in populations with a younger age structure since the incidence of this disease is fairly low for younger age groups, but it rises rapidly after middle age. Although information was not available to adjust observed tuberculosis death rates to eliminate the effect of differences in age composition, age-specific death rates for tuberculosis in the United States during 1970

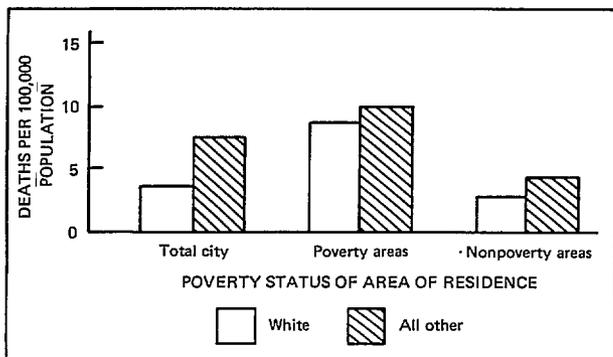


Figure 9. Death rates for tuberculosis, shown by poverty status of area of residence and color, for a total of 19 selected cities: United States, 1969-71 average.

are shown in table G and can be used as a general indicator of the very large racial disparities in rates at all age levels. It can be seen that rates for the population of all other races are from 2 to 11 times the rates for the white population.

Violent Deaths

Deaths from violent causes are a combination of deaths from accidents, suicides, and homicides as these causes are defined in the *Eighth Revision of the International Classification of Diseases, Adapted for Use in the United States, 1965* (ICDA).

For San Diego there was a break in the continuity of violent death statistics during 1969-71. During 1969 these deaths were classified according to the seventh revision of the ICDA and for 1970-71, according to the eighth revision. A notable difference in these two coding procedures is reflected in the lower number of suicides occurring in 1970 than in 1969. It is likely that this drop was at least

Table G. Death rates for tuberculosis by 5-year age groups and color: United States, 1970

Age	Total	White	All other
Death rates per 100,000 population			
Total, all ages	2.6	2.1	6.0
Under 1 year	0.5	0.2	1.8
1-4 years	0.3	0.2	1.0
5-9 years	0.0	0.0	0.1
10-14 years	0.0	0.0	0.1
15-19 years	0.1	0.1	0.2
20-24 years	0.2	0.1	1.0
25-29 years	0.4	0.2	2.2
30-34 years	0.9	0.5	4.2
35-39 years	1.5	0.8	6.6
40-44 years	2.0	1.0	10.0
45-49 years	3.0	1.9	12.6
50-54 years	4.0	2.7	15.2
55-59 years	5.5	4.2	17.1
60-64 years	7.0	5.9	17.6
65-69 years	9.5	8.2	21.7
70-74 years	10.8	8.9	31.6
75-79 years	15.6	14.1	35.1
80-84 years	17.6	16.3	34.7
85 years and over	20.9	19.5	35.1

partially a result of the shift in classification according to the stricter rules of the eighth revision. Under the eighth revision, a portion of the deaths which would have been assigned to the suicide category under the seventh revision were assigned to unknown causes.

Differences in the number of accidents and homicides between 1969 and 1970, however, were negligible, although comparable changes in coding procedures for these causes of death also occurred between the seventh and eighth revisions.

Information regarding the comparability between the seventh and eighth revisions for national data for selected causes of death is shown in *Vital and Health Statistics, Series 20-No. 16*.²⁴

Deaths from violent causes accounted for a notable proportion of all deaths for each of the racial groups in all of the cities. Examination of the incidence of deaths from these causes is important in that human wastage as a result of these causes is, in theory at least, preventable.

An average of 6.1 percent of all deaths occurring in the 19 cities studied were due to violent causes. The contribution of violent deaths to total mortality was greater in the poverty areas, where the proportion of violent deaths averaged 8.5 percent compared with 5.2 percent in nonpoverty areas.

Violent deaths for the white population were a higher proportion of all deaths for this group in poverty areas than in nonpoverty areas in all except two cities (Memphis and San Diego). For all other races, however, violent deaths were of higher proportions in the nonpoverty areas in the majority of cities. In addition, of all deaths the proportion that were violent deaths was greater for all other races than for whites in both poverty and nonpoverty areas.

Thus far, this section has dealt with the *proportions* of violent deaths among total deaths in an effort to determine the relative influence of violent deaths on total mortality. In order to examine these deaths as they are related to the population of a specified income area or racial group, the remainder of this section deals with violent death *rates* (tables C and 13 and figure 10).

Death rates for violent causes were generally higher in poverty areas than in nonpoverty areas

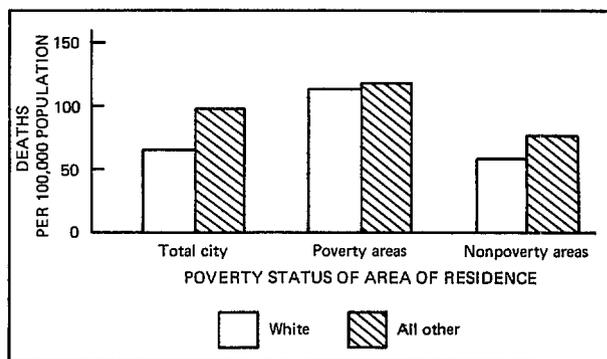


Figure 10. Death rates for violent causes, shown by poverty status of area of residence and color, for a total of 19 selected cities: United States, 1969-71 average.

for all racial groups. The rates in poverty areas averaged 115.5 deaths per 100,000 population as compared with 61.9 in nonpoverty areas. This pattern may be influenced by a higher incidence of homicides and accidents, especially among the generally younger poverty population. In 17 of the cities the average death rate for violent causes was higher for the population of all other races than for the white population.

Comparison of the rates for each color group by poverty status of area of residence shows that there was greater disparity between the rates for violent deaths of the white population than was true for the population of all other races. Rates for the white population in poverty areas, which averaged 112.7 violent deaths per 100,000 population, were 91 percent higher than in nonpoverty areas, where rates averaged 59.0. The rates for the population of all other races residing in poverty areas averaged 117.1, or 55 percent higher than the 75.7 average rate for this group in nonpoverty areas.

Vital Statistics for the Spanish-heritage Population

Classification of Spanish-heritage population.—As was noted in the introduction to this report, vital statistics data were collected for the Spanish-heritage population in three of the cities—Dallas, Los Angeles, and New York City. Considerable interest has been expressed in the relative health status of this ethnic group, and it

was hoped that this study would provide some useful information.

One problem that had to be faced in compiling data was that each city health department defined its city's Spanish-heritage population somewhat differently. For Dallas the data refer principally to Mexican-Americans, and this population is identified by the surname of the father or mother for births and fetal deaths and that of the decedent for deaths other than fetal. Data for Los Angeles refer to persons with "Spanish-American" surnames. In both Dallas and Los Angeles, the Spanish-heritage populations are identified by using lists of typical Spanish names. Data for New York City refer to the Puerto Rican population. This population is determined from the mother's nativity in the case of a birth, fetal death, or infant death and the decedent's nativity in the case of a death other than fetal or infant. Vital statistics data for the Spanish-heritage population in all three cities are considered a subgroup of the data for the white population. In New York City, persons who are both Negro and of Puerto Rican nativity are included in the category Negro and not included in the Spanish-heritage category.

Because of comparability problems with published census data, it was not possible to compute rates. Ratios and percents have been computed, however, and comparisons are based on these measures. Data for the Spanish-heritage population are available on low birth weight, illegitimacy, infant mortality, and fetal mortality for all three cities, and on prenatal care for Dallas only.

Summary of findings.—Although there was no consistent pattern in the levels of the various measures considered in this report for the Spanish-heritage population residing in the three cities, there was a discernible pattern in the relationship of the white and Spanish-heritage populations within poverty and nonpoverty areas of the cities. These data show that in poverty areas the health status of the white population was relatively less favorable than that of the Spanish-heritage population, with only few exceptions. The incidence of low birth weight, illegitimacy, infant mortality, and fetal mortality was almost always greater for the white population than for the Spanish-heritage population. The only exceptions were for low

birth weight and illegitimacy in New York City and mothers lacking prenatal care in Dallas, where the situations were reversed. Conversely, in nonpoverty areas, the data indicate that the health status of the Spanish-heritage population was generally less favorable than that of the white population in nearly every case. The only exceptions were for low birth weight and illegitimacy in Dallas; infant mortality in Los Angeles, where the positions of the two groups were reversed; and low birth weight in Los Angeles, where the incidence was equal in both population groups.

CONCLUSION

Data described in this report document the relatively unfavorable health status of persons living in poverty areas compared with those residing in nonpoverty areas. The generally less fortunate health status of persons of all other races compared with the white population is also clear. It is apparent that there are interrelationships between poverty status of area of residence and race which sometimes strengthen and sometimes reduce the differentials observed when only one or the other factor is considered. We have noted how the structure of the population with respect to age, income level, and race can affect the overall rates. It has also been suggested that current income level may not be the most critical factor contributing to differentials in health status. Lifelong patterns of health care probably are very important in accounting for some of the differentials observed.

Although the differentials by both poverty status of area of residence and race are wide for all variables considered in this study, there were some interesting patterns noted for each variable considered separately. It appears that for three of the variables—the proportion of births to mothers with less than 12 years of schooling, the death rate for tuberculosis, and the death rate for violent causes—controlling for poverty status of area of residence reduces the race differential considerably. Thus, most of the race differential in these variables is accounted for by poverty status of area of residence. In contrast, controlling for poverty status of area of residence does not at all reduce the race differential in the

proportion of low-birth-weight infants. This proportion remains much higher for babies of all other races than for white babies, even when poverty status of area of residence is examined separately.

For six of the remaining seven variables in this study, the conclusions are less clear cut, but there is a consistent pattern for the six variables—crude birth rate, fertility rate, illegitimacy ratio, proportion of births to mothers with no prenatal care, infant mortality rate, and fetal death ratio. While the race differential in these measures is not very large in *poverty* areas, it is quite considerable in *nonpoverty* areas. In other words, in poverty areas the race differential appears to be diminished to some extent; in nonpoverty areas there is virtually no change in the race differential. While it has not been

possible to explain this pattern fully, one factor noted earlier in this report probably accounts, at least partially, for the persistence of the race differential in nonpoverty areas. A fairly large proportion (12 to 25 percent) of the population of all other races residing in nonpoverty areas actually had incomes *below* the poverty level in contrast to only 6 to 10 percent of the white population.

However, it is apparent that in the nonpoverty areas particularly, and to a much lesser extent in the poverty areas, there is an additional factor or factors as yet unexplained which operates to help maintain the wide race differential. Further research is needed to account for the persistence of the race differential in health status that is observed irrespective of the poverty status of area of residence.



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Table 1. Number of persons residing in 19 selected cities, by poverty status of area of residence and race: United States, 1970

City	Poverty areas				Nonpoverty areas			
	Total	White	All other		Total	White	All other	
			Total	Negro			Total	Negro
Atlanta	180,444	35,590	144,854	...	316,529	204,913	111,616	...
Baltimore	321,271	73,084	248,187	246,213	584,488	406,753	177,735	173,997
Buffalo	108,216	41,186	67,030	...	354,552	323,181	31,371	...
Chicago	833,425	188,180	645,245	631,692	2,533,532	2,019,587	513,945	470,928
Cincinnati	143,081	57,879	85,202	84,528	309,443	267,515	41,928	40,542
Cleveland	213,435	53,860	159,575	...	537,468	404,224	133,244	...
Dallas	217,069	55,907	...	161,162	627,332	578,256	...	49,076
Denver	120,241	98,051	22,190	18,344	394,437	360,136	34,301	28,667
Indianapolis	95,461	40,064	55,397	55,037	649,163	567,838	81,325	79,283
Los Angeles	583,598	233,137	350,461	315,608	2,232,463	1,940,463	292,000	187,998
Memphis	253,623	40,732	212,891	...	281,473	268,492	12,981	...
Minneapolis	73,474	60,462	13,012	8,894	360,926	345,952	14,974	10,111
New York City	2,031,586	974,462	1,057,124	986,358	5,863,276	5,074,379	788,897	681,757
Philadelphia	505,880	156,619	349,261	...	1,442,729	1,122,098	320,631	...
Pittsburgh	119,163	50,032	69,131	...	400,954	362,248	38,706	...
San Diego	97,244	60,826	36,418	30,007	599,291	558,483	40,808	22,941
San Francisco	152,435	80,022	72,413	44,226	563,239	431,164	132,075	51,852
Seattle	43,988	29,016	14,972	9,185	486,843	434,854	51,989	28,683
Washington, D.C.	246,191	19,130	227,061	...	510,319	190,142	320,177	...

Source: Based on data from U.S. Bureau of the Census: Census of Population and Housing: 1970 *Census Tracts*, Final Report PHC(1) Individual SMSA Reports, Tables P-1 and P-4. U.S. Government Printing Office, Washington, D.C., 1972.

Table 2. Birth rates by poverty status of area of residence and race for 19 selected cities: United States, 1969-71 average

[Rates per 1,000 population in specified group enumerated as of April 1, 1970. Population data not available to compute rates for the Spanish-heritage population]

City	Total			Poverty areas			Nonpoverty areas		
	White	All other		White	All other		White	All other	
		Total	Negro		Total	Negro		Total	Negro
Atlanta	14.6	24.0	—	16.2	23.4	—	14.3	24.7	—
Baltimore	13.6	21.8	21.6	16.3	22.4	22.3	13.2	21.0	20.7
Buffalo	15.2	24.5	—	13.9	24.5	—	15.4	24.6	—
Chicago	16.3	27.4	27.8	23.0	29.3	29.6	15.7	24.9	25.3
Cincinnati	18.2	22.7	22.6	21.4	23.4	23.5	17.5	21.1	20.7
Cleveland	18.5	23.1	—	17.4	23.5	—	18.7	22.7	—
Dallas	¹ 17.8	—	28.2	¹ 27.9	—	28.8	¹ 16.9	—	26.3
Denver	17.9	23.7	24.4	23.8	25.2	25.9	16.3	22.7	23.5
Indianapolis	17.6	24.2	24.3	17.1	24.8	24.7	17.6	23.8	24.0
Los Angeles ²	17.5	22.6	23.7	28.0	24.1	24.5	16.2	20.9	22.4
Memphis	16.0	25.9	—	16.1	25.7	—	16.0	28.9	—
Minneapolis	16.6	33.6	29.4	14.1	34.7	30.1	17.1	32.7	28.8
New York City	15.0	22.8	23.7	24.8	22.7	23.8	13.1	22.9	23.7
Bronx County	17.3	22.4	23.8	27.7	22.7	24.5	13.4	22.1	22.7
Kings County	16.5	26.9	27.8	25.8	26.5	27.2	31.7	27.9	29.1
New York County	12.9	17.7	18.3	19.2	17.1	17.7	11.2	18.9	19.9
Queens County	13.0	21.3	21.3	14.3	21.4	21.6	13.0	21.3	21.3
Richmond County	16.4	22.8	23.4	...	...	...	16.4	22.8	23.4
Philadelphia	14.4	22.3	—	14.3	22.2	—	14.4	22.5	—
Pittsburgh	12.1	22.4	—	10.5	22.1	—	12.3	22.9	—
San Diego	16.1	25.4	25.0	18.9	27.0	26.2	15.9	24.0	23.3
San Francisco	12.5	21.8	24.5	16.4	24.1	26.8	11.7	20.5	22.6
Seattle	13.7	25.3	27.9	10.8	25.0	28.9	13.9	25.4	27.6
Washington, D.C.	9.1	23.1	—	9.3	23.4	—	9.1	22.9	—

¹ Includes all races other than Negro.

² Average of 1969 and 1970.

Table 3. Fertility rates by poverty status of area of residence and race for 18 selected cities: United States, 1969-71 average

[Rates are live births per 1,000 women aged 15-44 in specified group enumerated as of April 1, 1970. Population data not available to compute rates for the Spanish-heritage population]

City	Total			Poverty areas			Nonpoverty areas		
	White	All other		White	All other		White	All other	
		Total	Negro		Total	Negro		Total	Negro
Atlanta	67.8	100.1	--	92.7	103.6	--	64.4	96.1	--
Baltimore	73.5	95.5	94.7	87.4	102.5	102.1	71.0	86.6	85.3
Buffalo	81.7	105.8	--	85.4	108.9	--	81.3	99.7	--
Chicago	83.8	116.9	118.2	117.2	131.3	131.9	80.7	100.6	101.7
Cincinnati	92.1	104.7	104.5	118.9	111.1	111.6	86.9	92.6	90.9
Cleveland	96.9	100.5	--	100.1	106.7	--	96.6	93.8	--
Dallas	¹ 80.1	--	119.8	¹ 145.8	--	123.6	¹ 74.8	--	108.0
Denver	83.3	105.4	107.4	113.3	123.9	125.1	75.3	95.2	97.7
Indianapolis	84.2	111.4	112.2	99.3	121.5	121.4	83.3	105.1	106.4
Los Angeles ²	80.6	95.5	102.2	129.9	107.9	110.9	74.7	82.5	89.5
Minneapolis	77.0	151.1	138.3	59.6	158.7	141.3	80.4	144.8	135.6
New York City	73.0	93.0	94.9	106.2	88.9	91.0	65.6	99.0	101.2
Philadelphia	76.1	98.5	--	74.4	103.5	--	76.4	93.6	--
Pittsburgh	63.7	104.7	--	64.8	105.1	--	63.6	104.2	--
San Diego	79.7	114.4	117.8	118.7	132.4	125.2	76.5	100.7	108.3
San Francisco	60.9	90.8	107.5	86.8	109.1	116.5	56.5	82.0	99.8
Seattle	68.3	112.9	134.4	69.1	124.6	144.8	68.3	110.0	131.2
Washington, D.C.	47.1	95.4	--	55.4	102.5	--	46.4	90.8	--

¹ Includes all races other than Negro.

² Average of 1969 and 1970.

NOTE: Rates not computed for Memphis; population data geographically comparable with birth data by poverty status not available because of boundary changes in 1969.

Table 4. Crude death rates by poverty status of area of residence and race for 19 selected cities: United States, 1969-71 average

[Rates per 1,000 population in specified group enumerated as of April 1, 1970. Population data not available to compute rates for the Spanish-heritage population]

City	Total			Poverty areas			Nonpoverty areas		
	White	All other		White	All other		White	All other	
		Total	Negro		Total	Negro		Total	Negro
Atlanta	10.6	10.0	—	16.9	12.7	—	9.5	6.6	—
Baltimore	14.6	9.9	10.0	19.8	12.0	12.0	13.7	6.9	7.0
Buffalo	15.0	8.8	—	25.9	10.4	—	13.6	5.5	—
Chicago	13.6	9.3	9.7	18.9	11.4	11.6	13.1	6.7	7.1
Cincinnati	12.2	10.1	10.2	18.6	11.5	11.6	10.8	7.2	7.3
Cleveland	13.7	9.8	—	19.1	11.7	—	12.9	7.5	—
Dallas	¹ 7.3	—	7.8	¹ 11.9	—	8.6	¹ 6.9	—	5.1
Denver	10.6	7.3	7.9	15.0	11.3	12.4	9.4	4.7	5.0
Indianapolis	8.4	9.4	9.5	18.4	12.6	12.6	7.7	7.2	7.4
Los Angeles ²	10.5	7.2	8.0	17.1	9.0	9.3	9.7	4.9	5.8
Memphis	9.1	10.3	—	16.4	10.4	—	7.9	8.7	—
Minneapolis	12.6	7.1	8.1	15.9	7.7	8.5	12.1	6.5	7.6
New York City	11.3	7.6	8.1	9.9	8.5	8.9	11.6	6.4	7.0
Bronx County	11.6	6.5	7.0	7.7	6.5	7.1	13.0	6.3	6.8
Kings County	11.5	6.8	7.1	10.1	7.5	7.7	11.9	5.4	5.8
New York County	13.1	10.9	12.0	12.3	11.7	12.4	13.3	9.2	11.1
Queens County	10.2	6.1	6.7	26.6	8.4	8.5	10.2	5.8	6.4
Richmond County	8.6	6.1	6.5	...	...	...	8.6	6.1	6.5
Philadelphia	13.4	10.5	—	18.0	12.8	—	12.8	8.0	—
Pittsburgh	14.0	13.1	—	20.4	14.6	—	13.2	10.3	—
San Diego	8.2	4.6	5.6	11.7	6.6	7.2	7.8	2.9	3.5
San Francisco	14.6	6.5	8.0	22.8	8.9	8.9	13.1	5.1	7.3
Seattle	12.4	7.9	8.7	22.9	12.5	11.9	11.7	6.5	7.7
Washington, D.C.	15.2	9.8	—	26.1	12.4	—	14.2	8.0	—

¹ Includes all races other than Negro.

² Average of 1969 and 1970.

Table 5. Standardized death rates by color for 15 selected cities: United States, 1970

[Rates per 1,000 population. Computed by direct method using as the standard population the average age distribution of the population of the 19 cities included in the study, enumerated as of April 1, 1970]

City	White	All other
Atlanta ¹	10.3	15.0
Baltimore	11.9	14.8
Buffalo	12.0	13.4
Chicago	11.9	14.4
Dallas ²	8.6	11.9
Los Angeles	10.0	10.4
Memphis	9.9	13.4
Minneapolis	9.8	12.0
New York City	9.5	11.0
Bronx County	9.9	10.4
Kings County	9.8	11.1
New York County	10.2	12.1
Queens County	8.4	9.4
Richmond County	9.9	11.3
Philadelphia	11.0	14.1
Pittsburgh	11.4	14.1
San Diego	9.2	9.2
San Francisco	10.7	9.1
Seattle	10.4	10.6
Washington, D.C.	10.4	14.3

¹ Fulton County data in lieu of Atlanta. Information to compute standardized rate for city of Atlanta not available.

² "White" category includes all races other than Negro; "All other" category represents Negro only.

NOTE: Rates not computed for Cleveland, Cincinnati, or Denver; age-specific death statistics were not available.

Table 6. Percent of live births weighing 2,500 grams or less, by poverty status of area of residence and race or ethnic group for 18 selected cities: United States, 1969-71 average

City	Total				Poverty areas				Nonpoverty areas			
	White		All other		White		All other		White		All other	
	Total	Spanish heritage ¹	Total	Negro	Total	Spanish heritage ¹	Total	Negro	Total	Spanish heritage ¹	Total	Negro
Baltimore	8.7	--	15.1	15.2	10.8	--	15.7	15.8	8.2	--	14.1	14.2
Buffalo	6.9	--	12.5	--	7.7	--	13.7	--	6.8	--	9.9	--
Chicago	7.2	--	14.3	14.5	7.8	--	15.3	15.4	7.1	--	12.7	13.1
Cincinnati	6.9	--	12.1	12.2	8.7	--	12.7	12.7	6.5	--	10.8	11.0
Cleveland	8.3	--	14.7	--	10.6	--	15.4	--	8.0	--	13.8	--
Dallas	² 7.3	7.2	--	14.8	² 9.0	8.2	--	15.0	² 7.1	6.5	--	14.2
Denver	9.2	--	14.3	15.0	11.3	--	17.0	18.2	8.4	--	12.4	12.8
Indianapolis	6.9	--	12.3	12.4	9.7	--	14.5	14.6	6.7	--	10.9	10.9
Los Angeles ³	6.0	5.8	11.4	12.3	5.7	5.4	12.7	13.2	6.1	6.1	9.8	10.7
Memphis	7.3	--	14.5	--	9.3	--	14.8	--	7.0	--	10.7	--
Minneapolis	7.7	--	12.0	13.4	9.7	--	13.5	15.8	7.5	--	10.7	11.1
New York City	7.9	10.1	13.9	14.4	10.1	10.6	15.4	15.6	7.1	8.7	12.0	12.7
Bronx County	8.8	10.0	14.6	14.8	10.5	10.6	15.8	15.8	7.5	8.6	12.8	13.2
Kings County	8.1	10.1	14.0	14.3	9.6	10.4	15.0	15.1	7.2	9.1	12.0	12.4
New York County	8.6	10.4	14.6	15.7	10.6	11.1	16.1	16.8	7.7	8.9	11.7	13.1
Queens County	6.5	7.7	11.8	12.5	11.6	-	14.5	14.5	6.5	7.8	11.5	12.2
Richmond County	7.2	8.6	13.9	14.8	...	...	...	...	7.2	8.6	13.9	14.8
Philadelphia	8.1	--	15.6	--	10.1	--	16.9	--	7.8	--	14.2	--
Pittsburgh	8.1	--	16.1	--	9.3	--	17.3	--	7.9	--	14.0	--
San Diego	5.8	--	9.9	11.4	7.0	--	11.2	12.0	5.7	--	8.6	10.5
San Francisco	6.7	--	10.4	12.9	7.7	--	12.1	13.8	6.4	--	9.3	11.9
Seattle	6.6	--	11.8	13.7	8.7	--	11.4	11.2	6.5	--	12.0	14.5
Washington, D.C.	7.2	--	13.9	--	10.5	--	15.1	--	6.8	--	12.9	--

¹ Based on information for the Mexican-American population in Dallas, the Spanish-surname population in Los Angeles, and the Puerto Rican population in New York City.

² Includes all races other than Negro.

³ Average of 1969 and 1970.

Table 7. Illegitimacy ratios by poverty status of area of residence and race or ethnic group for 18 selected cities: United States, 1969-71 average

[Ratios are illegitimate live births per 1,000 total live births in specified group]

City	Total				Poverty areas				Nonpoverty areas			
	White		All other		White		All other		White		All other	
	Total	Spanish heritage ¹	Total	Negro	Total	Spanish heritage ¹	Total	Negro	Total	Spanish heritage ¹	Total	Negro
Atlanta	61.3	—	282.7	—	96.8	—	342.4	—	54.3	—	209.3	—
Baltimore	93.4	—	529.9	538.0	187.3	—	624.8	628.7	72.5	—	388.5	399.6
Buffalo	89.9	—	505.6	—	223.8	—	569.9	—	74.5	—	369.0	—
Chicago	85.5	—	449.9	465.2	163.8	—	537.6	543.7	74.8	—	319.9	341.8
Cincinnati	73.7	—	434.0	441.4	147.5	—	492.7	494.5	54.3	—	301.5	316.0
Cleveland	73.0	—	415.7	—	146.6	—	494.6	—	63.9	—	318.0	—
Dallas	² 79.4	72.4	—	385.9	² 103.4	71.7	—	410.1	² 75.6	72.9	—	298.7
Denver	134.9	—	334.9	366.6	217.6	—	412.3	446.2	102.0	—	279.5	310.5
Indianapolis	81.3	—	411.7	416.9	148.7	—	489.4	493.0	76.7	—	356.5	362.4
Los Angeles ³	122.0	174.4	374.0	440.5	217.7	216.6	466.8	500.3	102.1	149.9	245.6	330.8
Memphis	46.3	—	438.3	—	88.0	—	445.8	—	40.0	—	327.7	—
Minneapolis	153.9	—	412.8	499.1	262.8	—	461.3	512.4	138.2	—	368.1	390.9
New York City	121.0	307.3	415.1	439.4	298.8	355.0	501.6	512.9	56.6	187.8	299.9	332.7
Bronx County	204.6	339.0	426.1	438.1	366.9	399.4	514.6	517.0	78.6	177.9	287.1	306.1
Kings County	121.6	293.3	432.2	443.4	246.9	315.6	493.5	498.8	49.4	208.8	304.1	322.1
New York County	173.5	314.6	448.9	507.1	308.4	358.1	513.6	552.6	111.4	233.4	320.4	400.1
Queens County	34.0	78.2	310.1	348.0	187.5	87.0	458.0	458.9	33.7	78.1	291.0	331.6
Richmond County	32.1	100.4	332.2	361.3	...	...	...	...	32.1	100.4	332.2	361.3
Philadelphia	60.9	—	396.8	—	120.8	—	473.1	—	52.6	—	314.7	—
Pittsburgh	51.0	—	436.7	—	88.9	—	466.6	—	46.5	—	385.1	—
San Francisco	129.2	—	202.1	332.4	201.3	—	270.8	364.5	110.5	—	157.8	300.1
Seattle	119.8	—	301.6	408.5	324.2	—	403.4	474.3	109.1	—	272.8	386.3
Washington, D.C.	131.5	—	442.8	—	232.6	—	547.8	—	121.1	—	366.6	—

¹ Based on information for the Mexican-American population in Dallas, the Spanish-surname population in Los Angeles, and the Puerto Rican population in New York City.

² Includes all races other than Negro.

³ Average of 1969 and 1970.

Table 8. Percent of live births to mothers lacking prenatal care, by poverty status of area of residence and race or ethnic group for 14 selected cities: United States, 1969-71 average

City	Total				Poverty areas				Nonpoverty areas			
	White		All other		White		All other		White		All other	
	Total	Spanish heritage	Total	Negro	Total	Spanish heritage	Total	Negro	Total	Spanish heritage	Total	Negro
Baltimore ...	1.7	—	3.8	3.8	3.7	—	4.5	4.5	1.3	—	2.7	2.7
Buffalo	0.8	—	1.7	—	1.5	—	2.0	—	0.7	—	1.1	—
Chicago	1.9	—	4.2	4.3	3.3	—	4.9	4.9	1.8	—	3.1	3.3
Cincinnati ...	2.0	—	4.1	4.1	4.5	—	4.6	4.6	1.3	—	3.0	3.1
Cleveland	1.5	—	3.5	—	4.7	—	4.4	—	1.2	—	2.4	—
Dallas	¹ 5.4	² 13.5	—	12.1	¹ 14.7	² 17.1	—	13.3	¹ 3.9	² 10.9	—	7.8
Denver	1.6	—	3.6	3.2	3.2	—	5.8	4.6	1.0	—	2.2	2.2
Minneapolis ..	1.0	—	4.0	1.9	2.3	—	5.2	2.7	0.8	—	2.9	1.2
Philadelphia ³ .	4.5	—	18.0	—	11.7	—	20.7	—	3.4	—	15.1	—
Pittsburgh ...	0.8	—	2.9	—	1.7	—	3.1	—	0.7	—	2.6	—
San Diego ...	0.9	—	1.3	1.1	2.1	—	1.6	1.4	0.7	—	1.0	0.7
San Francisco	1.4	—	1.3	1.4	2.8	—	1.8	1.6	1.1	—	0.9	1.1
Seattle	0.6	—	2.2	2.1	2.0	—	2.7	1.8	0.5	—	2.1	2.2
Washington, D.C. ⁴	3.1	—	8.7	—	6.2	—	11.0	—	2.8	—	7.0	—

¹ Includes all races other than Negro.

² Based on information for the Mexican-American population.

³ Includes births to mothers whose care was begun in last trimester of pregnancy. Separate data for births to mothers with no prenatal care were not available.

⁴ Figures are artificially inflated because the category care "not stated" includes a number of births to mothers who had had care but for whom it was not known in which trimester of pregnancy care began. Since the percents are based on the number of births less the births to mothers with care not stated, the large number of "not stated" in this city (24 percent of all births) inflates the percent of mothers with no care.

Table 9. Percent of live births to mothers having less than 12 years of education, by poverty status of area of residence and race for 6 selected cities: United States, 1969-71 average

City	Total			Poverty areas			Nonpoverty areas		
	White	All other		White	All other		White	All other	
		Total	Negro		Total	Negro		Total	Negro
Baltimore	43.6	55.0	55.3	68.1	66.6	66.6	38.1	37.8	38.2
Buffalo	26.9	49.8	—	47.4	57.2	—	24.5	34.1	—
Cincinnati	38.0	53.7	54.4	65.7	59.9	60.1	30.7	39.6	40.9
Cleveland	38.8	47.4	—	62.3	56.9	—	35.9	35.7	—
Denver	29.8	36.2	36.4	51.3	46.6	46.9	21.2	28.7	29.0
Minneapolis	18.0	40.8	34.6	26.6	45.2	41.9	16.7	36.8	27.9

Table 10. Infant mortality rates by poverty status of area of residence and race or ethnic group for 19 selected cities: United States, 1969-71 average

[Rates are infant deaths per 1,000 live births in specified group]

City	Total				Poverty areas				Nonpoverty areas			
	White		All other		White		All other		White		All other	
	Total	Spanish heritage ¹	Total	Negro	Total	Spanish heritage ¹	Total	Negro	Total	Spanish heritage ¹	Total	Negro
Atlanta	17.0	--	29.2	--	22.6	--	30.4	--	15.9	--	27.7	--
Baltimore	21.0	--	29.6	29.9	25.5	--	31.3	31.5	20.0	--	27.2	27.5
Buffalo	20.5	--	31.8	--	30.8	--	34.1	--	19.3	--	26.8	--
Chicago	20.4	--	34.8	35.7	23.0	--	38.8	39.2	20.0	--	28.7	30.2
Cincinnati	18.2	--	28.5	28.8	22.7	--	32.1	32.2	17.0	--	20.4	20.6
Cleveland	19.9	--	29.7	--	23.8	--	31.1	--	19.4	--	28.1	--
Dallas	² 18.5	20.2	--	31.9	² 20.1	18.2	--	33.7	² 18.2	21.6	--	25.6
Denver	18.4	--	19.9	21.2	19.3	--	20.9	21.1	18.1	--	19.2	21.3
Indianapolis	18.9	--	30.6	30.7	28.2	--	37.4	37.7	18.3	--	25.8	25.7
Los Angeles ³	17.1	13.3	25.5	28.5	20.6	17.1	28.2	29.9	16.4	11.1	21.9	26.1
Memphis	16.5	--	26.1	--	26.9	--	26.1	--	14.9	--	25.8	--
Minneapolis	20.1	--	25.5	26.2	26.3	--	25.1	27.4	19.3	--	25.9	25.1
New York City	18.5	20.9	29.9	31.2	25.5	22.5	33.3	33.8	16.0	17.0	25.5	27.4
Bronx County	20.5	19.6	28.1	28.5	24.8	21.8	30.5	30.6	17.1	13.8	24.1	24.9
Kings County	20.2	23.6	32.9	33.5	26.3	24.4	35.1	35.4	16.7	20.6	28.1	29.2
New York County	19.7	19.3	29.0	31.7	24.5	19.2	31.7	33.1	17.6	19.4	23.5	28.3
Queens County	14.5	12.8	24.9	27.2	62.5	-	32.3	32.4	14.4	12.9	24.0	26.4
Richmond County	14.8	14.9	29.5	30.7	...	...	...	...	14.8	14.9	29.5	30.7
Philadelphia	18.4	--	35.4	--	24.6	--	36.9	--	17.5	--	33.8	--
Pittsburgh	18.6	--	36.8	--	31.1	--	39.4	--	17.1	--	32.3	--
San Diego	16.9	--	27.3	29.5	21.8	--	28.5	30.5	16.2	--	26.2	28.1
San Francisco	16.5	--	18.1	26.3	20.0	--	23.1	29.0	15.6	--	14.9	23.6
Seattle	17.1	--	29.9	36.6	22.2	--	32.9	33.9	16.8	--	29.0	37.5
Washington, D.C.	20.1	--	30.2	--	33.8	--	31.6	--	18.7	--	29.1	--

¹ Based on information for the Mexican-American population in Dallas, the Spanish-surname population in Los Angeles, and the Puerto Rican population in New York City.

² Includes all races other than Negro.

³ Average of 1969 and 1970.

Table 11. Fetal death ratios by poverty status of area of residence and race or ethnic group for 17 selected cities: United States, 1969-71 average

[Period of gestation is 20 weeks or more unless otherwise noted. Ratios are fetal deaths per 1,000 live births in specified group]

City	Total				Poverty areas				Nonpoverty areas			
	White		All other		White		All other		White		All other	
	Total	Spanish heritage ¹	Total	Negro	Total	Spanish heritage ¹	Total	Negro	Total	Spanish heritage ¹	Total	Negro
Atlanta ²	45.5	---	26.3	---	53.0	---	21.1	---	44.1	---	34.0	---
Baltimore	12.8	---	19.0	19.2	17.1	---	19.2	19.4	11.8	---	18.6	18.9
Buffalo ²	90.5	---	74.4	---	117.8	---	62.1	---	87.2	---	100.5	---
Cleveland	12.4	---	18.1	---	14.9	---	18.5	---	12.1	---	17.5	---
Dallas	³ 11.7	12.7	---	19.8	³ 14.7	13.6	---	19.8	³ 11.2	12.0	---	19.9
Denver	24.8	---	42.1	45.6	28.5	---	41.2	45.0	23.3	---	42.7	46.1
Indianapolis	10.1	---	19.5	19.4	16.0	---	20.7	20.3	9.7	---	18.6	18.7
Los Angeles ⁴	11.7	11.6	18.9	19.4	11.9	10.4	19.1	18.8	11.6	12.3	18.5	20.4
Memphis	10.6	---	24.6	---	11.7	---	25.2	---	10.5	---	16.0	---
Minneapolis	12.0	---	15.2	19.1	15.7	---	16.2	22.4	11.4	---	14.3	16.0
New York City ²	112.0	102.9	146.6	150.9	124.1	100.4	138.1	139.8	107.7	109.8	159.2	168.7
Bronx County ²	97.6	99.8	105.4	106.7	111.9	106.4	106.6	106.4	86.5	80.2	103.5	107.3
Kings County ²	115.5	89.8	152.9	154.4	120.3	83.2	139.5	140.7	112.8	116.9	184.8	188.6
New York County ²	143.6	136.0	168.4	180.9	153.0	134.6	164.7	171.9	139.3	138.8	176.5	203.7
Queens County ²	101.3	127.9	158.3	169.2	*	*	151.9	150.8	100.6	129.2	159.2	172.0
Richmond County ²	100.6	74.5	148.6	158.8	...	...	...	...	100.6	74.5	148.6	158.8
Philadelphia ⁵	15.5	---	44.6	---	21.1	---	44.5	---	14.7	---	44.6	---
Pittsburgh ⁶	29.6	---	73.2	---	38.1	---	68.8	---	28.6	---	80.7	---
San Diego	9.3	---	13.8	16.4	12.2	---	16.3	16.5	9.0	---	11.2	16.2
San Francisco	12.0	---	13.6	17.7	13.4	---	15.3	18.0	11.6	---	12.5	17.3
Seattle	11.4	---	17.1	20.8	21.2	---	17.8	17.6	10.9	---	16.9	21.9
Washington, D.C.	20.8	---	19.8	---	22.5	---	18.4	---	20.7	---	20.7	---

¹ Based on information for the Mexican-American population in Dallas, the Spanish-surname population in Los Angeles, and the Puerto Rican population in New York City.

² All periods of gestation. Based on data for 1969 only. Includes a substantial number of induced abortions.

³ Includes all races other than Negro.

⁴ Average of 1969 and 1970.

⁵ Period of gestation 17 weeks or more.

⁶ Period of gestation 16 weeks or more.

Table 12. Death rates for tuberculosis, by poverty status of area of residence and race for 19 selected cities: United States, 1969-71 average

[Rates per 100,000 population in specified group enumerated as of April 1, 1970. Population data not available to compute rates for the Spanish-heritage population]

City	Total			Poverty areas			Nonpoverty areas		
	White	All other		White	All other		White	All other	
		Total	Negro		Total	Negro		Total	Negro
Atlanta	3.2	5.2	—	7.5	6.2	—	2.4	3.9	—
Baltimore	7.1	10.7	10.7	16.0	14.2	14.2	5.5	5.8	5.7
Buffalo	3.7	7.8	—	10.5	10.9	—	2.8	1.1	—
Chicago	4.7	6.8	7.1	19.3	9.2	9.4	3.4	3.7	4.0
Cincinnati	5.1	11.0	11.2	15.0	14.1	14.2	3.0	4.8	4.9
Cleveland	4.4	5.6	—	5.0	7.9	—	4.4	2.8	—
Dallas	¹ 1.8	—	3.6	¹ 8.9	—	4.1	¹ 1.1	—	2.0
Denver	3.3	2.4	2.8	6.5	3.0	3.6	2.4	1.9	2.3
Indianapolis	2.5	5.1	5.2	10.0	10.8	10.9	1.9	1.2	1.3
Los Angeles ²	3.6	4.0	4.4	9.4	4.9	5.1	2.9	2.9	3.2
Memphis	1.5	4.3	—	4.1	4.4	—	1.1	2.6	—
Minneapolis	2.2	1.2	-	5.0	2.6	-	1.7	-	-
New York City	3.0	9.5	9.9	5.2	12.4	12.6	2.5	5.5	6.0
Bronx County	2.8	5.7	6.2	4.1	7.8	8.4	2.3	2.6	2.6
Kings County	3.1	10.4	10.8	4.5	12.2	12.4	2.7	6.4	7.1
New York County	4.5	14.5	15.3	7.6	16.6	16.8	3.7	9.9	11.5
Queens County	2.0	4.7	5.2	38.2	9.0	9.1	1.9	4.1	4.6
Richmond County	2.3	5.6	6.3	...	...	...	2.3	5.6	6.3
Philadelphia	5.2	9.4	—	14.3	13.5	—	4.0	5.0	—
Pittsburgh	4.0	10.5	—	11.3	13.5	—	2.9	5.2	—
San Diego	1.9	0.9	0.6	4.9	1.8	1.1	1.6	-	-
San Francisco	4.1	2.8	2.1	12.9	4.6	3.0	2.5	1.8	1.3
Seattle	1.5	3.5	1.8	4.6	8.9	-	1.3	1.9	2.3
Washington, D.C.	5.4	8.1	—	20.9	10.7	—	3.9	6.2	—

¹ Includes all races other than Negro.

² Average of 1969 and 1970.

Table 13. Death rates for violent causes, by poverty status of area of residence and race for 19 selected cities: United States 1969-71 average

[Deaths from violent causes include deaths due to accidents, homicides, and suicides. Rates per 100,000 population in specified group enumerated as of April 1, 1970. Population data not available to compute rates for the Spanish-heritage population]

City	Total			Poverty areas			Nonpoverty areas		
	White	All other		White	All other		White	All other	
		Total	Negro		Total	Negro		Total	Negro
Atlanta	85.7	130.8	---	143.3	157.9	---	75.6	95.6	---
Baltimore	74.7	105.3	106.1	124.5	124.4	124.7	65.7	78.6	79.9
Buffalo	59.2	99.3	---	134.4	113.9	---	49.6	68.0	---
Chicago	61.3	112.4	116.9	119.2	135.4	137.9	56.0	83.5	88.7
Cincinnati	75.6	98.1	99.1	139.9	109.2	109.6	61.7	75.5	77.3
Cleveland	97.3	141.3	---	165.9	165.2	---	88.2	112.6	---
Dallas	¹ 61.0	---	115.4	¹ 130.0	---	125.8	¹ 54.3	---	81.5
Denver	96.7	113.3	127.6	157.1	156.2	178.1	80.2	85.5	95.3
Indianapolis	50.8	86.1	87.6	122.3	108.9	109.6	45.8	70.5	72.3
Los Angeles ²	95.9	103.7	121.0	178.4	131.4	138.3	85.9	70.5	92.0
Memphis	60.3	82.8	---	99.9	81.9	---	54.3	97.6	---
Minneapolis	77.3	126.3	129.8	111.9	148.6	157.4	71.2	106.9	105.5
New York City ³	40.8	62.9	68.0	65.4	72.8	77.0	36.0	49.6	55.1
Bronx County ³	48.2	60.9	66.4	66.9	71.1	76.9	41.2	45.3	50.0
Kings County ³	40.4	59.5	62.6	58.0	65.7	68.0	35.0	46.0	50.1
New York County ³	55.4	79.8	90.2	78.1	87.9	95.6	49.3	62.1	75.7
Queens County ³	27.7	49.3	53.5	38.2	46.7	47.1	27.7	49.6	54.4
Richmond County ³	36.9	33.6	34.8	...	...	...	36.9	33.6	34.8
Philadelphia	60.9	107.3	---	92.8	135.0	---	56.5	77.2	---
Pittsburgh	51.7	103.2	---	81.9	114.6	---	47.5	82.7	---
San Diego	72.9	62.2	78.1	103.0	77.8	92.2	69.6	48.2	59.6
San Francisco	127.6	95.8	144.0	220.8	129.4	165.1	110.3	77.5	126.0
Seattle	86.4	119.5	136.4	182.7	178.1	177.8	80.0	102.6	123.2
Washington, D.C.	85.2	95.3	---	188.2	118.9	---	74.9	78.6	---

¹ Includes all races other than Negro.

² Average of 1969 and 1970.

³ Average of 1970 and 1971 only due to change in "suicide" classification beginning in 1970.

APPENDIX I

TECHNICAL NOTES

Allocation of Unknown Data

In compiling the tabulations of data received from the cities, it became apparent that there were a few instances where data were missing. For most variables, the actual number of cases with unknown information was quite small, with the exception of data on births to mothers with no prenatal care. In preparing summary tabulations for this report, the following guidelines were established for the treatment of unknown data:

- Events with unknown race were allocated according to the distribution of known race in poverty and nonpoverty areas.
- Births with legitimacy status unknown were considered legitimate.
- Births with other characteristics unknown, that is, birth weight, educational attainment, or prenatal care, were subtracted from figures for total births used as denominators before percents or ratios were computed.
- Events for which the census tract (or other small area) of residence was unknown were allocated to nonpoverty areas.

Indirect Standardization of Infant Mortality Rates

Since previous studies have indicated both a high correlation between infant mortality and birth weight and a substantial difference in birth weight between white infants and infants of all other races, it was considered desirable to determine how much of the observed differences in infant mortality between color groups could be attributed to differences in weight at birth. This was achieved by use of standardized infant mortality rates. The direct method of standardization could not be used since it would have

required knowledge of weight-specific infant mortality rates for the areas under study, and these were not available. Therefore, the indirect method of rate standardization, which relies instead on weight-specific rates of a standard population, was employed. The standard used was the weight-specific infant mortality rates for the United States, derived from a study of infant mortality from linked records for the 1960 live-birth cohort.¹⁸ The formula applied is as follows:

Weight-standardized infant mortality rate for given color group =

$$\left(\frac{d_c}{\sum_w M_w b_{w,c}} \right) M$$

where d_c is the observed number of infant deaths for a given color group in a given city; M_w , the weight-specific rates of the standard population; $b_{w,c}$, the number of births for each birth-weight category for a given color group; and M , the crude infant mortality rate of the standard population. The birth-weight categories are (1) births weighing 2,500 grams or less and (2) births weighing 2,501 grams or more.

Direct Standardization of Death Rates

To compare death rates of the 19 cities in this study by color without the influence of differences in age composition, the direct method of standardization of death rates was used. In this method a standard population is chosen and its age distribution is used as weights for computing the weighted average of the age-color-specific death rates in a given city. The standard popula-

tion employed was the 1970 average age distribution, without regard to color, of the 19 cities under study. The formula for standardization is:

Age-adjusted death rate for given color group =

$$\frac{\sum_a m_{a,c} P_a}{P} \times 1,000$$

where $m_{a,c}$ are age-color-specific death rates in the given city, P_a represents the standard population at each age, and P represents the total standard population.

Age-adjusted rates were computed separately for the white population and for the population of races other than white in each city, permitting intracity as well as intercity color comparisons of mortality levels.

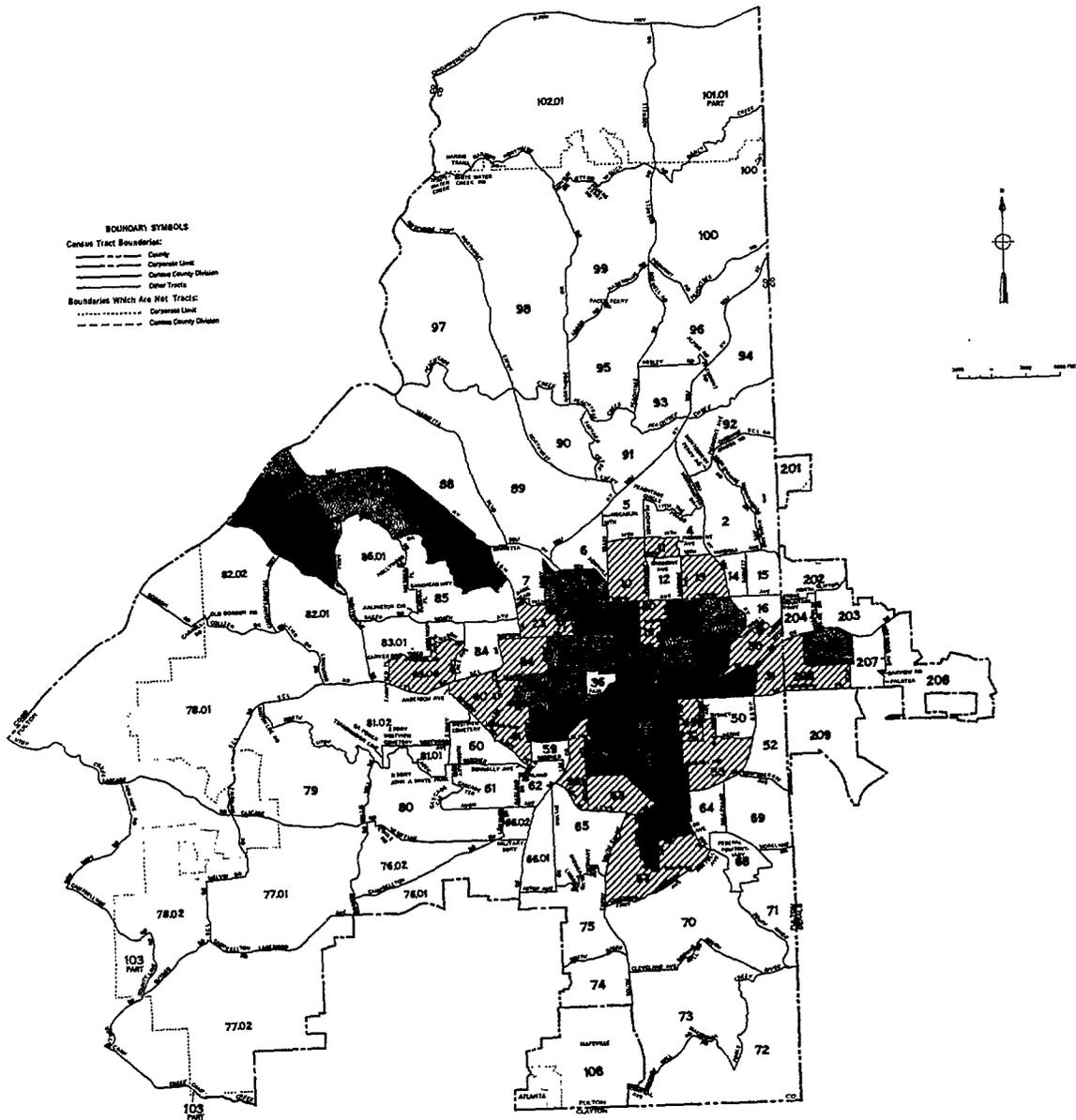


APPENDIX II. MAPS OF SELECTED LOW-INCOME AREAS OF CITIES UNDER STUDY: U.S. BUREAU OF THE CENSUS, 1970 CENSUS OF POPULATION

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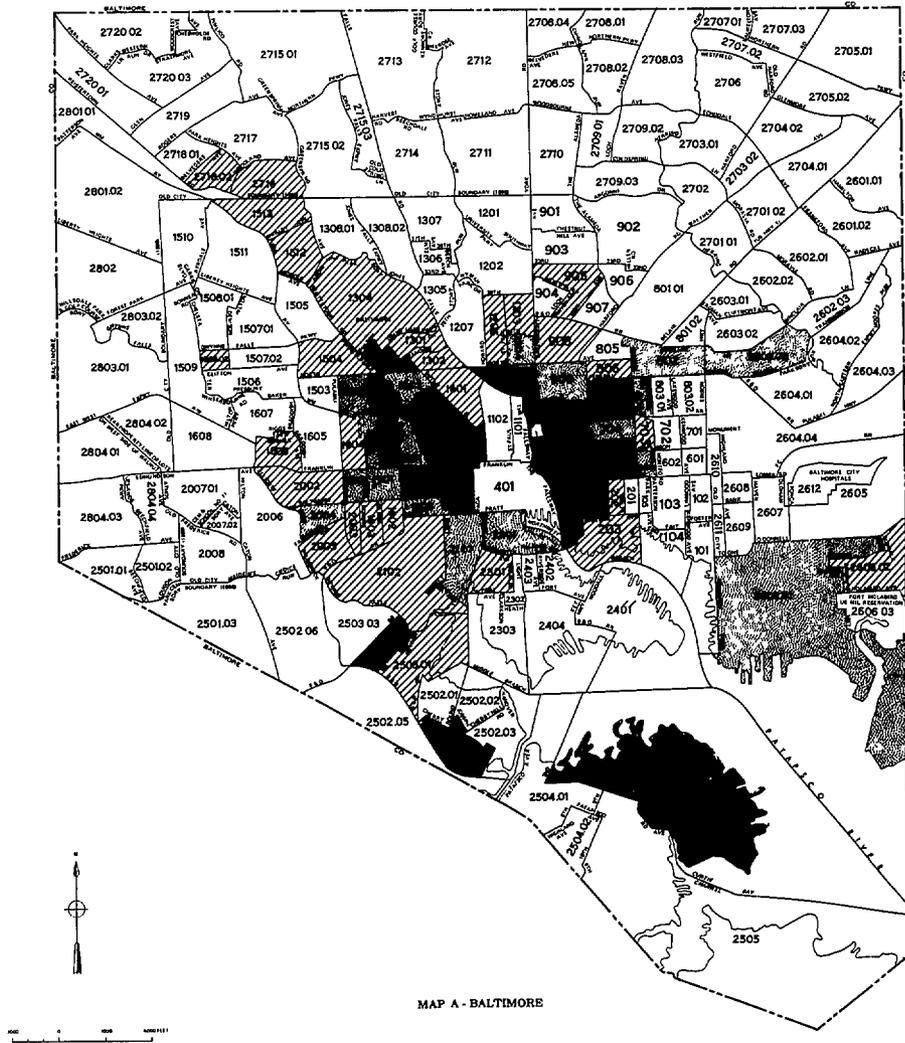
SELECTED LOW-INCOME AREAS IN ATLANTA, GA. : 1970



MAP A - ATLANTA AND VICINITY

PERCENT OF PERSONS BELOW THE LOW-INCOME (POVERTY) LEVEL IN 1969:	NO. OF TRACTS
 20.0% to 29.9%	(17)
 30.0% to 39.9%	(14)
 40.0% and Over	(19)

SELECTED LOW-INCOME AREAS IN BALTIMORE, MD. : 1970



BOUNDARY SYMBOLS

Census Tract Boundaries.

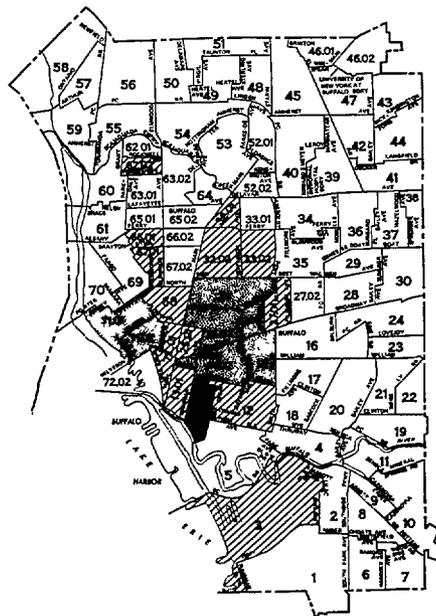
- State
- County
- Corporate Limit
- Major Civil Division
- Other Tracts
- Unincorporated Place

Boundaries Which Are Not Tracts.

- Corporate Limit
- Unincorporated Place

PERCENT OF PERSONS BELOW THE LOW-INCOME (POVERTY) LEVEL IN 1969:	NO. OF TRACTS
 20.0% to 29.9%	(29)
 30.0% to 39.9%	(18)
 40.0% and Over	(24)

SELECTED LOW-INCOME AREAS IN BUFFALO, N.Y. : 1970



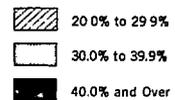
MAP A - BUFFALO

BOUNDARY SYMBOLS
 Census Tract Boundaries:
 - - - - - International
 - - - - - County
 - - - - - Corporate Limit
 - - - - - Minor Civil Division
 - - - - - Other Tracts
 Boundaries Which Are Not Tracts:
 - - - - - Corporate Limit



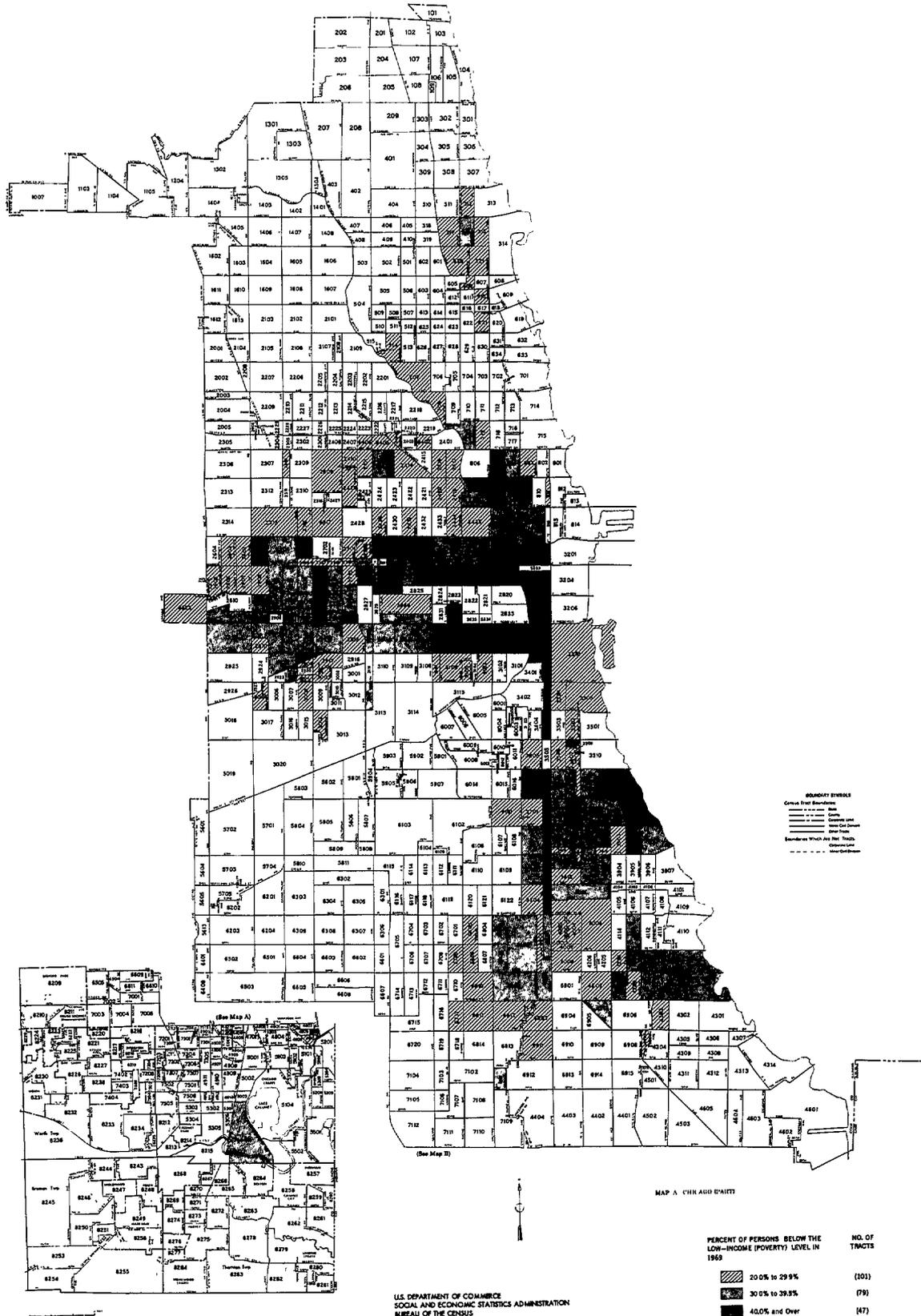
U.S. DEPARTMENT OF COMMERCE
 SOCIAL AND ECONOMIC STATISTICS ADMINISTRATION
 BUREAU OF THE CENSUS

PERCENT OF PERSONS BELOW THE
 LOW-INCOME (POVERTY) LEVEL IN
 1969:

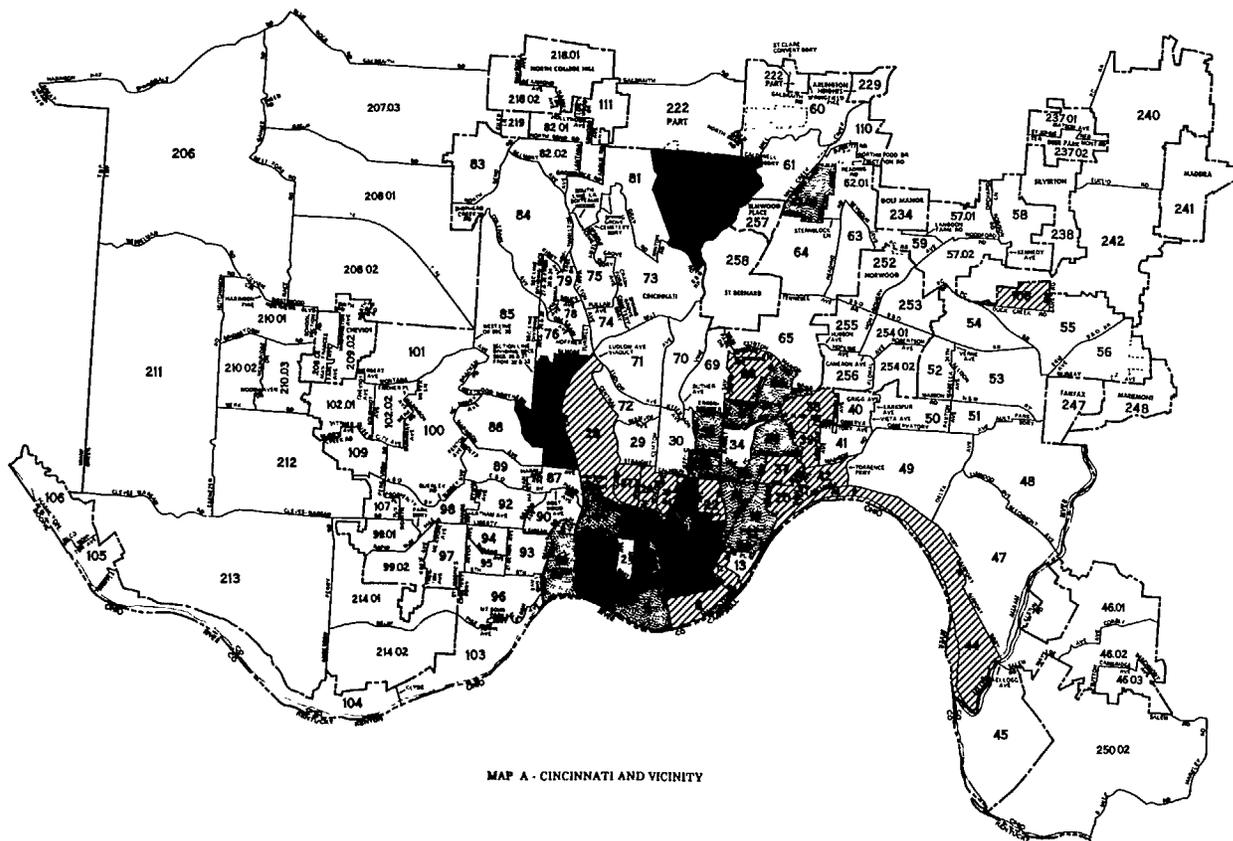


NO. OF
 TRACTS
 (13)
 (8)
 (1)

SELECTED LOW-INCOME AREAS IN CHICAGO, ILL : 1970



SELECTED LOW-INCOME AREAS IN CINCINNATI, OHIO : 1970



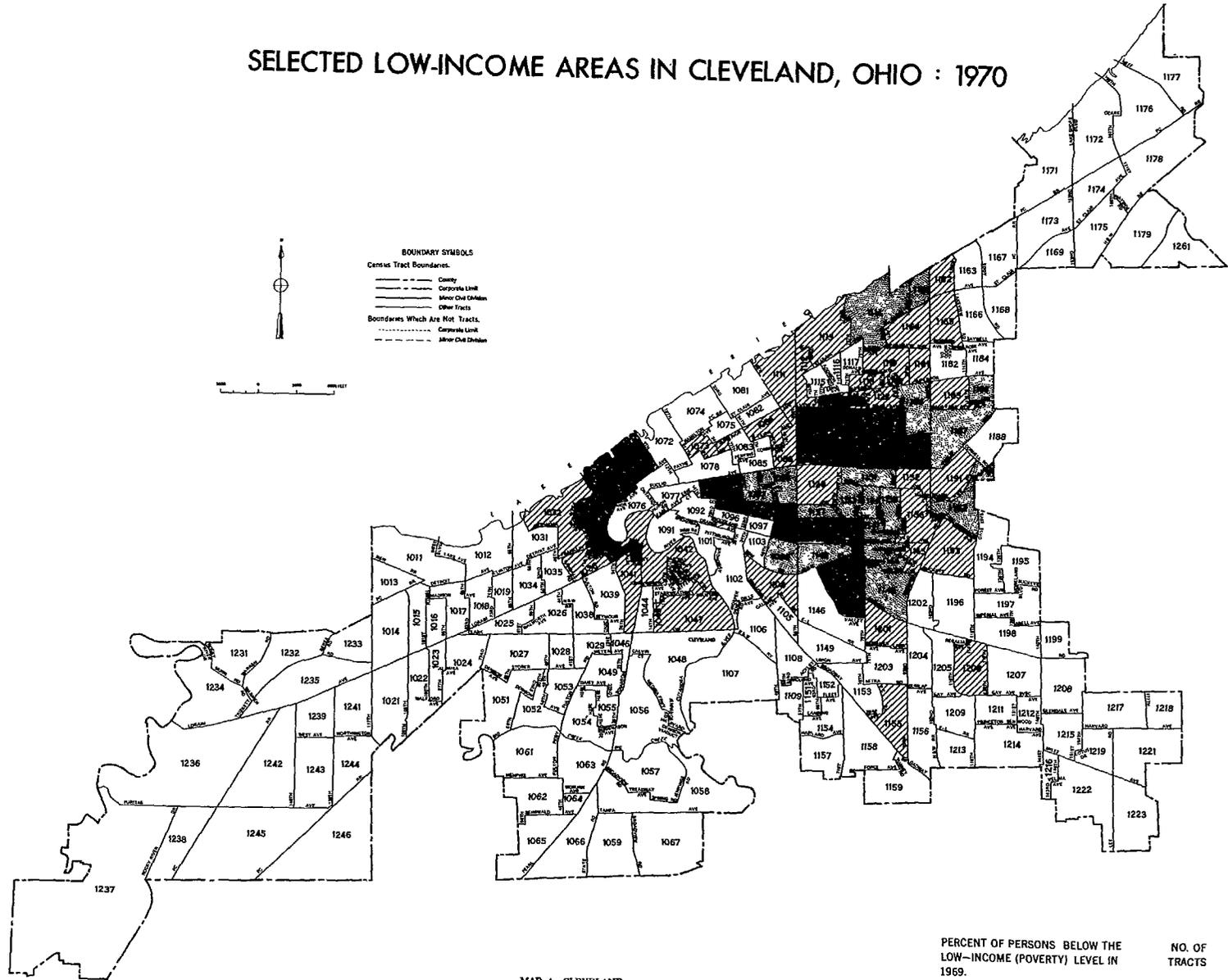
MAP A - CINCINNATI AND VICINITY

BOUNDARY SYMBOLS
Census Tract Boundaries:
 State
 County
 Corporate Limit
 Minor Civil Division
 Other Tracts
Boundaries Which Are Not Tracts:
 Corporate Limit
 Minor Civil Division

PERCENT OF PERSONS BELOW THE LOW-INCOME (POVERTY) LEVEL IN 1969:	NO OF TRACTS
20.0% to 29.9%	(16)
30.0% to 39.9%	(14)
40.0% and Over	(17)

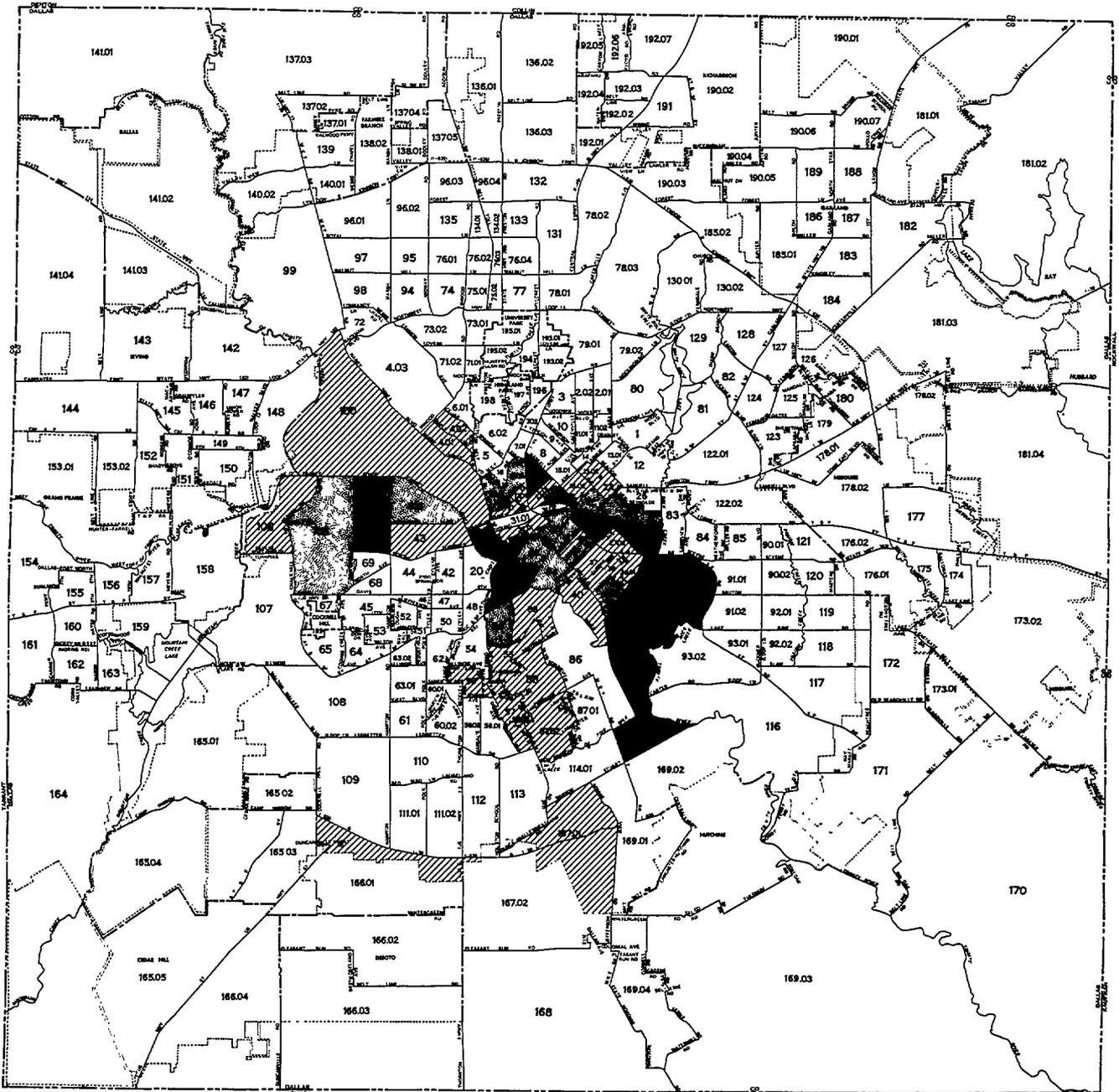
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 BUREAU OF THE CENSUS

SELECTED LOW-INCOME AREAS IN CLEVELAND, OHIO : 1970



MAP A - CLEVELAND

SELECTED LOW-INCOME AREAS IN DALLAS, TEX. : 1970



BOUNDARY SYMBOLS
 Census Tract Boundaries:
 County
 City
 Census County Division
 Other Tracts
 Boundaries Which Are Not Tracts:
 Census County Division



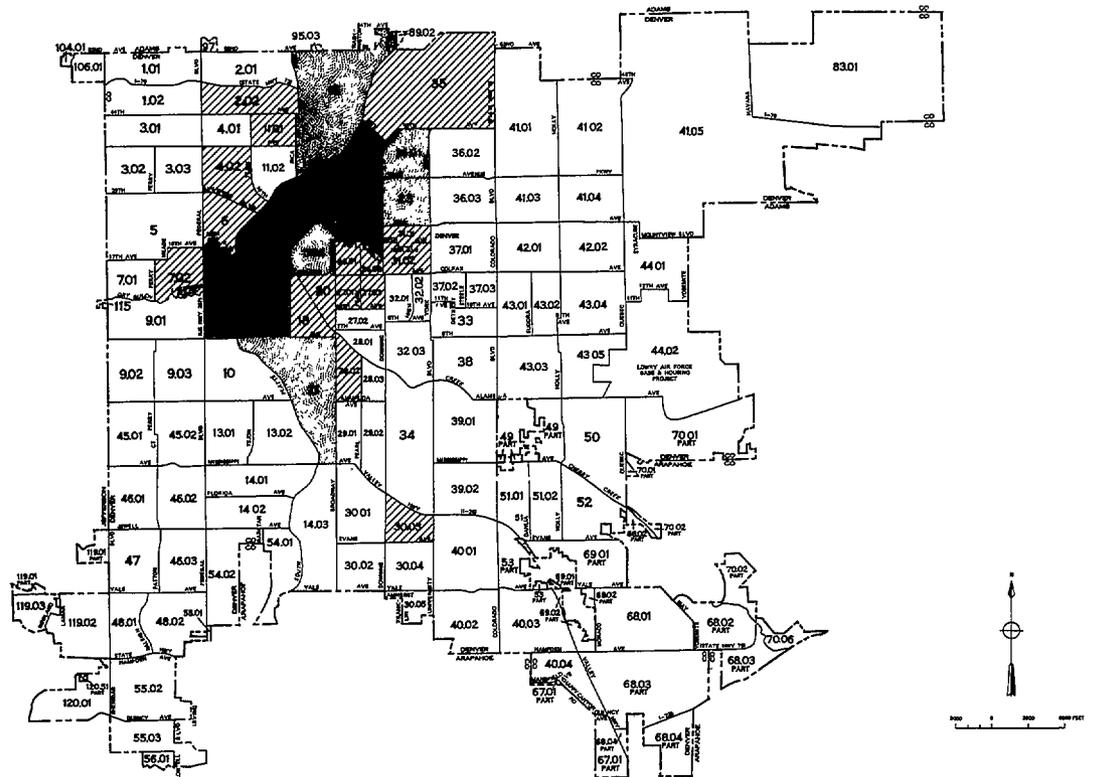
MAP A - DALLAS AND VICINITY

PERCENT OF PERSONS BELOW THE LOW-INCOME (POVERTY) LEVEL IN 1969:

	20.0% to 29.9%	(27)
	30.0% to 39.9%	(13)
	40% and Over	(11)

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SELECTED LOW-INCOME AREAS IN DENVER, COLO. : 1970



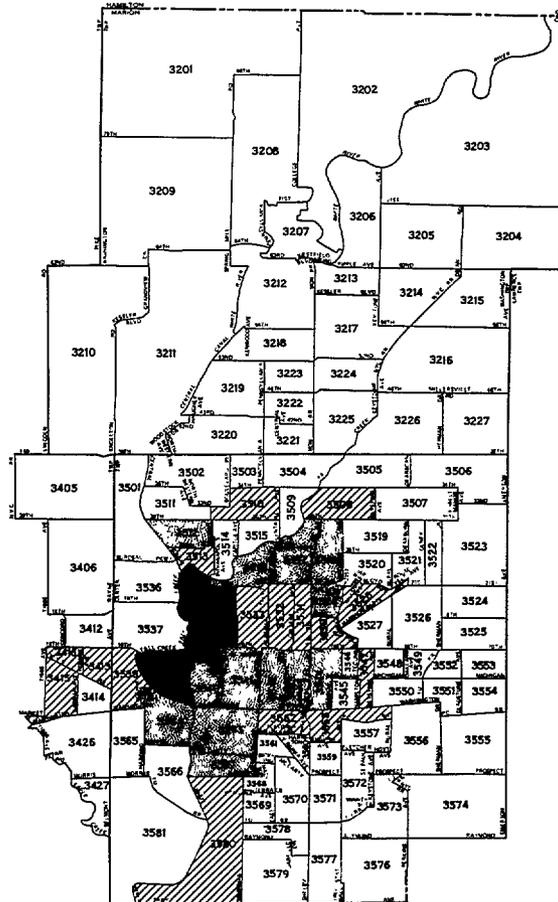
MAP A - DENVER

BOUNDARY SYMBOLS
 Census Tract Boundaries: _____
 County _____
 Corporate Limit _____
 Other Tracts _____
 Boundaries Which Are Not Tracts: _____
 Corporate Limit _____

PERCENT OF PERSONS BELOW THE
 LOW-INCOME (POVERTY) LEVEL IN
 1969:

	20.0% to 29.9%	(16)
	30.0% to 39.9%	(5)
	40.0% and Over	(7)

SELECTED LOW-INCOME AREAS IN INDIANAPOLIS, IND. : 1970



0 1000 2000 FEET

MAP A - INDIANAPOLIS (PART)



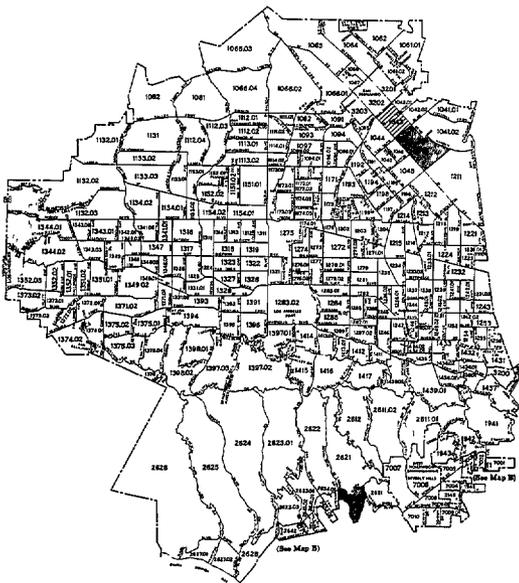
BOUNDARY SYMBOLS
Census Tract Boundaries:
 - - - - - County
 - - - - - Corporate Limit
 - - - - - Minor Civil Division
 - - - - - Other Tracts
Boundaries Which Are Not Tracts:
 - - - - - Corporate Limit
 - - - - - Minor Civil Division

PERCENT OF PERSONS BELOW THE
 LOW-INCOME (POVERTY) LEVEL IN
 1969:

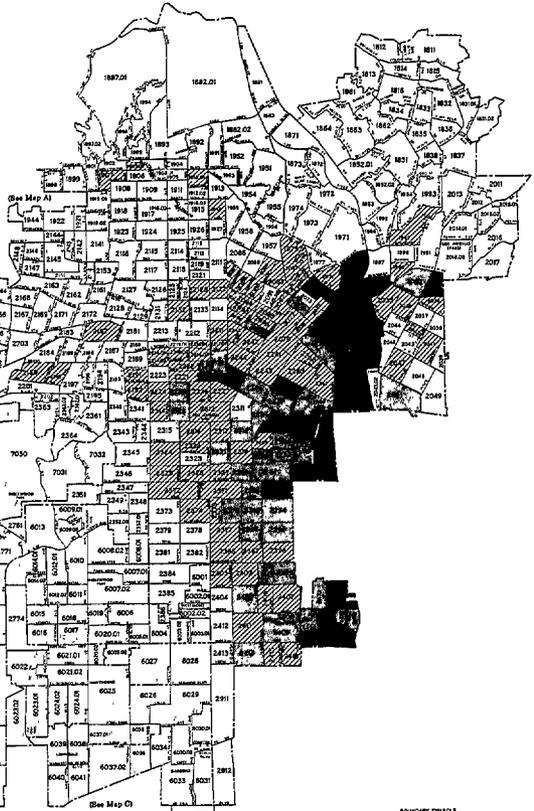
Shading Pattern	Percentage Range	No. of Tracts
Diagonal lines	20.0% to 29.9%	(16)
Stippled pattern	30.0% to 39.9%	(13)
Solid black	40.0% and Over	(3)

U.S. DEPARTMENT OF COMMERCE
 SOCIAL AND ECONOMIC STATISTICS ADMINISTRATION
 BUREAU OF THE CENSUS

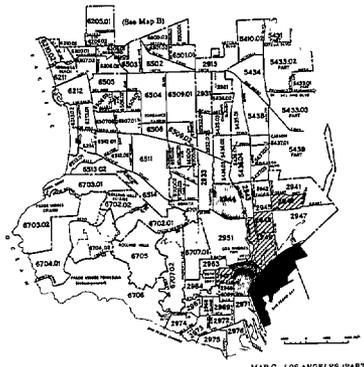
SELECTED LOW-INCOME AREAS IN LOS ANGELES, CALIF. : 1970



MAP A LOS ANGELES (PART) AND VICINITY



MAP B LOS ANGELES (PART) AND VICINITY



MAP C LOS ANGELES (PART) AND VICINITY

BOUNDARY TYPES
 Census Tract Boundaries
 Interstate
 State
 County
 City
 Other City
 Other County
 Other State
 International
 Boundaries Shaded for All States
 - - - - - International

PERCENT OF PERSONS BELOW THE LOW-INCOME (POVERTY) LEVEL IN 1970	NO. OF TRACTS
	(94)
	(44)
	(25)

SELECTED LOW-INCOME AREAS IN MEMPHIS, TENN. : 1970

PERCENT OF PERSONS BELOW THE
LOW-INCOME (POVERTY) LEVEL IN
1969:



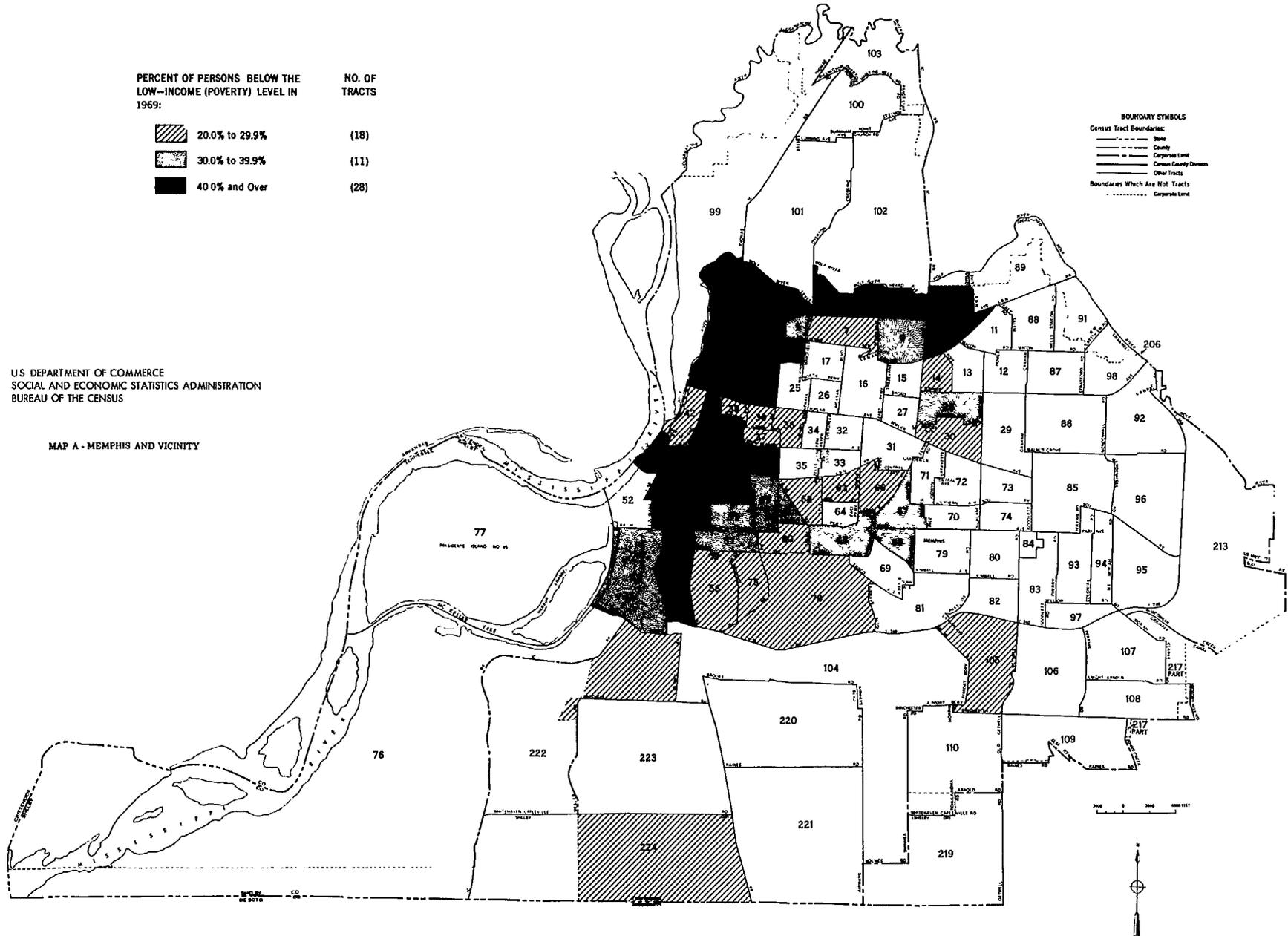
NO. OF
TRACTS

(18)
(11)
(28)

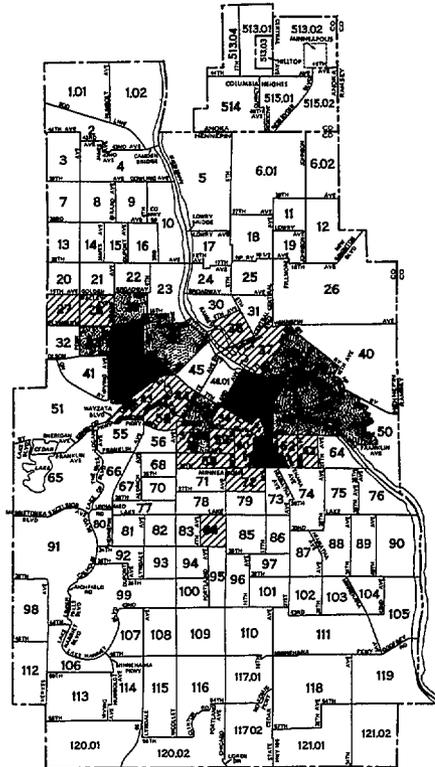
BOUNDARY SYMBOLS
Census Tract Boundaries:
State
County
Corporate Limit
Census County Division
Other Tracts
Boundaries Which Are Not Tracts
Corporate Limit

U.S. DEPARTMENT OF COMMERCE
SOCIAL AND ECONOMIC STATISTICS ADMINISTRATION
BUREAU OF THE CENSUS

MAP A - MEMPHIS AND VICINITY



SELECTED LOW-INCOME AREAS IN MINNEAPOLIS, MINN. : 1970



BOUNDARY SYMBOLS

Census Tract Boundaries:
 - - - - - State
 - - - - - County
 - - - - - Corporate Limit
 - - - - - Minor Civil Division
 - - - - - Other Tracts

Boundaries Which Are Not Tracts:
 - - - - - Corporate Limit
 - - - - - Minor Civil Division

MAP A - MINNEAPOLIS AND VICINITY



PERCENT OF PERSONS BELOW THE
LOW-INCOME (POVERTY) LEVEL IN
1969:

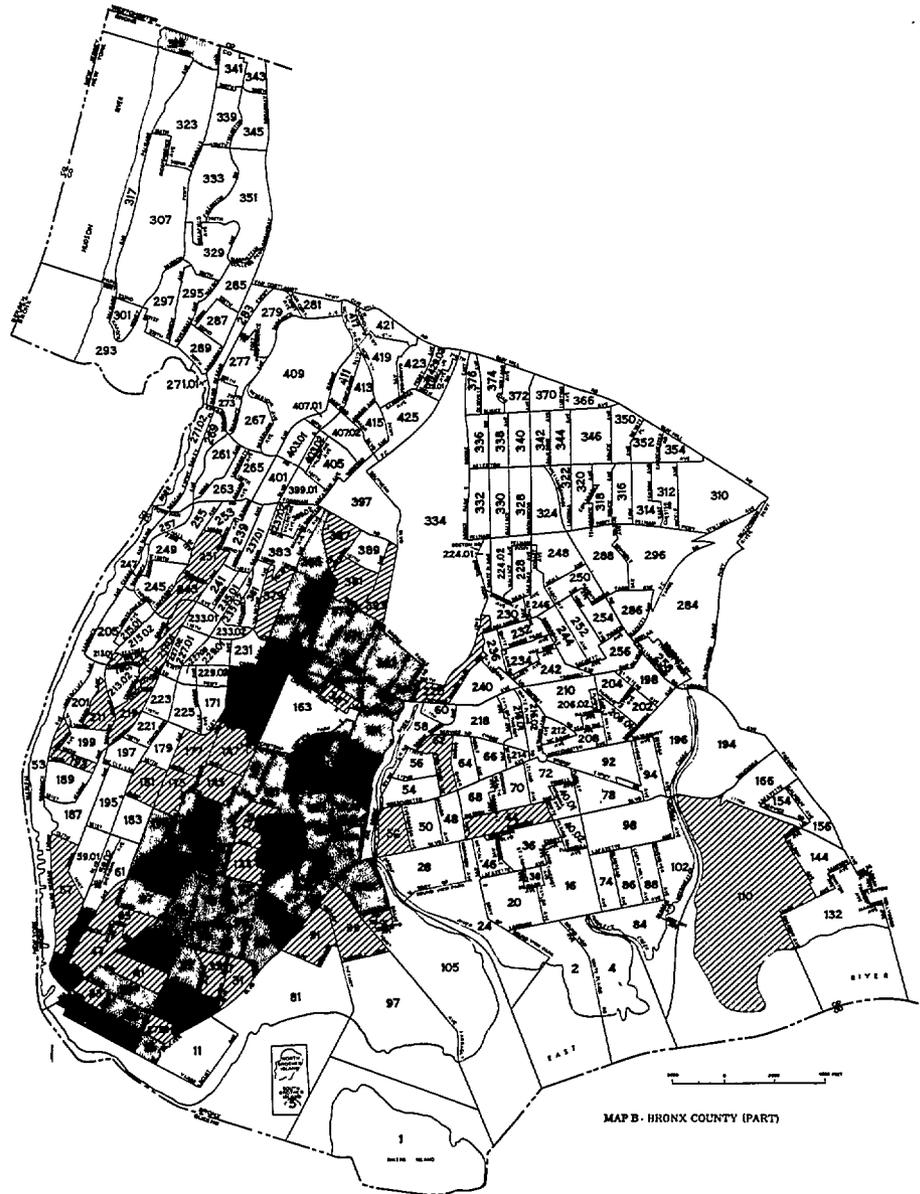


NO OF
TRACTS

(16)
(9)
(5)

SELECTED LOW-INCOME AREAS IN NEW YORK, N.Y. : 1970

BRONX COUNTY



MAP B - BRONX COUNTY (PART)

BOUNDARY SYMBOLS

Census Tract Boundaries:

- River
- Canal
- Corporate Limit
- Minor Civil Division
- Other Tract
- Unincorporated Place

Boundaries Which Are Not Tracts:

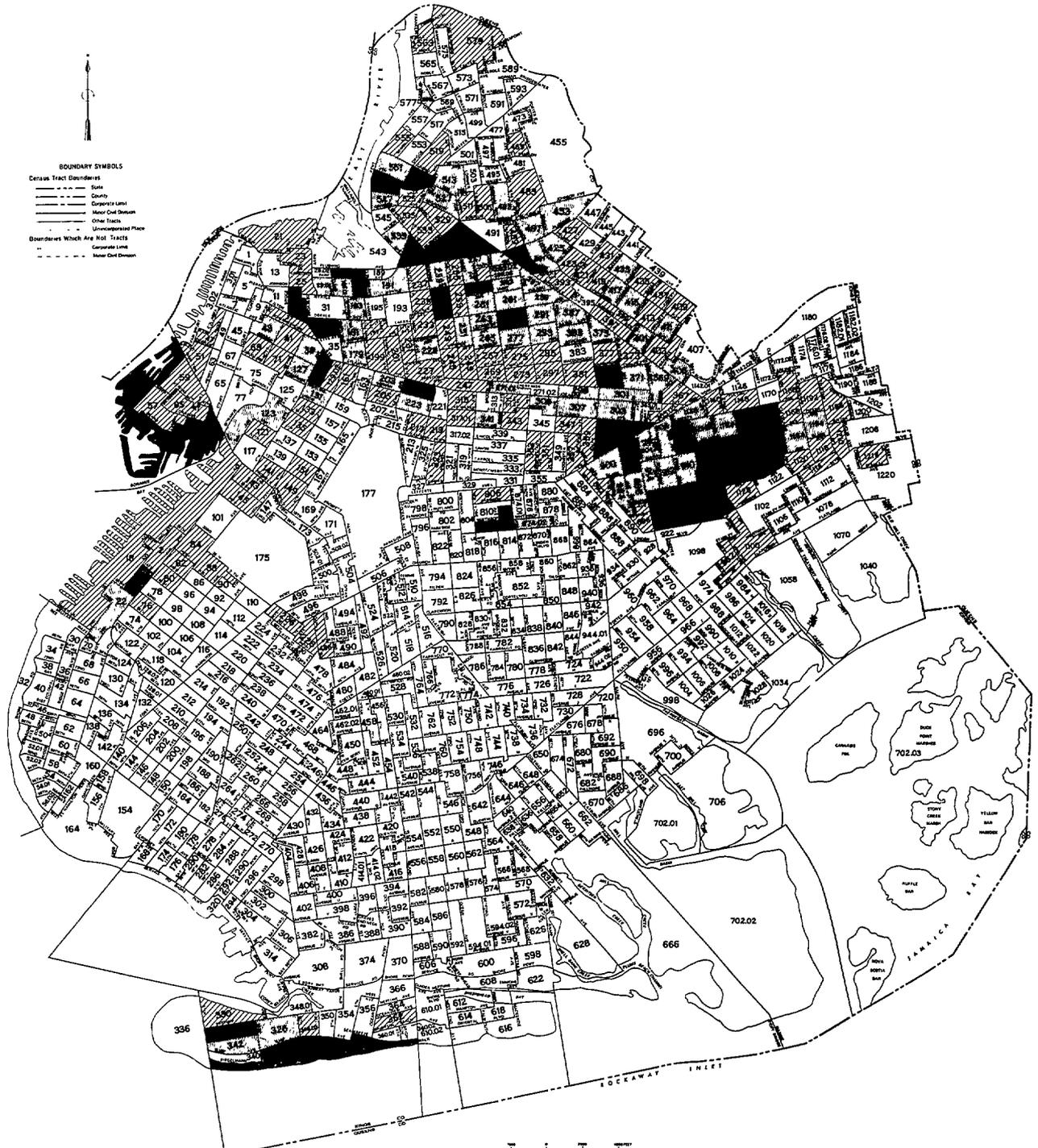
- Corporate Limit
- Minor Civil Division

PERCENT OF PERSONS BELOW THE LOW-INCOME (POVERTY) LEVEL IN 1969:	NO OF TRACTS
20.0% to 29.9%	(36)
30.0% to 39.9%	(40)
40.0% and Over	(20)

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SELECTED LOW-INCOME AREAS IN NEW YORK, N.Y. : 1970

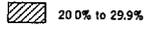
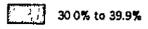
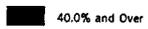
KINGS COUNTY



BOUNDARY SYMBOLS

Census Tract Boundaries
 - - - - - State
 - - - - - County
 - - - - - Corporate Limit
 - - - - - Minor Civil Division
 - - - - - Other Tracts
 - - - - - Unincorporated Place

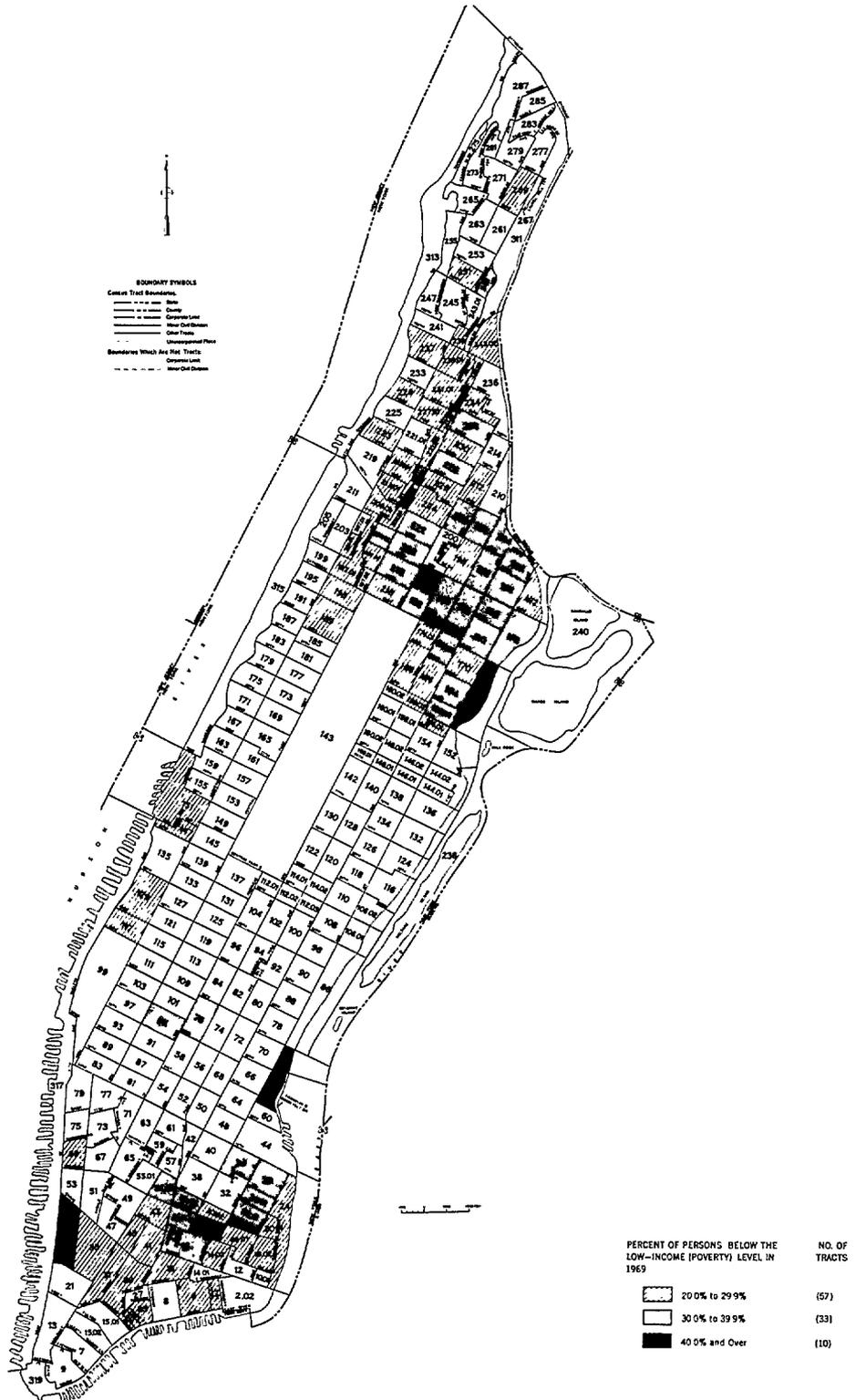
Boundaries Which Are Not Tracts
 - - - - - Interstate Line
 - - - - - Minor Civil Division

PERCENT OF PERSONS BELOW THE LOW-INCOME (POVERTY) LEVEL IN 1969:	NO. OF TRACTS
 20.0% to 29.9%	(117)
 30.0% to 39.9%	(75)
 40.0% and Over	(40)

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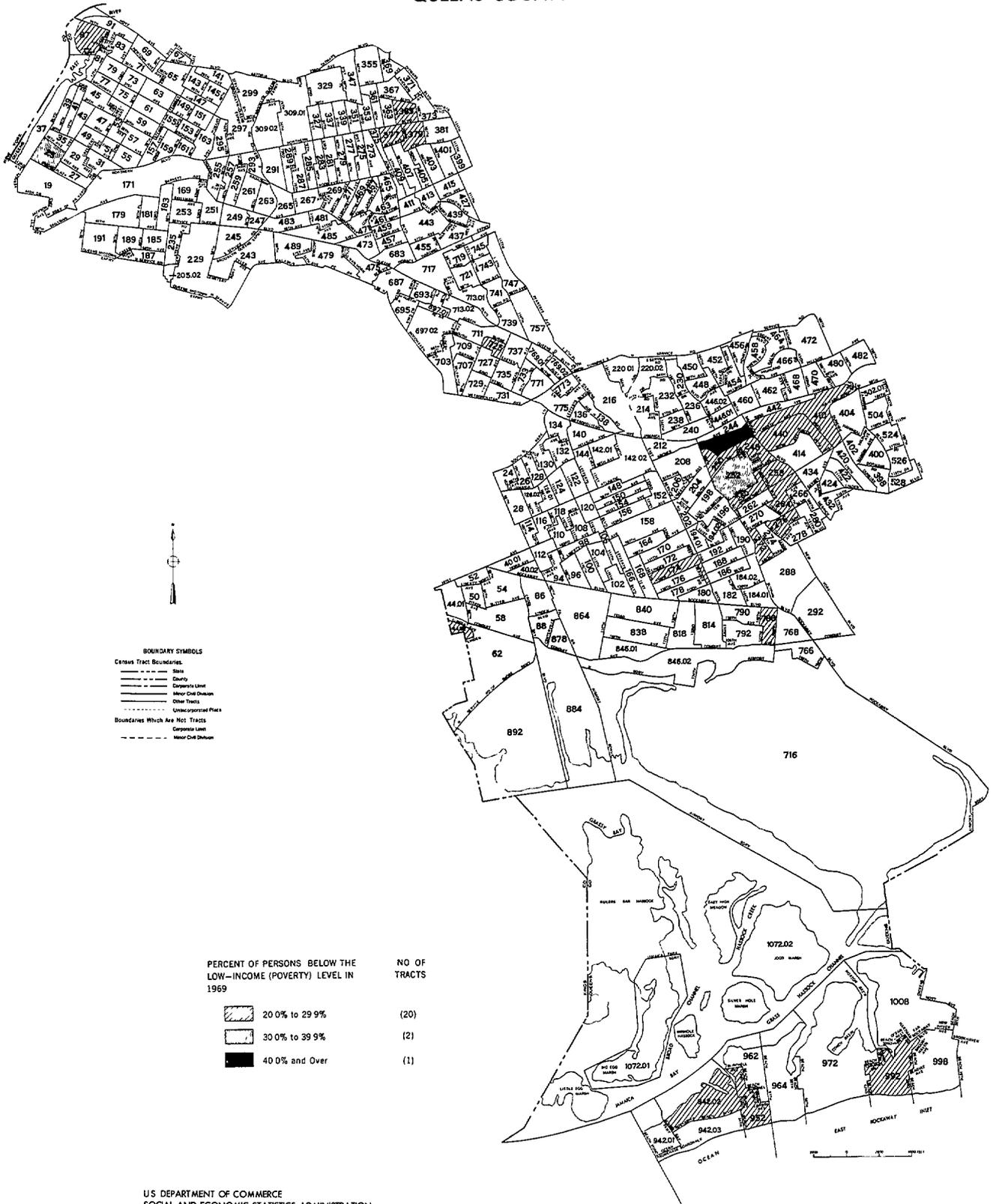
SELECTED LOW-INCOME AREAS IN NEW YORK, N.Y.: 1970

NEW YORK COUNTY



SELECTED LOW-INCOME AREAS IN NEW YORK, N.Y. : 1970

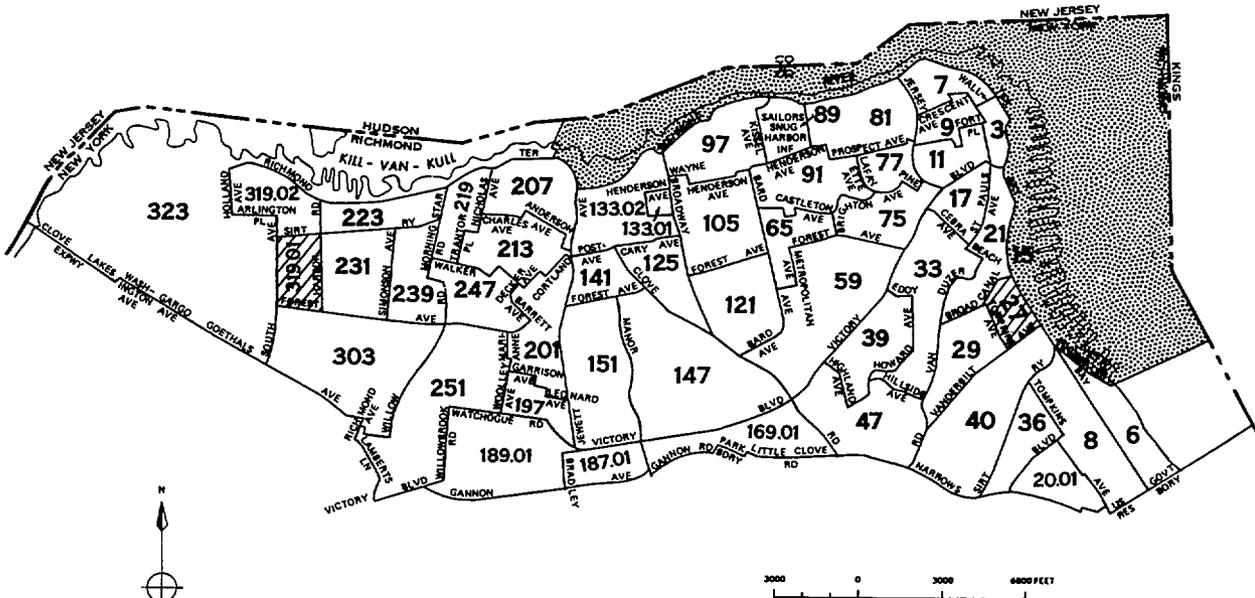
QUEENS COUNTY



U.S. DEPARTMENT OF COMMERCE
SOCIAL AND ECONOMIC STATISTICS ADMINISTRATION
BUREAU OF THE CENSUS

SELECTED LOW-INCOME AREAS IN NEW YORK, N.Y.: 1970

RICHMOND COUNTY



BOUNDARY SYMBOLS

- Census Tract Boundaries:**
- State
 - County
 - Corporate Limit
 - Minor Civil Division
 - Other Tracts
 - Unincorporated Place
- Boundaries Which Are Not Tracts:**
- Corporate Limit
 - Minor Civil Division

PERCENT OF PERSONS BELOW THE
LOW-INCOME (POVERTY) LEVEL IN
1969:

NO. OF
TRACTS

	20.0% to 29.9%	(2)
	30.0% to 39.9%	(1)
	40.0% and Over	(0)

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SELECTED LOW-INCOME AREAS IN PHILADELPHIA, PA. : 1970



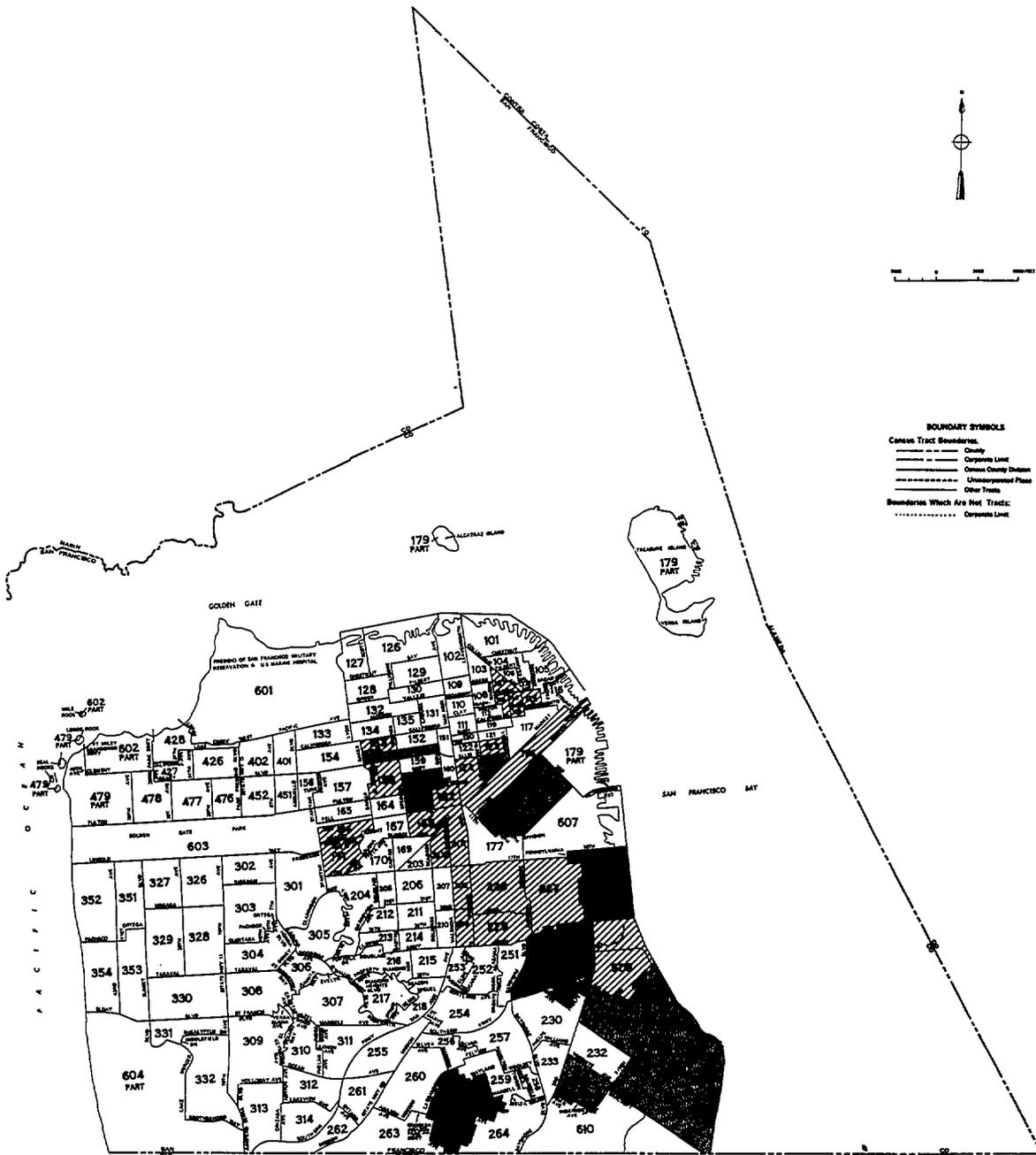
MAP A - PHILADELPHIA

BOUNDARY SYMBOLS
 Census Tract Boundaries
 - - - - - State
 - - - - - County
 - - - - - Corporate Limit
 - - - - - Minor Civil Division
 - - - - - Other Tracts
 Boundaries Which Are Not Tracts
 - - - - - Corporate Limit

PERCENT OF PERSONS BELOW THE LOW-INCOME (POVERTY) LEVEL IN 1969	NO OF TRACTS
20.0% to 29.9%	(50)
30.0% to 39.9%	(27)
40.0% and Over	(23)

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SELECTED LOW-INCOME AREAS IN SAN FRANCISCO, CALIF. : 1970



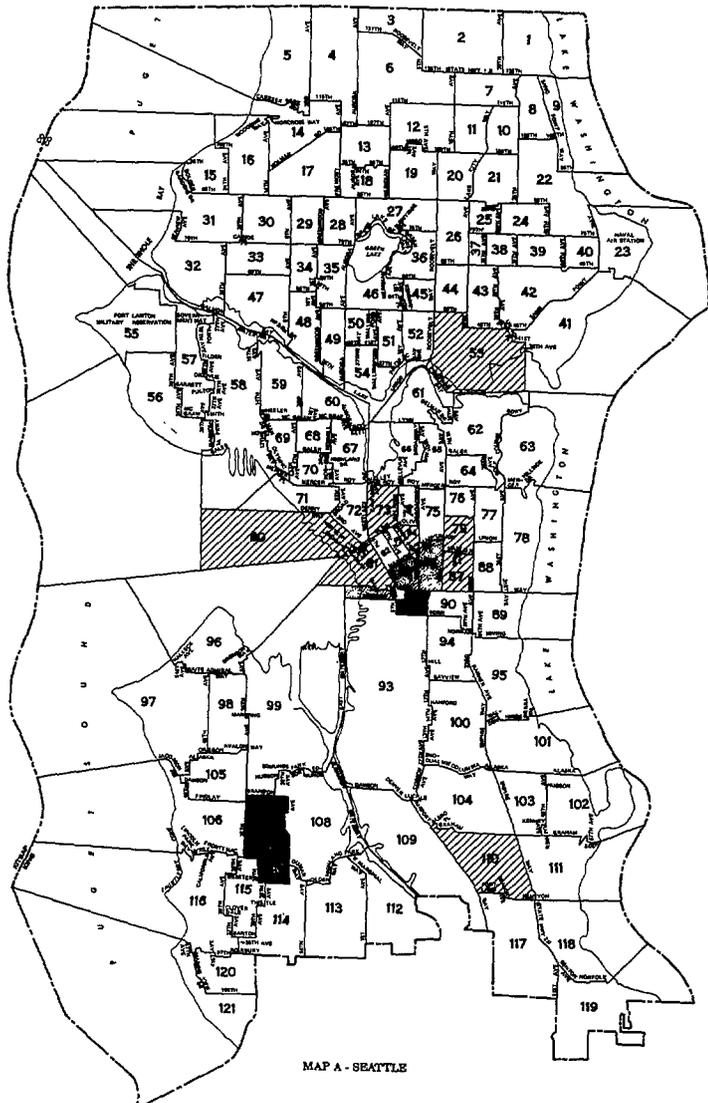
MAP A - SAN FRANCISCO

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PERCENT OF PERSONS BELOW THE
LOW-INCOME (POVERTY) LEVEL IN
1969:

PERCENT OF PERSONS BELOW THE LOW-INCOME (POVERTY) LEVEL IN 1969:	NO. OF TRACTS
20.0% to 29.9%	(22)
30.0% to 39.9%	(8)
40.0% and Over	(4)

SELECTED LOW-INCOME AREAS IN SEATTLE, WASH. : 1970



MAP A - SEATTLE



BOUNDARY SYMBOLS

Census Tract Boundaries:

- County
- Corporate Limit
- Census County Division
- Other Tracts

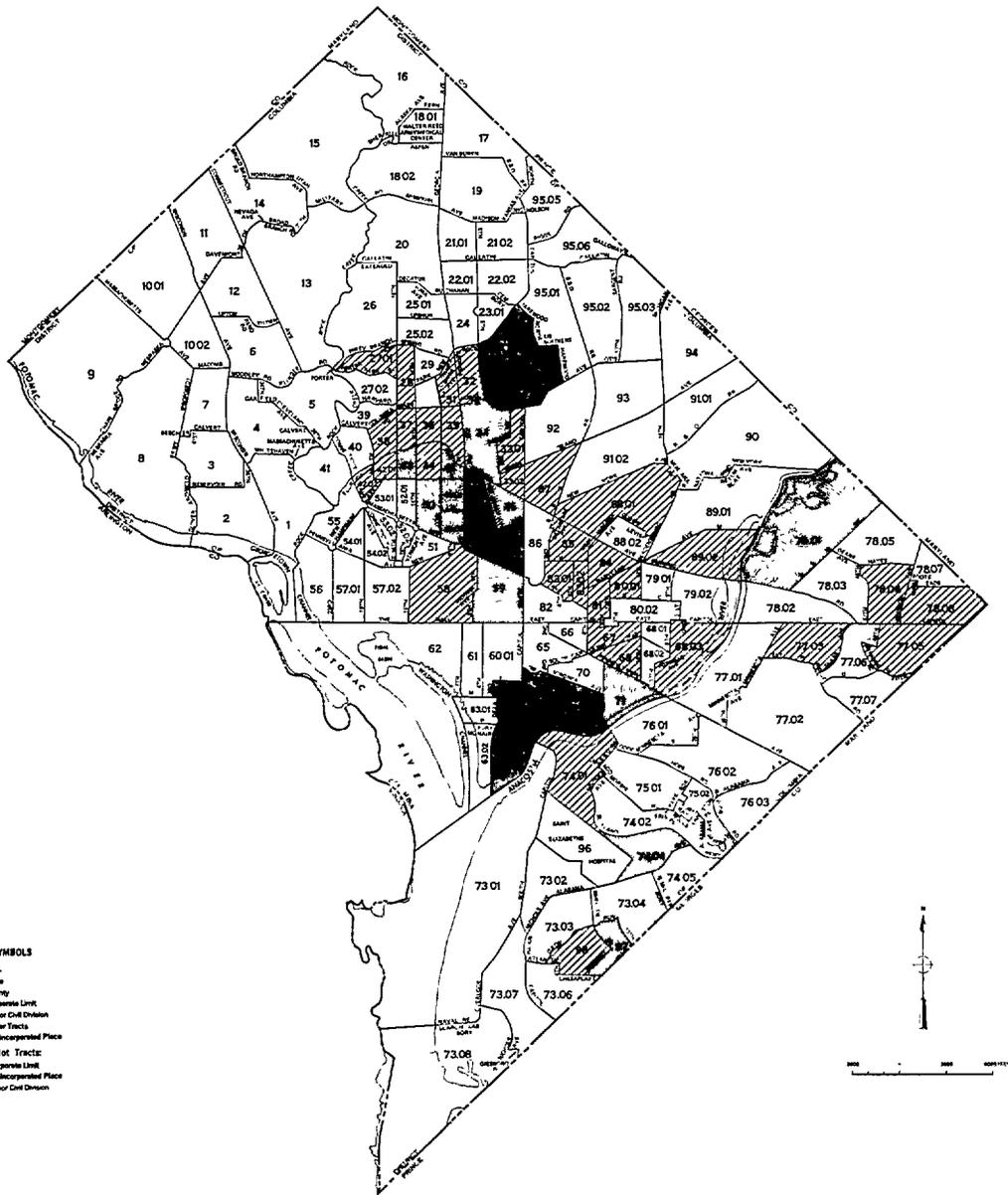
Boundaries Which Are Not Tracts:

- Corporate Limit
- Census County Division

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PERCENT OF PERSONS BELOW THE LOW-INCOME (POVERTY) LEVEL IN 1969*	NO. OF TRACTS
 20.0% to 29.9%	(8)
 30.0% to 39.9%	(3)
 40.0% and Over	(2)

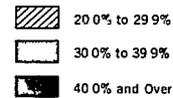
SELECTED LOW-INCOME AREAS IN WASHINGTON, D.C. : 1970



MAP A - WASHINGTON, D.C

U.S. DEPARTMENT OF COMMERCE
 SOCIAL AND ECONOMIC STATISTICS ADMINISTRATION
 BUREAU OF THE CENSUS

PERCENT OF PERSONS BELOW THE
 LOW-INCOME (POVERTY) LEVEL IN
 1969



NO OF
 TRACTS
 (32)
 (12)
 (8)

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