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CENTRAL CITY WHITE FLIGHT: RACIAL AND NONRACIAL CAUSES*

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Although residential "white flight" from large central cities is hardly a new phenomenon, its cumulative adverse impact on the residual population has led policy makers to be wary of instituting programs which will further exacerbate the process. Recent policy debates have evolved over the question of whether white city-to-suburb movement is affected more significantly by racially-motivated causes, or by conditions associated with the general economic and ecological conditions in the city. The present study assesses a number of previously suggested factors related to race, central city decline, and demographic structure as determinants of the white city-to-suburb movement streams in 39 large SMSAs. Treating this stream as a product of two separate mobility stages, this analysis suggests that most factors, both racial and nonracial, affect central city flight less through the decision to move, than through the choice of destination. Fiscal and ecological features of the metropolitan area are demonstrated to be important in the explanation. However, racial effects cannot be dismissed.

INTRODUCTION

Neither the residential "flight" of whites from large central cities to their expansive suburbs nor the adverse consequences of this movement for remaining city residents are particularly new phenomena. Shortly after white suburbanization peaked in the 1950s, Grodzins (1958:1) in a perceptive essay noted:

Almost nothing is being done today to meet what is likely to be the nation's most pressing social problem tomorrow. The problem can be simply stated in all its bleakness: many central cities of the great metropolitan

areas of the United States are fast becoming lower class, largely Negro slums.

Since that time, evidence has tended to confirm that the cumulative redistribution of white residences and jobs out of the urban center has led to a lower quality of life for the minorities and poor left stranded in the core (Kain, 1968; National Advisory Commission on Civil Disorders, 1968) as well as to fiscal crises for many central city governments (Advisory Commission on Intergovernmental Relations, 1973). Although various public policy measures have effected modest gains in improving the living conditions of the urban poor (deLeeuw et al., 1976), one can hardly be complacent when 1977 figures show that 62% of the metropolitan poor live in central cities, and 45% of these live in low income neighborhoods (U.S. Bureau of the Census, 1978).

The fiscal crisis in city governments according to many experts has not yet reached its peak, particularly in older metropolitan areas (Pettengill and Uppal, 1974; Peterson, 1976). At present, the residents of financially strapped cities are faced with prospects of increased taxes, lower levels of service and, for those dependent on local government jobs, higher unemployment. Recent trends toward diminished federal contributions to the city's plight portend a bleak future. In light

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of this situation, it becomes apparent that central cities can ill afford to sustain further reductions in their nonpoor, non-minority populations.

It is small wonder then that various policy proposals aimed at lowering unemployment or achieving greater racial equality are carefully evaluated according to their potential impact on further white flight. The ghetto enrichment strategy spawned by the Kerner Commission report has been held up to such scrutiny (Kain and Persky, 1969; Harrison, 1974). More recently, the white flight implications of enforced school desegregation policies have become the focus of debate (Coleman et al., 1975; Farley, 1976a; Orfield, 1976; Pettigrew and Green, 1976a; 1976b; Coleman, 1976a).

In such debates, conventional wisdoms often get substituted for empirical evidence. One such conventional wisdom suggests that current white flight is still influenced by racial motivations (assuming that it had been during the 1950s) and that policies which would increase either the numbers or level of integration of blacks within the city will lead to a further loss of whites. An alternative explanation suggests that present flight to the suburbs is a consequence of the continued expansion of the metropolitan community which includes the dispersion of jobs and housing as well. Given the relatively static boundaries of the central city, past movements of nonpoor individuals toward greater housing and job opportunities in the suburbs have led to even further deterioration of the economic and environmental conditions within the city political unit (Bradford and Kelejian, 1973). Each explanation implies different flight consequences for proposed policies, leaving proponents and critics of a policy free to embrace the explanation which best supports their cause. Unfortunately for urban analysts, no empirical study using recent data has yet been undertaken which disentangles competing explanations of white city-to-suburb mobility. This is the purpose of the present investigation.

White Flight: Postwar and Present

A reasonable case can be made that the suburban flight of whites *which occurred*

immediately after World War II resulted in part from racial motivations. There is general agreement that the unprecedented levels of postwar suburbanization were mitigated by a unique set of economic and demographic circumstances which produced a heightened demand for housing, matched later by increased rates of suburban construction (Duncan, 1962; Glenn, 1973). However, available evidence also suggests that racially motivated movement patterns and discriminatory housing practices, when superimposed upon market forces of the period, served to exacerbate the selective mobility of whites to the suburbs. A facilitating factor in this regard was the substantial increase in black migration from the rural South to northern cities which took place in the 1940s (Hamilton, 1964). The large numbers of black in-migrants exerted even greater pressures on an already tight wartime housing market, and their relegation to exclusively black neighborhoods contributed to further piling-up in these areas.

After the war, the increased availability of suburban housing permitted an outward movement of central city whites as well as an expansion of blacks into previously white neighborhoods. Linkages between these two processes for cities which had undergone both black increases and white decreases in population are suggested in the Taeuber and Taeuber (1965a) study. Their data document a fairly systematic racial transition process wherein affected city neighborhoods experienced both black population increases and white decreases. Newly-invaded neighborhoods tended to be middle-class in character, and the black "invaders" were often higher in status than resident whites. An analysis of vacancy patterns and white resident characteristics suggests that the suburbanward movement of high status whites came disproportionately from invaded and partially black neighborhoods rather than all-white areas of the city.

Although these data do not indicate the existence of a widespread racially-induced flight consistent with common conceptions of neighborhood tipping or "blockbusting," a more subtle racial effect is suggested. The high level of mobility on the part of white city residents

could be attributed largely to a pent-up housing demand rather than a response to black in-migration. However, the overwhelming selection of all-white destination neighborhoods—located primarily in the suburbs—by these movers can be viewed as a discriminatory process. As the Kerner Commission put it:

“Massive transition” requires no panic or flight by the original white residents of a neighborhood into which Negroes begin moving. All it requires is the failure or refusal of other whites to fill the vacancies resulting from normal turnover. . . . (National Advisory Commission on Civil Disorders, 1968:245)

Since both market and nonmarket discriminatory practices effectively guaranteed to movers all-white neighborhoods in the suburbs, an undeterminable portion of white postwar suburbanization can be attributed to racial motivations on the part of individual movers and to more pervasive discriminatory housing policies on the part of both public and private agencies (Foley, 1973; Taeuber, 1975a).

Despite the continuing persistence of residential segregation and increases in the proportion of city blacks through the 1960s (Taeuber, 1975b; Schnore et al., 1976; Frey, 1978b), it is not likely that recent white out-movement from large central cities is as heavily influenced by interracial housing dynamics as had been the case in the 1950s. To begin with, the unique housing market situation which facilitated widespread racial transition during the postwar period has not been repeated in large central cities. Second, the nature of black migration has changed dramatically. Over the past two decades, black-recipient cities have come to experience lower levels of black net in-movement, greater diversity of origins among in-migrants, and higher status selectivity among in-migrants from all origins than in the 1940s and early 1950s (Taeuber and Taeuber, 1965b; Manpower Report of the President, 1974; Farley, 1976b). These trends tend to slow the pace of neighborhood transition and decrease the status disparity between black and white city residents. Third, there has been a change in white attitudes toward racial residential integration. According to re-

cent surveys, a majority of whites now endorse such integration at least in principle (Pettigrew, 1973; Hermalin and Farley, 1973). Finally, as a result of continuing suburbanization over the past three decades, a major portion of metropolitan whites already has been relocated into highly segregated suburban communities leaving behind those who either prefer a city residence or are unable to afford the move. Recent analyses have demonstrated that residential segregation at the metropolitan level exceeds that within the central city per se (Sørensen et al., 1975; Farley, 1976b; 1977).

It is conceivable that attempts to desegregate central city schools could provide a motivation for suburban flight similar to that generated by the neighborhood transition process. However, the overall impact of such movement is likely to be minimal if only because of the limited subpopulation affected (i.e., city whites with school-age children in public schools). Furthermore, available evidence suggests that school-induced flight, unlike the widespread residentially-induced flight of the 1950s, is not tied to community housing market mechanisms which influence population redistribution patterns (Farley, 1976c; Snyder and Kelly, 1977).

A strong argument can be made that *current* white flight is largely a response to deteriorating economic and environmental conditions within central cities. These deteriorating conditions reflect an increased isolation of the political central city from activities and resources in the larger metropolitan community—the cumulative result of population, housing, and employment expansion outside the city limits into a fragmented suburban political structure (Zimmer, 1975). In the process, the central city effectively has been stripped of the metropolitan area's high income population and a good deal of its industrial tax base. At the same time, it is still obliged to provide a host of nonresidential services which benefit workers, shoppers and visitors who reside in the suburbs, and to cater as well to the special needs of a large, poor and disadvantaged population within its own boundaries (Hirsch, 1971).

Suburban jurisdictions, in contrast, are

primarily dispensers of residential services (most notably, education), serve the needs of a more middle-class population, and can therefore impose less severe demands on their taxpayers, who are generally better off on an income per capita basis than city taxpayers. Intergovernmental transfers have served to moderate city-suburb disparities to some extent but far from completely (Advisory Commission on Intergovernmental Relations, 1973: Appendix B). Moreover, almost every attempt at city annexation or government reorganization within affected metropolitan areas has met strong opposition from suburban communities (Zimmer, 1976).

The implications of this city-suburb disparity for residential movement are plain. City residents of the most severely affected areas are being asked to pay higher taxes both on a per capita basis and as a share of total income than are their contemporaries in the suburbs. In return, they are not likely to receive proportionately better services and, in fact, can be virtually assured of lower quality schools and higher rates of crime than suburban residents (Peterson, 1976). It is likely, therefore, that the increased out-of-pocket costs and deteriorating environmental conditions associated with residence in financially plagued cities will provide additional impetus for suburbanward movement. Furthermore, city-suburb disparities have effected an aggregate relocation of employment opportunities out of the central core (Noll, 1970). In the 1960–70 period, decentralization has been particularly selective of blue-collar employment (Kasarda, 1976). Since proximity to workplace has been shown to bear some relation to residential location (Kain, 1965; Guest, 1976), the recent redistribution of employment opportunities well may induce further residential redistribution of blue-collar whites who have previously lived and worked in the central city.¹

¹ The expected increase in white city-to-suburb movement is a corollary of the so-called mismatch hypothesis. Put simply, this hypothesis suggests that the increasing suburbanization of blue-collar jobs and central city concentration of white-collar jobs

Hypotheses

This investigation will attempt to clarify the roles of factors that have been proposed to account for the current suburbanward movement of central city whites. In particular, we are interested in juxtaposing racially related flight effects with those that are associated with overall central city decline.

Findings in this study are based on a cross-sectional multivariate analysis of the white city-to-suburb movement stream for 39 large metropolitan areas as reported in the 1970 U.S. census. Although we are mindful of the fact that population change is the net of various mobility and migration streams in addition to natural increase (fertility-mortality), the focus on this single stream is consistent with policy makers' concerns over continued residential relocation of the existing central city population to other communities within the metropolitan area.² From an empirical standpoint, this stream represents a significant component of white population change in the largest

creates a mismatch between the skill levels of central city residents and available employment opportunities. A major consequence of this process is expected to be increased unemployment for city blacks who effectively are barred from relocating in a suburban residence. For blue-collar whites in the city, a suburbanward move becomes an expensive, but viable option. (See Harrison, 1974, for a discussion and critique of the mismatch hypothesis.)

² The movement streams which contribute to central city population change can be distinguished, analytically, between: (1) in- and out-migration streams which lead between the central city and points outside the metropolitan area; and (2) intrametropolitan suburb-to-city and city-to-suburb residential mobility streams (see Frey, 1978a). Although the former streams can contribute substantially to city population gains or losses, their magnitudes are generally influenced by *metropolitan-wide* employment and labor market factors. Of more concern to urban analysts and policy makers is the increasing deterioration of the central city viz its suburban communities with respect to social, economic, and other residential environment factors that serve to retain or attract movers from within the metropolitan area. Given that the size of the city-to-suburb residential movement stream is generally far greater than that of its counterstream in large declining cities (Taeuber and Taeuber, 1964; Tarver, 1969; Farley, 1976b), much attention has been given to isolating those factors which may promote a further out-movement of existing city residents.

central cities. Twenty-three of the 39 metropolitan areas in the analysis experienced central city white (nonblack) population losses over the 1960–70 period. Among these, the 1965–70 city-to-suburb stream (as can be determined from the 1970 census) accounted for, on the average, 77% of those losses. Moreover, among all 39 metropolitan areas, there exists a $-.82$ zero-order correlation between 1960–70 white central city population change and the size of the 1965–70 city-to-suburb stream (U.S. Bureau of the Census, 1973a; 1973b).

In proceeding with the analysis, we are guided by two underlying hypotheses. First, *we expect that current white flight can be accounted for largely by the deteriorating economy and social environment of the central city rather than by factors which are directly related to race.* Changes that have taken place since the immediate postwar years in the housing market, the nature of black migration, white attitudes toward racial integration, and the characteristics of central city residents, point to a diminishing racial effect on white suburbanward movement levels. The impetus for flight from today's central cities is more apt to be linked to deteriorating conditions in the central core which have accompanied the city's increased demographic and political isolation from the broader metropolitan unit. This position is supported by aggregate post-1960 statistics which indicate a continuing suburbanization of central city whites despite a sharp curtailment of black in-migration from 1950 levels (Long, 1975; Taeuber, 1972).

Our second hypothesis concerns the term *flight* as a characterization of the movement. Previous studies of residential mobility indicate that there are a variety of factors responsible for precipitating a local move, and further, that these factors tend to coincide with major life-cycle stages of the household (Rossi, 1955; Goodman, 1974; Speare et al., 1975). It is therefore reasonable to expect that selective white movement out of increasingly black central cities takes place as part of the destination selection process *after* the decision to move is made. This view of

white residential movement has been given support in the neighborhood racial transition literature, and it can hardly be characterized as flight. Hence, *we anticipate that racial influences on city-to-suburb movement, to the extent they exist, will operate primarily in the destination selection process.*

The test of the first hypothesis will permit a comparison of various race-related and non-race-related effects on white city-to-suburb movement levels, whereas the test of the second will give insights into how these effects are transmitted. A confirmation of the second hypothesis and not the first would imply that the implementation of racially sensitive policies will not evoke an immediate suburbanward flight but that the mobility consequences for such policies would be more gradual and long-term. A confirmation of both hypotheses should serve to moderate those arguments which suggest that racial influences significantly raise current levels of white city-to-suburb movement.

THE MODEL

To evaluate causes of white flight in terms of the hypotheses raised, we employ a general model of intraurban residential mobility which has been used elsewhere (Frey, 1978a; 1978b; 1978c; 1979). The model is based on the assumption that individual movement can be viewed as the outcome of two distinct stages: (1) the decision to move, and (2) the choice of destination. Although more elaborate conceptions of the residential mobility process have been advanced (Brown and Moore, 1970; Speare et al., 1975), this decomposition into two separate stages has proven to be an effective analytic device in a national study of moving behavior which found that different sets of explanatory factors can be related to each stage (Butler et al., 1969). Moreover, the two-stage analysis is superior to one which treats mobility *from* an origin *to* a destination as a single event since the former allows identification of causal factors at each stage and permits the researcher analytically to separate "pushes" from "pulls."

The aggregate-level counterpart to the individual two-stage mobility model suggests: first, that within a geographically delimited population (e.g., central city), a pool of movers will evolve over the course of a time interval; and second, that some proportion of these movers will select a destination outside the geographically delimited area (e.g., suburb destination). It is possible, therefore, for different community-level factors to be associated with the size of the mover pool—or the incidence of mobility among *residents* in the community—than are associated with the propensity of *movers* to select a destination outside the community. This distinction is important for testing our second hypothesis that racial factors will be less apt to motivate mobility per se than influence the selection of suburban destinations for central city whites.

Migration measures for both stages of the 1965–70 white (nonblack) city-to-suburb movement stream are estimated from 1970 census data for 39 SMSAs (Standard Metropolitan Statistical Areas) with single central cities and with populations greater than 500,000 (listed in Appendix C). This focus on the nation's largest metropolitan areas is predicated on aggregate trends, showing that it is the central cities of SMSAs in this size class which have experienced greatest levels of white population loss since 1960 (U.S. Bureau of the Census, 1971; 1978; Taeuber, 1972). It is also consistent with research on school enrollment declines which suggests that racially linked white flight is most apt to occur in the largest cities (Coleman et al., 1975). Seven metropolitan areas which would otherwise qualify for inclusion in this study (Honolulu, Hawaii, Jacksonville, Fla., Miami, Fla., Salt Lake City, Utah, San Antonio, Texas, San Diego, Calif., Washington, D.C.) had to be eliminated because a large share of the male labor force was in the armed forces, sufficient migration or independent variable information could not be obtained, or extensive boundary changes took place between 1965–70.

The two stages of the city-to-suburb movement stream are defined in terms of component rates:

$$\begin{aligned} &\text{Mobility Incidence Rate (MI) among city residents} \\ &= \frac{\text{1965 city residents who moved within the city or to the suburbs of the same SMSA, 1965–70}}{\text{1965 city residents who resided in the same SMSA, 1970}}; \quad (1) \end{aligned}$$

$$\begin{aligned} &\text{Suburban Propensity Rate (SP) among city movers} \\ &= \frac{\text{1965 city residents who moved to the suburbs of the same SMSA, 1965–70}}{\text{1965 city residents who moved within the city or to the suburbs of the same SMSA, 1965–70}}. \quad (2) \end{aligned}$$

The city-to-suburb stream mobility rate can therefore be defined as:³

$$\begin{aligned} &\text{City-to-Suburb Stream Mobility Rate (CS) among city residents} = \\ &\frac{\text{1965 city residents who moved to the suburbs of the same SMSA, 1965–70}}{\text{1965 city residents who resided in the same SMSA, 1970}}. \quad (3) \end{aligned}$$

Given the rates in (1), (2) and (3), the following relationships are evident:

$$CS = MI \times SP; \quad (4)$$

$$\log CS = \log MI + \log SP. \quad (5)$$

As shall be demonstrated below, the latter additive relationship is useful in attributing causal factors to city-to-suburb mobil-

³ The denominators of MI and CS are not strictly equivalent to the 1965 city population because they exclude: (a) 1965 city residents who have not survived until the end of the 1965–70 interval; (b) 1965 city residents who have migrated out of the metropolitan area over the course of the interval. Each of these exclusions was made for the practical reason that they could not be identified from our data source (migration tabulations from the 1970 census) described below. The first exclusion tends to slightly understate mobility levels because migrants, by virtue of their younger age structure, enjoy a greater probability of survival of the interval than nonmigrants.

The second exclusion can be justified on theoretical work which suggests that out-migrants from the metropolitan area cannot be considered local movers in the usual sense because their *migratory* moves are motivated largely by economic attributes that characterize the entire metropolitan (or labor market) area (Lansing and Mueller, 1967; Speare et al., 1975). Since local moves within the metropolitan area are not substitutable for these, one can argue that it is not appropriate to include out-migrants in the at-risk population for local mobility rates (if one move per individual is recorded during the interval). Frey (1978a) provides further elaboration on this point.

ity through each of the two stages in a path analysis.

One further refinement needs to be made in our analytic model: an adjustment for the relative proportion of the SMSA population which resides outside the central city. In our comparisons of MI, SP, and CSM rates among 39 SMSAs, it should come as no surprise that somewhat of a tautological relationship exists between the suburb/SMSA population ratio and the suburban propensity rate of central city movers. This ratio, in effect, serves as a crude proxy for the proportion of SMSA destination opportunities that exist in the suburbs. Because the purpose of this study is directed to evaluating the relative effects of various social and economic explanations for mobility, it is desirable to control for this relationship.

We therefore compute an adjusted suburban propensity rate (SP') which is defined as:

$$SP' = \left(\frac{SP}{\text{suburb population 1965}} \right) \times K, \quad (6)$$

where K = mean value of the 1965 suburb/SMSA population ratio for the 39 SMSAs.

Since the city-to-suburb stream mobility rate is defined as the product of the mobility incidence and suburban propensity rates, an adjusted city-to-suburb stream rate (CS') is computed such that:

$$CS' = MI \times SP'; \quad (7)$$

$$\log CS' = \log MI + \log SP'. \quad (8)$$

Values for the rates just presented are based on tabulations in the *Mobility for Metropolitan Areas* subject report of the 1970 census (U.S. Bureau of the Census, 1973a). For each SMSA, these tabulations identify the reported 1965 city, suburb, and outside SMSA residence locations of 1970 city or suburb residents, aged 5 and above. 1970 city residents who reported living in the same dwelling unit as 1965 are also identified. Using these data, we can estimate rates (1), (2), (3) and (6) for individuals residing in each study SMSA in

both 1965 and 1970. (The reader interested in the computational details is referred to Frey [1978a].) It should be noted that the census tabulations do not identify multiple movers, return movers, or emigrants from the U.S. over the course of the five-year interval. Also, a significant minority of 1970 metropolitan residents (an average of 6.6% for the SMSAs in this study) are classed as "moved but previous residence abroad or not ascertained." These individuals were not included in the mover categories associated with the above rates.

Making use of the additive relationship (8), we first of all regress the natural log of the adjusted city-to-suburb stream rate on its two component rates for the 39 SMSAs in the study. This yields the following:

$$\log CS' = +1.0 \text{ MI} + 1.0 \log SP', \\ (+.343) \quad (+.741) \quad (9)$$

where the values in parentheses are standardized regression (β) coefficients. The R^2 for this regression equation equals 1.00; hence, we are able to assess the relative variation, across SMSAs, attributable to each component of the city-to-suburb stream mobility rate by comparing their standardized regression coefficients. It can be seen that the coefficient associated with the suburban propensity component is considerably larger than that associated with the mobility incidence component. This suggests that levels of residential mobility tend to be fairly uniform among the resident populations of cities and that city-specific factors which exert greatest influence on the size of the city-to-suburb stream primarily affect the destination selection stage of the process.

Equation (9) represents the initial step in the construction of a path model that will be employed to examine the impact of different causal factors on city-to-suburb stream mobility through its two components. The model will allow us to identify each causal factor's effect for the purpose of evaluating the first hypothesis raised above. In addition, it will permit us to decompose each factor's total effect on $\log CS'$ into that directed through the mobility incidence component ($\log MI$) and

that directed through the suburban propensity component ($\log SP'$). Since the latter component represents the "movers' destination selection" stage of the mobility process, this decomposition of effects will enable us to evaluate the second hypothesis raised above.

The analysis will occur in three parts: first, the relationship between $\log MI$ and various causal factors will be estimated in a regression analysis; second, the relationship between $\log SP'$ and appropriate factors will be estimated in a similar manner; and third, the total effects and decomposition of effects attributable to each causal factor will be computed from a path model constructed from the regression equations. Before proceeding with the analysis, we introduce the several city and SMSA attributes which will serve as causal factors.

CAUSAL FACTORS TO BE EVALUATED

The city and metropolitan attributes to be evaluated in this study represent measures of factors discussed above, whose relationships to white city-to-suburb movement have been subject to debate among urban scholars and policy analysts. One set of factors are intended to measure the independent racial effects on white out-movement from the city. If, as has been suggested, the increased exposure of whites to blacks results in their further flight from the center core, policies which serve to bring about such exposure will no doubt be subjected to closer scrutiny by city officials. A second set of factors is linked to the contention that central city decline itself has effected a continued out-migration. Several urban analysts have maintained that a feedback effect is occurring wherein the current selective out-movement from financially plagued cities contributes to a further tax base erosion and environmental deterioration in the central core and, hence, sets the stage for continued residential evacuation in the future (Bradford and Kelejian, 1973; Peterson, 1976; Clark et al., 1976). According to this view, an emphasis on racially-motivated central city out-migration would appear to be misplaced. Finally, a third set of factors not generally

mentioned in current discussions of white flight determinants will be considered in the present analyses. These include features of the metropolitan area's demographic structure which exert a strong influence on intra-SMSA movement patterns. Such attributes need to be taken into account if an accurate evaluation of the more interesting policy-relevant factors is to be made.

The analysis below evaluates the white migration effects associated with the three headings "factors related to race," "factors related to central city decline" and "factors related to population structure." These are listed in Appendix A along with their sources.⁴ The ten attributes were selected as a result of preliminary analyses, in which alternative indicators for several of the causal factors were examined. In the remainder of this section we present a brief rationale for each causal factor included and discuss its expected relationship with white city-to-suburb mobility.

Factors Related to Race

The first race-related factor, Percent City Black (i.e., the percent of the city population which is black), indicates the relative presence of blacks vis-à-vis the total population for each central city in the

⁴ It will be noted that many of the causal factors are based on 1970 measures. Although this practice introduces a potential simultaneity bias into our findings, we are bound by the constraints of available data. Census data for metropolitan population and housing characteristics are collected at ten-year intervals and only the 1970 characteristics are consistent with the city and suburb boundaries to which the mobility data pertain. This consideration also applies to the fiscal variables we employ. The data base prepared for the Advisory Commission in Intergovernmental Relations (1973: Appendix B) represents the only source, to our knowledge, which constructs SMSA city-suburb tax and educational expenditure disparity measures for each of the metropolitan areas in our study, based on boundaries which coincide with those in the census migration reports. To the extent it exists, simultaneity bias should operate to overestimate the effects of the factors, Postwar Suburban Development, Percent City Black, Suburb/City Per Capita Taxes, and Suburb/City Per Capita Educational Expenditures. However, an examination of the simultaneity effects associated with the first factor (discussed below) indicates that they are minimal.

study. As discussed earlier, the conventional wisdom which hypothesizes a positive relationship between Percent City Black and white city-to-suburb movement is rooted in the neighborhood racial transition literature of the 1950s. Its potential significance was pointed up more recently in the context of post-Kerner Commission debates over the migration consequences associated with instituting "ghetto enrichment" programs—interim measures aimed at improving the quality of life and increasing employment opportunities for central city blacks until more widespread "ghetto dispersal" could be effected (National Advisory Commission on Civil Disorders, 1968; Harrison, 1974). Critics of the enrichment strategy have contended that it would provide incentives for the continued city concentration of blacks (through in-migration from outside the metropolitan area) and that the visibility of such concentration would further discourage white residences and businesses from locating in the central core. In this vein, Kain and Persky (1969:75) write:

The central Negro ghetto has produced a significant distortion of metropolitan development. . . . The decline of central cities has been hastened by a conviction in the white community, both individual and corporate, that the ghetto would continue its rapid expansion, carrying along its associated problems of concentrated poverty and social disorganization.

To test the conventional wisdom and determine if, in fact, increased exposure to blacks does affect white city-to-suburb movement apart from other causal factors, we incorporate Percent City Black in the multivariate analyses that follow. In preliminary analyses, we attempted to refine our measure of black contact by including, in addition to Percent City Black, an index of central city racial segregation (the index of dissimilarity), and an interaction term based on this index and the factor, Percent City Black. None of these analyses resulted in substantial increases in the variance explained. Moreover, the effects on white city-to-suburb movement in individual SMSAs that could be attributed to the combination of these measures did not differ appreciably with those associated with Percent City Black when it

alone was included. The single measure was therefore chosen for reasons of parsimony.

The second race-related causal factor, School Desegregation, is a measure of change in racial segregation that occurred within central city public elementary schools over the period 1967–72. The importance of desegregation in the public schools for central city out-movement of white children and their parents is suggested in a study by Coleman et al. (1975) which examined white school enrollment changes for 67 central city school districts over the period 1968–73. The authors found a significant relationship to exist between intradistrict school desegregation and white school enrollment losses among central city districts. Moreover, increases in city-suburb *between district* racial segregation were found to occur in SMSAs whose central city districts had undergone substantial within-district desegregation. Other studies using similar data but focusing on different universes of districts and/or observation years have yielded conflicting results (see Pettigrew and Green, 1976a, and Snyder and Kelly, 1977, for a critical review of these).

Virtually all of the studies which have tested the school desegregation white flight hypothesis have examined desegregation effects on school enrollment losses, not on out-migration patterns. Slippage between the two can result from the tendency for white pupils to switch to private schools while still residing within the district. Nevertheless, a linkage between central city school desegregation (occurring in isolation of metropolitan wide practices) and white out-movement has been suggested by Coleman (1976:12):

. . . the present policies of school desegregation which focus wholly on within-district segregation exacerbate the already unstable ecology of our large cities. They are increasing rather than reducing or reversing the tendency for our large metropolitan areas to come to consist of black central cities and white suburbs.

This implied relationship between central city school desegregation and overall white city-to-suburb movement will be examined here.

Unfortunately, the period to which our migration data pertain is not the most appropriate one to capture this effect for two reasons. First, the Office of Civil Rights data used to compute district segregation change measures in this and other studies were only first collected in 1967. Hence, segregation indices which take into account school segregation levels at the beginning of the migration period cannot be constructed. Second, although a number of desegregation actions had been initiated in northern city districts prior to 1970 (Rossell, 1975), those most likely to elicit a white response (i.e., the reassignment of white students to predominantly black schools) did not become prevalent until the fall of 1971.⁵

In preliminary analyses, we examined the white city-to-suburb movement effects associated with three measures of school segregation change: (1) difference between the 1967 minus 1970 value of the index of dissimilarity computed for city elementary school students; (2) difference between the 1967 minus 1972 value of the index of dissimilarity computed for city elementary school students (i.e., the measure described in Appendix A); and (3) a dummy variable indicating a value of 1.0 if a district's index of dissimilarity decreased ten or more points over the course of the 1967-72 period, and a value of zero otherwise. Measures (2) and (3) take cognizance of the more prevalent northern desegregation which occurred in the immediate post-1970 period as it is reasonable to assume that white city-to-suburb movement prior to 1970 may have been influenced by the prospect that widespread desegregation would be taking place in affected city districts. The preliminary findings revealed a slight negative relationship to exist between measure (1) and white city-to-suburb movement, indicating that pre-1970 desegregation exerted a negligible influence independent of other causal factors. Each of the latter two measures yielded a stronger positive relationship with white suburbanward movement, and measure (2), the continu-

ous variable, was chosen as the superior measure of change.

Because several of the aforementioned school enrollment decline studies find the school desegregation white flight effect to be heightened in city school systems with large black enrollments, we performed still another analysis in which our change measure (2) was weighted by the black proportion of city elementary students in 1970. Our findings from this investigation indicate that white city-to-suburb residential flight is no more responsive to this weighted measure than it is to measure (2) alone. (Indeed, the weighted measure exhibited negative, though insignificant, effects on both white mobility incidence and the suburban propensity of white city residents when incorporated into the equations presented below.) On the basis of these results, therefore, we decided to retain measure (2) as an index of school desegregation. It nevertheless should be emphasized that our analysis does not take into account desegregation effects on post-1970 population movement. Hence, our results for this factor must be considered as only suggestive of those that would be obtained if appropriate migration data were available.

The third race-related factor, Incidence of Racial Disturbances, measures the rate at which racial disorders broke out in the central city in the late 1960s. Although scattered racial riots and disorders have occurred in earlier periods, the Kerner Commission, choosing to view racial disorders of the 1960s from a national perspective, attributed a number of contributing ingredients to a more pervasive "white racism" which has been developing in large cities since the end of World War II. Spilerman tested a range of hypotheses in an attempt to account for the location of these racial disorders and concluded that the latter were "responses to frustrations which are uniformly felt by Negroes, irrespective of their community situations" (Spilerman, 1970:627).

Although an explanation of the riots does not seem to lie with community-specific causes, riot-prone communities have experienced negative effects including: recurring disorders, increased distrust between blacks and whites, less interra-

⁵ We are grateful to Christine Rossell for calling this to our attention.

cial communication, and the growth of white segregationist or black separatist groups (National Advisory Commission on Civil Disorders, 1968:151). Increased suburbanward flight may represent another response to the prevalence of racial disorders in a city. Such a response would be significant for future movement patterns in ghetto-ridden cities since according to the Kerner Commission, a possible consequence of accelerating aid programs to urban ghettos may be short-term increases in disorder activity resulting from the unfulfilled expectations of program recipients. The measure, incidence of racial disturbances, used here employs data collected by Spilerman (1970) on instances of racial violence involving 30 or more individuals that were initiated by aggression on the part of blacks. In preliminary analyses, we used the *number* of racial disturbances as an alternative to the incidence measure and found its influence on the migration variables to be no greater in magnitude. Moreover, they were inconsistent—exerting a negative (though insignificant) effect on white mobility incidence and a positive effect on white suburban propensity. On the basis of these findings we chose to employ the incidence measure in our analysis below.

Factors Related to Central City Decline

The decline of the central city relative to its suburbs in terms of residential costs, services and social environment can be translated into several specific dimensions. In this study, we focus on factors which have previously been posited as determinants of out-migration. Two of these—the suburb/city ratio of per capita tax revenues, and the suburb/city ratio of per capita educational expenditures—reflect cost and amenity comparisons which potential movers can assess in dollars-and-cents terms. The inclusion of both these factors in the following multivariate analysis will allow us to evaluate the proposed feedback relationship between city-suburb fiscal disparities and suburbanward out-movement. Since metropolitan areas differ on the degree to which local sources contribute to overall tax revenues and education expenditures,

the measures we employ for each of these include total revenues and expenditures attributable to local and nonlocal government levels.

Values for the first ratio, suburb/city per capita taxes, are less than 1.00 in 36 of the 39 SMSAs in this analysis, a finding which coincides with our earlier discussion of central cities' fiscal difficulties. To the extent that a greater city tax burden represents an incentive for suburbanward movement, a negative relationship between this ratio and the migration measures is expected.

Values for the second ratio, suburb/city per capita educational expenditures, are greater than 1.00 in 30 of the 39 SMSAs. Since the quality of a community's school system provides a particular attraction for households with children and residential mobility rates are generally high among families with children in the preschool ages (Long, 1972), the suburb/city per capita educational expenditure ratio is expected to exert an independent, positive effect on suburbanward relocation. In preliminary analyses, we examined the effects of an alternative measure, suburb/city per pupil educational expenditures, as an indicator of this factor and found its relationship to the mobility variables to be less impressive. Although neither measure is an ideal indicator of relative school quality, the poorer performance of the latter might be attributed to its tendency to overstate the quality of city schools since a disproportionate amount of city expenditures goes into vocational programs and special education for disadvantaged students (Pettengill and Uppal, 1974).

The City Crime Rate constitutes a third central city decline-related factor which is often posited as a flight determinant (Orfield, 1976). Due to past suburbanization and fixed political boundaries, many cities tend to house disproportionate numbers of those population subgroups which are subject to high arrest and victimization rates (President's Commission on Law Enforcement and Administration of Justice, 1967). Yet at least two empirical studies yield results which counter the commonly held view that the city crime rate is linked to increased suburbanward relocation (Droettboom et al., 1971;

Guterbock, 1976). The Droettboom et al. findings, in particular, indicate that moves associated with the perception of crime in the city are undertaken to a great extent by low-income individuals and are more likely to result in a within-city relocation rather than movement to a suburban destination. This study, an analysis of nationwide survey findings, does not take cognizance of competing explanations for mobility patterns. The present analysis will evaluate the independent mobility effects associated with the city crime rate when other relevant factors (such as the city's racial composition) are taken into account.

The crime rate measure employed here is based on the number of crimes that are reported in the city per 1,000 city population. Although Gibbs and Erickson (1976) contend that such a rate might be deceptively large because the denominator (city population) does not include potential noncity victims or offenders, we would argue that this rate more accurately represents the *perception* of crime among city residents and therefore remains a useful measure for purposes of the present investigation.

The fourth central city decline-related factor to be evaluated as a mobility precipitant pertains to the suburban relocation and expansion of employment opportunities. As mentioned earlier, it has been posited that the relatively recent dispersal of blue-collar jobs in many metropolitan areas ultimately will affect the residence and/or workplace distributions of present central city residents. To the extent that central city worker-residents are unable to locate alternative city jobs two responses (in addition to unemployment) are possible: (1) increasing rates of "reverse" city-to-suburb commuting; or (2) increasing rates of city-to-suburb residential mobility. Aggregate work-residence patterns for the 1960-70 decade suggest that both responses were prevalent among central city whites during the period (Guest, 1975a; Kasarda, 1976). However, the residential mobility literature provides mixed evidence regarding the immediate impact of employment relocation on local mobility decisions (Goldstein and Mayer, 1964; Roistacher, 1974; Goodman, 1974;

Guest, 1975b). In this study, we shall use the percent of city workers who commute to the suburbs (City-Suburb Commuters) as a proxy for recent job decentralization and examine its posited direct relationship with white movement to the suburbs.

Factors Related to Population Structure

The factors described under the previous two headings are continually being suggested as potential causes of central city population loss via the out-migration route in recent writings of urban scholars and policy analysts (see contributions in Sternlieb and Hughes, 1975; 1978; Gorham and Glazer, 1976; Leven, 1978). Such discussions often do not take explicit account of factors associated with a metropolitan area's demographic structure which are far less amenable to short-term alterations but nevertheless exert a strong and continuous influence on intra-metropolitan redistribution processes. It is desirable to control for the effects of these latter factors in a multivariate analysis in order to provide an accurate evaluation of policy relevant factors whose effects on population mobility may be of more immediate interest. The present analysis will incorporate measures for three such factors: one which controls for the effect of recent intrametropolitan growth patterns, and two measures of central city population and housing composition which have been shown to influence levels of mobility incidence among city residents.

Postwar Suburban Development, the first population structure-related factor, measures the recency of a metropolitan area's suburban development. Policy discussions of race-related and central city decline-related migration determinants, alluded to above, tend to focus on metropolitan areas which greatly overlap with respect to demographic structural features and growth history. These are generally older areas in the Northeast and North Central regions with high central city population densities. Most have been decentralizing in population since early in the century and have undergone actual central city population losses since 1950.

In contrast, there exist a large number

of expanding, low density metropolitan areas, located primarily in the South and West, whose central cities and suburbs have developed more recently. Due to their ability to annex territory to the political city boundaries, the central cities of these newer SMSAs are not as "under-bounded" as those in older, more densely populated metropolitan areas and their population and housing characteristics are not as greatly differentiated from those of the suburbs (Schnore and Winsborough, 1972; Guest, 1972; Kaufman and Schnore, 1975; Kasarda and Redfearn, 1975). The high level of suburban growth displayed by these areas in the post-1950 period approximates a natural expansion of the city periphery which now-declining areas experienced decades ago.

Because the pattern of development and suburbanization recently experienced by the latter areas is likely to characterize redistribution processes during the period under observation here, we include the factor, Postwar Suburban Development, to control for such patterns. It is operationalized as the percent of 1970 suburban year-round units in structures built since 1950⁶ and is expected to relate

positively to city-to-suburb movement levels. This factor was chosen among alternative measures of demographic structure and growth histories that have been employed by other analysts: age of the city, central city population density, manufacturing ratio of the central city, and geographic region (Schnore and Winsborough, 1972). Although one of these measures tended to be correlated with Postwar Suburban Development (zero-order correlations with each of the first three were stronger than $-.44$), these structural features are further removed, in a causal sense, from the redistribution process. This was confirmed in preliminary analyses which showed Postwar Suburban Development to exert stronger effects on city-to-suburb mobility than those exerted by the other measures.

The final two factors related to population structure are Percent City Owners, and City Age Distribution. Each controls for the compositions of central city residents with respect to factors that previous research suggests are strong determinants of residential mobility incidence at the individual level (Rossi, 1955; Speare, 1970; Speare et al., 1975). Percent City Owners, the percent of white (nonblack) city residents of self-owned units, is expected to relate negatively to the mobility incidence among white residents. City Age Distribution measures the percent of city nonblack residents in the most highly mobile age groups and is expected to relate positively to their mobility incidence. Unlike the other eight causal factors in this study, which will be evaluated as determinants for both components of the city-to-suburb mobility stream, Percent City Owners and City Age Distribution will be evaluated only as determinants of the mobility incidence component.

ANALYSIS

To follow the analysis strategy outlined earlier, we shall examine the effects of the various causal factors on our measures of white city residents' mobility incidence,

+ .573, and from + .529 to + .509, respectively) and minimal changes in the effects of other causal factors.

⁶ At a reviewer's suggestion, we have looked into the possibility that the city-to-suburb mobility measure which represents our dependent variable may be systematically related to the Postwar Suburban Development factor (i.e., that the construction of suburban dwelling units during the 1965-70 period may have been due to the demand of 1965-70 city-suburb movers). In response we estimated, for each SMSA, a hypothetical measure of Postwar Suburban Development intended to eliminate the possible effects of city-to-suburb movers, given the extreme assumption that all households in the white 1965-70 city-to-suburb stream locate in 1965-70 constructed dwelling units. (This hypothetical Postwar Suburban Development measure differs from the actual measure defined in Appendix A in that the former eliminates the number of households in the white 1965-70 city-to-suburb stream from both numerator and denominator.) The computed values for the hypothetical measures differ only slightly from those of the actual measures for individual SMSAs since suburban dwelling unit construction responds to other sources of demographic change aside from city-suburb mobility (i.e., out-migration from the suburbs, in-migration from outside the SMSA, household formation in the suburbs). Moreover, in estimating regression equations 4 in Table 1, and 4 in Table 2 based on these hypothetical measures, we find only a slight diminution of effects associated with Postwar Suburban Development (from β values of + .593 to

and white city movers' suburban propensity (log MI and log CS' as defined earlier) in separate regression analyses. The results will then be incorporated into a path analysis to determine the effects of each causal factor on the log of the white city-to-suburb stream mobility rate (CS'), and test the two hypotheses raised at the outset.

An intercorrelation matrix for the causal factors employed in the following regression analyses is presented in Appendix B. An examination of the correlation coefficients suggests that our models will not be subject to high levels of multicollinearity and its associated problems. Of the 45 coefficients among the ten factors, none indicate relationships as strong as $\pm .50$ and only seven are stronger than $\pm .30$. One association which was not unanticipated is the $+.41$ correlation between Percent City Black and the City Crime Rate. The implications of this relationship for our findings are discussed below.

Causal Factors and Mobility Incidence

Presented in Table 1 are four equations in which the log of the mobility incidence rate (log MI) is regressed on the various categories of the causal factors: popula-

tion structure factors (equation 1); population structure and race-related factors (equation 2); population structure and central city decline factors (equation 3); and factors for all three categories (equation 4). These equations allow us to evaluate, first, the effects of population structural factors on mobility incidence, and second, the effects of factors in the more policy-relevant categories when population structure is taken into account.

It is clear, from examining all four equations, that white city residents in the recently developing SMSAs experience higher levels of mobility incidence. The beta (β) coefficient values for Postwar Suburban Development are consistently large whether or not factors related to race or central city decline are included in the equation. The effects of the compositional factors, Percent City Owners and City Age Distribution, on mobility incidence are less impressive than we were led to expect on the basis of existing literature. Our findings do indicate that cities with more self-owned (and presumably single-family) dwelling units tend to exhibit lower levels of mobility incidence among their white residents. The impact of the city's age composition on mobility incidence levels, however, is not as strong according to the β values in Table 1. It is

Table 1. Log MI Regressed on Factors Related to Population Structure, Factors Related to Race, and Factors Related to Central City Decline

Causal Factors	Equation 1		Equation 2		Equation 3		Equation 4	
	b	β	b	β	b	β	b	β
Factors Related to Population Structure								
Postwar Suburban Development	+.0065*	+.721	+.0062*	+.696	+.0054*	+.604	+.0053*	+.593
Percent City Owners	-.0038*	-.382	-.0032*	-.313	-.0028*	+.274	-.0027*	-.268
City Age Distribution	-.0027	-.033	+.0023	+.028	+.0125	+.153	+.0131	+.160
Factors Related to Race								
Percent City Black			+.0014	+.136			+.0007	+.068
School Desegregation			-.0001	-.015			+.0004	+.051
Racial Disturbances			+.0291	+.111			+.0066	+.025
Factors Related to Central City Decline								
Suburb/City Taxes					-.0019*	-.252	-.0018*	-.236
Suburb/City Ed Expenditures					-.0003	-.062	-.0003	-.059
City Crime Rate					+.0006	+.078	+.0005	+.058
City-Suburb Commuters					+.0068*	+.391	+.0071*	+.403
Constant Term	-1.0326		-1.640		-1.2067		-1.2400	
R ²	.414		.436		.627		.633	

*Coefficient at least twice its standard error.

likely that the effects of the latter two compositional factors are diluted to some degree by their moderately strong correlations with Postwar Suburban Development. Nevertheless, a comparison of the R^2 values in equation 1 with those in equations 2, 3 and 4 indicates that these three population structural factors account for a substantial share of inter-SMSA variation in mobility incidence, and suggests that their inclusion as controls in this evaluation of race-related and central city decline-related factors is justified.

Our contention that the mobility incidence effects associated with the race-related factors in this analysis would be small is given support in the Table 1 equations. The additional variance explained in equation 2 over equation 1 is minimal and the Beta coefficients for School Desegregation and Racial Disturbances in equation 4 are among the smallest of all the causal factors in the analysis. Even the effects for Percent City Black, a measure thought to be associated with increased flight levels, show up to be relatively small when other demographic structure and central city decline-related factors are taken into account. (Its .068 Beta coefficient value in equation 4 can be compared with the +.136 value in equation 2 which does not take account of central city decline factors, and its zero-order correlation with the log of MI of +.200.) In contrast, the Beta coefficients associated with the Suburb/City Per Capita Tax Ratio, and City-Suburb Commuters, indicate that these central city decline factors exert nontrivial influences on city mobility incidence levels. The magnitudes of their effects do not change appreciably whether or not race-related factors are included in the equation. Moreover, a comparison of the R^2 values in equations 1 and 3 indicate that, unlike the race-related factors, the block of central city decline-related factors contribute substantially to the percent of variance explained above that which can be attributed to population structure.

In sum, these regression equations indicate that the factors associated with metropolitan population structure explain a good deal of inter-SMSA variation in the mobility incidence of white city residents. Additional independent effects can be at-

tributed to measures of city-suburb fiscal, and residence-workplace disparities when population structure has been taken into account. However, the small effects that are attributable to each of the race-related factors, when controls for other mobility determinants are instituted, do not lend support to the view that a greater exposure to blacks can be linked to substantial increases in the incidence of mobility among central city whites.

Causal Factors and Suburban Propensity

The regression equations that were estimated to examine the effects of each of the causal factors on the log of the white suburban propensity rate (log SP') are presented in Table 2. Here, as in Table 1, the four equations permit an evaluation of population structure effects alone, and effects associated with race-related, and central city decline-related factors when population structure is taken into account.

In these equations the single population structure factor, Postwar Suburban Development, again shows up to have an important influence on mobility patterns. Its effect, as indicated by the β values in Table 2, is strong and consistent in all four equations. It appears, therefore, that white city residents in recently developed SMSAs are not only more likely to move (as was demonstrated in the analysis of mobility incidence) but that such moves are more apt to be destined toward the suburbs.

Turning to the more policy-relevant factors in the analysis, we find that race-related factors exert a more formidable influence on the suburban destinations of white city movers than they exerted on the mobility incidence of white city residents. A comparison of the R^2 values in equations 1 and 2 shows that the block of race-related factors accounts for a considerable increase in the variance explained above that attributable to demographic structure alone. The Beta coefficient values associated with Percent City Black indicate that its strong positive effect on white suburban propensity is not appreciably reduced when factors related to central city decline are included in the equation, and that the magnitude of its

Table 2. Log SP' Regressed on Factors Related to Population Structure, Factors Related to Race, and Factors Related to Central City Decline

Causal Factors	Equation 1		Equation 2		Equation 3		Equation 4	
	b	β	b	β	b	β	b	β
Factors Related to Population Structure								
Postwar Suburban Development	+ .0105*	+.545	+.0108*	+.559	+.0097*	+.500	+.0102*	+.529
Factors Related to Race								
Percent City Black			+.0086*	+.405			+.0082*	+.377
School Desegregation			+.0013	+.079			+.0008	+.051
Racial Disturbances			+.1089*	+.191			+.0550	+.097
Factors Related to Central City Decline								
Suburb/City Taxes					-.0051*	-.312	-.0047*	-.287
Suburb/City Ed Expenditures					+.0020*	+.210	+.0027*	+.281
City Crime Rate					+.0045*	+.261	+.0020	+.115
City-Suburb Commuters					+.0080*	+.212	+.0091*	+.240
Constant Term	-1.6585		-1.9323		-1.8348		-2.0898	
R ²	.297		.484		.495		.608	

*Coefficient at least twice its standard error.

effect is at least as important as those associated with city-suburb fiscal disparities. In contrast, the suburban propensity effects for the two remaining race-related factors, School Desegregation and Racial Disturbances, are fairly minimal when other mobility determinants are taken into account.⁷

The importance of central city decline-related factors toward the explanation of white city movers' suburban propensity is also apparent from the equations in Table 2. As with the race-related variables, these factors contribute substantially to the variance explained by the population structure variables alone (based on a comparison of the R² values in equations 1 and 3). Moreover, the Beta values in equation 4 indicate that strong effects in expected directions can be attributed to

three of the four central city decline factors, Suburb/City Taxes, Suburb/City Educational Expenditures and City-Suburb Commuters. Although the β value associated with the fourth factor, the City Crime Rate, tends to be large in equation 3, the incorporation of the race-related factors substantially diminishes its effect. (In order to examine the extent to which the correlation between the city's social composition and crime rate might influence the results in equation 4, if one or the other was not included, we recomputed two alternative equations—each leaving out one of these two factors. We found that when the City Crime Rate factor was omitted from equation 4, the β value associated with Percent City Black increased from +.377 to +.422. When Percent City Black was left out of the equation, the +.115 Beta coefficient for City Crime Rate was increased to +.266. In each case the new β coefficients were larger than twice the values of their standard errors.)⁸

⁷ In addition to the reported findings, we examined the possibility that the socioeconomic characteristics of the city black population might exert an independent effect on white suburban propensity rates. In two separate analyses, we incorporated one of the following variables, Percent of City Blacks (age 25 and over) with 0–8 years of schooling, and Percent of City Blacks living in families with annual incomes less than \$6,000, in addition to those already included in equation 4 of Table 2. Findings from these investigations indicated that contributions to R² associated with each of these factors were negligible, their standardized regression (β) coefficients were relatively small (+.017, +.032), and their respective regression coefficients were far smaller than their standard errors.

⁸ In still another analysis, we retained in the equation both the Percent City Black and City Crime Rate factors, and added an interaction term defined as their product (Percent City Black × City Crime Rate). The R² value for this equation (.609) was only slightly larger than that for equation 4 in Table 2, and the relatively small β coefficient associated with the interaction term was negative (−.070). Moreover, when the interaction term is included, the regression coefficients for that term, City Crime Rate and Percent City Black were all less than twice the values of their respective standard errors.

The preceding regression analyses indicate that aside from the strong influence of population structure, both the city's racial composition and factors symptomatic of central city decline—city-suburb fiscal disparities and the suburbanization of employment opportunities—exert independent effects on the suburban relocation patterns of white city movers in expected directions. In light of our earlier discussion, the magnitude of effect linked to the city's racial composition is somewhat surprising and would appear to discount our assertion that this effect would be minimal when factors related to central city decline are taken into account. These findings, however, pertain only to the suburban propensity stage of the mobility process. A more accurate assessment of each causal factor's effects on white city-to-suburb mobility can be made from the analysis that follows.

Causal Factors and City-to-Suburb Mobility

We can now proceed to evaluate the effects of each causal factor on the log of the city-to-suburb stream mobility rate (log CS') by constructing a path model wherein the relationships between the ten causal factors, and the log of the city-to-suburb stream rate are directed through the logs of its two component rates, the mobility incidence rate and the suburban propensity rate (log MI and log SP' as presented in equation [8]). A diagram of the path model based on the standardized regression (β) coefficients in text equation (9), Table 1 equation 4, and Table 2 equation 4, appears as Figure 1. Because the variation in log CS' is completely determined by variations in log MI and log SP', no direct relationships exist between the ten causal factors and log CS', or in other words, our model forces all relationships between the causal factors and the city-to-suburb mobility measure (log CS') to operate through the measures of mobility incidence (log MI) and/or the measure of suburban propensity (log SP'). (See Winsborough's path model in Duncan [1971] for a similar application of this technique to a different problem.)

In order to evaluate each factor's con-

tribution to SMSA variation in log CS' given the path model in Figure 1, we employ the decomposition of effects technique proposed originally by Duncan (1971) and elaborated upon by Alwin and Hauser (1975). The "total effects" (using the terminology of the latter authors) for each causal factor are determined by summing the products of all possible paths between that factor and the dependent variable, log CS'. Since there are no direct paths between each factor and CS', no "direct effects" can be computed from our model. The total effects associated with each causal factor, therefore, represent the sum of two "indirect effects": those through log MI (the path coefficient connecting the factor and log MI, multiplied by +.343) and those through log SP' (the path coefficient connecting the factor and log SP' multiplied by +.741). A summary of each factor's total effects on SMSA variation in log CS' as well as its indirect effects through log MI and log SP' is presented in Table 3.

We can now return to the hypotheses raised at the outset. Our first concern was with the validity of various racial and non-racial explanations for the city-to-suburb movement of whites. It was our contention that factors related to race would be of lesser importance than those related to central city decline. The effects shown in column (1) of Table 3 do not support this assertion. Aside from the large effects attributable to Postwar Suburban Development, one of the factors which controls for the metropolitan area's population structure, the out-movement effects associated with the central city's racial composition (Percent City Black) are similar in magnitude to the strongest central city decline-related effects. Effects for the two other race-related factors, School Desegregation and Racial Disturbances, are far less impressive. These factors would appear to represent minor, if not negligible influences on white residential out-movement. As we expected, central city decline-related factors are prominent in accounting for SMSA variations in white city-to-suburb stream movement. All four of these factors influence movement in expected directions with strongest effects being attributable to our measure of recent

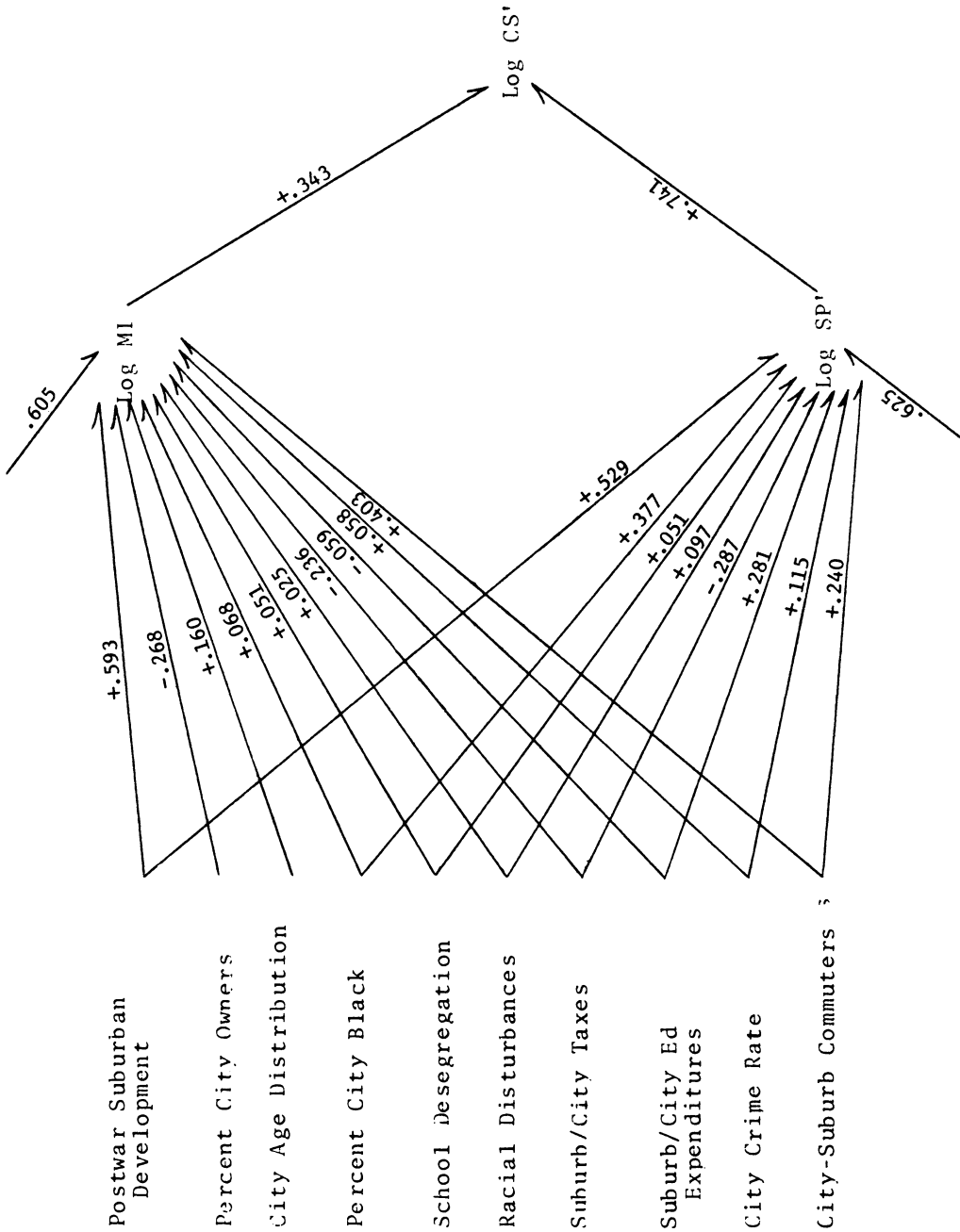


Figure 1. Path Diagram Relating Causal Factors to Log CS' through Log MI and Log SP' (Based on Equation 9 in Text, Equation 4 in Table 1, and Equation 4 in Table 2)

Table 3. Decomposition of Effects for Causal Factors on SMSA Variation in Log CS' (Based on Path Diagram in Figure 1)

Causal Factors	Total Effects on SMSA variation in Log CS' (1)	Effects through:	
		Log MI (2)	Log SP' (3)
Factors Related to Population Structure			
Postwar Suburban Development	+.595	+.203	+.392
Percent City Owners	-.092	-.092	
City Age Distribution	+.055	+.055	
Factors Related to Race			
Percent City Black	+.302	+.023	+.279
School Desegregation	+.055	+.017	+.038
Racial Disturbances	+.080	+.008	+.072
Factors Related to Central City Decline			
Suburb/City Taxes	-.294	-.081	-.213
Suburb/City Ed Expenditures	+.188	-.020	+.208
City Crime Rate	+.105	+.020	+.085
City-Suburb Commuters	+.316	+.138	+.178

employment suburbanization (City-Suburb Commuters) and city-suburb tax and educational expenditure disparities.

In the second hypothesis, we expected that racial factors—to the extent that they influence city-to-suburb stream mobility—would operate primarily through the destination selection process of movers. This hypothesis can be evaluated by examining the extent to which each factor's total effects on log CS' (in column [1] Table 3) are directed through log SP' (in column [3] Table 3)—the suburban propensity component of the log of the city-to-suburb mobility stream rate. The data in Table 3 show clearly that our second hypothesis is confirmed not only for factors related to race, but for *all* factors which are causally linked to log CS' through both log MI and log SP' (the factors Percent City Owners and City Age Distribution are linked only through log MI). Furthermore, when one focuses only on effects directed through the mobility incidence component, log MI (column [2]), it can be seen that effects associated with the Percent City Black are dwarfed by those attributable to central city decline factors, City-Suburb Commuters and Suburb/City Taxes.

Finally we wish to underscore the point, made obvious above, that it is important to take cognizance of a metropolitan area's population structure in multivariate analyses directed to assessing the effects

of more short-term influences on residential mobility patterns. The consistently large effects associated with our measure of recency of suburban development (Postwar Suburban Development) in each of the regression analyses and in the decomposition of effects analysis supports our claim that an SMSA's current redistribution patterns are shaped, in part, by its recent growth history as well as by slowly changing ecological and demographic features of the area.

CONCLUSION

We began this investigation by advancing two hypotheses that are relevant to understanding both why and how recent city-to-suburb movements of whites in large metropolitan areas have taken place. In the first, or "why" hypothesis, we expected that racially-linked city attributes such as residential racial composition, the incidence of racial disorders or an increase in school desegregation would be less likely to affect the out-movement of whites than attributes which reflect the social and economic decline in the central city relative to the suburbs.

Our findings do not allow us to discount the racial composition of the central city as a predisposing factor toward white suburbanward movement. Although we would have been prone to argue that a strong zero-order correlation between a

city's black population percentage and its level of white out-movement might mask other mobility-inducing features of cities with large concentrations of blacks such as higher taxes or greater crime rates, our findings, which control for these factors, do not lend support to this view. Strong mobility effects, however, are not found to be associated with cities that had undergone recent desegregation of public schools or those which had been subject to racial disturbances during the late 1960s. As we have noted earlier, the weak relationship between the former factor and white out-movement may not yet be definitive since a good deal of northern school desegregation that entailed two-way bussing took place subsequent to the 1965–70 migration interval under investigation here.

Although the racial influences fared better than we expected, we find the mobility of whites to be just as responsive to various dimensions of central city decline—city-suburb fiscal disparities, particularly relative tax levels, and also to the degree to which employment has suburbanized. The data also show a substantially greater out-movement of whites from metropolitan areas where there has been considerable postwar suburban development. These, however, are usually newer and more rapidly growing areas with large counterstream movements *into* the city that tend to balance out the central city flight.

In the second, or “how” hypothesis, it was anticipated that racial influences on white city-to-suburb mobility would operate primarily through the selective destination choices of movers rather than through their decisions to move. Our data strongly supported this expectation for both racial and nonracial causes. This insight into the dynamics of intraurban mobility portends some short-term optimism for the plight of the declining central city. It suggests that deteriorating economic and social conditions in the core will not precipitate a wholesale evacuation of current residents but will primarily affect the destination selections of that continually-present mover pool which comprises a relatively constant proportion of the total population from city to city. To the extent

that racial factors proved to be negligible in explaining the incidence of mobility across SMSAs, we conclude that the term *white flight* is an inappropriate description of the suburbanward movement of city whites.

This study was undertaken to shed light on the residential white-flight impacts often attributed to proposed policies such as ghetto enrichment programs for inner city minorities and central city school desegregation, in order that we might clarify the role of racial factors in this movement. Although our first hypothesis was not confirmed, the findings here do not support the view that increases in the numbers or levels of integration of central city blacks will have a substantial effect on white out-movement in the short-term. Hence programs aimed at achieving higher standards of living and better schooling for central city minorities might be implemented without precipitating immediate white population losses.

Despite this mildly optimistic implication of our analysis, we have uncovered no easy remedies toward decreasing the level of white out-movement which is presently taking place. The fiscal crisis in big city government as well as the suburbanization of employment opportunities and residences are likely to continue, particularly in the already declining central cities of our older metropolitan areas. The resulting increase in disparities between cities and their suburbs in services offered and taxes levied is likely to become even more important in the future mobility decisions of central city residents, than was shown during the 1965–70 period.

There may be some truth to Gorham and Glazer's (1976:28) less than optimistic prognosis that:

The declining cities are going through a period of urban natural selection. The most likely outcome: some will pull out, stabilize and even revitalize; others will continue to weaken and eventually stabilize at a much lower level of activity.

Given this situation, central cities must look beyond their own political boundaries to obtain the resources necessary to increase their attractiveness for residents and industry.

APPENDIX A

DEFINITIONS AND SOURCES OF CITY AND SMSA ATTRIBUTES TO BE EVALUATED AS CAUSAL FACTORS OF WHITE CITY-TO-SUBURB MOVEMENT

*Factors Related to Race***Percent City Black**

Percent of total 1965 city population which was black. 1965 totals were averaged from 1960 and 1970 totals.

Source: U.S. Bureau of the Census, 1973b.

School Desegregation

Difference between the 1967 minus 1972 values of the index of dissimilarity computed for black and nonblack elementary school students across schools within the central city district.

Source: U.S. Commission on Civil Rights, 1967; 1974.^a

Incidence of Racial Disturbances

The number of spontaneous outbreaks characterized primarily by Negro aggression which took place in the city between 1965-68, per 100,000 central city population, 1965.

Sources: Lemberg Center for the Study of Violence, 1968a; 1968b; Congressional Quarterly Service, 1967. *The New York Times Index*.^b

*Factors Related to Central City Decline***Suburb/City Per Capita Taxes**

Ratio of 1970 suburban tax revenues per capita to 1970 central city tax revenues per capita ($\times 100$).

^a School segregation indices were made available by Karl and Alma Taeuber.

^b The racial disturbance data were made available by Seymour Spilerman.

Source: Advisory Commission on Intergovernmental Relations, 1973: Appendix B.

Suburb/City Per Capita Educational Expenditures
Ratio of 1970 suburban educational expenditures per capita to 1970 central city educational expenditures per capita ($\times 100$).

Source: Advisory Commission of Intergovernmental Relations, 1973: Appendix B.

City Crime Rate

Number of serious crimes reported in 1970 per 1000 central city population, 1970. Serious crimes include murder, rape, robbery, aggravated assault, burglary, larceny, and auto theft.

Source: U.S. Bureau of the Census, 1973b.

City-Suburb Commuters

Percent of 1970 central city residents reporting a place of work, that report a suburban workplace.

Source: U.S. Bureau of the Census, 1973c.

*Factors Related to Population Structure***Postwar Suburban Development**

Percent of 1970 suburban year-round units in structures built since 1950.

Source: U.S. Bureau of the Census, 1973b.

Percent City Owners

Percent of 1970 nonblack-occupied dwelling units in the central city which are owner occupied.

Source: U.S. Bureau of the Census, 1971.

City Age Distribution

Percent of the 1970 nonblack central city population aged five and over which was in the 20-29 year old age group in 1965.

Source: U.S. Bureau of the Census, 1973a.

APPENDIX B

Zero-Order Correlations among Causal Factors, and between Causal Factors and Mobility Measures, 39 SMSAs

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Postwar Suburban Development	1.00									
2. Percent City Owners	.424	1.00								
3. City Age Distribution	.443	.063	1.00							
4. Percent City Back	.030	-.185	-.138	1.00						
5. School Desegregation	-.270	-.290	-.299	-.099	1.00					
6. Racial Disturbances	.331	.262	.162	.054	-.257	1.00				
7. Suburb/City Taxes	-.116	-.037	.259	-.208	-.057	-.216	1.00			
8. Suburb/City Ed Expenditures	-.016	.168	.073	-.296	-.023	.115	.473	1.00		
9. City Crime Rate	.155	-.334	-.172	.409	.052	-.043	-.249	-.205	1.00	
10. City-Suburb Commuters	-.136	-.109	-.148	-.011	.254	-.316	.122	-.132	.160	1.00
11. Log MI	.545	-.078	.263	.200	-.005	.117	-.274	-.294	.374	.307
12. Log SP'	.545	.096	-.078	.407	-.020	.236	-.310	-.027	.406	.120
13. Log CS'	.591	.044	.033	.370	-.016	.215	-.323	-.120	.430	.194

APPENDIX C

LIST OF STANDARD METROPOLITAN STATISTICAL
AREAS INCLUDED IN ANALYSIS

New York City, N.Y.	Portland, Ore.-Wash.
Chicago, Ill.	Phoenix, Ariz.
Philadelphia, Penn.-N. J.	Columbus, Ohio
Detroit, Mich.	Rochester, N. Y.
Boston, Mass.	Dayton, Ohio
Pittsburgh, Penn.	Louisville, Ky-Ind.
St. Louis, Mo.-Ill.	Sacramento, Cal.
Baltimore, Md.	Memphis, Tenn.-Ark.
Cleveland, Ohio	Fort Worth, Tex.
Houston, Tex.	Birmingham, Ala.
Newark, N. J.	Toledo, Ohio-Mich.
Dallas, Tex.	Akron, Ohio
Milwaukee, Wis.	Hartford, Conn.
Atlanta, Ga.	Oklahoma City, Okla.
Cincinnati, Ohio-Ky-Ind.	Syracuse, N. Y.
Buffalo, N. Y.	Jersey City, N. J.
Denver, Col.	Omaha, Neb.-Ia.
Indianapolis, Ind.	Grand Rapids, Mich.
San Jose, Cal.	Richmond, Va.
New Orleans, La.	

REFERENCES

- Advisory Commission on Intergovernmental Relations
1973 *City Financial Emergencies: The Intergovernmental Dimension*. Washington, D.C.: U.S. Government Printing Office.
- Alwin, Duane F. and Robert M. Hauser
1975 "The decomposition of effects in path analysis." *American Sociological Review* 40:37-47.
- Bradford, David F. and Harry H. Kelejian
1973 "An econometric model of the flight to the suburbs." *Journal of Political Economy* 81:566-89.
- Brown, Lawrence A. and Eric G. Moore
1970 "The intra-urban migration process: a perspective." *Geografiska Annaler* 52B:1-13.
- Butler, Edgar W., F. Stuart Chaplin, Jr., George C. Hemmens, Edward J. Kaiser, Michael A. Stegman and Shirley F. Weiss
1969 *Moving Behavior and Residential Choice: A National Survey*. National Cooperative Highway Research Program Report No. 81. Washington, D.C.: Highway Research Board, National Academy of Sciences.
- Clark, Terry N., Irene Sharp Rubin, Lynne C. Petter and Erwin Zimmerman
1976 "How many more New Yorks? The New York fiscal crisis in comparative perspective." Report #72. Comparative Study of Community Decision Making. Department of Sociology, University of Chicago.
- Coleman, James S.
1976a "Response to Professors Pittigrew and Green." *Harvard Educational Review* 46:217-24.
1976b "Liberty and equality in school desegregation." *Social Policy* 6:9-13.
- Coleman, James S., Sara D. Kelly, and John A. Moore
1975 *Trends in School Segregation, 1968-73*. Washington, D.C.: Urban Institute.
- Congressional Quarterly Service
1967 *Urban Problems and Civil Disorder*. Special Report. No. 36 (September):3-6.
- deLeeuw, Frank, Ann B. Schnare, and Raymond J. Struyk
1976 "Chapter 3: housing." Pp. 119-78 in William Gorham and Nathan Glazer (eds.), *The Urban Predicament*. Washington, D.C.: Urban Institute.
- Droettboom, Theodore, Jr., Ronald J. McAllister, Edward J. Kaiser, and Edgar W. Butler
1971 "Urban violence and residential mobility." *Journal of the American Institute of Planners* 37:319-25.
- Duncan, Beverly, George Sabagh, and Maurice Van Arsdol, Jr.
1962 "Patterns of city growth." *American Journal of Sociology* 67:418-29.
- Duncan, Otis Dudley
1971 "Path analysis: sociological examples." Pp. 115-38 in H. M. Blalock, Jr. (ed.), *Causal Models in the Social Sciences*. Chicago: Aldine.
- Farley, Reynolds
1976a "Is Coleman right?" *Social Policy* 6:14-23.
1976b "Components of suburban population growth." Pp. 3-38 in Barry Schwartz (ed.), *The Changing Face of the Suburbs*. Chicago: University of Chicago Press.
1976c "Can governmental policies integrate public schools?" Paper presented at the 1976 annual meeting of the American Sociological Association, New York.
1977 "Residential segregation in urbanized areas of the United States in 1970: an analysis of social class and racial differences." *Demography* 14:497-518.
- Foley, Donald
1973 "Institutional and contextual factors affecting the housing choices of minority residents." Pp. 85-147 in Amos H. Hawley and Vincent P. Rock (eds.), *Segregation in Residential Areas*. Washington, D.C.: National Academy of Sciences.
- Frey, William H.
1978a "Population movement and city-suburb redistribution: an analytic framework." *Demography* 15:571-88.
1978b "Black movement to the suburbs: potentials and prospects for metropolitanwide integration." Pp. 79-117 in Frank D. Bean and W. Parker Frisbie (eds.), *The Demography of Racial and Ethnic Groups*. New York: Academic Press.
1978c "Class-specific white flight: a comparative analysis of large American cities." Presented at the Ninth World Congress, International Sociological Association, Uppsala.
1979 "White flight and central city loss: application of an analytic migration framework." *Environment and Planning-A*. In press.

- Gibbs, Jack P. and Maynard L. Erickson
1976 "Crime rates of American cities in an ecological context." *American Journal of Sociology* 82:605-20.
- Glenn, Norval D.
1973 "Suburbanization in the United States since World War II." Pp. 51-78 in Louis H. Masotti and Jeffrey K. Hadden (eds.), *The Urbanization of the Suburbs*. Beverly Hills: Sage.
- Goldstein, Sidney, and Kurt B. Mayer
1964 "Migration and the journey to work." *Social Forces* 42:472-81.
- Goodman, John L., Jr.
1974 "Local residential mobility and family housing adjustments." Pp. 79-105 in J. N. Morgan (ed.), *Five Thousand American Families: Patterns of Economic Progress*, Vol. 2. Ann Arbor: Institute for Social Research.
- Gorham, William and Nathan Glazer
1976 *The Urban Predicament*. Washington, D.C.: Urban Institute.
- Grodzins, Morton
1958 *The Metropolitan Area as a Racial Problem*. Pittsburgh: University of Pittsburgh Press.
- Guest, Avery M.
1972 "Population densities and higher status residential location." *Economic Geography* 48:375-87.
1975a "The journey to work: 1960-1970." *Social Forces* 54:220-5.
1975b "Workplace and residential suburbanization." Unpublished paper. Center for Studies in Demography and Ecology, University of Washington.
1976 "Occupation and the journey to work." *Social Forces* 55:166-81.
- Guterbock, Thomas M.
1976 "The push hypothesis: minority presence, crime, and urban deconcentration." Pp. 137-61 in Barry Schwartz (ed.), *The Changing Face of the Suburbs*. Chicago: University of Chicago Press.
- Hamilton, C. Horace
1964 "The Negro leaves the South." *Demography* 1:273-95.
- Harrison, Bennett
1974 *Urban Economic Development: Suburbanization, Minority Opportunity, and the Condition of the Central City*. Washington, D.C.: Urban Institute.
- Hermalin, Albert I. and Reynolds Farley
1973 "The potential for residential integration in cities and suburbs: implications for the busing controversy." *American Sociological Review* 38:595-610.
- Hirsch, Werner Z.
1971 "The fiscal plight: causes and remedies." Pp. 3-40 in Werner Z. Hirsch, Phillip E. Vincent, Henry S. Terrell, Donald C. Shoup, Arthur Rosett (eds.), *Fiscal Pressures on the Central City: The Impact of Commuters, Nonwhites, and Overlapping Governments*. New York: Praeger.
- Kain, John F.
1965 "The journey to work as a determinant of residential location." *Papers and Proceedings of the Regional Science Association* 9:137-60.
1968 "Housing segregation, Negro employment, and metropolitan decentralization." *Quarterly Journal of Economics* 82:175-97.
- Kain, John F. and Joseph J. Persky
1969 "Alternatives to the gilded ghetto." *Public Interest* 14:74-87.
- Kasarda, John D.
1976 "The changing occupational structure of the American metropolis: apropos the urban problem." Pp. 113-36 in Barry Schwartz (ed.), *The Changing Face of the Suburbs*. Chicago: University of Chicago Press.
- Kasarda, John D. and George V. Redfearn
1975 "Differential patterns of city and suburban growth in the United States." *Journal of Urban History* 2:43-66.
- Kaufman, Ira R. and Leo F. Schnore
1975 "Municipal annexations and suburbanization, 1960-70." *Center for Demography and Ecology Working Paper* 75-4. University of Wisconsin, Madison.
- Lansing, John B. and Eva Mueller
1967 *The Geographic Mobility of Labor*. Ann Arbor: Institute for Social Research.
- Lemberg Center for the Study of Violence
1968a *Compilation of the 1967 Disorders*. Unpublished paper. Brandeis University.
1968b *Riot Data Review. Numbers 1-3*. Mimeo. Brandeis University.
- Levin, Charles L.
1978 *The Mature Metropolis*. Lexington: Lexington Books.
- Long, Larry H.
1972 "The influence of number and ages of children on residential mobility." *Demography* 9:371-82.
1975 "How the racial composition of cities changes." *Land Economics* 51:258-67.
- Manpower Report of the President
1974 Washington, D.C.: U.S. Government Printing Office.
- National Advisory Commission on Civil Disorders
1968 *A Report*. Washington, D.C.: U.S. Government Printing Office.
- Noll, Roger
1970 "Metropolitan employment and population distribution and the conditions of the urban poor." Pp. 481-509 in John P. Crecine (ed.), *Financing the Metropolis*. Beverly Hills: Sage.
- Orfield, Gary
1976 "Is Coleman right?" *Social Policy* 6:24-9.
- Peterson, George E.
1976 "Chapter 2: finance." Pp. 35-118 in William Gorham and Nathan Glazer (eds.), *The Urban Predicament*. Washington, D.C.: Urban Institute.
- Pettengill, Robert B., and Jogindar S. Uppal
1974 *Can Cities Survive? The Fiscal Plight of American Cities*. New York: St. Martin's.
- Pettigrew, Thomas F.
1973 "Attitudes on race and housing: a social-psychological view." Pp. 21-84 in Amos H. Hawley and Vincent P. Rock (eds.), *Segre-*

- gation in Residential Areas. Washington, D.C.: National Academy of Sciences.
- Pettigrew, Thomas F., and Robert L. Green
1976a "School desegregation in large cities: a critique of the Coleman 'white flight' thesis." *Harvard Educational Review* 46: 1-53.
1976b "A reply to Professor Coleman." *Harvard Educational Review* 46:225-33.
- President's Commission on Law Enforcement and Administration of Justice
1967 Task Force Report: Crime and Its Impact—An Assessment. Washington, D.C.: U.S. Government Printing Office.
- Roistacher, Elizabeth
1974 "Residential mobility." Pp. 41-78 in J. N. Morgan (ed.), *Five Thousand American Families: Patterns of Economic Progress*, Vol. 2. Ann Arbor: Institute for Social Research.
- Rossell, Christine H.
1975 "School desegregation and white flight." *Political Science Quarterly* 90:675-95.
- Rossi, Peter H.
1955 *Why Families Move*. New York: Free Press.
- Schnore, Leo F. and Hal H. Winsborough
1972 "Functional classification and the residential location of social classes." Pp. 124-51 in Brian J. L. Berry (ed.), *City Classification Handbook: Methods and Applications*. New York: Wiley.
- Schnore, Leo F., Carolyn D. André, and Harry Sharp
1976 "Black suburbanization, 1930-1970." Pp. 69-94 in Barry Schwartz (ed.), *The Changing Face of the Suburbs*. Chicago: University of Chicago Press.
- Snyder, David and William R. Kelly
1977 "School desegregation and declines in white enrollment: structural sources of North-South differences." Unpublished paper. Department of Sociology, Indiana University, Bloomington.
- Sørensen, Annemette, Karl E. Taeuber, and Leslie J. Hollingworth
1975 "Indexes of racial residential segregation for 109 cities in the United States, 1949 to 1970." *Sociological Focus* 8:125-42.
- Speare, Alden, Jr.
1970 "Home ownership, life cycle stage, and residential mobility." *Demography* 7:449-58.
- Speare, Alden, Jr., Sidney Goldstein, and William H. Frey
1975 *Residential Mobility, Migration and Metropolitan Change*. Cambridge, Ma.: Ballinger.
- Spilerman, Seymour
1970 "The causes of racial disturbances: a comparison of alternative explanations." *American Sociological Review* 35:627-49.
- Sternlieb, George and James W. Hughes (eds.)
1975 *Post Industrial America: Metropolitan Decline and Interregional Job Shifts*. New Brunswick: Rutgers Center for Urban Policy Research.
1978 *Revitalizing the Northeast*. New Brunswick: Rutgers Center for Urban Policy Research.
- Tarver, James D.
1969 "Migration differentials in southern cities and suburbs." *Social Science Quarterly* 50:298-324.
- Taeuber, Irene B.
1972 "The changing distribution of the population of the United States in the twentieth century." Pp. 29-107 in Sara Mills Mazie (ed.), *U.S. Commission on Population Growth and the American Future, Reports*, Vol. 5. Population Distribution and Policy. Washington, D.C.: U.S. Government Printing Office.
- Taeuber, Karl E.
1975a "Demographic perspectives on housing and school segregation." *Wayne Law Review* 21:833-50.
1975b "Racial segregation: the persisting dilemma." *Annals of the American Academy of Political and Social Science* 442:87-96.
- Taeuber, Karl E. and Alma F. Taeuber
1964 "White migration and socioeconomic differences between cities and suburbs." *American Sociological Review* 29:718-29.
1965a *Negroes in Cities*. Chicago: Aldine.
1965b "The changing character of Negro migration." *American Journal of Sociology* 60: 429-41.
- U.S. Bureau of the Census
1971 *Census of Population of Housing: 1970 General Demographic Trends for Metropolitan Areas 1960 to 1970. Final Report PHC(2)-1 United States*. Washington, D.C.: U.S. Government Printing Office.
1973a *Census of Population: 1970. Subject Reports Final Report PC(2)-2C. Mobility for Metropolitan Areas*. Washington, D.C.: U.S. Government Printing Office.
1973b *County and City Data Book, 1972*. Washington, D.C.: U.S. Government Printing Office.
1973c *Census of Population: 1970, Vol. 1. Characteristics of the Population*. Washington, D.C.: U.S. Government Printing Office.
- 1978 "Social and economic characteristics of the metropolitan and nonmetropolitan population: 1977 and 1970." *Current Population Reports. Ser. P-23, No. 75*. Washington, D.C.: U.S. Government Printing Office.
- U.S. Commission on Civil Rights
1967 *Racial Isolation in the Public Schools*. Washington, D.C.: U.S. Government Printing Office.
1974 *Directory of Public Elementary and Secondary Schools in Selected Districts, Fall 1972*. Washington, D.C.: U.S. Government Printing Office.
- Zimmer, Basil G.
1975 "The urban centrifugal drift." Pp. 23-91 in Amos H. Hawley and Vincent P. Rock (eds.), *Metropolitan America in Contemporary Perspective*. Beverly Hills: Sage.
1976 "Suburbanization and changing political structures." In Barry Schwartz (ed.), *The Changing Face of the Suburbs*. Chicago: University of Chicago Press.