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A HOUSING ALLOCATION MODEL FOR LOW- AND MODERATE-INCOME HOUSEHOLDS IN THE ALBANY-SCHENECTADY-TROY SMSA*

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ABSTRACT

Prior to the moratorium on federal housing programs for low and moderate income households (1972), a rash of housing models were formulated by various regional metropolitan planning bodies across the country attempting "equitable" distribution of subsidized units. This type of model has generally come to be referred to as a "fair share" formula. Each version, in its own way, had set about the establishment of an objective set of criteria for locating future projects.[1]

The criteria used in the various "fair share" models generally include existing and projected housing needs as well as feasibility measures such as the ability of local school systems to absorb increased enrollments. In a few cases the "fair share" formula have included assumptions about the relative desirability of designated planning areas within the metropolitan region.

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[1] Many metropolitan planning offices have experimented in recent years with this idea. See Report No. 282 Planning Advisory Service "Lower Income Housing: The Planners' Response," by Mary E. Brooks, ASPO, July-August, 1972.

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The "Allocation Model for Low and Moderate-Income Housing" developed by the Capital District Regional Planning Commission of Albany, New York is one of those which endeavored to take into account the desirability features of identified planning areas (census tracts).

The principal findings of background studies into the housing market situation in the Capital District have revealed that:

1. new suitable housing is priced out of reach of nearly 40 per cent of households in the Region.
2. undesirable concentrations of low-income households and racial minorities are occurring in some central city areas.
3. approximately 9 per cent of the low-income households in the Region live in sub-standard units (lacking minimum plumbing facilities). Of the balance of the population, less than 2.5 per cent live in substandard units.
4. the gradual suburbanization of a large proportion of non-professional employment opportunities along with middle and upper-income residences has resulted in a spatial misfit between where jobs are located and where workers reside.

Objective of Model

The above four premises are the evidentiary basis for concluding that housing opportunities are not adequate for the lower income groups and that there is presently a shortfall in the supply of sound suitable units available. It is further implied that future housing construction should reflect the locational preference of the consumer, as much as possible, without regard to income.

The provision of new suitable units for low and moderate-income households may involve government intervention. This situation warrants a plan for distributing these new units according to a flexible set of guidelines (mathematical formula) so as to increase the housing opportunities in "high attractiveness" areas without creating artificial concentrations of low-income households. (The definitions of constraints and maximization criteria will be brought out later).

Analysis Overview

This particular "fair share" model consists of two interfaced parts: (1) the Regional housing Needs Forecast; and, (2) the Allocation Model. The outputs of the analysis and model consist of: (1) the numbers of substandard units for replacement or rehabilitation in each census tract, aggregated to minor civil divisions; and, (2) the numbers of new units for low/moderate-income households distributed to each tract on the basis of its market "attractiveness" (defined by the past ten-year growth history) and its present (1970 Census) per cent of low/moderate households.

The Needs Forecast considers two kinds of housing requirements, a "replacement" element, and a "future demand" element. The replacement element consists of an inventory by census tract of substandard units. Since the allocation model distinguishes between "low/moderate-income" households and the "balance," the higher incidence of substandard occupancy by the former is taken into account. A 0.2 per cent per year attrition rate is also applied to account for housing stock lost to the market which is not counted as substandard. All housing units considered as part of the "replacement" element are designated as "in-place" renovations or new construction, i.e. these units are not allocated to any tract other than the one in which they are inventoried. The implication of this recommendation amounts to a planning policy of population stabilization in so-called "blighted" areas.

The "future demand" element of the housing plan distributes projected household increases in the low and moderate income sector to "high attractiveness" tracts which have fewer than the regional average proportion of low and moderate-income households. This allocation is modified by the relative accessibility of each tract to major employment centers. Finally a system of priorities is assigned to the tracts based on the existing and/or proposed availability of sewer and water facilities. The final outputs take the form of the table abstract in Table 1.

Future Demand Needs

1980 PROJECTIONS

From 1970 Census population figures a population projection was obtained for the target year (1980). This particular projection made use of a cohort survival model as performed by the N.Y.S. Office of Planning Services for the four counties comprising the Capital District.[2] The total housing stock required in 1980 includes a 5 per cent marketable vacancy cushion to allow for market fluctuations and to minimize inflationary pressures (4 to 5 per cent is recommended by the Federal Housing Administration).

"Household population" figures are defined by the 1970 Census as persons occupying a housing unit, distinguished from "group quarters" (including inmates of institutions, military barracks, dormitories, sorority or fraternity houses, missions, wards etc.). The percentage of non-household population as well as the average household size is extrapolated as a trend to 1980. In this manner it is possible to project the number of households in 1980 which is roughly equivalent to the number of occupied housing units.

[2] NYS Office of Planning Services, "Demographic Projections: Upper Hudson Region," June, 1972.

Table 1. Allocation Model Outputs

TRACTS	BASE-YEAR HOUSING UNITS	TARGET-YEAR HOUSING UNITS	BASE-YEAR SOCIO-MIX	TARGET-YEAR SOCIO-MIX	LOW/MOD INCOME GROWTH UNITS	EMPLOY ACCESS WEIGHT SCORES	ADJSTD. LOW/MOD GROWTH UNITS	REHABS. FOR LOW/MOD	TOTAL LOW/MOD UNITS ADDED	PUBLIC SEWER/ WATER I or II
TA(1)	HB(1)	HT(1)	MB(1)	MT(1)	XG(1)	A(1)	XGA(1)	XR(1)	XT(1)	SW(1)
TA(2)										
TA(3)										
.										
.										
.										
TA(n)										
MCD TOTALS										
A	ΣHB	ΣHT	$\frac{\Sigma MB}{n}$	$\frac{\Sigma MT}{n}$	Σ XG	$\frac{\Sigma A}{n}$	Σ XGA	Σ XR	Σ XT	$\frac{\Sigma SW(1)}{n}$
COUNTY TOTALS										
REGION TOTALS										

LOW- AND MODERATE-INCOME HOUSEHOLDS

The proportion of the total projected housing growth which will be needed for low/moderate-income households is determined by using 1970 unadjusted gross FHA income eligibility limits by household size for public housing. Because maximum eligibility income differs from one locality to another, it is necessary to look up the number of eligible households by size at each income level and interpolate an average regional income limit for each household size group. Thus, for instance if Community (A) had 100 single-person households eligible for public housing at $4000 per year maximum gross earnings and community (B) had 200 single-person households eligible at $4500 maximum, the regional average would be:

$$\frac{(100 \times 400) + (200 \times 4500)}{300 \text{ households}}, \text{ or } \$4333.$$

Once having found the regional income eligibility limits for publicly-assisted housing it is a simple process to add up the number of households falling into each category. This is only possible at the SMSA level where census data is published for income by size of household. Using the methodology described here, approximately 39 per cent of the Capital District's 1970 population fell into the low to moderate-income range. It was assumed, for the purposes of this model, that the proportion of L/M households would remain the same in 1980 as in 1970.[3]

At the tract level the Census provides income data only for families and does not cross-tabulate by size. It was found for 1970 that the 0-$7000 income class approximated the low-income group and $7-9000 the moderate-income group.[4] These family income class figures for each tract were normalized to the household totals in order to derive an estimate of the number of low- and moderate-income households in each tract for use later in the allocation procedure.

Allocation Methodology

TRACT CLASSIFICATIONS

One of the more frequent criticisms of an earlier attempt at a "fairshare" model was its equal treatment of urban, suburban and rural planning areas.

[3] In assuming an annual inflation rate of 3.33 per cent between 1970 and 1980 it is reasonable to extrapolate the proportions of various income levels by household size, based on 1969 dollars. This analysis yielded results which indicate a shrinking proportion of low/moderate-income households in 1980. However, due to the extremely speculative nature of this extrapolation and given the condition of more rapidly increasing housing costs it is more reasonable to assume the same low/moderate-income proportion for 1980 as found for 1970.

[4] The family income $0-9000 accounts for 0.377 of the total number of families, a satisfactory approximation of the 0.391 found to be the low/moderate-income household proportion.

In an attempt to overcome this difficulty an effort was made to classify each of the 154 census tracts by housing condition, socio-economic, mobility, and family life-cycle characteristics. It was felt that such an approach would recognize the different set of circumstances that communities may face in dealing with housing needs. For example, both rural areas and center cities typically are found to have a high percentage of low and moderate-income households. However the high densities of population in the urban center will warrant an entirely different kind of housing solution than would be appropriate for primarily agricultural areas beyond the suburbs.

Forty-one variables were found in the 1970 Census data information that could conceivably be of use in deriving a classification system for this purpose. From the original list, 20 were chosen to represent the final classification, the remainder having been found as irrelevant or repetitious on closer study. The twenty selected indicators are listed in Table 2.

Choices between variables which measure approximately the same characteristic were chosen according to the range of scores and standard deviation, with an intuitive eye for similar characteristics. For example 'median school years completed' ranged from 8.7 years to 14.6, a difference of 1.67 times; whereas the variable 'per cent 16 to 21 years not high school graduates and not enrolled in high school' (referred to as 'high school dropouts') ranged from 0.7 per cent to 37 per cent, a difference of 53.6 times. In this case the 'high school dropouts' variable was included in the model in preference to 'median school years completed.' Other choices were made on the basis of more subtle differences, for example, 'median gross rents' over 'median family income.' The ranges of these two variables were roughly equivalent, however the former proved to be the better choice in combination with other variables previously selected.

The difficulty of selecting a set of general variables on which to base a classification system is the balancing of different ideas in appropriate ratios. The variables used in this model are chosen to indicate a variety of characteristics. The simple correlation matrix of the 20 selected variables revealed that racial minority concentration is conveyed by variable (1); tenure, by variables (3) and (5); housing conditions, by variables (4) and (17); whereas the housing market situation is explained primarily by variables (15) and (18) and indirectly by (5). The structure of the population is indicated by variables (10) and (14) and indirectly by (16); mobility, by variables (7), (8) and (9); occupational characteristics by (11) and (12). Socio-economic characteristics are directly represented by variables (2), (13) and (20), and indirectly by (1), (6), (12), (16) and (18); growth history is conveyed by variable (19).

The relationships between potential variables are also relevant when determining which to use. Although the variables in this exercise are not confined to a particular subject or field of interest, they all have been included to

Table 2. Mean Score, Range, and Standard Deviation of Each of the 20 Variables

Variable		Mean Score	Range of Score Low	Range of Score High	Standard Deviation
(1)	% Black population	0.0368	0.000	0.655	0.0945
(2)	% families on public assistance or public welfare	0.0364	0.000	0.250	0.0411
(3)	% renter-occupied year-round housing units	0.348	0.059	0.849	0.217
(4)	% occupied year-round housing units lacking some or all plumbing facilities	0.0457	0.002	0.293	0.0489
(5)	% households at present addresses two years or less	0.255	0.049	0.531	0.0822
(6)	% households with no auto available	0.184	0.011	0.666	0.160
(7)	% households with two or more autos available	0.282	0.014	0.649	0.154
(8)	% of working persons who travel to work by auto	0.769	0.356	1.000	0.150
(9)	% of working perosns who travel to work by bus	0.0660	0.000	0.322	0.0721
(10)	% families with own children 18 or under	0.524	0.171	0.694	0.0953
(11)	% operative occupations	0.115	0.011	0.303	0.0627
(12)	% Laborer occupations	0.0426	0.005	0.145	0.0257
(13)	% families below poverty	0.0709	0.014	0.297	0.0499
(14)	% households with six or more persons	0.101	0.009	0.208	0.0350
(15)	Vacancy rate for all year-round housing	0.0467	0.006	0.391	0.0482
(16)	% of occupied year-round housing w/7 rooms or more	0.262	0.048	0.738	0.115
(17)	% of housing unit structures built within past five years	0.101	0.002	0.475	0.116
(18)	Median monthly gross rent	113.4	62	212	30.8
(19)	1970 population as % of 1960 population	1.135	0.527	3.295	0.359
(20)	% high school drop-outs between 16 and 21 years	0.112	0.007	0.375	0.0878

describe social, economic, and demographic characteristics. Consequently, there are high correlations between certain variables. If each variable is to have equal influence on the resulting classification of tracts, the inclusion of two highly correlated variables will weight the concept they describe by a factor of two. In other words, in the set of variables certain information is being repeated more than once.

CLUSTERING TRACTS

The 20 variables selected for classification were studied by means of principal component analysis.[1] This procedure is a type of factor analysis which transforms the original set of variables into a kind of correlation matrix of principal components. There is the same number of principal components as variables, each accounting for some proportion of the total variance. The procedure derives the first component, with the maximum amount of variance explained; the second component, the next highest amount of variance, and so on. The principal components rapidly deteriorate in their significance beyond the first few, until the remaining components actually explain less variance than a single untransformed variable. In the exercise performed here, four components were found to be significant, together accounting for 77 per cent of the total variance. Table 3 summarizes these findings.

It is sometimes possible to interpret the "root" meanings of principal components by noting the correlation patterns. Thus the first component appears to account for tracts with large families in big houses, with two or more autos and high rates of residential growth. These items all show high positive correlations in the first column of Table 2. The second component shows high correlations with poverty indicators. Not all components are able to be generalized since ambiguities will arise between some variables.

Having reached the point of recognizing the distinguishing characteristics between tracts, a clustering process groups similar tracts together. At first, each tract is considered as a separate group. The mean difference among all groups for all variables is calculated and the two groups showing the least sum of differences are combined into the same group for each successive comparison. [2]

The process is illustrated by a dendrogram, Figure 1, for the last 20 groups formed. The entire dendrogram, too large to illustrate conveniently, would have begun with 154 groups. The scale at the left of the diagram indicates the fusion points of difference scores at which the groups are joined. The first 134 groups were formed with difference scores less than or equal to 20. These can be considered as very low scores in this exercise. The remaining groups show considerable higher difference scores up to 428.4, when the last two groups were merged into one.

Table 3. The Correlations Between the First Four Principal Components and the Twenty Variables

Variables		1st Component	2nd Component	3rd Component	4th Component
(1)	% Black population	-0.085	0.878	0.046	0.065
(2)	% families on public assistance or public welfare	-0.109	0.805	0.010	0.161
(3)	% renter-occupied year-round housing units	-0.614	0.319	0.193	0.029
(4)	% occupied year-round housing units lacking some or all plumbing facilities	0.033	0.126	0.068	0.885
(5)	% households at present addresses two years or less	-0.144	0.217	0.874	0.156
(6)	% households with no auto available	-0.496	0.471	0.103	0.139
(7)	% households with two or more autos available	0.594	-0.314	-0.036	-0.072
(8)	% of working persons who travel to work by auto	0.395	-0.246	-0.044	-0.280
(9)	% of working persons who travel to work by bus	-0.302	0.252	-0.026	-0.103
(10)	% families with own children 18 or under	0.847	0.163	0.066	-0.170
(11)	% operative occupations	0.011	0.072	-0.119	0.152
(12)	% Laborer occupations	0.000	0.634	0.044	0.348
(13)	% families below poverty	0.168	0.699	0.095	0.347
(14)	% households with six or more persons	0.889	0.078	-0.085	0.102
(15)	Vacancy rate for all year-round housing	-0.018	0.420	0.151	0.825
(16)	% of occupied year-round with 7 rooms or more	0.703	-0.400	-0.183	0.013
(17)	% of housing units structures built within past five years	0.589	-0.112	0.641	0.083
(18)	Median monthly gross rent	0.331	-0.254	0.170	-0.208
(19)	1970 population as % of 1960 population	0.665	-0.343	0.309	0.099
(20)	% of high school drop-outs between 16 and 21 years	0.011	0.593	0.122	0.235
Cumulative Variance		0.442	0.614	0.708	0.771

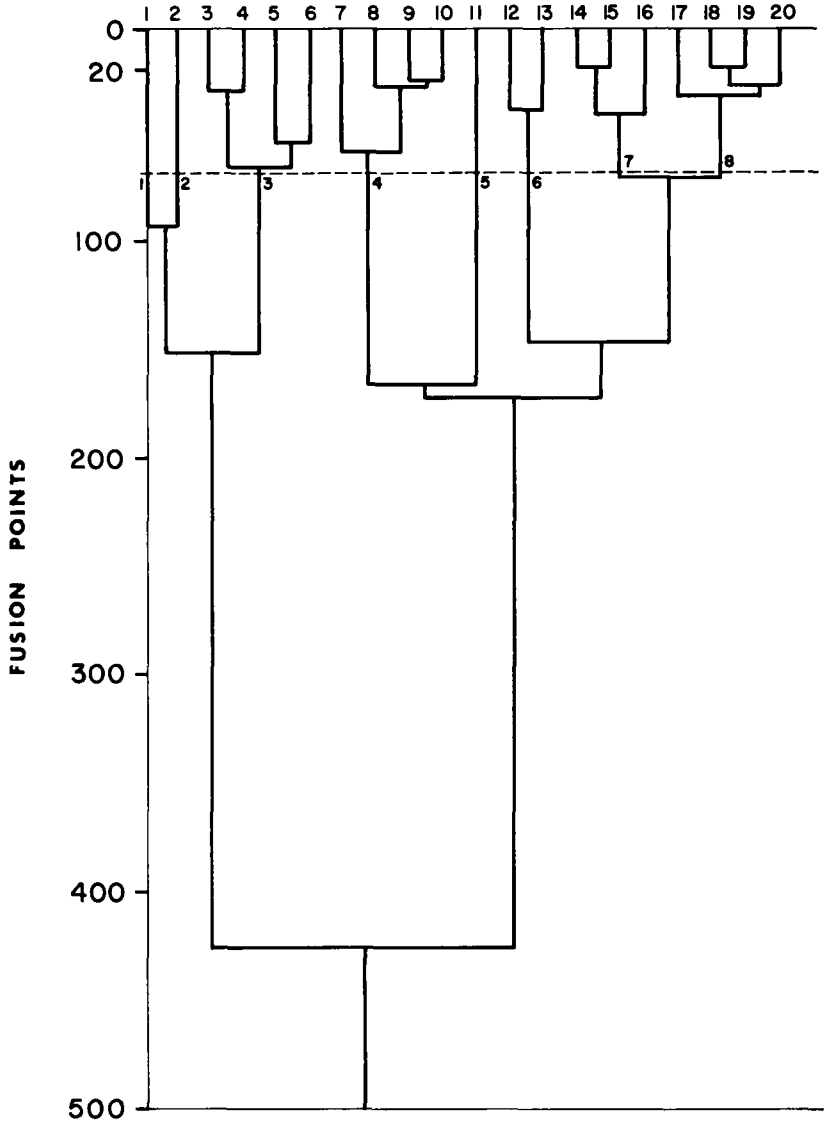

Figure 1. Dendrogram showing fusion from 20 clusters to 1 cluster.

Eight cluster groups were chosen from this procedure, with a difference score of 69.3. The reasoning behind this termination point is that the difference scores increase more significantly with each successive grouping beyond that level. Also eight groups appears to be a convenient number to work with, in terms of mapping and other explanatory work. As it was, eight groups also turned out to

be reasonable descriptors, when taken in pairs, of the classic community types within a metropolitan region: urban, fringe, suburban and rural.

Two sample diagrams are included as a part of this article showing the results of the cluster grouping. The mean scores for 12 selected variables is represented by a dark line and the group mean scores, above or below the variable mean, are represented by a bar graph. The diagrams are included as Figure 2 and 3 and a composite map showing all the final clusters groups is designated as Figure 4.

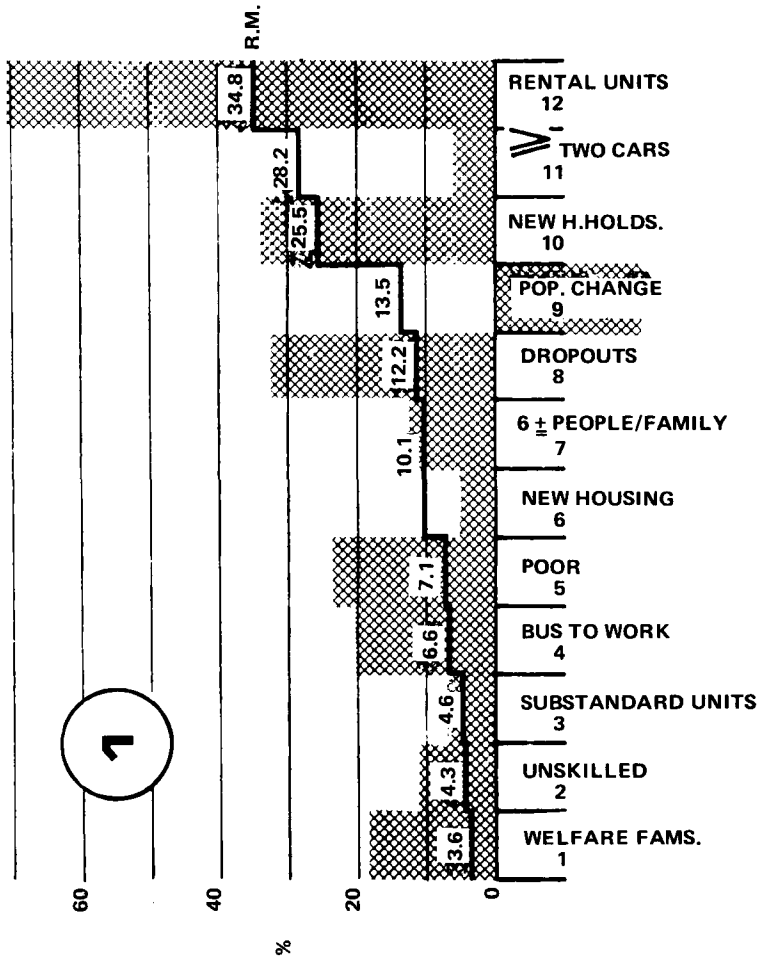

Figure 2. Cluster No. 1 comparison to regional mean for 12 variables.

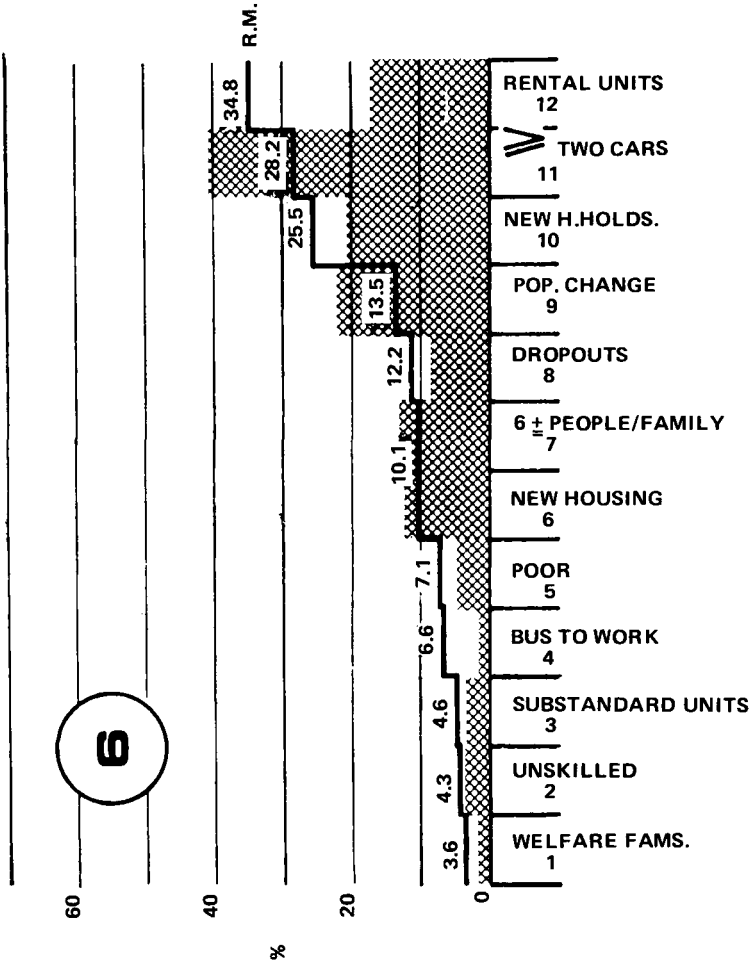

Figure 3. Cluster No. 6 comparison to regional mean for 12 variables.

MODEL FORMULATION

As stated earlier, the implied objective function of the allocation model is to maximize housing location opportunities. "Location opportunities" happens to be one of those variables that cannot be measured easily as well as being subject to many interpretations. The approach taken here has been to put into words a working definition and then develop a formula to distribute the projected number of housing units by historic growth trends, subject to a set of constraints derived from the definition positted.

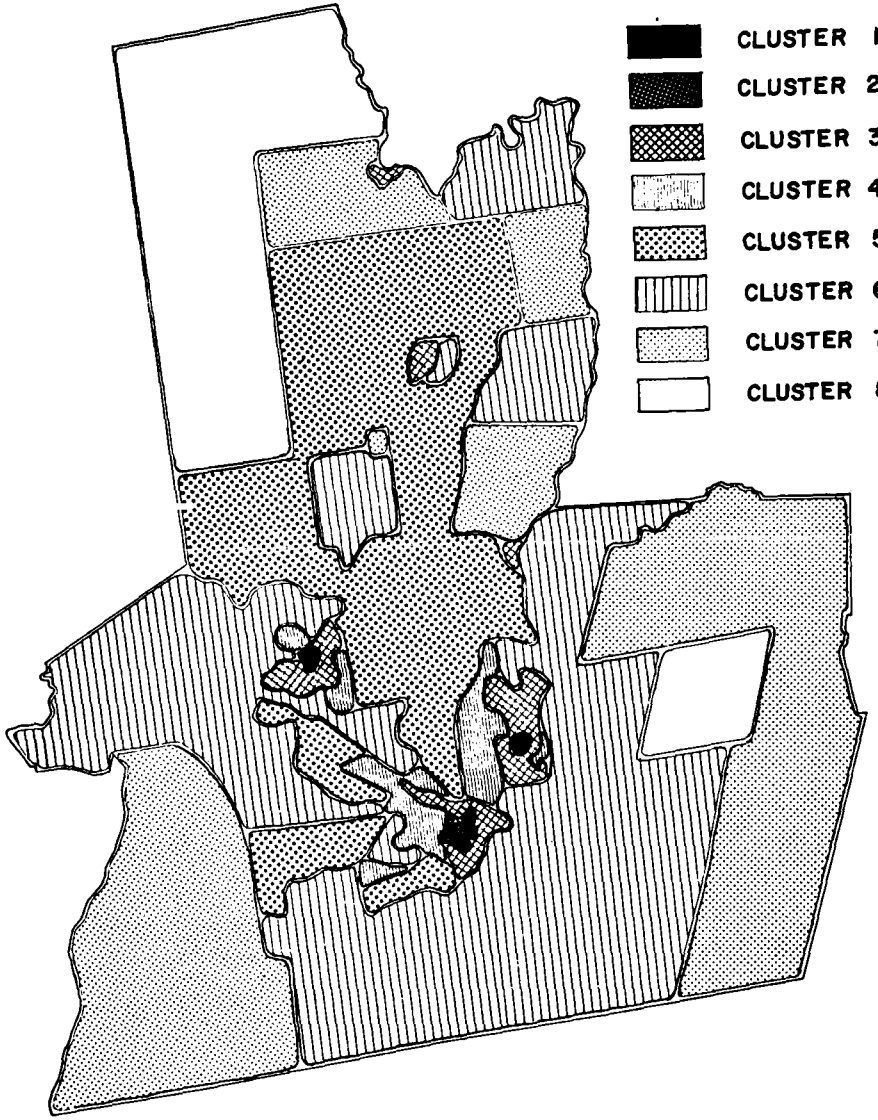

Figure 4. Composite map of the Capital District census tract clusters.

ASSUMPTION 1: Households in an income class above the low to moderate range are able to find housing opportunities in a variety of locations to suit their tastes and needs by personal economic means.

ASSUMPTION 2: Census tracts where the socio-mix (percentage of low and moderate income households) is below the mean for the metro region

are consciously or unconsciously promoting an exclusionary housing policy. Such a policy amounts to keeping out low and moderate income households.

DEFINITION: Therefore, maximizing locational opportunities in the regional housing market means increasing the socio-mix index in exclusionary tracts.

By the definition thus derived the distribution formula was developed as follows:

$$XG(I) = (HT(I) * MT(I)) - (HB(I) * MB(I))$$

where

XG(I) is the number of low and moderate income households being allocated to tract (I);

HT(I) is the total number of housing units projected for the target year, regardless of income, in tract (I);

MT(I) is the socio-mix prescribed for tract (I) by the target year;

HB(I) is the total number of occupied housing units in the base year in tract (I);

MB(I) is the socio-mix given for the base year in tract (I)

Before explaining where these values are obtained the constraint relationships should be noted. They are as follows:

$$13{,}383 = \Sigma XG(I)$$

$$0 \leqslant XG(I)$$

$$MB(I) \leqslant MT(I)$$

The total number of housing units projected for the target year in each tract, HT(I) is taken as the mean growth rate of the cluster group into which it falls. The model might have used a cohort survival algorithm to derive the growth rate for each tract. This approach derives a net migration rate after the survival probability of each age group is carried forward. In performing this operation many tracts would result in a population decrease that is inconsistent with the basic policy of "population stabilization" as a minimum projection. Moreover, the mean rate of growth of the cluster group is integrally tied with socio-economic indicators, mobility and all the other variables of the classification analysis. The idea of measuring tract "attractiveness" is certainly more likely to be brought out from a technique which takes into account the characteristic differences of the tracts than one which deals with demographic data alone. Tract "attractiveness" is the combination of features that give an area of relatively high demand factor as a location opportunity.

The socio-mix index, as explained above, is nothing more than the percentage of families in each tract with incomes of zero to $9000 per year. The manner in which the target year socio-economic mix is determined as an iterative process based on the following equation:

$$MT(I) = ((0.3912 - MB(I))/V) + MB(I)$$

A computer program searches for some value (V) that satisfies:

$$13{,}383 = \Sigma XG(I) = \Sigma(HT(I) * MT(I)) - ((HB(I) * MB(I))$$

within a toleration level of ±10. What this procedure does, in effect, is move a tract's socio-mix toward the regional socio-mix by some incremental amount (1/V), unless the tract already has a socio-mix equal to or greater than the region. A graphic example of this procedure is illustrated in Figure 5.

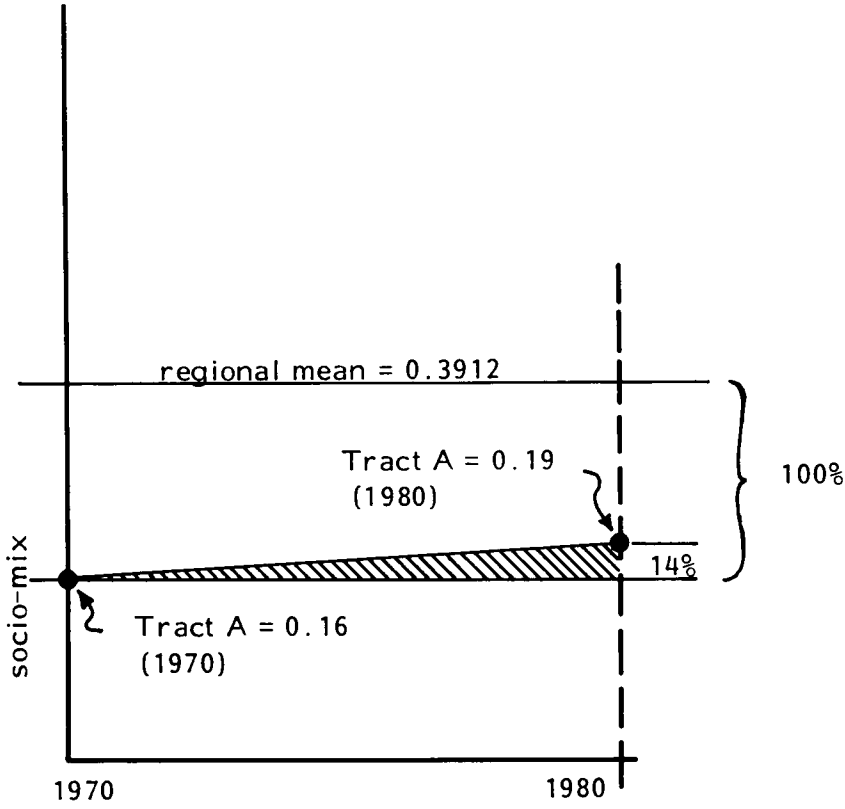

Figure 5. Example of a 14 per cent socio-mix convergence.

ACCESSIBILITY MODIFICATION

Having completed the allocation process of low and moderate income households on the basis of the formulas in the previous section, it was felt that the results should be compared with a more traditional allocation approach. A gravity model was chosen for this purpose based on locations of 1972 employment opportunities.

A gravity model is based on the assumption that the number of trips, in this case "work trips," between any two zones or tracts is directly proportional to a function of the resident population in one zone and the number of employment opportunities in the other, and inversely proportional to some function of the distance separating the two. The implication of this premise is that population growth will occur in a zone according to how well it is situated in relation to the employment opportunities of all other zones.

$$MT(I) = ((0.3912 - MB(I)/V) + MB(I)$$

$$0.19 = ((0.3912 - 0.16) / 7.0) + 0.16$$

Summary: by this illustration, in the base year Tract A had a 16% socio-mix (low and moderate income families); in the target year it would have 19% in accordance with a convergence rate of 1 / 7, or approximately 14%.

One of the factors which enters into this gravity model concept is the relative accessibility of each zone. Symblically this accessibility factor looks like this:

$$A(J) = \sum_{1}^{N} E(I)/d(I,J)^b$$

where

A(J) is the accessibility of zone (J) to the employment opportunities in all other zones;

E(I) is the employment opportunities, number of jobs, in zone (I);

$d(I,J)^b$ is the distance separating zone (I) from zone (J), raised to some empirical exponent (b=1 for this analysis).

Accessibility factors for every tract are easily calculated from the formula above. N.Y.S. Department of Transportation performed the task for this study as well as securing the essential employment data. The results were used as a normalization weighting scheme on which to distribute the regional population projection for 1980. The growth figure obtained in this manner produced highly inflated growth projections in inner city areas and severely understated the suburban growth potential.

A compromise solution was designed between the two methods tested. The

average accessibility score among all tracts within a given MCD was taken to be the score for the "growth tracts" found in the clustering analysis. Thus, if the City of Albany has a mean accessibility score of 100, any growth tracts within its boundaries will be weighted by that score normalized to the total of all growth tract scores. This procedure amounts to a modification scheme to the initial allocation model, subject to the same set of constraints as originally set forth.

PUBLIC SEWER/WATER

The last consideration in the allocation design model is the availability of public sewer and water facilities. Many other public services are certainly as important in the consideration of the placement of low and moderate-income housing. However, data on the availability of sewer and water service is consistent and readily obtainable, where other public service information is not. Also the existence of sewer and water service is considered highly correlated with local departments of public works, refuge removal, police, fire, public health clinics and the like.

For the purposes of this design model four broad classifications of sewer and water service were derived: existing service, proposed service, septic capability, and the balance. Maps were drafted from various sources of local data delineating existing public sewer systems and water mains and proposed extentions of each. From these maps it was possible to determine the percentage of land in each tract which has public sewers or water and percentages of land that will be serviced with proposed extentions. Any land not covered in these categories was compared to county soils maps for determination of its septic capability. The land found to have capability was delineated on the same sewer and water map described above.

A weighting scheme was designed according to the feasibility of putting low and moderate income housing on land in each of the four categories. The ratio of weights thus derived is 50: 10: 1: 0. The total score (SW(1)) for each tract is determined by the following equation:

$$SW(I) = 50(SE(I) + WE(I)) + 10\,(SP(I) + WP(I)) + SC(I)$$

where

SE(I) is the percentage of the land in tract (I) which is served by an existing public sewer system;

WE(I) is the percentage of the land in tract (I) which is served by an existing public water system;

SP(I) is the percentage of land in tract (I) which is proposed to be served by a public sewer system by the target year, 1980;

WP(I) is the percentage of the land in tract (I) which is proposed to be served by a public water system by the target year, 1980;

SC(I) is the percentage of the remaining land which is considered to have septic capability.

No further modifications were forced on the allocation model by the sewer and water considerations. The reason for this decision is due to a planning policy decision that public service provision does not represent a physical limitation to development to the same extent as the lack of accessibility to employment, at least in the short time horizon of a ten-year planning period.

The approach taken was to designate growth tracts into two broad categories of priority for the short and the long haul. A total sewer and water score of 70.0 was set as the cut off point between tracts in priority I and priority II. These designations intend that initial efforts to meet the housing recommendations of the needs forecast should be concentrated in priority I tracts. As the implementation programs get underway, priority II tracts will also come into the plan. However, projects in tracts of either priority category are considered to be within the 1980 time horizon.

In the final output, every growth tract is designated as either a priority I or II area. The percentage of each type of tract is also included for the MCD totals. The outputs are symbolically diagrammed in Table 1.

Conclusion

The cluster groupings deserve close scrutiny to appreciate the characteristic differences among them. Figures 2 and 3 are illustrative of how to recognize these differences. As it turns out, the first cluster group (Figure 2) shows up only in two tracts in the core of the City of Albany. These have a significantly high percentage of rental units, more than 70 per cent whereas the R. M. (regional mean) is 34.8 per cent. Conversely variable 9 shows a significant deviation below the R. M. for population change. Where the regional mean is +13.5 per cent growth, tracts in cluster No. 1 show a -20.6 per cent *loss* in population. Other cluster groups can be similarly compared with the regional mean. Figure 3 is the sixth cluster grouping and is comprised of the emerging suburban census tracts. Its differences are evident in comparison with Figure 2.

Because the housing allocation model does not allow increases in the proportion of low and moderate households in tracts which already have higher than the regional proportion, most allocations go to tracts in the urban fringe and suburban cluster groups. These are typically bedroom neighborhoods and suburban areas which have been experiencing rapid and sustained population increases over the past decade. Of these tracts those which also have relatively

high accessibility to employment opportunities are the prime areas to receive new low and moderate income housing.

It should be noted that in terms of percentages the target-year socio-mix is very nearly the same as the base-year socio-mix, that is to say a tract having 27 per cent of its households in the low and moderate income category may be prescribed to have 29 or 30 per cent in 1980 by the allocation model.

On the other hand, if trends are allowed to continue without counter measures the tract with a 27 per cent socio-mix is likely to be 20 per cent in 1980. Such a status quo policy would aggrevate the housing problems over the region and concentrate income groups even more disportionately than at present. There would be greater numbers of commuters on the roads since more households would not be able to locate with consideration of their place of work and social problems would intensify as blighted areas become more densely populated. At the present time the Capital District Regional Planning Commission is concentrating on the setting of realistic housing goals and implementation strategies in consultation with the local communities. It is hoped that the allocation model described here will provide a more clear direction for this work to proceed.

REFERENCES

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