# Report of Charles M. Tolbert and Forrest A. Deseran:

# Analysis of Louisiana Districts in the 104th U.S. Congress

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Final Report

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## Purpose of Analysis

We were asked to examine districts of the 104th U.S. Congress as delineated by the Louisiana state legislature in Act 1. The primary purpose of our analysis is to determine whether the districts have demographic commonality other than race. We focus on District 4, making comparisons between it and other Louisiana congressional districts and analyzing the extent of homogeneity within District 4.

As sociologists and social demographers, our orientation is largely socioeconomic; that is, our inquiry is guided by fundamental aspects of social stratification, class, and inequality. We employ housing data such as home values, rental values, availability of automobiles, availability of telephones, and population factors such as income, unemployment, poverty, education, and occupations. In a stratification perspective, these various indicators can all be linked to political interests, political participation and political outcomes. Taken together, these factors also provide a reasonably rich database from which to assess the extent of socioeconomic commonality within and between Louisiana Congressional districts. These are preliminary findings; further analysis may be performed. We are being compensated at a rate of $50 per hour period. We have not previously served as expert witnesses.

## Credentials and Qualifications

Charles M. Tolbert, II, is Professor of Sociology and Rural Sociology at Louisiana State University and Senior Research Scientist in the Louisiana Population Data Center. He is in his fourth year at LSU after spending 11 years at Florida State University, four of those as Chair of the Department of Sociology. He also lived in Louisiana as a child while his father pursued his doctorate in sociology at LSU. Tolbert's research has been funded by the National Science Foundation, the U.S. Department of Agriculture (Economic Research Service), the U.S. Department of the Interior (Minerals Management Service and National Marine Fisheries Service), the U.S. Department of Labor (Employment and Training Administration), the U.S. Department of Commerce (Economic Development Administration), and the Louisiana Universities Marine Consortium. He has written articles in journals such as *American Sociological Review*, *American Journal of Sociology*, *Social Forces*, *Social Science Quarterly*, *Rural Sociology*, and *Work and Occupations*. He is also the author of three books and, most recently, a CD-ROM containing unique data he developed from the 1990 Census. Tolbert's major area of research is social stratification. He specializes in quantitative labor market and employment analyses and also conducts socioeconomic studies. Tolbert has just been elected to the Executive Committee of the Southwestern Sociological Association. He served as Recording Secretary in the Southern Sociological Society from 1988-1993 and will chair that organization's 1997 program. In the Rural Sociological Society, he holds Awards and Publications committee

memberships and has served as liaison to the U.S. Bureau of the Census. A curriculum vitae that accurately details Tolbert's training and qualifications is attached to this report.

Forrest A. Deseran is Professor of Sociology and Rural Sociology at Louisiana State University and Director of the Louisiana Population Data Center. He joined the faculty at LSU in 1975 after completing his Ph.D. in Sociology at Colorado State University. Deseran's research has been funded by the U.S. Department of Agriculture (Economic Research Service), the Department of Commerce (Economic Development Administration), the Lower Mississippi Development Commission, the U.S. Department of the Interior (Minerals Management Service and National Marine Fisheries Service), and the Louisiana Sea Grant College Program. He has written articles in journals such as *Rural Sociology*, *Journal of Rural Development*, *Social Psychology Quarterly*, *Community Development*, and *Youth and Society*. In addition, he recently published a book on inequality in labor markets in the U.S. He conducts community and socioeconomic studies, specializing on family structure and employment in local labor markets. Deseran served from 1991 to 1994 as senior editor for the Rural Studies Series published by Westview Press. He has chaired two U.S. Department of Agriculture Regional Research Projects dealing with labor markets and labor force differentiation. He currently serves on the Socioeconomic Assessment Panel for the Gulf of Mexico Fishery Management Council and is a member of the Rural Development Review Panel for the USDA National Research Initiative Program. A curriculum vitae that accurately details Deseran's training and qualifications is attached to this report.

**Distinctiveness of Louisiana Congressional Districts**

In this section, we compare the 104th Congressional districts of Louisiana. This descriptive analysis indicates the extent to which the seven districts are distinctive on important socioeconomic indicators. The information contained in Table 1 depicts a number of differences among the districts. Of these differences, those of District 4 are most distinct. The Census data indicate that District 4 has the lowest housing values, fewest telephones, lowest income, highest unemployment and poverty rates, and fewest high school graduates and managerial and professional workers. These results are a compelling basis for concluding that District 4 is indeed distinct from the remaining Louisiana Congressional districts. These same data are summarized in ranks (Table 2) where the highest data value is given a rank of one and the lowest assigned a seven. The mean ranks are displayed in the lowermost row of the table. District 4 has a mean of 6.8, meaning it is the lowest or nearly lowest on every indicator. The next lowest mean ranking (4.9 for District 3) is much lower. Statistically speaking, the mean ranking of District 4 is an outlier on these socioeconomic factors; that is, its observed values are so extreme that they stand apart from the rest of the distribution. In substantive terms, these rankings provide further corroboration of the distinctiveness of District 4.

## Whether a Spurious Correlation Exists

In an earlier opinion, the District Court in this case raised the cogent point that the socioeconomic distinctiveness of District 4 could be entirely a function of race. In the jargon of the social sciences, a claim that something other than race is the primary commonality of the district could be a case of spurious relationships. The argument would be spurious if it could be demonstrated that the overall low socioeconomic standing of District 4 was due entirely to the low socioeconomic standing among the majority black population. This would mean that the socioeconomic standing of whites in District 4 was more similar to other whites around the state than to blacks in the same district. To test for the existence of a spurious correlation, we enter a control variable into the analysis to see if the original relationship continues to hold. If the control variable changes the pattern of results, then we have a spurious relationship. In this case, the all-important control variable is race, and we introduce it into the analysis by examining data on whites and blacks separately.

Though Tables 1 and 2 demonstrate the profound socioeconomic distinctiveness of District 4, it is important to entertain the possibility that this distinctiveness is due in large measure to the majority black population. We pursue this issue in two phases, first describing whites and blacks in each Louisiana Congressional district separately and then analyzing the extent of homogeneity within each district. In doing so, we address the issue of the spurious relationship.

Tables 3 and 4 display available 1990 Census data for the seven 104th Louisiana Congressional districts *for the white population only*. Table 3 contains basic socioeconomic indicators, and Table 4 indicates the rank of each district on the factors.[1] The data in Tables 3 and 4 show that District 4 whites rank lowest in Louisiana on housing values, income, unemployment, and poverty rate. They rank next to last on availability of automobiles and percent high school and college graduates. The mean ranking for District 4 is 6.6. The next highest ranking is 5.4 for whites in District 3. The data in Tables 3 and 4 strongly suggest that there is a distinctive socioeconomic commonality among whites in District 4 that sets them apart from whites in other Louisiana Congressional Districts.

Tables 5 and 6 display available 1990 Census data for the seven 104th Louisiana Congressional districts *for the black population only*. Unlike their white counterparts, blacks in District 4 are not low or lowest on every socioeconomic indicator. The rankings in Table 6 show that the socioeconomic standing of blacks in District 4 is about average (among other Louisiana blacks). The mean of District 4 ranks for blacks is 4.3, placing the District squarely in the middle of the overall rankings. It is important in this analysis to compare the relative standing of whites and blacks. The striking differences between blacks and whites on this fundamental socioeconomic dimension most surely reflects a legacy of discrimination. On indicator after

[1] There are fewer indicators in the race-specific tables because race breakdowns are available for fewer variables in the Census data.

indicator, district by district, the data items for blacks are lower to much lower than those for whites. It is interesting to note, however, that the relative distance between scores for blacks and whites in District 4 is not as great as in other districts. For example, the District 4 black per capita income of $5,488 is roughly half the $10,892 income of District 4 whites. In contrast, the black per capita income ($5,765) of District 1 is nearly one third of the white income ($14,971) there. The data values in Tables 3 and 5 are more similar for blacks and whites in District 4 in 6 of the 8 cases. Put another way, blacks and whites in District 4 are more similar socioeconomically than they are in any other Louisiana Congressional district.

These Census data strongly indicate that the spurious relationship argument does *not* hold in the case of the seven Louisiana Congressional districts. When we introduce a control for race into the analysis, we find blacks and whites in District 4 more similar in socioeconomic terms than in any other district in Louisiana. The low socioeconomic standing of District 4 is not simply (and spuriously) due to race. District 4 as drawn in Act 1 effectively delineates a working class population of whites and blacks with much in common (at least in socioeconomic terms). To be sure, working class blacks and whites have been fragmented in many ways (e.g., split labor markets and union segregation) that may lead to different social and political attitudes. Yet, these socioeconomic commonalities among blacks and whites are not unimportant. They serve as an important beginning for political participation and civic engagement which are preconditions for effective democracy.

## Further Evidence of Commonality

We have established that Louisiana District 4 of the 104th Congress is distinctive in that it groups working class blacks and whites who are more similar on the socioeconomic dimension than blacks and whites in other Louisiana districts. We now turn to a common measure of dispersion--the coefficient of variation (V)--which illustrates the extent of homogeneity within a district. V is defined simply as the standard deviation divided by the mean (multiplied here by 100 for ease in tabular presentation). A relatively low value for V means that there is considerable homogeneity within a district. A relatively larger value for V indicates greater heterogeneity. We compute V for socioeconomic indicators across parishes within Congressional districts. Since there are only two parishes (or parts thereof) in District 2, we omit it from the parish-level analyses.

Table 7 displays V for parishes and parts of parishes within Congressional districts in Louisiana. For example, the first row of the table contains dispersion measures for the median housing value item. The coefficient associated with the first Congressional district is the highest, indicating the greatest degree of heterogeneity among Louisiana districts. The V for the third Congressional district is 14.4, indicating the most homogeneity of the Congressional districts. The bottom row of Table 7 displays the average dispersion across all socioeconomic measures. It is most important to note that the fourth Congressional district exhibits the least dispersion and, consequently, is the most homogeneous on these socioeconomic indicators. Table 8 presents the

rank ordering of V across districts for all socioeconomic indicators, with a rank of 1 (one) being the most heterogeneous and a rank of 6 (six) being the most homogeneous. The results in Table 8 clearly show that District 4, with a mean rank of 5.6, is the most homogenous of the districts, further demonstrating the relative homogeneity of District 4.

Since the parishes and parts of parishes that compose each Congressional district vary in total population, we have repeated the analysis in Tables 7 and 8, weighting each unit by its population. The results of these weighted analyses can be found in Table 7w and Table 8w appended to this report. A comparison of the weighted findings and unweighted results reveals very little difference between them. With or without population weights, District 4 exhibits more socioeconomic homogeneity than any other Louisiana Congressional district.

In sum, our parish-level dispersion analyses show that District 4 is the most homogeneous of all Louisiana Congressional districts. This finding holds for parishes and parts of parishes that have been weighted by population and for unweighted parishes and parts of parishes. We now turn to inferences about variability across Louisiana Congressional districts, testing the hypotheses of random versus systematic variation.

## Inferential Tests of District Distinctiveness

In this section, we test the hypothesis that variation across Louisiana Congressional districts reflects only chance or random factors. Our alternative hypothesis is that differences across districts are systematic--i.e, not due to chance alone.[2] We conduct these tests at the parish level. The results are displayed in Table 9. In this parish-level analysis, all items are statistically significant. In all cases, the F statistic's probability surpasses our conventional 0.05 criterion. This means that for all cases, we can reject the hypothesis of random variability across districts and accept the hypothesis of systematic variation. We can conclude that variation in these socioeconomic and demographic factors is systematic across Louisiana Congressional districts. There is a systematic distinctiveness to these Congressional districts that by conventional statistic tests cannot be attributed to chance factors.

## Comparison of 104th Louisiana Congressional Districts with other Area Definitions

Map 1 depicts Designated Market Areas (DMA) for Louisiana. These areas are determined by the A.C. Nielsen Company and indicate viewing areas for television broadcast

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[2]We conduct conventional tests of statistical significance (analysis of variance) in which we accept the alternative hypothesis only if its chance of random occurrence is less than or equal to 5 times in 100. This is typically referred to as the 0.05 level of significance. The probability of the test statistic can be found in the column labeled F-PROBABILITY.

stations receiving the largest audience share. Map 2 displays Louisiana Areas of Dominant Influence (ADI). These areas are delineated by the Arbitron Ratings Company. They also indicate television viewing market areas and yield results much like the DMAs. Appended to this report are maps of earlier Louisiana Congressional districts. It is important to note that there is a lack of historical and current correspondence between the DMAs or ADIs and Louisiana Congressional Districts. No doubt this lack of correspondence was increased by the mandated move from eight to seven districts after the 1990 Census. In most cases now and in most cases since at least the early 1970s, Louisiana Congressional districts include parts of several media areas. In every Louisiana Congressional district, candidates will find it necessary to campaign in multiple media markets. Similarly, a member of Congress from Louisiana must work with constituents from several media and labor market areas. This is no more or less the case for District 4 than any other district.

I declare under penalty of perjury that the above declaration is true and correct to the best of my knowledge.

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I declare under penalty of perjury that the above declaration is true and correct to the best of my knowledge.

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TABLE 1
LOUISIANA CONGRESSIONAL DISTRICTS, 1994 PLAN
SOCIOECONOMIC INDICATORS: U.S. CENSUS OF 1990[3]

| | DISTRICT | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| INDICATOR | | | | | | | |
| MEDIAN HOME VALUE ($) | 74700 | 61800 | 57200 | 41700 | 52800 | 63100 | 51200 |
| MEDIAN RENTAL VALUE ($) | 418 | 372 | 335 | 293 | 337 | 369 | 316 |
| NO TELEPHONE | 4.7% | 8.4% | 8.7% | 12.0% | 8.9% | 7.5% | 8.4% |
| NO VEHICLE | 8.7% | 29.4% | 11.1% | 19.8% | 11.0% | 8.0% | 9.5% |
| PER CAPITA INCOME ($) | 13387 | 9884 | 9851 | 7700 | 10926 | 11930 | 10369 |
| MEDIAN INCOME HOUSEHOLDS ($) | 27634 | 18460 | 23666 | 15844 | 21951 | 25210 | 21749 |
| UNEMPLOYMENT | 6.4% | 12.8% | 8.8% | 14.3% | 9.2% | 7.7% | 8.9% |
| POVERTY RATE PERSONS | 15.0% | 31.2% | 21.5% | 34.9% | 22.4% | 19.2% | 21.0% |
| HIGH SCHOOL GRADUATES | 76.5% | 65.9% | 62.2% | 59.9% | 71.4% | 72.8% | 68.2% |
| COLLEGE GRADS | 22.3% | 17.6% | 9.5% | 10.7% | 17.2% | 20.1% | 14.6% |
| MANAGERIAL & PROFESSIONAL | 29.8% | 25.6% | 18.8% | 18.4% | 25.1% | 28.0% | 23.4% |

[3]Summary Tape File 3D, Congressional Districts of the United States, 104th Congress, issued 1994.

TABLE 2
LOUISIANA CONGRESSIONAL DISTRICTS, 1994 PLAN
RANK ORDER OF SOCIOECONOMIC INDICATORS: U.S. CENSUS OF 1990[1]

| | DISTRICT | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| INDICATOR/ RANK | | | | | | | |
| MEDIAN HOME VALUE ($) | 1 | 3 | 4 | 7 | 5 | 2 | 6 |
| MEDIAN RENTAL VALUE ($) | 1 | 2 | 5 | 7 | 4 | 3 | 6 |
| NO TELEPHONE | 1 | 3 | 5 | 7 | 6 | 2 | 4 |
| NO VEHICLE | 2 | 7 | 5 | 6 | 4 | 1 | 3 |
| PER CAPITA INCOME ($) | 1 | 5 | 6 | 7 | 3 | 2 | 4 |
| MEDIAN INCOME HOUSEHOLDS ($) | 1 | 6 | 3 | 7 | 4 | 2 | 5 |
| UNEMPLOYMENT | 1 | 6 | 3 | 7 | 5 | 2 | 4 |
| POVERTY RATE PERSONS | 1 | 6 | 4 | 7 | 5 | 2 | 3 |
| HIGH SCHOOL GRADUATES | 1 | 5 | 6 | 7 | 3 | 2 | 4 |
| COLLEGE GRADS | 1 | 3 | 7 | 6 | 4 | 2 | 5 |
| MANAGERIAL & PROFESSIONAL | 1 | 3 | 6 | 7 | 4 | 2 | 5 |
| **MEAN RANK** | **1.1** | **4.5** | **4.9** | **6.8** | **4.0** | **2.0** | **4.5** |

[1]Summary Tape File 3D, Congressional Districts of the United States, 104th Congress, issued 1994.

TABLE 3
LOUISIANA CONGRESSIONAL DISTRICTS, 1994 PLAN[1]
SOCIOECONOMIC INDICATORS WHITES ONLY: U.S. CENSUS OF 1990

| | DISTRICT | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| INDICATOR[2] | | | | | | | |
| MEDIAN RENTAL VALUE ($) | 431 | 419 | 370 | 321 | 383 | 401 | 342 |
| NO VEHICLE | 6.7% | 16.3% | 7.0% | 8.8% | 5.3% | 4.5% | 6.4% |
| PER CAPITA INCOME ($) | 14971 | 15925 | 11243 | 10892 | 13237 | 13460 | 11422 |
| MEAN INCOME HOUSEHOLDS ($) | 39152 | 37448 | 32076 | 28452 | 33996 | 36386 | 31627 |
| UNEMPLOYMENT | 5.6% | 6.1% | 6.5% | 7.6% | 6.0% | 5.7% | 6.9% |
| POVERTY RATE PERSONS | 11.8% | 16.5% | 14.9% | 20.2% | 14.4% | 15.3% | 18.2% |
| HIGH SCHOOL GRADUATES | 79.3% | 76.3% | 66.6% | 68.9% | 77.4% | 77.2% | 71.1% |
| COLLEGE GRADS | 23.4% | 26.5% | 10.4% | 12.8% | 19.5% | 22.0% | 15.9% |

[1]Summary Tape File 3D, Congressional Districts of the United States, 104th Congress, issued 1994.

[2]Data for three of the indicators reported in Tables 1 and 2 (Median Home Value, No Telephone, and Managerial & Professional) are not available by race from the U.S. Census.

TABLE 4
LOUISIANA CONGRESSIONAL DISTRICTS, 1992 PLAN
RANK ORDER SOCIOECONOMIC INDICATORS WHITES ONLY: 1990 U.S. CENSUS[1]

| | DISTRICT | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| INDICATOR[2]/ RANK | | | | | | | |
| MEDIAN RENTAL VALUE ($) | 1 | 2 | 5 | 7 | 4 | 3 | 6 |
| NO VEHICLE | 4 | 7 | 5 | 6 | 2 | 1 | 3 |
| PER CAPITA INCOME ($) | 2 | 1 | 6 | 7 | 4 | 3 | 5 |
| MEAN INCOME HOUSEHOLDS ($) | 1 | 2 | 5 | 7 | 4 | 3 | 6 |
| UNEMPLOYMENT | 1 | 4 | 5 | 7 | 3 | 2 | 6 |
| POVERTY RATE PERSONS | 1 | 5 | 3 | 7 | 2 | 4 | 6 |
| HIGH SCHOOL GRADUATES | 1 | 4 | 7 | 6 | 2 | 3 | 5 |
| COLLEGE GRADS | 2 | 1 | 7 | 6 | 4 | 3 | 5 |
| **MEAN RANK** | **1.6** | **3.3** | **5.4** | **6.6** | **3.1** | **2.8** | **5.3** |

[1]Summary Tape File 3D, Congressional Districts of the United States, 104th Congress, issued 1994.

[2]Data for three of the indicators reported in Tables 1 and 2 (Median Home Value, No Telephone, and Managerial & Professional) are not available by race from the U.S. Census.

TABLE 5
LOUISIANA CONGRESSIONAL DISTRICTS, 1994 PLAN
SOCIOECONOMIC INDICATORS BLACKS ONLY: U.S. CENSUS OF 1990 [1]

| INDICATOR[2] | DISTRICT 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| MEDIAN RENTAL VALUE ($) | 339 | 355 | 268 | 279 | 262 | 279 | 265 |
| NO VEHICLE | 26.4% | 39.7% | 29.0% | 29.4% | 29.4% | 27.7% | 25.8% |
| PER CAPITA INCOME ($) | 5765 | 6475 | 5197 | 5488 | 4944 | 5211 | 5776 |
| MEAN INCOME HOUSEHOLDS ($) | 17884 | 19699 | 18265 | 17521 | 15836 | 17058 | 17930 |
| UNEMPLOYMENT | 16.7% | 17.9% | 19.2% | 19.7% | 20.0% | 19.1% | 19.3% |
| POVERTY RATE PERSONS | 48.9% | 42.7% | 47.6% | 48.6% | 53.5% | 53.4% | 46.7% |
| HIGH SCHOOL GRADUATES | 51.7% | 58.4% | 46.1% | 52.1% | 51.0% | 49.8% | 52.7% |
| COLLEGE GRADS | 9.6% | 10.8% | 6.1% | 8.9%[3] | 8.9%[3] | 8.8% | 7.4% |

[1]Summary Tape File 3D, Congressional Districts of the United States, 104th Congress, issued 1994.

[2]Data for three of the indicators reported in Tables 1 and 2 (Median Home Value, No Telephone, and Managerial & Professional) are not available by race from the U.S. Census.

[3]Prior to rounding, the percent of College Graduates is slightly higher for District 5 than for District 4. This is reflected in the rank scores reported in Table 6.

TABLE 6
LOUISIANA CONGRESSIONAL DISTRICTS, 1994 PLAN
RANK ORDER SOCIOECONOMIC INDICATORS BLACKS ONLY: U.S. CENSUS OF 1990[1]

| | DISTRICT | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| INDICATOR[2]/RANK | | | | | | | |
| MEDIAN RENTAL VALUE ($) | 2 | 1 | 5 | 3 | 7 | 4 | 6 |
| NO VEHICLE | 2 | 7 | 4 | 6 | 5 | 3 | 1 |
| PER CAPITA INCOME ($) | 3 | 1 | 6 | 4 | 7 | 5 | 2 |
| MEAN INCOME HOUSEHOLDS ($) | 4 | 1 | 2 | 5 | 7 | 6 | 3 |
| UNEMPLOYMENT | 1 | 2 | 4 | 6 | 7 | 3 | 5 |
| POVERTY RATE PERSONS | 5 | 1 | 3 | 4 | 7 | 6 | 2 |
| HIGH SCHOOL GRADUATES | 4 | 1 | 7 | 3 | 5 | 6 | 2 |
| COLLEGE GRADS | 2 | 1 | 7 | 3 | 4 | 5 | 6 |
| **MEAN RANK** | **2.9** | **1.9** | **4.8** | **4.3** | **6.1** | **4.8** | **3.4** |

[1]Summary Tape File 3D, Congressional Districts of the United States, 104th Congress, issued 1994

[2]Data for three of the indicators reported in Tables 1 and 2 (Median Home Value, No Telephone, and Managerial & Professional) are not available by race from the U.S. Census.

TABLE 7
LOUISIANA CONGRESSIONAL DISTRICTS, 1994 PLAN
SOCIOECONOMIC INDICATORS: U.S. CENSUS OF 1990[1]
WITHIN DISTRICT DISPERSION (V)[2], PARISHES[3]

| | DISTRICT[4] | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| INDICATOR | | | | | | | |
| MEDIAN HOME VALUE ($) | 35.1 | NA | 14.4 | 17.3 | 26.8 | 31.0 | 19.8 |
| MEDIAN RENTAL VALUE ($) | 24.0 | NA | 17.8 | 13.2 | 21.0 | 22.6 | 16.2 |
| NO VEHICLE | 33.8 | NA | 30.2 | 26.6 | 38.6 | 44.2 | 21.3 |
| PER CAPITA INCOME ($) | 43.3 | NA | 12.7 | 17.0 | 22.2 | 26.2 | 17.6 |
| UNEMPLOYMENT | 37.4 | NA | 18.7 | 18.3 | 34.9 | 26.0 | 22.4 |
| POVERTY RATE PERSONS | 53.8 | NA | 22.9 | 21.8 | 34.3 | 35.3 | 24.9 |
| HIGH SCHOOL GRADUATES | 14.0 | NA | 11.9 | 11.6 | 14.9 | 15.3 | 13.7 |
| COLLEGE GRADS | 53.8 | NA | 36.3 | 25.5 | 43.9 | 57.2 | 43.7 |
| **MEAN ALL INDICATORS** | 36.9 | NA | 20.6 | 18.9 | 29.6 | 32.2 | 22.5 |

[1]Summary Tape File 3D, Congressional Districts of the United States, 104th Congress, issued 1994.

[2]The Coefficient of Variation (V) equals the standard deviation divided by the mean, multiplied by 100. This is a common measure of dispersion. The lower the value, the greater the homogeneity of the geographic components.

[3]Data are for all parishes and those parts of parishes that are located in each of the Louisiana Congressional Districts.

[4]District 2 is omitted because it contains only two parishes.

TABLE 8
LOUISIANA CONGRESSIONAL DISTRICTS, 1994 PLAN
RANK ORDER OF SOCIOECONOMIC INDICATORS: U.S. CENSUS OF 1990[1]
WITHIN DISTRICT DISPERSION (V)[2], PARISHES[3]

| | DISTRICT[4] | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| INDICATOR/RANK [5] | | | | | | | |
| MEDIAN HOME VALUE ($) | 1 | NA | 6 | 5 | 3 | 2 | 4 |
| MEDIAN RENTAL VALUE ($) | 1 | NA | 4 | 6 | 3 | 2 | 5 |
| NO VEHICLE | 3 | NA | 4 | 5 | 2 | 1 | 6 |
| PER CAPITA INCOME ($) | 1 | NA | 6 | 5 | 3 | 2 | 4 |
| UNEMPLOYMENT | 1 | NA | 5 | 6 | 2 | 3 | 4 |
| POVERTY RATE PERSONS | 1 | NA | 5 | 6 | 3 | 2 | 4 |
| HIGH SCHOOL GRADUATES | 3 | NA | 5 | 6 | 2 | 1 | 4 |
| COLLEGE GRADS | 2 | NA | 5 | 6 | 3 | 1 | 4 |
| **MEAN ALL INDICATORS** | 1.6 | NA | 5.0 | 5.6 | 2.6 | 1.8 | 4.4 |

[1]Summary Tape File 3D, Congressional Districts of the United States, 104th Congress, issued 1994.

[2]The Coefficient of Variation (V) equals the standard deviation divided by the mean, multiplied by 100. This is a common measure of dispersion. The lower the value, the greater the homogeneity of the geographic components.

[3]Data are for all parishes and those parts of parishes that are located in each of the Louisiana Congressional Districts.

[4]District 2 is omitted because it contains only two parishes.

[5] The higher the rank, the greater the heterogeneity of the geographic components.

TABLE 9
LOUISIANA CONGRESSIONAL DISTRICTS, 1994 PLAN
SOCIOECONOMIC INDICATORS: U.S. CENSUS OF 1990[1]
ANALYSIS OF VARIANCE TEST OF RANDOM DIFFERENCES ACROSS DISTRICTS
PARISHES[2]

| | TEST STATISTICS[3] | |
|---|---|---|
| | F-RATIO | F-PROBABILITY |
| INDICATOR | | |
| MEDIAN HOME VALUE ($) | 6.48 | .0001 |
| MEDIAN RENTAL VALUE ($) | 4.77 | .0008 |
| NO VEHICLE | 7.39 | .0001 |
| PER CAPITA INCOME ($) | 5.56 | .0002 |
| UNEMPLOYMENT | 6.24 | .0001 |
| POVERTY RATE PERSONS | 5.32 | .0003 |
| HIGH SCHOOL GRADUATES | 2.66 | .0292 |
| COLLEGE GRADS | 4.06 | .0027 |

[1]Summary Tape File 3D, Congressional Districts of the United States, 104th Congress, issued 1994.

[2]Data are for all parishes and those parts of parishes that are located in each of the Louisiana Congressional Districts.

[3]We conduct conventional tests of statistical significance (analysis of variance) in which we accept the alternative hypothesis only if its chance of random occurrence is less than or equal to 5 times in 100. This is typically referred to as the 0.05 level of significance. Our analysis reveals that for all 8 variables, we can reject the hypothesis of random variability across districts and accept the hypothesis of systematic variation.

TABLE 7w
LOUISIANA CONGRESSIONAL DISTRICTS, 1994 PLAN
SOCIOECONOMIC INDICATORS: U.S. CENSUS OF 1990[4]
WITHIN DISTRICT DISPERSION (V)[5], PARISHES[6]
WEIGHTED BY POPULATION

| | DISTRICT[7] | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| INDICATOR | | | | | | | |
| MEDIAN HOME VALUE ($) | 22.1 | NA | 12.6 | 13.5 | 23.3 | 30.7 | 19.4 |
| MEDIAN RENTAL VALUE ($) | 16.5 | NA | 15.5 | 11.4 | 17.8 | 22.3 | 13.7 |
| NO VEHICLE | 36.8 | NA | 25.2 | 18.8 | 37.3 | 66.9 | 23.4 |
| PER CAPITA INCOME ($) | 28.1 | NA | 10.5 | 11.8 | 23.4 | 31.3 | 18.7 |
| UNEMPLOYMENT | 35.7 | NA | 17.4 | 16.1 | 28.7 | 40.9 | 26.0 |
| POVERTY RATE PERSONS | 58.1 | NA | 22.6 | 14.8 | 35.5 | 54.2 | 25.5 |
| HIGH SCHOOL GRADUATES | 10.8 | NA | 10.6 | 9.7 | 13.4 | 19.8 | 12.7 |
| COLLEGE GRADS | 33.8 | NA | 25 | 31.4 | 35.3 | 57.9 | 42.8 |
| **MEAN ALL INDICATORS** | 30.2 | NA | 17.4 | 15.9 | 26.8 | 40.5 | 22.5 |

[4]Summary Tape File 3D, Congressional Districts of the United States, 104th Congress, issued 1994.

[5]The Coefficient of Variation (V) equals the standard deviation divided by the mean, multiplied by 100. This is a common measure of dispersion computed here with means and standard deviations weighted by population of parishes and parts of parishes. The lower the value, the greater the homogeneity of the geographic components.

[6]Data are for all parishes and those parts of parishes that are located in each of the Louisiana Congressional Districts.

[7]District 2 is omitted because it contains only two parishes.

TABLE 8w
LOUISIANA CONGRESSIONAL DISTRICTS, 1994 PLAN
RANK ORDER OF SOCIOECONOMIC INDICATORS: U.S. CENSUS OF 1990[8]
WITHIN DISTRICT DISPERSION (V)[9], PARISHES[10]
WEIGHTED BY POPULATION

| | DISTRICT[11] | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| INDICATOR/RANK [12] | | | | | | | |
| MEDIAN HOME VALUE ($) | 3 | NA | 6 | 5 | 2 | 1 | 4 |
| MEDIAN RENTAL VALUE ($) | 3 | NA | 4 | 6 | 2 | 1 | 5 |
| NO VEHICLE | 3 | NA | 4 | 6 | 2 | 1 | 5 |
| PER CAPITA INCOME ($) | 2 | NA | 6 | 5 | 3 | 1 | 4 |
| UNEMPLOYMENT | 2 | NA | 5 | 6 | 3 | 1 | 4 |
| POVERTY RATE PERSONS | 1 | NA | 5 | 6 | 3 | 2 | 4 |
| HIGH SCHOOL GRADUATES | 4 | NA | 5 | 6 | 2 | 1 | 3 |
| COLLEGE GRADS | 4 | NA | 6 | 5 | 3 | 1 | 2 |
| **MEAN ALL INDICATORS** | 2.8 | NA | 5.1 | 5.6 | 2.5 | 1.1 | 3.9 |

[8]Summary Tape File 3D, Congressional Districts of the United States, 104th Congress, issued 1994.

[9]The Coefficient of Variation (V) equals the standard deviation divided by the mean, multiplied by 100. This is a common measure of dispersion that is based here on weighted means and standard deviations computed for each parish or parish part. The lower the value, the greater the homogeneity of the geographic components.

[10]Data are for all parishes and those parts of parishes that are located in each of the Louisiana Congressional Districts.

[11]District 2 is omitted because it contains only two parishes.

[12] The higher the rank, the greater the heterogeneity of the geographic components.