

RESIDENTIAL SATISFACTION WITH THE LIVABILITY
OF URBAN NEIGHBORHOODS

by

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CHAPTER 1

INTRODUCTION

Residential satisfaction with the quality of the neighborhood has emerged as a factor in the planning process in several American metropolitan areas. That is, some planners are surveying the residents of their cities in an effort to determine levels of satisfaction with the quality of neighborhoods or components of the neighborhoods. In general, the purpose for this is to help formulate neighborhood goals and objectives and to help set geographic areas of priority for action on problems.

This surveying of satisfaction and other similar surveys for generating information for planning decision-making can be viewed as an attempt to introduce an element of citizen participation in planning. The planner may hear from various groups that are usually organized over some issue, but he rarely hears from the people at large. In order to facilitate the creation of politically and socially acceptable planning proposals, a sample survey of citizens may be made to help define a base upon which proposals are made. Mere measurements of physical conditions of the environment and of population characteristics may not be sufficient to create a full base for proposals.

Broadly speaking, the general goal of American planners is the improvement of life. But there is no real

definition of the "good life" in America, and there are no exact standards for the ideal social and physical environment. However, it can be agreed that "more" of some things and "less" of other things make for a better environment. The planner is concerned with increasing and decreasing such qualities that are important to his area of concern.

But at this point one may ask how the planner can be concerned with measuring life quality when no standards of such quality exist in complete agreement with all Americans. Some people may desire "more" of a given element, and others may desire "less" of the same element. An obvious example is public mass transportation, which some users always want more of and which some non-users want less of, viewing it as an unwanted public expenditure financed by their taxes.

But the planner need not be concerned about exactly defining life quality and its standards. However, he must be concerned with those people for whom he plans; after all, they are the reason he exists as a planner. Therefore he should be concerned with the perception and the feelings they have for their total environment. If the planner finds that over half the people in his planning area are dissatisfied with their neighborhoods, something is obviously wrong and he may take the task of finding out why.

Measures of residential satisfaction have frequently been linked with the conditions of the physical environment. However, this does not necessarily complete the whole picture. The problem is that satisfaction with one's environment is

not necessarily directly determined by that same environment. A brief reading of works in many disciplines reveals that a whole variety of intercorrelated elements probably determine one's satisfaction with his environment. Such elements include socio-economic status (this includes a whole realm of demographic characteristics), factors of personality, satisfaction with one's own home, as well as the physical and economic condition of the surrounding area.

The problem for the planner, then, is that measurements of satisfaction with residential areas and components of such areas (such as streets, housing, safety, and public facilities) are probably only indirect measures of the quality of the physical components of these residential areas.

One might ask why does the planner not attempt to measure directly the quality or "livability" of residential areas. He could measure the various physical conditions of areas that are hypothesized to make areas livable, and rank his areas of concern on an interval or ratio scale, with either a scale for each condition or a scale for some type of aggregation of the various conditions considered.

But the problem with such a measure of livability is that it remains strictly hypothetical. Even if one could assess the importance of each of the conditions in relation to each other, what does he really have? Theoretically one could weight the various conditions, based upon the rank importance that the people of his areas of concern attach to

them. But, then, has one really accounted for the full range of conditions that determine "livability"? Can one be sure that the weights have political and social validity?

If the planner uses satisfaction with the neighborhood, he might then be incorporating values automatically into his measurement. Of course, he can never be sure just how much of the satisfaction can be traced to the physical environment or to other factors that he is in a position to change. But this problem can be at least partially resolved by gaining some understanding into what determines satisfaction with neighborhoods.

This thesis, then, will deal with the problem of measures of environmental quality that help the planner in making proposals for change in neighborhood areas, but in a limited sense. A grand scheme for the measurement of life quality, with all value systems accounted for, will not be proposed. Rather, a look will be taken at the determinants of satisfaction in residential areas in order to help the planner make better use of surveys of public opinion of and satisfaction with living conditions. It is fairly simple to poll a sample of the residents of one's planning area as to their satisfaction with neighborhoods. But it is far less simple and frequently confusing to gain an understanding of what the results really mean, and even more complex to propose ways, based on such a survey, to increase people's satisfaction with their neighborhoods, and thus increase "livability" or "quality of life."

Chapter 2

REVIEW OF LITERATURE

There is no well-defined body of literature that deals directly with the subject of satisfaction with neighborhood quality or even of quality itself. In fact, one of the current non-thesis projects at Kansas State University's Department of Regional and Community Planning involves an attempt to carefully define and structure the literature on the livability of urban neighborhoods.¹

However, there are two major types of works that have contributed to the development of this thesis. The first type deals directly with the subject of neighborhood satisfaction or neighborhood quality in relation to satisfaction: what is quality or satisfaction, what the determinants or associations are, and what are the more important factors. The second type does not deal directly with neighborhood satisfaction. Most of these works cover individual perception of the environment, or their topic is concerned indirectly with life or environmental quality. The first type will be reviewed first.

Studies Directly Concerned with Neighborhood Satisfaction

Perhaps one of the best known works in the general area

¹Linda L. Brown, "An Annotated Bibliography of the Literature on Livability with an Introduction and an Analysis of the Literature" (Nonthesis project proposal, Department of Regional and Community Planning, Kansas State University, 1974).

of livability and satisfaction is Robert L. Wilson's livability studies in Greensboro and Durham, North Carolina.² Wilson defines livability as ". . . the sum total of the qualities of the urban environment which tend to induce in a citizen a state of well-being and satisfaction."³ He conducted a study of the factors of livability in the two North Carolina cities, by asking a sample of residents to rank the relative importance of various environmental qualities. After presenting various tables and analyses of results, he came up with several observations, three of which have major implications for this thesis.

The first such observation was a recognition of the important relationship between satisfaction and livability:

Inasmuch as satisfaction is an important element in the definition of livability, the extent of satisfaction or the lack of it should be a clue to the relative livability of the environment presently being experienced.⁴

Here Wilson recognized that measuring satisfaction may be an indirect measurement of livability. In the next observation, this was explicitly recognized and Wilson went into more detail on the relationships between satisfaction and livability:

. . . the quality called 'livability,' as defined in this study, is a function of satisfaction. On the other hand, dissatisfaction with the city suggests that certain desiderata constituting livability factors may be missing from that city environment. Satisfaction is an indirect measure of

²Robert L. Wilson, "Livability of the Cities: Attitudes and Urban Development," in Urban Growth Dynamics in a Regional Cluster of Cities, ed. by F. Stuart Chapin and Shirley F. Weiss (New York: John Wiley and Sons, Inc., 1962), p. 359-99.

³Ibid., p. 359. ⁴Ibid., pp. 365-66.

the general quality of the city as a place to live. The relatively low range of variation between the two cities and between neighborhoods in each city is of interest. It suggests the possibility that some kind of a norm for cities in general might eventually be identified. And it suggests that more sophisticated techniques for examining subtle variations around that presumed norm would be valuable.⁵

Here Wilson appeared to place strong emphasis upon environmental factors as a determinant of dissatisfaction, and suggested that a set of livability factors applicable to all cities might be developed.

In the third observation, Wilson made his most important point in relation to this thesis' concern with the non-physical determinants of satisfaction:

However, the planner must look further than for the indirect measure of satisfaction with the city at large. General satisfaction is undoubtedly a function of many other things in addition to those physical elements with which the planner is primarily concerned.⁶

Thus Wilson touched upon the central issue of this thesis, that is, examining the non-physical factors that may have relevance to measures of satisfaction. Such factors may even outweigh the importance of the physical environment with which the planner is primarily concerned with in determining neighborhood satisfaction.

Suzanne Keller has discussed the concepts of neighborhood attachment and satisfaction and has gone into some detail on the factors associated with liking and disliking neighborhood areas.⁷

⁵Ibid., pp. 372-3. ⁶Ibid., p. 73.

⁷Suzanne Keller, The Urban Neighborhood: A Sociological Perspective (New York: Random House, 1968), pp. 106-15.

By analyzing available studies on attachment and satisfaction, she, like Wilson, ascertained that there is more to the physical environment in determining satisfaction, and that satisfaction is not a clearly defined concept:

It appears people are more generally satisfied than dissatisfied with their residential areas, although the precise meaning of satisfaction is difficult to ascertain. It appears, moreover, that this satisfaction is indicative of a general outlook on life and is not substantially⁸ affected by specific local characteristics of an area.

She further suggested that it is easier to analyze the reasons for dissatisfaction than satisfaction:

It has been observed that the reasons given for liking a neighborhood tend to be general and abstract, whereas the reasons for disliking it are more specific and concrete, illustrating the well-known fact that it is easier to know what one does not want than the converse. But it really depends on how carefully one probes into the meaning and intensity of the attitudes expressed. A general question will usually elicit a general, if not also superficial, answer that needs⁹ to be supplemented by more specific, detailed probing.

Like Wilson, she also stated the need to look past a mere measure of satisfaction to better understand the situation at hand.

Keller then went on to relate satisfaction to the social structures present in the neighborhood:

In general, then, people are quite favorably disposed toward their residential environments provided these satisfy one or more of their basic value preferences, which vary in content and priority and determine what they are likely to appreciate or criticize most.¹⁰

Keller suggested that many non-physical factors are important as they are related to neighborhood satisfaction.

⁸Ibid., p. 108. ⁹Ibid., pp. 110-11. ¹⁰Ibid., p. 111.

These factors include relationships with one's neighbors, one's socioeconomic status and corresponding status aspirations, the phase in a family's life cycle as related to space needs, the length of residence, and one's age.¹¹ She based these conclusions upon the results of several studies, some of which are discussed in this chapter; most notably, these include Wilson and Virirakis.

Keller's conclusion about the determinants of satisfaction gives little comfort to the planner who places great importance on the value of the physical environment in determining satisfaction:

In view of the importance of the social characteristics of neighbors in the positive assessments of neighborhoods, physical improvements in housing and services may not achieve the effects desired or assumed by those who stress their priority. Even where the dwelling is of first importance, 'isolated houses of desirable quality would not in themselves hold and attract' people. The reputation of an area is often determined by its social rather than its physical climate.¹²

Her implications for studies of residential satisfaction seem quite apparent. One must consider the effect of social factors besides physical factors in the determination of satisfaction, if not to determine to what extent these social factors may outweigh physical factors.

John Virirakis attempted to analyze the influence of education, income and sex in determining the reaction of inhabitants to their communities.¹³ In an exhaustive analysis of

¹¹Ibid., pp. 111-15. ¹²Ibid., p. 115.

¹³John Virirakis, "The Human Community - Study of Satisfactoriness of Communities: Effects of Education, Income, Sex," Ekistics, XXIV (July, 1967), pp. 97-109.

aggregate and individual responses to a community survey of Athens, Greece, he was able to find correlations between satisfaction and these three factors, as well as correlations between education and income. What follows is a table that abstracts his linear correlation findings for community income and education in relation to community satisfaction¹⁴:

	<u>Community Satisfaction</u>	<u>Per Capita Income</u>	<u>Family Income</u>	<u>Average Level of Education</u>
Community Satisfaction	+1.000	+ .735	+ .769	+ .688
Per Capita Income		+1.000	NA	+ .961
Family Income			+1.000	+ .928
Average Level of Education				+1.000

From this, it was obvious that a relationship between satisfaction and income and between satisfaction and education exists. However, Virirakis stated that the correlation between education and satisfaction was a high consequence of the high correlation of education to income.¹⁵

Looking at the individual responses within various areas, Virirakis found a decline in satisfaction as education increased past a certain level (commonly 11 years). He concluded that ". . . the effect of education on the strictness of the inhabitants' judgment of their community is stronger in individual areas than in the whole community."¹⁶ This is mainly because the higher levels of satisfaction were found in areas of higher income and

¹⁴Ibid., p. 98. ¹⁵Ibid. ¹⁶Ibid., p. 102.

higher satisfaction. In looking at the effect of income on strictness of judgment of the community, Virirakis found a similar but much weaker effect than education.¹⁷

After focussing attention on the high-income strata in all communities, Virirakis made a rather suggestive statement about the reason for income's importance in determining satisfaction:

The index of satisfaction of very high-income groups increases constantly as we proceed from low to high-income communities. The excessive drop in the index of these groups in low-income communities results in their absence from very low-income communities and their progressive appearance in communities of higher average incomes. Therefore, it may be said that these income groups are merely taking advantage of their greater freedom to choose a better community because of high income.¹⁸

The implication here is that not only is income an important factor in satisfaction itself, it is also an important factor in being able to choose an area in which one is likely to be satisfied. This also ties in with previous statements that he made about the positive association of homogeneity with satisfaction.

The examination of sex differences in satisfaction yielded some findings, but these were of very limited practical applicability.¹⁹

Virirakis' work is important in the sense of demonstrating that strong associations between nonphysical factors and neighborhood satisfaction do exist. However, perhaps his more important contribution is that the physical environment may

¹⁷Ibid., p. 102-05. ¹⁸Ibid., p. 105-06 ¹⁹Ibid., p. 107.

increase or at least change in importance when the income effect on satisfaction is held constant. By looking at the high-income groups in all areas, he found that the satisfaction of these groups was lower in low-income areas where the physical environment is probably of undeniable lower quality than in upper income areas. Of course, the strong possibility that lack of homogeneity contributed to dissatisfaction cannot be ignored.

Caplow, Stryker and Wallace undertook a deep analysis of San Juan, Puerto Rico, neighborhoods to provide San Juan planners with varied information about these neighborhoods and how conditions might be improved.²⁰ They closely examined the correlates of satisfaction and arrived at some rather important conclusions.

Before presenting the correlates of satisfaction, they stressed a rather surprising finding concerning satisfaction alone:

The absolute distribution of residential satisfaction . . . has not been sufficiently stressed. Most of these San Juan families [69%], many of whom live in neighborhoods considered 'squalid' and 'shocking' by outside observers, express a degree of satisfaction with their surroundings that borders on complacency.²¹

Despite these high levels of "satisfaction," there appeared to be a sufficient range of such levels by neighborhood to permit correlations with other factors.

²⁰Theodore Caplow, Sheldon Stryker, and Samuel Wallace, The Urban Ambience (Totawa, N.J.: The Bedminister Press, 1964), p. 4.

²¹Ibid., p. 199.

Household composition was found to be an important correlate: ". . . the more children in a family, the more likely are the parents to be dissatisfied with the neighborhood and to intend to move."²² This dissatisfaction is also likely to be related to unmet space needs.

Social class was found to be intricately but positively related to satisfaction. The authors pointed out that educational level, occupation and income are all related to each other and to both the extensivity and intensity of neighboring.²³ Thus, to them, the exact relationship of social class to satisfaction could not be easily stated though a positive relationship was obvious.

Religiosity was also found to be related to satisfaction. Catholics were more satisfied than Protestants, but this was probably related to the minority status of Protestants in all neighborhoods, thus helping to indicate the importance of homogeneity to satisfaction. Church attendance was also positively related to satisfaction.²⁴

Housing was somewhat thoroughly explored. The overall result was summarized as follows:

As we consider the influence of the quality of housing on residential satisfaction, it becomes increasingly clear that satisfaction with the neighborhood is determined by the physical and social characteristics of the neighborhood, not of the family's own home.²⁵

More specifically, they found that single family homes have

²²Ibid. ²³Ibid., pp. 200-01. ²⁴Ibid., pp. 201-02.

²⁵Ibid., p. 202.

higher satisfaction, but this was attributed to the effect of clustering; no significant association exists between home ownership and satisfaction; and high bedroom densities are negatively associated with satisfaction.²⁶ The latter finding could be viewed as an income effect as it is most probable there is a strong inverse relationship between bedroom density and income.

Caplow, Stryker and Wallace did find that at least one truly physical factor was related to satisfaction: "The higher the level of neighborhood improvements, the more neighborhood satisfaction is recorded."²⁷ However, the authors neglected to state the relationships, if any, of these improvements to income or to other socio-economic variables.

Finally, they found no significant relationship between satisfaction and homogeneity, despite the fact that many individuals viewed homogeneity as a favorable neighborhood characteristic.²⁸

They made several conclusions, of which two are relevant to this thesis. The first concerns the validity of the correlates:

The attitudes reported with regard to residential satisfaction seem to us to be predominantly rational. All of the neighborhood characteristics which turn out to be related to satisfaction and dissatisfaction are functionally relevant. They do not indicate excessive preoccupation with status seeking, or any perceptual distortion of reality.²⁹

The second conclusion may be construed to be essentially a put-down of "livability indexes" that do not place stress on

²⁶Ibid., pp. 202-03. ²⁷Ibid., p. 203.

²⁸Ibid., p. 203. ²⁹Ibid., pp. 206.

the relationship of satisfaction to the met or unmet needs of particular groups of people:

The amenity of life in a residential area cannot be judged by casual, outside observation. The present sample includes slums whose residents are extremely satisfied with their surroundings and middle income districts with prevailing dissatisfaction. Although neighborhood satisfaction tends to be higher in more prosperous neighborhoods, the incidence of satisfaction or dissatisfaction in a particular neighborhood can not be predicted without taking into account the requirements of a particular population.³⁰

The findings of Caplow, Stryker and Wallace tend to support hypotheses that non-physical factors are of very great importance in determining neighborhood satisfaction.

Richard Lamanna is concerned with the relation of the values of different population groups that are placed upon the specified qualities of the physical environment deemed to make areas livable.³¹ He based his analysis of this upon the results of the same survey that Wilson used in North Carolina. A sample of the residents had been asked to rank the importance of factors of the environment that were important to them in terms of making the area a good place in which to live; the factors could be classified into two groups: physical values (good roads, schools close by) and social values (good neighbors, privacy). Lamanna then analyzed the results to see if there were any differences among population groups as to how they viewed these factors.

Lamanna found that, generally, blacks and low socio-

³⁰Ibid.

³¹Richard A. Lamanna, "Value Consensus among Urban Residents," Journal of the American Institute of Planners, XXXV (May, 1969), pp. 317-23.

economic status people attached higher rankings to physical values than did whites and higher socio-economic status people. He suggested that deprived groups may attach more value to what they lack.³²

He also found that persons over 40 tended to put more emphasis on social values than did persons under 40.

He found relatively little differences by sex (except within one income class), by place of residence, and in relation to satisfaction with the city as a whole. He found more consensus among homeowners than renters.³³

While Lamanna's work is not a work that clearly states the importance of non-physical factors in relation to physical factors in determining neighborhood satisfaction, it does show that different population groups may attach varying degrees of importance to factors that determine satisfaction. The mere fact that racial and socio-economic differences exist as to placement of values on general types of livability factors indicates that there may be differences among similar population groups as to the importance of both physical and non-physical factors affecting satisfaction.

Lee Rainwater has studied the differences in housing goals among socio-economic classes,³⁴ and his major finding

³²Ibid., p. 319. ³³Ibid., pp. 319-22.

³⁴Lee Rainwater, "Fear and the House-as-Haven in the Lower Class," Journal of the American Institute of Planners, XXXII (January, 1966), pp. 23-31.

somewhat parallels Lamanna's discovery of the lower socio-economic class's greater attachment to physical values than social values. Rainwater has found that the house is of most important value to lower classes because of the greater dangers that they perceive in their surroundings:

The most disadvantaged groups are concerned with shelter per se; traditional working class families with opportunities to elaborate their dwellings in personally expressive ways; and the more prosperous modern working class with buying the 'standard All-American package.' The lower class seeks shelter from a wide variety of human and nonhuman threats, from which they fear consequences that combine elements of physical threat, disruption of familial and other interpersonal relations, and threats of moral damage to the self.³⁵

While this thesis is not directly concerned with the perception of or satisfaction with one's own home, the home must be viewed as part of the neighborhood. The fact that it is likely persons view their homes differently, and that this difference varies by socio-economic class, implies that persons may very well perceive their neighborhood differently, and that this difference may also vary by income class.³⁶

Irving Rosow also sees physical factors as being more important for the lower socio-economic classes.³⁷ He argues that social pathologies are caused by bad housing, and that clearance and re-housing will eliminate social and financial liabilities.

³⁵Ibid., p. 23.

³⁶A similar conception of perception differences is discussed in the review of Hall's The Hidden Dimension later in this chapter.

³⁷Irving Rosow, "The Social Effects of the Physical Environment," Journal of the American Institute of Planners, XXVII (May, 1961), pp. 127-33.

This view is not widely shared,³⁸ but Rosow may have a point in generally stating that the reason for class differences in housing desires (using privacy as an example) may be due to the simple fact that higher social groups take for granted what lower classes do not possess.³⁹

Marc Fried and Peggy Gleicher have attacked the notion that urban renewal benefits mean increased social benefits go to former slum residents, and they state that the available data offers little evidence that social pathology is decreased by slum clearance.⁴⁰ In their consequent argument, they raised some contentions that have implications for the study of neighborhood satisfaction. They suggested that satisfaction in a slum is not contingent upon the physical factors of the slum, but rather that those slum dwellers with positive feelings toward the slum seem to be most affected by interpersonal relations and by a sense of spatial identity.⁴¹ They also suggested that class differences exist in attitudes toward the neighborhood: the middle class selectively characterizes all spaces within the neighborhood, while the working class is less selective and more territorial, in the sense that the street is seen as an extension of the

³⁸Note the Fried and Gleicher review which immediately follows.

³⁹Rosow, "Social Effects," p. 129.

⁴⁰Marc Fried and Peggy Gleicher, "Some Sources of Residential Satisfaction in an Urban Slum," Journal of the American Institute of Planners, XXVII (November, 1961), p. 305.

⁴¹Ibid., pp. 307-08.

home.⁴² Their ultimate conclusion from a study of relocated Boston West End families to a housing project was that ". . . most residents experienced profound satisfaction from living in the area [the West End slum]."⁴³ In short, the slum had provided a "framework for personal and social integration,"⁴⁴ and thus satisfaction for lower class residents had arisen from social factors in the environment.

John Lansing and Robert Marans, in a study of neighborhood quality evaluation,⁴⁵ suggest class differences in perception of urban neighborhoods. They compared evaluations of neighborhoods by the residents and by an architect-planner. Unsurprisingly, they found considerable disagreement between the two sets of ratings of the neighborhoods, but they also found that people who attended college agreed with the architect-planner more frequently than those with less education.⁴⁶

Lansing and Marans suggested the complexity and variety of determinants of neighborhood satisfaction:

An environment of high quality may be defined as one that conveys a sense of well-being and satisfaction to its population through characteristics that may be physical (housing style and condition, landscaping, available facilities), social (friendliness of neighbors, ethnic, racial or economic composition), or symbolic (sense of identity, prestige values).⁴⁷

⁴²Ibid., p. 311-13. ⁴³Ibid., p. 305. ⁴⁴Ibid.

⁴⁵John B. Lansing and Robert W. Marans, "Evaluation of Neighborhood Quality," Journal of the American Institute of Planners, XXXV (May, 1969), pp. 195-99.

⁴⁶Ibid., p. 195. ⁴⁷Ibid..

But this environment of high quality is not easily determined, and planners who do not "systematically consider values and attitudes of their client populations"⁴⁸ have met considerable resistance from citizenry to their proposals for neighborhood improvement. They further criticize planners who are too reliant on physical characteristics for the judging of quality:

The planner tends to judge the neighborhood on the basis of physical characteristics. His ability to evaluate its other dimensions is limited by his training and what he can observe on a visit to the area, while residents tend to consider social factors such as neighborliness in addition to physical environment.⁴⁹

The implication is obvious, that measures of neighborhood quality must somehow incorporate the values of residents and that planners are not in the position to make any of their own assessments if they want accurate measurements. So, the measure of satisfaction, though indirect, may be more accurate than a measurement of hypothetical livability.

William Michelson's work is the final to be considered of its type, that dealing with neighborhood satisfaction. The first of his two works discussed here involved a study of the systematic association of people's preferences in the urban environment to their social characteristics.⁵⁰ This first work largely deals with the relationship of perception and use of space to social behavior patterns. In this study, Michelson found some

⁴⁸Ibid. ⁴⁹Ibid., p. 197.

⁵⁰William H. Michelson, "An Empirical Analysis of Urban Environmental Preferences," Journal of the American Institute of Planners, XXXII (November, 1966), pp. 355-60.

class differences in perception of the environment; especially, that "the scale of objects desired varies inversely with expressions of class consciousness," and that social rank and the stage in the life cycle failed to vary systematically with ideal choices of the environment.⁵¹ In other words, while perceptions of the environment may vary by class differences, the ideal (and also the perhaps "most livable") concept of the environment does not. Thus, a model of ideal livability, if this is true, might thereby be impossible to develop, even if one were to develop a separate model for different socio-economic classes.

In this first work, Michelson concluded that the two most important social characteristics to consider in the planning of the city's physical aspects are value orientations and the nature and extent of social interaction.⁵² This may seem somewhat contradictory to the previous works discussed, but it really is not as Michelson has conveniently neglected to state what the relationship of value orientations and patterns of social interaction are to socio-economic status. It is obvious to expect values and social interaction patterns to vary within socio-economic groups, and thus one can expect different perceptions of the environment within a socio-economic group. But this is not really contradictory with a statement that values vary by socio-economic group; what this statement really means is that the "average" or "median" values vary by socio-economic group.

⁵¹Ibid., p. 359. ⁵²Ibid.

In his second work, Michelson analyzes a wide variety of literature that is concerned with man's relationship to his urban environment, and draws many conclusions that have great relevance to studies of neighborhood satisfaction.⁵³

In examining the relationship of social class to the urban environment, Michelson made three relevant conclusions. The first was that ". . . the percentage of income that people will spend on good housing varies primarily according to their education."⁵⁴ This is similar to the usual finding that income level determines how much is spent on housing (not good housing). If this statement is true, then it might be suggested that education levels may be related to the amount of money that people are willing to spend to reside in a good neighborhood, as a good neighborhood is likely to contain good housing.

The second conclusion was that "different socioeconomic classes have different conceptions of housing adequacy."⁵⁵ This was made on the basis of analysis of the work of Rainwater, Fried and Gleicher, and others.

The third conclusion grew out of his work with urban environmental preferences:

Although current usages and images of the city are restricted by personal resources, no significant differences in the preferred form of homes, neighborhoods and cities have been shown related to social class differences.⁵⁶

⁵³William H. Michelson, Man and His Urban Environment: A Sociological Approach (Reading, Mass.: Addison-Wesley Publishing Co., 1970).

⁵⁴Ibid., p. 130. ⁵⁵Ibid. ⁵⁶Ibid.

Here Michelson, like Wilson, suggested that a common standard of livability might be found that would suit all socio-economic classes. However, this conclusion is somewhat suspect as Lansing and Marans' work suggests that different socio-economic groups differ in the way they rate neighborhood quality; and it is obvious that different types of people are satisfied with different types of neighborhoods, as evidenced by the Athens and San Juan studies. Even if the preferred form of neighborhood were the same for all socio-economic classes, this does not mean that all socio-economic classes would necessarily exhibit the same percentages of satisfaction if all the neighborhoods had the same form. Certainly social factors not directly related to form would come into play that would shape the attitudes of the residents of the neighborhood residents to the area: neighboring, opportunities for social integration, and pathologies not caused by environmental form.

Later on, in analyzing values, Michelson stated that:

People who highly value conveniences are likely to prefer more mixed land uses and small lot sizes. People who highly value individualism prefer larger lot sizes.⁵⁷

In addition, he stated that "national and cultural values frequently transform the type and the use of urban spaces in any place."⁵⁸ These statements seem a bit contradictory with his contention that socio-economic differences are not related to the preferred form of neighborhoods. Is he saying that there is no relationship of cultural values and preferences for

⁵⁷Ibid., p. 157. ⁵⁸Ibid.

conveniences and mixed land uses to social class differences? If cultural values transform the type and use of urban spaces, then might not one expect to find different types and uses of space among different urban cultures which are also likely to display differences in social and economic status?

Michelson's final analysis that is of relevance to the study of neighborhood satisfaction is that of the relationship of pathology to the urban environment. One of the more noteworthy conclusions is as follows:

Housing condition leads directly to social and physical pathologies only where it is desperately inadequate. Marginal improvements in housing condition have been found markedly related to few expected benefits. . .⁵⁹

This suggested that only extreme physical conditions in a neighborhood will generate dissatisfaction that cannot be explained by non-physical factors. When physical conditions are merely just adequate, then dissatisfaction may be more likely to arise from non-physical sources.

Michelson suggested in another conclusion about pathologies that personal and cultural factors help people to adjust to seemingly bad physical conditions:

High neighborhood densities seem more related to social pathologies than crowding within dwelling units, but their effect is mediated by personal and cultural factors.⁶⁰

This statement, as well as other parts of his analysis, suggested that what is perceived as being unsatisfactory by one population group may be perceived as neutral or possibly even satisfactory

⁵⁹Ibid., p. 171.

⁶⁰Ibid.

by other groups. This was explicitly stated or broadly implied by Lansing and Marans and by Caplow, Stryker and Wallace.

A Resume of Relevant Literature

The remainder of this literature review is essentially of a resume nature, as it defies easy categorization and lacks easily definable relationships. But this second type has given increased understanding of the complexity of environmental quality measures and of determinants of satisfaction. This literature is reviewed in alphabetical order by author.

Donald Appleyard and Mark Lintell have examined the environmental quality of city streets from the viewpoint of residents living on streets of different traffic levels.⁶¹ They found that traffic intensity was inversely correlated with selected livability factors: absence of noise, stress and pollution; levels of social interaction, territorial extent and environmental awareness; and safety. They also found that increases in traffic levels precipitated families with children moving out at a faster rate than usual. All of this is not surprising, but the most significant thing that they appeared to have discovered was that "responses (from the residents regarding livability problems) were nevertheless muted for a number of probable reasons, including environmental self-selection,

⁶¹Donald Appleyard and Mark Lintell, "The Environmental Quality of City Streets: The Residents' Viewpoint," Journal of the American Institute of Planners, XXXVIII (March, 1972), pp. 84-101.

adaptation and a lack of a target for resentment."⁶² The concepts of "environmental self-selection" and "adaptation" are of particular concern because of the implications of social or cultural differences. That is, the street with the highest traffic level was composed of mainly single adults and the street with the lowest traffic level had a much greater proportion of families with children. It appears that the stage of the life cycle played an important part in satisfaction here. The single people chose the higher traffic level street because of the better accessibility to transportation and availability of smaller apartments, and thus may have been relatively satisfied with their neighborhood, despite the presence of environmental factors that would have normally been expected to cause great dissatisfaction. Plus, the fact that these adults did not have children exposed to traffic hazards made the environment less problematic. So, the implication of Appleyard and Lintell's work for this thesis was that various social factors, in particular the stage in the life cycle, contributed to the relative importance that various population groups may attach to essentially negative physical factors of the environment, such as traffic hazards.

Warner Bloomberg and Henry J. Schmandt have been concerned with the problem of how to consider the quality of urban life. In the introduction to a book on this general

⁶²Ibid., p. 84

topic,⁶³ they suggest that the frame of reference for approaching community qualities be the larger social order. In other words, the non-physical factors of life quality appear to dominate the physical factors. In discussing the hippie movement, they suggested that hippies judge life quality solely upon the condition of one's inner state and one's relationships with other people. This is an extreme view, but, in general, many critics of urban improvement efforts share a similar view in that the importance of the physical environment to "happiness" is downgraded in favor of more social, intellectual or economic improvements.

Hans Blumenfeld has suggested that certain criteria be used in judging the quality of urban life.⁶⁴ There are four general categories of criteria that he envisions: the productivity of the urban area in the sense of providing economic opportunities to the urban worker; accessibility and transportation, with sub-criteria of mobility, safety and indirect effects (such as noise and air pollution); waste and pollution; and the micro-climate, which involves the development of the area to make optimal use of climactic conditions. While not directly concerned with neighborhood satisfaction, Blumenfeld stressed

⁶³Warner Bloomberg and Henry J. Schmandt, eds., The Quality of Urban Life (Beverly Hills, Calif.: Sage Publications, Inc., 1969), pp. 13-23.

⁶⁴Hans Blumenfeld, "Criteria for Judging the Quality of Urban Life," in The Quality of Urban Life, ed. by Warner Bloomberg and Henry J. Schmandt (Beverly Hills, Calif.: Sage Publications, Inc., 1969), pp. 138-63.

the importance of proper maintenance and development of the physical environment to enhance the quality of the social environment. He criticized urban renewal for destroying the social fabric of neighborhoods, stated that increasing density does not increase neighboring, pointed out that increased artificial amenities may be needed to make high density areas livable, and, implicitly suggested that a variety of types of areas need to be developed to suit various human needs.

Robert Coughlin has been concerned with the attainment of goals in large metropolitan areas.⁶⁵ He suggested that comparative analyses of goal attainment should be concerned with "open-ended" goals (more is better) in contrast to a target which identifies a given level to be reached. Coughlin selected 60 goals of this type and studied the interdependence among goal attainment levels. Of all the goals, income was the most significantly correlated with attainment of other goals, but some goal types did not correlate with income, such as purity of air, open space, employment rate and dominance of the central core. He made the following conclusion regarding income:

Analysis indicates that income indicators are the best single measures of overall goal attainment, but that they are unrelated to a number of other goal attainment indicators, and that a relatively high level of income tends to be associated with lower levels in few other goals.⁶⁶

⁶⁵Robert Coughlin, "Attainment along Goal Dimensions in 101 Metropolitan Areas," Journal of the American Institute of Planners, XXXIX (November, 1973), pp. 413-25.

⁶⁶Ibid., pp. 418-19.

Of course, goal attainment cannot be directly associated with satisfaction, but the implication of the importance of income as at least being associated with levels of satisfaction is there.

H. J. Dyos has examined the quality of urban life from a historical perspective, focusing on Britain from the mid-nineteenth century to the present.⁶⁷ In particular, he made three long statements that have relevance to studies of neighborhood satisfaction.

First, Dyos re-examined the traditional urban-rural differences in lifestyle and wondered if yet there still exists a bias against urban life in general. He asked how much of our attitudes toward urban life are affected by literary and historical biases that are pro-rural life. This suggested that some of the dissatisfaction with urban life in general are not caused by the actual physical and social situations in which urban people find themselves, but rather by an unconscious preference for an environment possessing rural characteristics that are impossible to duplicate in the city. After all, many persons living in the cities today, particularly many low-income blacks and some whites, are emigrants or children of emigrants from rural areas.

Another and most pertinent statement of Dyos is that "no reliable historical chart" of the quality of urban life

⁶⁷H. J. Dyos, "Some Historical Reflections on the Quality of Urban Life," in The Quality of Urban Life, ed. by Warner Bloomberg and Henry J. Schmandt (Beverly Hills, Calif.: Sage Publications, Inc., 1969), pp. 31-60.

exists in British literature, and even less is reported on satisfaction with life quality.⁶⁸ Therefore, those studying neighborhood satisfaction are breaking new ground in the sense that there are few precedents with which to compare present satisfaction with past satisfaction. Were people of 1900, living in cities lacking many of the modern improvements, conveniences and facilities of today, more or less satisfied with their environment? Or, rather, have changes in the physical environment contributed to increased satisfaction? Does progress cause increased satisfaction? Dyos argued that the physical effects of urbanization are not well documented from a historical point of view, and that we can never really be sure if urban life has downgraded people.⁶⁹

Finally, Dyos suggested that heightened awareness of social conditions has contributed to dissatisfaction. He claimed that this heightened awareness is a relatively new phenomenon, because in the old days physical conditions (such as disease, dirty streets, and the like) affected both rich and poor; and the rich got the first and fuller benefits of technological improvements. Then along came the growth of the mass media that dramatized the differences in social conditions to all sectors of the population. This claim was also somewhat substantiated by a study of the effect of television on the urban environment which concluded that the growth of racial unrest over living

⁶⁸Ibid., p. 38. ⁶⁹Ibid., pp. 46-52.

conditions was probably accelerated by television giving blacks the impression that most whites had similar life styles to the unreal characters that were portrayed on such programs as "I Love Lucy," "Father Knows Best," and soap operas showing beautiful, expensive and immaculate homes.⁷⁰

In what is basically a continuation of his earlier work with Peggy Gleicher on residential satisfaction in urban slums, Marc Fried has analyzed the emotional and psychological aspects of residential dislocation caused by renewal efforts.⁷¹ In studying relocated persons from Boston's West End slum, he found that:

The affective reaction to the loss of the West End can be quite precisely described as a grief response showing most of the characteristics of grief and mourning for a lost person.⁷²

The components of the grief reaction were described as the "fragmentation of the sense of spatial identity," the "dependence of the sense of group identity on stable, social networks," and "affective qualities."⁷³ Fried's findings suggested the importance of non-physical factors of the environment as these people were moved to neighborhoods of better quality housing. Fried also found that housing factors were not related to the frequency

⁷⁰Scott A. Mills, "TV and the Urban Environment" (unpublished Urban and Environmental Studies II term paper, Case Western Reserve University, May 1969).

⁷¹Marc Fried, "Grieving for a Lost Home," in The Urban Condition, ed. by Leonard J. Duhl (New York: Basic Books, Inc., 1963), pp. 151-71.

⁷²Ibid., p. 167. ⁷³Ibid., pp. 167-68.

of the grief response. Thus, it appears that the social climate was a factor determining satisfaction in the old neighborhood.

Edward Hall's study of proxemics suggested that people of different socio-economic classes may perceive their environment quite differently.⁷⁴ Proxemics consists of "interrelated observations and theories of man's use of space as a specialized elaboration of culture."⁷⁵

Hall believes that people of different cultures do not just differ by language, dress, customs, values, and similar cultural trappings. He advanced the theory that people of different cultures inhabit different sensory worlds. If this is true, then naturally one would react to an environment not on the basis of what is physically there, but rather on the basis of one's perception as shaped by one's culture. Hall argued that

. . . it is fairly obvious that the American Negroes and people of Spanish culture who are flocking to our cities are being very seriously stressed. Not only are they in a setting that does not fit them, but they have passed the limits of their own tolerance to stress.⁷⁶

So, it might be suggested that Hall's approach to the study of neighborhood satisfaction would be to relate the cultural aspects of population groups to their respective environments. Particularly, the lower and upper classes, if Hall's thesis is correct, would probably have the greatest dissatisfaction if

⁷⁴Edward Hall, The Hidden Dimension (Garden City, N.Y.: Doubleday and Company, Inc., 1966).

⁷⁵Ibid., p. 1. ⁷⁶Ibid., p. 5.

all neighborhoods were built according to middle class standards of livability. The lower classes might not find room for cultural expression, and the upper classes might judge the environment to be somewhat offensive to their senses and tastes.

Margaret Mead views the neighborhood in relation to how it satisfies human needs at various stages of the life cycle.⁷⁷ She visualized a kind of bottom level for neighborhoods; that is, the neighborhood must contain elements that enhance or at least do not stand in the way of satisfying the basic physiological needs of food, water, sleep, rest, and a minimum of privacy (she readily admitted that this minimum is culturally variable). She then developed the thesis that the neighborhood should be developed according to the multisensory needs of infants, then children, then adolescents, and so on. From this thesis, it can be seen that one of Mead's implicit assumptions must be that some type of cultural factors must determine just what these multisensory needs are, and that different cultures would select different sets of these needs. Therefore, in an urban environment, if one perceives that his multisensory needs are not being met, then he would have reason to be dissatisfied with his environment.

Harold Proshansky, William Ittelson and Leanne Rivlin have developed a set of thirteen assumptions that could be used for the development of a conceptual framework for the field of

⁷⁷Margaret Mead, "Neighborhoods and Human Needs," Ekistics, XXI (February, 1966), pp. 124-26.

environmental psychology.⁷⁸ Four of these appear to have some relevance to studies of neighborhood satisfaction and livability.

The first of these is as follows:

Changes in the characteristic behavior patterns of a physical setting can be induced by changing the physical, social or administrative structures that define that setting.⁷⁹

Note that here the environment is viewed as an all-inclusive one. If one accepts this assumption, then dissatisfaction with the neighborhood (which is at least a verbal behavior if not an emotional one) can be changed to satisfaction by changing one or more of the structures in the neighborhood, be it a physical or nonphysical one.

The second of these four relevant assumptions recognizes the immense complexity of the environment:

Every component of the environment interacts or has defined relationships with every other component in two ways: (a) it acts on all other aspects, and (b) it is acted upon by all other aspects and in particular, receives the consequences of its own action in terms of a changed environmental situation.⁸⁰

If one adopts this approach, he might view satisfaction as arising from all components of the neighborhood and thereby might try to find the amount of interaction or the approximate relationship of each component to satisfaction.

The third assumption suggests the diversity of ways that

⁷⁸Harold M. Proshansky, William H. Ittelson, and Leanne G. Rivlin, eds., Environmental Psychology (New York: Holt, Rinehart and Winston, Inc., 1970), pp. 27-37.

⁷⁹Ibid., p. 33. ⁸⁰Ibid., p. 34.

satisfaction can be studied:

Although there is only one environmental situation, there are as many surroundings as there are components from whose point of view the process can be examined.⁸¹

Therefore, satisfaction studies might consider the subject from the viewpoint of social class, income, housing condition, and so on. One could color the relationship of satisfaction levels to all the components of the neighborhood by holding a variable or a set of variables constant.

The fourth and perhaps the most relevant assumption is that which follows:

Seen from the viewpoint of the participant in the environmental process, the surroundings typically are 'neutral'; they enter into awareness only when they deviate from some adaptation level.⁸²

Here, this suggests that perception of one's environment (and thereby the consequent satisfaction, dissatisfaction, or a mixture of both) is determined by a level of adaptation which almost undoubtedly is heavily affected by one's culture.

The final review is of Elzo Vandermark's arguments for measuring the quality of the urban environment.⁸³ He stated that any measurement attempts must carefully define what constitutes the urban environment, and also must define the standards of quality. He discusses the criticism of measurement attempts:

⁸¹Ibid., p. 36. ⁸²Ibid.

⁸³Elzo H. Vandermark, "Measuring the Quality of Urban Environment," Australian Journal of Social Issues, V (October, 1970), pp. 179-200.

The proposal that it is possible to measure the quality of a particular form of human living is likely to meet a great deal of opposition. It is obvious that fundamental questions concerning the nature of man as well as less profound but probably more intense preferences regarding what is convenient, or agreeable, or pleasing, will colour if not determine anyone's judgment on the quality of a particular environment. As long as there is no consensus on the fundamental questions, and as long as private opinions and tastes are to be respected, so-called standards of quality in this matter appear to be no more than private prejudices dressed up as objective criteria.⁸⁴

Despite these initial doubts about measurement, Vandermark went on to argue that one should not refrain from measurement. He saw a role for an "unbiased" outside "expert" who would utilize a "client-centered" approach.⁸⁵ However, he stated that there was a problem inherent in this approach:

The most serious objection against the client-centered approach . . . is the fact that those who advocate it do not take it as being sufficient by itself.⁸⁶

This is a most appropriate criticism if one is to use satisfaction as a measure of environmental quality. Of course satisfaction will not be sufficient by itself because it is likely to be colored by non-environmental factors. But perhaps if one can analyze and isolate the non-physical determinants of satisfaction, such as social class, then perhaps he might be able to use satisfaction as a measure of neighborhood quality.

⁸⁴Ibid., p. 179. ⁸⁵Ibid., pp. 180-81. ⁸⁶Ibid., p. 182.

CHAPTER 3

ESTABLISHMENT OF THEORETICAL FRAMEWORK

From the previous chapter on literature review, it has become apparent that residential satisfaction with neighborhoods is a most complex phenomenon. It is possible to identify many components of satisfaction, but at the present time it may seem impossible to clearly and precisely state just how one component is related to or causes satisfaction.

It is perhaps best at this time to define some terms for the purpose of this thesis. The first term is obviously satisfaction itself.

Satisfaction may be defined in several ways, but the concern here is the satisfaction of the residents of a defined area, usually a neighborhood, with their neighborhood in which they live. The concern is not with how people are satisfied with their city as a whole, though this is a legitimate concern of the planner. Satisfaction with the city may frequently differ from satisfaction with the neighborhood, and the problems of the neighborhood may be distinctly different from the problems of the city as a whole, from the viewpoint of the residents. The Two Percent Survey of Households of Cleveland, Ohio, from which information about satisfaction and certain environmental conditions is drawn for the testing of the hypotheses, shows that residents of

areas see their areas as having different problems from the city as a whole.¹ In 38 of the 39 planning areas of Cleveland, crime and violence in the streets was perceived as the leading city problem, but crime and violence was seen as the leading neighborhood problem in only one-third of the areas.

Satisfaction with the neighborhood, then, is the type of satisfaction that the thesis is concerned with. But what is satisfaction itself? It may be stated that satisfaction with the neighborhood is an emotional and intellectual state of feeling that people possess towards their immediate environment. It is dangerous to assume that satisfaction, at this point, is a state of feeling caused by the environment, because then one is assuming that the neighborhood alone determines the satisfaction. The definition given here does not presuppose that the environment alone causes satisfaction, that other factors cause satisfaction, or that a combination of the environment and other factors cause satisfaction.

Livability of neighborhoods is also a phrase that should be defined, because it is highly probable that livability has some relationship to satisfaction. Livability has been defined in many ways, but perhaps Robert Wilson defined it best when he stated that livability was... "the sum total of the qualities of the urban environment which tend to induce in a citizen a

¹Scott A. Mills, Two Percent Household Survey: Results of All Questions. (Cleveland: Cleveland City Planning Commission, June, 1972), pp. 81-86.

state of well-being and satisfaction."² Thus, it may be assumed that a livable neighborhood is one that does not cause dissatisfaction. Of course, it is readily recognized that different persons may have different conceptions of livability, and that what is livable for one may not be livable for another. From reviewing the previous literature, it appears that there is much work to be done in determining what precisely constitutes a livable environment, and what differences there may be in conceptions of a livable environment by various population groups.

Neighborhood itself should probably also be defined. In general, a neighborhood is a distinct part of a city which differs from other parts with respect to one or more characteristics. The boundaries may be visually distinct: a river, railroad tracks, a freeway or main traffic artery, or even open space separating two areas. The population of a neighborhood may be more homogenous than the city as a whole, with respect to one or more demographic characteristics: race, income, occupation, or even median age. The neighborhood may possess a visual focus: a university, a shopping center, a park, or other highly identifiable landmark.

In this thesis, the term environment is used interchangeably with the term neighborhood. The term environment is generally thought of as an all-encompassing term that includes not only physical objects but also social and economic

²Wilson, "Livability of the Cities," p. 359.

situations. And here neighborhood is also regarded as an all-encompassing term because of the concern with what causes satisfaction. It may be only part of the neighborhood or environment that causes satisfaction, but it may also be all of the factors.

In general, planning practice commonly recognizes the existence of neighborhoods and may go so far as to develop specific plans for each. The study area of this thesis, Cleveland, Ohio, is divided into thirty-nine statistical planning areas which are relatively homogeneous with respect to race and income. Most of these areas also possess visual boundaries and landmarks.

The concern of this thesis is with the use of satisfaction of neighborhood (as reported by a sampling of its residents) as a measure of the livability or life quality of neighborhoods. The question of how precisely satisfaction measures livability is not answered, because satisfaction with livability does not necessarily equal livability itself. It cannot be assumed that the satisfaction of the residents with a neighborhood arises totally from the physical and social conditions of the neighborhood. This view is substantiated by some of the research discussed in Chapter 2, particularly the work of Caplow and of Virirakis in which they demonstrated non-environmental factors as being highly associated with environmental satisfaction.

Rather than finding a precise relationship of

satisfaction with livability, the correlates of satisfaction will be examined to see the relationship of different environmental variables over which the planner has some types of control.

It is expected that the variation in satisfaction with the neighborhood will be highly correlated with general social, economic and physical conditions in the neighborhoods. In particular, these conditions include race, income and poverty, unemployment, safety from crime, safety from fire, population density, and housing conditions.

It is hypothesized that the variation in satisfaction with a particular aspect of the neighborhood will tend more to be explained by measures of relevant conditions than by socio-economic variables. For example, this would mean that housing conditions explain more of the variation in satisfaction with such conditions than do socio-economic variables such as income and race.

Two neighborhood satisfaction types will be explored: satisfaction with housing condition and satisfaction with personal safety. The two hypotheses to be tested are stated as follows:

1. A greater proportion of the variation in satisfaction with housing condition is explained by measures of housing condition than by socio-economic measures.
2. A greater proportion of the variation in satisfaction with personal safety is explained by measures of criminal activity than by socio-economic measures.

Because of the varying degrees of intercorrelation among socio-economic measures, housing conditions, and crime, it is suggested that if, in a correlation test, one controls for the effects of other variables, the relationship of satisfaction to related conditions will change in some direction from the uncontrolled correlation.

That is, the coefficient of determination for satisfaction with housing condition where the independent variables are condition measures may be larger than the coefficient of determination for the same satisfaction where socio-economic measures are the independent variables. But, if one controls for the effect of socio-economic measures, the multiple partial correlation (where satisfaction is the dependent variable, housing conditions are the independent variables, and socio-economic measures are the controlling variables) can be expected to be somewhat lower than the simple coefficient of determination because of the intercorrelation between housing condition and socio-economic measures. In essence, what will be determined is how well a given set of measures explains satisfaction, controlling for the effect of another set of measures. It may very well turn out that income explains most of the associations among housing conditions and satisfaction with such conditions.

If such hypotheses can be substantiated, then satisfaction can be accepted as a partial measure of livability because more of the variation in satisfaction can be explained by environmental conditions over which the planner may have some

control rather than by socio-economic conditions over which the planner may exercise little control. Such tests will also point out which variables could be used for a livability model.

Finally, to see if the variation in satisfaction with the neighborhood is more explained by certain environmental conditions within neighborhoods that are generally assumed to constitute "livability" than by socio-economic measures, the following hypotheses will be tested:

3. Housing conditions, holding crime and socio-economic measures constant, explain a greater proportion of the variation in neighborhood satisfaction than do crime measures, holding housing conditions and socio-economic measures constant.

4. Crime measures, holding housing conditions and socio-economic measures constant, explain a greater proportion of the variation in neighborhood satisfaction than do socio-economic measures, holding housing conditions and crime measures constant.

In other words, this is stating that housing conditions and criminal activity, while holding constant for the effects of intercorrelation among the independent variables, explain a greater proportion of the variation in neighborhood satisfaction than do socio-economic measures, also holding constant for the effects of other independent variables.

If such hypotheses can be substantiated, neighborhood satisfaction can also be accepted as an indirect measure of livability. This is because variation in such satisfaction will tend more to be explained by environmental conditions than by socio-economic conditions. In other words, such

satisfaction is not explained in the largest part by socioeconomic differences. The tests of the hypotheses should also yield strong clues as to which environmental variables could be used in livability models.

CHAPTER 4

DESIGN OF THE INVESTIGATION

This chapter is in three parts. The first is a generalized discussion of the study area. The second part is a description of the Two Percent Household Survey of Cleveland residents. This survey provided most of the data for this thesis. The third section is a description of the research methodology used to test the hypotheses.

The Study Area

The study area for this thesis are the thirty-nine Statistical Planning Areas of the City of Cleveland, Ohio, as defined by the Cleveland City Planning Commission.¹ These areas were chosen on two bases: the author's innate familiarity with these areas; and the availability of a survey dealing with neighborhood satisfaction which was broken down on a Statistical Planning Area basis.

These planning areas were selected after a long series of meetings with community groups and City departments. The following criteria, ranked in order of importance, determined the boundaries:²

1. Topographic features: valleys, ravines, water courses.

¹Ernest J. Bonner, Cleveland Statistical Areas for Planning and Analysis, General Plan Report Number 1, Cleveland, Ohio: Cleveland City Planning Commission, 1970.

²Ibid., p. 6.

2. Nonresidential areas.
3. Freeways; existing or proposed.
4. Railroads
5. Service areas for important community facilities or focal points.
6. Social and economic homogeneity.
7. Census tract boundaries.
8. Population size between 10,000 and 50,000.
9. Major thoroughfares.
10. School district boundaries.

The boundaries appear to fit over relatively socially and economically homogeneous areas. However, the planning areas are perfect aggregates of census tracts. The census tract boundaries were set many years ago, and, in some cases, a planning area may include some small population groups that deviate considerably from the community average with respect to a few variables, such as income or race. However, the vast majority of planning areas appear to be relatively homogeneous with respect to race, income and environmental conditions.

Most of the 39 areas are relatively racially and economically segregated areas. The City of Cleveland as a whole in 1970 was about 60% white and 38% black. In contrast, 20 areas are over 90% white and 13 of these are less than 1% black. 10 areas are over 90% black. Of the remaining nine areas that do not possess these extreme racial concentrations, seven of these are over 60% white and two are over 67% black. Even within these areas the whites and blacks tend to be located within segregated sections. However, in 8 of these 9 areas there is little difference between the races in terms of income and environmental conditions. One area, University

Circle-Alta, is quite different as it contains a major university community, a small ethnic Italian area, scattered sections of low-income black and white housing, a small middle income black section, and an upper middle to upper class section of multi-family housing. This is perhaps the only serious exception to homogeneity; but it might also be stated that one of the City's wards has its boundaries almost identical with this planning area's boundaries, and these diverse groups are somewhat politically joined.

These 39 planning areas appear to be relatively homogeneous within their boundaries with respect to income distribution. The annual median family income of the City was \$9,107 in 1970. Two of the areas, one white and one black, had median incomes in excess of \$12,000. Eleven areas, only one of which is black, had median incomes between \$10,000 and \$12,000. Sixteen areas, including both black and white, were between \$8,000 and \$10,000. Five areas were between \$7,000 and \$8,000. The remaining five areas, all black, ranged from \$4,400 to \$6,000.

The average 1970 population size of the areas was 19,254 and the median was 18,496. The range was from a low of 3,150 to a high of 51,857. However, 25 of the 39 areas were between 15,000 and 27,000. Only five areas are under 10,000 and two areas are in excess of 30,000.

The net population density (net meaning that large amounts of nonresidential land have been omitted from the computation of density) of Cleveland in 1970 was 15,732

persons per square mile, and the median of the areas was 17,449 persons per square mile. The range of density by area was 6,738 persons per square mile to 28,677 persons per square mile. Eleven areas had population densities in excess of 20,000 per square mile, and all of these eleven were low-income areas; seven are black. Only four areas, all upper-income white areas on the outskirts of the city, have densities below 10,000 persons per square mile.

The average 1970 household size of the areas was 2.97 persons, and the median was 2.96. Most areas tended to range from 2.8 to 3.4 persons per household. Extreme highs were mainly in middle and upper income black areas, and extreme lows included Downtown and other areas with a high concentration of small apartments.

Environmental conditions vary widely, and, in general, tend to vary along with the previously described population characteristics. All environmental conditions dealt with in this thesis are not presented in full detail as three general types were used in the analysis. Rather, in this chapter, only these three will be discussed in order to give a general view of neighborhood conditions.

Fire is the first type considered. Fires per square mile are presented in the maps and tables that follow this section. The average number of fires per square mile in 1970 in the City was 111.15. The range is from 24.43 to 579.65. Six areas had more than 200 fires per square mile, and eight had less than 50 per square mile. Most areas tended to range

from 60 to 100 per square mile.

Crime is the second type, and for this type, weighted violent crime per 1,000 population is presented. Violent crime consists of murder, rape, robbery and assault, and each crime was weighted by the importance that people attach to them; the exact weights came from an earlier study done in Cleveland.³ The average weighted violent crimes per 1,000 population for the City was 22.20, and the range in the planning areas was from 1.29 to 71.05 per 1,000 population. Fifteen areas had less than 10 per 1,000 population. Eight had more than 30 per 1,000 population, leaving sixteen ranging from 10 to 30 per 1,000 population.

Housing conditions are the third type. For this, two variables are discussed. The first is percent of units in substandard major and dilapidated condition. Substandard major housing is that which is in poor condition and requires major repairs that may be eligible for governmental assistance programs. Dilapidated housing is probably beyond repair and needs to be demolished and replaced. 3.07% of the City's housing is either in substandard major or dilapidated condition. There is a rather uneven breakdown by planning area in this proportion of housing being of this quality. Nineteen areas have less than 1% of their housing of this quality, and an additional six areas are between 1 and 2%. This leaves fourteen

³Andrew J. Gold, Janice E. Karlak, and Scott A. Mills, Allocation Model for Patrol Cars in Cleveland, Cleveland, Ohio: Cleveland Community Development Improvement Program, 1971.

areas ranging from 2% to 34%. Of these fourteen areas, nine are under 10% and three are over 20%.

The second variable for housing condition reflects somewhat the overall health quality of the planning areas: percent of housing units with rats and mice. It must be noted that this statistic came from the 2% sample survey of the households and is not as complete a measure as the Census. But this statistic appears to be reliable and shows a roughly concentric pattern on the map of the areas (following this section). The average percent of housing units with rats or mice was 10.75% for the City. Twenty-three of the areas were below this average, many of them far below (four areas reported no rats or mice), because some neighborhoods were literally infested with rats and mice. Six areas had a quarter or more of their units with the vermin present, and the Downtown area had rats and mice in nearly 40% of its housing units.

Tables and maps which illustrate the previous discussion of population and environmental characteristics are in Appendix III. All of the data are from the 1970 Census, with the exception of area size, crime and fire data which were collected by the author from other City Departments. The data on rats and mice, as previously noted, are from the Two Percent Household Survey.

The Survey

The results of the Two Percent Sample Survey of Cleveland's households were utilized for the thesis. This survey was undertaken in 1970 and 1971 by the Community Renewal Program, formerly a division of the Department of Community Development and now a division of the City Planning Commission. Permission to use the results of the survey was granted by Mr. Norman Krumholz, Director of City Planning.

The purpose of this survey was to determine the views of a sample of Cleveland's residents on many key issues facing the City of Cleveland. Some of these issues included housing, crime, city services, racial problems and general neighborhood problems. Many questions were asked on satisfaction with the neighborhood as well as various components of the neighborhood such as safety, housing, police protection, and recreation. In addition, many questions were asked of the residents so that their precise socio-economic status could be determined. A copy of the questionnaire is included in the appendix.

5,000 addresses were randomly selected from a computer listing by a local real property inventory firm. This firm also conducted the interviewing and keypunching of results. The author participated with other members of the Community Renewal Program in computer tabulation of the results, and had the major responsibility for analyzing and writing the results.

The two percent survey contains a representative sample

of Cleveland's population. The remainder of this section will consist mainly of a discussion of the sample size and the sample population's socio-economic characteristics. It contrasts these characteristics to those of the general population.

The survey was intended to reach about two percent of the city's households. Five thousand units were randomly selected, and 3,740 (a 75% response) responded. Non-response was due mainly to facancy, to inability to contact respondents, and to noncooperation.

The highest percentages of response (80% or more) came chiefly from white middle and upper income areas on the West Side. On the East Side, response was a little higher in upper income black areas.

Slightly below average response (70-75%) was confined to lower income areas on the East Side as well as some outlying white areas. Very low response (below 70%) came from a mixture of types of areas on the East Side.

Sample sizes were thus affected by this pattern of response. The survey covered 1.50% of the city's households, but the percent sample varied from area to area. On the whole, West Side areas had higher sample sizes because of the better response. 1.59% of West Side households were surveyed, while 1.45% of the East Side households responded.

Besides looking at sample sizes of the various areas, the socio-economic characteristics of the respondents were compared to the general population. This was done to check

the survey's representativeness of the general population and to check limitations on the use of the survey. All general population data is from the 1970 United States Census.

The racial composition of survey families was very similar to the racial composition of the general population. Of the survey's families, 37.3% were non-white, whereas 34.8% of the city's families were non-white. Area-by-area, the racial composition of the survey population was very similar to that of the area's general population. In only two areas were there any serious differences. Paul Revere-Miles, according to the Census, was 15% black, whereas the sample was 25% black. A large part of the difference may be due to the fact that this area was undergoing racial change at a very rapid rate in the early 1970's. When the next census is conducted in April 1975, it should not be surprising if Paul Revere-Miles will be over 80% black. The other area was Downtown, with 30% of the survey families being black as opposed to 21% of the general population. Part of this is due to whites having smaller family sizes in the Downtown area (most of the families consist of a single person), and thus being harder to reach in the daytime.

The average family size of the survey's respondents was 3.33, while the city's average family size was 2.97. This difference is explained by the fact that one-person households were much harder to reach than others. Of the survey families, 17.4% were one-person families, compared to the figure of 23.5% for the general population. Similarly, 24.4% of the survey

families had five or persons, compared to 18.9% of the city's families. However, the two, three and four person families were represented in the survey in a very similar pattern to the general population. Two person families represented 27.6% of the survey population and 28.2% of the general population. Three person families were 16.7% of both populations. Four person families were 13.9% of survey families and 12.8% of the city families.

On an area by area basis, the average family size was slightly larger in the survey population than in the general population. The survey family sizes were much larger in four southeast side planning areas.

As with family size, the average number of rooms per unit was larger in the survey population than in the general population, 5.25 to 4.99. This is again explained by the under-representation of one-person households, which tend to have smaller units. Virtually all areas reflected this difference, except Eastern Hough, whose survey families had an average of 5.45 per unit but whose general population had an average of 4.53 rooms per unit. This was the only area with this large a difference.

Structural types were fairly well represented by the survey, with the exception of families living in two-unit structures. Here, 31.8% of the survey families lived in 2-unit structures, as compared to 25.5% of the City's families. The difference of 6.3% was absorbed into all the other structural types fairly evenly. In a few statistical areas,

there were some differences between the survey units and the general population as far as structural types are concerned. In nine areas families living in one-unit structures were somewhat under-represented and families living in two-unit structures were somewhat over-represented.

Tenure status in the survey population was fairly representative of the general population. Of the survey families, 49.1% own their home, compared with 46.6% of the general population. In only three East Side statistical areas were there major differences. Here, owners were over-represented.

Owned home values as reported by survey respondents were remarkably similar to those reported by the general population. The average value of an owned home in the survey was \$17,384, and the general population's average was \$17,351. The differences in most areas did not exceed 10%. In only two areas were there major differences: the survey home values were well below the figures reported by the U.S. Census.

Monthly contract rents in survey units differed very little from the general population's units. The average monthly contract rent of survey renters was \$83.14, and the average monthly contract rent of the City of Cleveland's tenants was \$83.88. In only two areas was the difference greater than ten dollars, but the widest difference was \$20 in high-income Lee-Seville-Miles.

The median income of families in the general population was \$9107, whereas the median income in the survey was \$7438. However, the survey included one-person households in the computation of income. With the general population, if one considers the income of unrelated individuals, the median income is thus \$7097. Thus, the income of the survey families is about right, if one considers that the U.S. Census income figures are from 1969 earnings, and that the survey income figures are from 1970 and 1971 earnings. There were few sharp differences in the various statistical areas.

The survey is best used on a population group (i.e., income class, homeowners) and statistical area basis rather than on a city-wide basis as certain groups and certain areas have more representation in the survey group than do others. If the survey is to be used on a city basis, then appropriate weighting is required. In particular, adjustments need to be made for family size and geographic representation.

The survey yielded a massive amount of information, but in this section only a summary of the more pertinent results is presented.

Satisfaction levels varied considerably by area, and, in general, lower income and black areas had lower levels of satisfaction than higher income and white areas.

Slightly more than 80% of the respondents stated they were satisfied with their present house or apartment. 17% indicated that they were dissatisfied. On a statistical area

basis, high rates of dissatisfaction with their housing (26-39%) were found mainly in low income areas of both races. High rates of satisfaction with housing (90% or more) were found solely in white middle and high income areas.

Respondents were slightly less satisfied with their neighborhoods than with their housing. About 75% indicated satisfaction with their neighborhoods, and 22% were dissatisfied.

As with the housing satisfaction/dissatisfaction question, the amount of satisfaction with the neighborhood varied by income level. Very high rates of dissatisfaction with the neighborhood (37-44%) were found mainly in low-income areas. Slightly above average dissatisfaction (23-34%) was also confined mainly to lower income groups. Very high rates of satisfaction with the neighborhood (90% or more) were found only in four areas which are white and middle to upper middle income. Above average rates of satisfaction with the neighborhood were found in very few black areas.

In short, high satisfaction with both housing and neighborhood were found in only white middle and upper middle income areas. Most low-income areas, regardless of race, expressed higher dissatisfaction with both the neighborhood and housing. In the higher income black areas, the dissatisfaction with the neighborhood was much greater than the dissatisfaction with housing.

Respondents to the survey were asked to indicate their satisfaction or dissatisfaction with a number of neighborhood factors. The twelve factors follow:

1. Quietness of the neighborhood.
2. Kind of people who live in the neighborhood.
3. Cleanliness of the neighborhood.
4. Police protection.
5. Condition of the streets.
6. Condition of the houses and apartments.
7. Amount of traffic on the street.
8. Quality of the local public schools.
9. Personal safety in the neighborhood.
10. Garbage collection.
11. Playgrounds.
12. Public transportation.

Generally, the pattern of response by statistical area was the same for most factors. High rates of satisfaction were found in the far northeastern and far western white, higher income areas for most all factors. The highest rates of dissatisfaction occurred in mainly inner-city lower income black areas for most factors and in lower income white areas for a slightly fewer number of factors. The remaining part of this section will illustrate some variations from this general pattern of response.

High dissatisfaction rates concerning the "kind of people in this neighborhood" were found mainly in low-income white areas as well as three black areas. However, two of the black areas were middle income.

High dissatisfaction with police protection was not confined solely to low income nonwhite areas, as might be expected from past police-community relations problems in

these areas. Higher rates of dissatisfaction were also found in middle to upper middle income black areas and one white middle income area.

Condition of the streets was one of two major exceptions to the pattern of satisfaction in higher income areas and dissatisfaction in lower income areas. Extremely high rates of dissatisfaction were found not only in lower income areas. Several middle to upper middle income areas registered even higher rates of dissatisfaction with the condition of their streets than lower income areas.

The other major exception was the amount of traffic in the street, which showed no relation at all to levels of income or racial composition.

Black middle income areas were more dissatisfied than their white counterparts with the various public facilities. The difference was more pronounced with education and public transportation than with garbage collection and playgrounds.

Maps in Appendix IV geographically illustrate the satisfaction/dissatisfaction levels of the planning areas in terms of the neighborhood, their own homes, the housing conditions in their area, police protection, and personal safety.

Research Methodology

To test the hypotheses, many variables relating to socio-economic status and to satisfaction were found to be directly useful, and others were chosen for potential usefulness.

The Fortran Statistical Package for the Social Sciences¹ (SPSS) was used because of the relative ease in using its correlation and partial correlation subprograms.

115 variables for each of the 39 planning areas were selected and keypunched. Of these 115, 55 were taken from the survey and 60 were taken from outside sources.

It must be noted that while 115 variables were used, in reality there were fewer than 115 separate variables. For example, in the satisfaction questions, "percent satisfied," "percent dissatisfied," and "percent with no opinion" were all considered because it appeared there might be significant variations in the levels of no opinion. There were 11 satisfaction questions used in the analysis, and there were 32 possible answers (one question, that of satisfaction with one's home, did not allow for no opinion; why this was done is totally unclear to the author).

Ten variables measured in various ways the socio-economic status of the respondents: race, family size,

¹Norman N. Nie, Dale H. Bent and C. Hadlai Hull, Statistical Package for the Social Sciences (New York: McGraw-Hill, Inc., 1970).

income and unemployment.

Then, finally, with the survey variables, fourteen measured the living conditions of the home as viewed by the respondents, such as soundness and weathertightness of the dwelling unit, adequate heat and presence of rats or mice.

The author collected the other sixty variables while employed at the Cleveland City Planning Commission. All these variables measure various environmental conditions. Data were drawn from the U.S. Census to measure population densities and housing conditions, and to compute crime rates. Data on fires and crimes were aggregated by the Department of Safety, but all the crime and fire rates were computed by the author.

All of these data were correlated with each other on a linear correlation basis. Then extensive partial correlations were computed, holding the appropriate variables constant as specified by the hypotheses. The result was thousands of correlations and partial correlations which gave a fairly large and comprehensive amount of information for testing the validity of the hypotheses.

To have run only correlations for the few variables considered in the hypotheses appeared to be dangerous. This is because there are infinite numbers of ways of measuring the variables of concern. For example, housing condition can be measured in several ways: the general exterior condition and/or interior condition on a rating scale, the monetary value as an indirect measure of condition, the presence of

pests, and the condition of electrical equipment. In short, 47 of the 115 variables measure housing condition in various ways. With crime, there are seven major categories of crime, and different rates could be used. The types of rates were used: on a simple per 1,000 population basis, on a per square mile basis, and on weighted (based on seriousness) and un-weighted combinations of crime categories, also on a population or area basis. So, crime was measured with 24 variables. Similarly, fire was measured with five variables.

The number of variables used in measuring relevant environmental conditions came very close to the maximum possible derived from available data. To have used much less than this maximum would bring up the question of "What if this variable had been measured in this way?"

In itself, using all these various measurements illustrates a common problem to planners that is central to this thesis: how does one measure the environment? What are appropriate measures? Some insight into this will be achieved with the analysis of the correlation results.

CHAPTER 5

TESTS OF HYPOTHESES

Four hypotheses were formulated in Chapter 3. All are concerned with how various phenomena explain variation in neighborhood satisfaction.

As expected, neighborhood satisfaction tends to be highly correlated with general social, economic and environmental conditions in neighborhoods. The highest linear correlations were, generally, with measures of income. The correlation of neighborhood satisfaction with median family income was $+.70$, and with the percentage of families under the poverty level, the correlation was $-.74$. A correlation of $-.76$ was recorded between satisfaction with the neighborhood and the percent of the labor force unemployed.

Neighborhood satisfaction was found to correlate highly with measures of crowding in housing units. The correlation with percent of units with one or less persons per room was $+.76$, with percent of units with 1.01 to 1.50 persons per room the correlation was $-.73$, and with percent of units with 1.51 or more persons per room the correlation was $-.72$.

Moderately high correlations (between $.50$ and $.70$ or $-.50$ and $-.70$) were found between neighborhood satisfaction and a variety of other factors, in the categories of race, crime, fire, housing conditions and net population density.

In general, the high associations of neighborhood satisfaction with various measures of social, economic and environmental conditions such as income, density, fire, crime and housing do not lend credence to arguments that neighborhood satisfaction is an isolated phenomenon. But one cannot state that these conditions necessarily cause satisfaction. The purpose of linear correlations is not to show causality, but rather the degree to which variables co-vary.

The first hypothesis concerns satisfaction with housing condition in neighborhoods:

1. A greater proportion of the variation in satisfaction with housing condition is explained by measures of housing condition than by socio-economic measures.

This hypothesis was tested twice, using multiple partial correlation, which is a technique in which a dependent variable (in this case, satisfaction) is correlated with a group of independent variables, holding constant for one or more other independent variables. The first time the test was run, variables were selected on a subjective basis; the purpose was to get varied measures of housing condition and broad socio-economic variables. The second time, the variables were selected using stepwise multiple regression techniques: selecting three housing variables that best predicted housing condition satisfaction (in relation to other housing variables), and selecting three socio-economic variables that best predicted the same satisfaction.

For the first test, in which the independent variables were subjectively selected to get several different variable types, four housing variables and two socio-economic variables were selected: X_1 , percent of all units in standard exterior condition; X_2 , percent of all units with 1.51 or more persons per room; X_3 , fires per 1,000 one-family units; X_4 , percent of survey units with electrical outlets and lighting facilities in working order; X_5 , median family income; and X_6 , percent white. X_H represented satisfaction with housing condition. All variables selected except percent white (+.57) had linear correlations of over $\pm .80$ with housing condition satisfaction.

Each variable was correlated with housing condition satisfaction while holding the other five constant, in an effort to determine the relative strength of each variable's association with satisfaction with such satisfaction. The following table demonstrates the fifth-order partial correlations for each subjectively selected variable:

Table 5.1 Fifth-Order Partial Correlations of Subjectively Selected Independent Variables with Satisfaction with Housing Condition.

<u>Independent Variable</u>	<u>r</u>	<u>r²</u>
X_1 Percent of Units in Standard Ext. Cond.	.08 ¹	.0064
X_2 Percent of Units 1.51+ persons/room	-.28 ²	.0784
X_3 Fires per 1,000 one-family units	-.29	.0841
X_4 Percent of Units with Working Outlets	.34	.1156
X_5 Median Family Income	.34	.1156
X_6 Percent White	.13	.0169

¹Same as $r_{H1.23456}$

²Same as $r_{H2.13456}$

From this, one can see that percent of survey units with working electric outlets and lighting facilities and median family income are the two variables maintaining the strongest associations with satisfaction with housing condition, after holding constant for the intercorrelation effects of the other variables.

The coefficient of determination ($R^2_{H.123456}$) with the use of subjectively selected variables is .8820. In other words, 88.2% of the variation in housing condition satisfaction is explained by the six subjectively selected variables.

The coefficient of determination of housing condition satisfaction using only the four housing variables ($R^2_{H.1234}$) is .8664; using the two socio-economic variables ($R^2_{H.56}$) the coefficient of determination is .7975.

The multiple partial correlation coefficients tend to substantiate the first hypothesis. Holding constant for income and race, the multiple partial correlation of satisfaction with the housing variables ($R^2_{H(1234).56}$) is .4114; this means that 41.14% of the variation in housing condition satisfaction is explained by housing variables, controlling for the effects of the intercorrelation among housing and socio-economic variables. Holding constant for the housing variables, the multiple partial correlation between satisfaction and income and race ($R^2_{H(56).1234}$) is .1167; only 11.67% of the variation in housing condition satisfaction is explained by the socio-economic variables, holding the housing variables constant. This wide difference tends to strongly support the first hypothesis.

The independent variables used in the above test were subjectively selected in order to get a broad range of variable types. This raises the possibility that some other combination of variables might yield different results. What was then done was to use a stepwise multiple regression technique to pick three housing variables and three socio-economic variables that best predict housing condition satisfaction. Ideally, the variables picked would have fairly high linear correlations with satisfaction and low inter-correlations among themselves.

The three housing variables found to best predict housing condition satisfaction were as follows: X_1 , percent of all units with 1.51 or more persons per room; X_2 , percent of survey units in standard condition; and X_3 , percent of survey units with working electric outlets and lighting facilities. The coefficient of determination for satisfaction using these three variables ($R_{H.123}^2$) was .9052; this is slightly higher than the coefficient of determination using the four subjectively selected housing variables (.8664).

The three socio-economic variables found to best predict housing condition satisfaction were as follows: X_4 , percent of all families under the poverty level; X_5 , median family income; and X_6 , percent white. The coefficient of determination was .7983, barely higher than using just income and race (.7975).

In computing fifth-order partial correlations between

satisfaction and each regression-selected variable, holding the other five constant, the three housing variables showed the strongest associations with housing condition satisfaction:

Table 5.2 Fifth-Order Partial Correlations of Stepwise Multiple Regression-Selected Independent Variables with Satisfaction with Housing Condition

<u>Independent Variable</u>		<u>r</u>	<u>r²</u>
X ₁	Percent of Units 1.51+ Persons per Room	-.480	.2304
X ₂	Percent of Survey Units Standard Condition	.542	.2937
X ₃	Percent of Units with Working Outlets	.363	.1317
X ₄	Percent of Families under Poverty Level	.041	.0016
X ₅	Median Family Income	.148	.0219
X ₆	Percent White	.074	.0054

The coefficient of determination for housing condition satisfaction using the above six variables was .9089, a little higher than using the subjectively selected variables (.8820).

The multiple partial correlations using the stepwise multiple regression selected variables tend to strongly substantiate the first hypothesis. Holding constant for the socio-economic variables, the correlation between housing condition satisfaction and the housing variables ($R^2_{H(123).456}$) was .5483; holding constant for the housing variables, the correlation between socio-economic variables and housing condition satisfaction ($R^2_{H(456).123}$) was .0390.

Thus, the first hypothesis that the variation in housing condition satisfaction is explained more by measures of housing condition than by socio-economic conditions tends to be strongly supported by the existing data.

The second hypothesis concerns satisfaction with personal safety in neighborhoods:

2. A greater proportion of the variation in satisfaction with personal safety is explained by measures of criminal activity than by socio-economic measures..

The methodology in which this hypothesis was tested is virtually identical to the testing of the first hypothesis concerning housing condition satisfaction.

First, three variables covering a wide variety of crime types were subjectively selected: X_1 , breaking and entering per square mile; X_2 , auto theft per square mile; and X_3 , weighted violent crime per square mile. The socio-economic variables chosen were X_4 , median family income, and X_5 , percent white. Satisfaction with personal safety was represented by X_p .

Fourth-order partial correlations were determined between satisfaction with personal safety and each of the independent variables, with the other four independent variables acting as control variables. The results indicated strong relationships between personal safety satisfaction and auto theft as well as between satisfaction and median family income.

The table showing these fourth-order partial correlations follows on the next page.

Table 5.3 Fourth-Order Partial Correlations
of Subjectively Selected Independent Variables
with Satisfaction with Personal Safety

<u>Independent Variable</u>	<u>r</u>	<u>r²</u>
X ₁ Breaking and Entering per Square Mile	-.17	.0289
X ₂ Auto Theft per Square Mile	-.45	.2025
X ₃ Wtd. Violent Crime per Square Mile	.17	.0289
X ₄ Median Family Income	.41	.1681
X ₅ Percent White	.18	.0324

The coefficient of determination for satisfaction with personal safety using the five subjectively selected variables ($R^2_{P.12345}$) was .7134, meaning that 71.34% of the variation in personal safety satisfaction was explained by these five variables.

The coefficient of determination for satisfaction using the three crime variables ($R^2_{P.123}$) was .6476; using income and race ($R^2_{P.56}$) it was .6196.

The multiple partial correlations tend to support the hypothesis. Holding constant for the socio-economic variables, the multiple partial correlation between personal safety satisfaction and the subjectively selected crime variables ($R^2_{P(123).56}$) was .2465. Holding constant for the crime variables, the multiple partial correlation between satisfaction and the socio-economic variables ($R^2_{P(56).123}$) was .1867.

However, these results were reversed when variables obtained by using stepwise multiple regression were used. Using the stepwise method, the three crime variables best predicting personal safety satisfaction were as follows: X₁, auto theft

per square mile; X_2 , breaking and entering per square mile; and X_3 , larceny per square mile. The coefficient of determination with these three variables was .6646, slightly higher than using the subjectively selected variables, .6476.

Using the stepwise method, the three socio-economic variables best predicting satisfaction with personal safety were as follows: X_4 , percent of families under the poverty level; X_5 , net population density; and X_6 , percent white. The coefficient of determination using these three variables was .6884, somewhat higher than using median family income and race (.6196).

Fifth-order partial correlations between personal safety satisfaction and each regression-selected variable, holding the remaining variables constant, showed that the three variables exhibiting stronger associations with such satisfaction were auto theft, poverty and population density.

Table 5.4 Fifth-Order Partial Correlations of Stepwise-Multiple Regression Selected Independent Variables with Satisfaction with Personal Safety

<u>Independent Variable</u>	<u>r</u>	<u>r²</u>
X_1 Auto Theft per Square Mile	-.457	.2088
X_2 Breaking and Entering per Square Mile	.008	.0001
X_3 Larceny per Square Mile	.270	.0729
X_4 Percent of Families under Poverty Level	-.413	.1705
X_5 Net Population Density	-.402	.1616
X_6 Percent White	.270	.0729

The coefficient of determination for personal safety

satisfaction using the regression-selected variables ($R^2_{P.123456}$) was .7749, higher than using the five subjectively selected variables, .7134.

The multiple partial correlations tend to disprove the second hypothesis. Holding constant for socio-economic variables, the correlation between personal safety satisfaction and crime variables ($R^2_{P(123).456}$) was .2775. Holding constant for crime variables, the correlation between satisfaction and the socio-economic variables ($R^2_{P(456).123}$) was .3288.

Thus, the second hypothesis cannot be substantiated by the existing data. However, this does not necessarily mean that this hypothesis is invalid. This is because of problems with the independent crime variables. This will be discussed in the next chapter.

The third and fourth hypotheses concern satisfaction with the neighborhood:

3. Housing conditions, holding crime and socio-economic measures constant, explain a greater percent of the variation in neighborhood satisfaction than do crime measures, holding constant for housing conditions and socio-economic measures.

4. Crime measures, holding constant for housing conditions and socio-economic measures, explain a greater percent of the variation in neighborhood satisfaction than do socio-economic measures, holding housing conditions and crime measures constant.

In effect, what these hypotheses mean is that, if one controls for the intercorrelation among independent variables, housing conditions best explain the variation in neighborhood satis-

faction, followed by crime measures, and then socio-economic measures.

Similarly to the tests of the first two hypotheses, two multiple correlation tests were made. The first involved subjectively selected independent variables and the second involved variables selected by stepwise multiple regression.

In the first test, variables were selected to cover the different types of measures possible. For housing, the variables selected were X_1 , percent of all units with 1.51 or more persons per room, X_2 , fires per 1,000 one-family units, and X_3 , percent of survey units with electric outlets and lighting facilities in working order. For crime, the variables were X_4 , breaking and entering per square mile, X_5 , auto theft per square mile, and X_6 , weighted violent crime per square mile. For socio-economic variables, the measures were X_7 , median family income, and X_8 , percent white. Neighborhood satisfaction was represented by X_N .

Seventh-order partial correlation tests between neighborhood satisfaction and each independent variable, controlling for the remaining variables, yielded an unusual result. The seventh-order partial correlation coefficient between satisfaction and violent crime ($r_{N6.1234578}$) was $+.648$. The linear correlation (r_{N6}) was $-.609$. This extreme difference was largely caused by extremely high intercorrelations between violent crime and combinations of the other variables. Three other independent variables that have strong correlations with neighborhood satisfaction included fires, auto thefts and percent white.

Table 5.5 Seventh-Order Partial Correlations of Subjectively Selected Independent Variables with Neighborhood Satisfaction

<u>Independent Variable</u>	<u>r</u>	<u>r²</u>
X ₁ Percent of Units with 1.51+ Persons/Room	-.207	.0428
X ₂ Fires per 1,000 One-Family Units	-.454	.2061
X ₃ Percent of Units with Working Outlets	.248	.0615
X ₄ Breaking and Entering per Square Mile	-.210	.0441
X ₅ Auto Theft per Square Mile	-.544	.2959
X ₆ Wtd. Violent Crime per Square Mile	.648	.4199
X ₇ Median Family Income	.083	.0068
X ₈ Percent White	.525	.2756

The coefficient of determination for neighborhood satisfaction using these eight subjectively selected variables ($R_{N.12345678}^2$) was .8263, meaning that 82.63% of the variation in neighborhood satisfaction is explained by these eight variables.

The coefficient of determination for neighborhood satisfaction using the three housing variables was .6015; using the three crime variables, .4700; and using the socio-economic variables, .6190.

The multiple partial correlation tests tend to disprove the third hypothesis but do substantiate the fourth hypothesis. The correlation between satisfaction and housing condition variables, controlling for the other independent variables, is .4416; the correlation between satisfaction and crime variables, controlling for the other variables, is .4822; and the correlation between satisfaction and socio-economic variables, controlling for the other variables, is

.2753.

Thus, what the first test shows is that crime variables explain more of the variation in satisfaction with the neighborhood, followed by housing variables, and then followed by socio-economic variables.

The second test involved the use of independent variables selected by stepwise multiple regression. For housing, the variables were X_1 , fires per 1,000 two-family units, and X_2 , percent of units with 1.01-1.50 persons per room. The coefficient of determination for satisfaction using these two variables equalled .6983, somewhat higher than using the three subjectively selected variables, .6015.

For crime, the coefficient of determination for satisfaction was .4682, using the regression selected variables of X_3 , breaking and entering per square mile, and X_4 , auto theft per square mile. This coefficient of determination is almost the same as using the same two variables plus violent crime in the first test (.4700).

For socio-economic measures, the variables were X_5 , percent white, and X_6 , percent of the labor force unemployed. The coefficient of determination was .6289, only slightly higher than using income and race in the first test (.6190).

Fifth-order partial correlation tests between neighborhood satisfaction and each of the regression-selected variables, holding constant for the other variables, showed that a housing variable, percent of units with 1.01-1.50 persons per room, had the strongest association with satisfaction.

Table 5.6 Fifth-Order Partial Correlations of Stepwise Multiple Regression-Selected Independent Variables with Neighborhood Satisfaction

<u>Independent Variable</u>	<u>r</u>	<u>r²</u>
X ₁ Fires per 1,000 Two-Family Units	-.217	.0470
X ₂ Percent of Units with 1.01-1.50 Persons/Rm.	-.536	.2872
X ₃ Breaking and Entering per Square Mile	-.025	.0006
X ₄ Auto Theft per Square Mile	-.337	.1135
X ₅ Percent White	.082	.0067
X ₆ Percent Unemployed	-.011	.0001

The coefficient of determination for neighborhood satisfaction using the six regression-selected variables was .7491, lower than using the eight subjectively selected variables (.8263). This difference was not so much caused by having two extra variables in the first test as it was because of greater intercorrelation between the types of variables (between housing and crime, between socio-economic measures and housing, etc.) in the second test.

The multiple partial correlation tests using the regression-selected variables substantiated both the third and fourth hypotheses. The correlation between satisfaction and housing variables, holding the other independent variables constant, was .3206. The correlation between satisfaction and crime variables, holding the other variables constant, was .1156. The correlation between satisfaction and socio-economic measures, holding the other independent variables constant, was .0063.

Both tests showed that socio-economic measures explained less variation in neighborhood satisfaction than did housing and crime measures. Using regression selected variables, housing explained more variation than did crime; but the reverse was shown when using subjectively selected variables.

The following chapter will discuss the implications of these results as well as discussing the suitability of using some of these variables in measures of livability.

CHAPTER 6

CONCLUSIONS FOR PLANNING

It appears that certain measures of the social, economic and environmental conditions may serve as indirect measures of the "livability" of such areas. This is because some measures, particularly those of housing condition, were found to explain some of the variation in satisfaction levels of planning areas. Such measures of condition are necessarily indirect measures of livability because they explain only a part of the variation in satisfaction, and, also, satisfaction does not necessarily equate livability.

Housing condition measures were found to explain more of the variation in satisfaction with housing condition than socio-economic variables. The important implication of this is that such satisfaction cannot be termed to be solely caused by socio-economic status. While it may be true that socio-economic status is related to and may cause certain housing conditions, it should be pointed out that, using regression-selected variables, housing conditions explained 54.83% of the variation in housing condition satisfaction, while controlling for the effects of poverty, income and race. The same three socio-economic variables explain only 3.90% of such variation while controlling for housing conditions.

The three housing variables that best predict the variation in satisfaction are overcrowding (in terms of persons

per room), the general condition of the dwelling units (in terms of planners' measures of standard, substandard and dilapidated conditions), and perhaps a measure of minor upkeep (in terms of working electric outlets and lighting facilities). These three variables also exhibit strong linear associations with housing condition satisfaction, and the fifth-order partial correlation (holding the other two housing variables, poverty, income and race constant) between satisfaction and percent of survey units in standard condition was a strong $+0.54$. The fifth-order correlation with overcrowding was -0.48 , and with working electric outlets and lighting facilities, $+0.36$.

While other housing variables also exhibit strong linear associations with satisfaction, a large portion of the co-variations may be explained by other variables, especially income measures.

If a model of housing livability were to be constructed using several housing variables as independent variables, it would perhaps be best to use measures that are not overwhelmingly intercorrelated among themselves and with socio-economic measures. The rationale for such a suggestion is that planners, in general, are in a better position to change housing conditions than socio-economic status. Also, some housing conditions may not change along with changes in socio-economic status. In particular, varying proportions of socio-economic groups may be having difficulty finding standard housing that meets their needs for space. This problem is probably more serious with

lower economic groups and with nonwhites. But, certainly planning projects that increase the availability of standard housing of various sizes to a wide range of socio-economic groups may be expected to increase satisfaction levels. The present evidence shows that condition, crowding and upkeep explain a good part of the variation in housing condition satisfaction, and much more so than socio-economic status.

Safety problems are in the upsurge in most urban communities as well as in rural and suburban areas. However, the existing data does not show very strong associations between satisfaction with personal safety and crime or socio-economic measures. Holding constant for socio-economic measures, the regression-selected crime variables explained only 27.75% of the variation in personal safety satisfaction. Holding constant for the same crime variables, the regression-selected socio-economic measures explained 32.88% of the variation in personal safety satisfaction. Together, the regression-selected variables explained 77.49% of the variation in such satisfaction. Contrast this to the housing and socio-economic variables explaining nearly 91% of the variation in housing condition satisfaction.

It is also of interest to note that the three property crimes of breaking and entering, larceny and auto theft best predicted personal safety satisfaction. Not one of the four violent crimes (murder, rape, robbery and assault) or total violent crime is one of the three best variables in predicting

satisfaction with personal safety. In large part, this seeming inconsistency is probably caused by two factors. First, not all violent crimes are reported (in particular, rape and assault) while probably a higher proportion of breaking and enterings and auto thefts are reported. Second, all types of crimes are reported as a total by most all police departments and by the F.B.I. One cannot tell from such totals the offender-victim relationships (in many violent crimes, in particular, murder, rape and assault, the offender and victim are acquainted and often are related to each other) or the site of the crime (in the home, in a place of business, or in the street). It would seem that those types of crimes that would be likely to explain most of the variation in satisfaction with personal safety would be those committed outdoors or during the course of unlawful entry into a building or home by a person not previously acquainted with the victim. It would seem that these crimes would be most suitable for use because they probably better measure the real threat of crime associated with a particular neighborhood. Also, if the figures could be properly adjusted for estimates of nonreporting (which may vary by socio-economic group), the adjusted crime figures might very well explain nearly all the variation in satisfaction with personal safety.

Such a crime index used as all or part of a "safety livability" model might be worth the large effort to develop. The model could serve as the basis for allocation of police protection and other safety techniques. The emphasis would be

on the prevention of those crimes that may tend to make neighborhoods unlivable as far as personal safety is concerned, and if such prevention occurred, one might expect satisfaction levels to change accordingly.

Multiple partial correlation tests showed that more of the variation in neighborhood satisfaction is explained by housing conditions and crime measures than by socio-economic measures. The implication of this for planners is that such satisfaction, and, probably also livability, is not largely the effect of socio-economic status.

This is not to say that any type of neighborhood improvement will generate increased satisfaction. Even though many environmental variables may strongly co-vary with satisfaction, a large part of the co-variation with many variables may be explained by socio-economic measures. If a planner wishes to develop neighborhood livability models, he probably should make certain that variables in his model are not solely the products of socio-economic differences. Otherwise, in developing a planning project that would cause an increase in "livability," satisfaction with the neighborhood may not necessarily change, if the relationship between satisfaction and the relevant variable (to the project) is explained almost wholly by income.

The fifth-order partial correlation test using regression-selected variables indicated that overcrowding (as measured by persons per room) was the variable most strongly associated with neighborhood satisfaction. This

suggests that no matter what the income level or racial mixture of a neighborhood is, if space needs are not met, some level of neighborhood dissatisfaction is likely to exist. While overcrowding in itself make make the living conditions within a home unpleasant for a given proportion of the neighborhood residents, it also has some possible effects on those not living in overcrowded units, in terms of noise from adjacent or nearby dwelling units, lack of sufficient play space for children, lack of suitable parking for cars, and so on. In short, what this variable suggests is that unmet spatial requirements of various types may be the type of variable causing neighborhood dissatisfaction. And this is an area in which the planner clearly has an interest, in view of the many regulations existing that affect density, the use of land and types of uses permitted, as well as the many projects that involve the allocation and use of space.

For future research efforts in the area of satisfaction and livability, similar studies employing the various correlation techniques utilized in this thesis could be used to study other factors that potentially constitute livability, such as recreation, transportation and open space. For determining precise causalities, rigorous in-depth interviews of samples of various socio-economic groups in various types of environmental situations might prove very useful.

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APPENDIX I
DESCRIPTION OF VARIABLES

I. Socio-economic Characteristics of the Population, as
Reported by the 1970 United States Census

A. Racial Composition

- 001. Percent White
- 002. Percent Black
- 003. Percent Other Nonwhite

Percent "Other Nonwhite" was found to have low correlations with almost all other variables. This may be partially due to the fact that many Spanish surnamed Americans were counted as "white" and some were counted as "other nonwhite" due to confusion from incomplete directions on Census Bureau reporting forms; this was personally confirmed by an Assistant Director of the Bureau of the Census.

B. Family Size

- 004. Population per household

This was found to have relatively low correlation with all other variables.

C. Income Measures

- 005. General Dependency Ratio

This is the ratio of the nonworking population (primarily composed of children, persons over 65 and nonworking housewives) to the working population. Correlations with other variables were not as high as other income measures.

- 006. Percent of Unrelated Individuals under the Poverty Level.

This income measure showed very weak associations with all other variables.

- 007. Percent of Families under the Poverty Level
- 008. Median Family Income
- 009. Mean Family Income
- 010. Percent of the Labor Force Unemployed

II. Survey Satisfaction/Dissatisfaction Responses

- A. Neighborhood Satisfaction. The question was phrased as, "Taking all things into consideration, are you satisfied or dissatisfied with this neighborhood?"
- 011. Percent Satisfied
 - 012. Percent Dissatisfied
 - 013. Percent No Opinion
- B. Satisfaction with Quietness. The question was part of a multiple question. Please see Appendix II.
- 014. Percent Satisfied
 - 015. Percent Dissatisfied
 - 016. Percent No Opinion
- C. Satisfaction with the Kind of People Who Live in this Neighborhood.
- 017. Percent Satisfied
 - 018. Percent Dissatisfied
 - 019. Percent No Opinion
- D. Satisfaction with the Cleanliness of the Neighborhood.
- 020. Percent Satisfied
 - 021. Percent Dissatisfied
 - 022. Percent No Opinion
- E. Satisfaction with Police Protection
- 023. Percent Satisfied
 - 024. Percent Dissatisfied
 - 025. Percent No Opinion
- F. Satisfaction with the Condition of the Streets.
- 026. Percent Satisfied
 - 027. Percent Dissatisfied
 - 028. Percent No Opinion
- G. Satisfaction with the Condition of the Houses and Apartments (in text, termed as "Satisfaction with Housing Condition").
- 029. Percent Satisfied
 - 030. Percent Dissatisfied
 - 031. Percent No Opinion
- H. Satisfaction with the Amount of Traffic on the Street.
- 032. Percent Satisfied
 - 033. Percent Dissatisfied
 - 034. Percent No Opinion

I. Satisfaction with Personal Safety in this Neighborhood.

- 035. Percent Satisfied
- 036. Percent Dissatisfied
- 037. Percent No Opinion

J. Satisfaction with Garbage Collection

- 038. Percent Satisfied
- 039. Percent Dissatisfied
- 040. Percent No Opinion

K. Satisfaction with One's Own Home. The question was phrased as, "Taking all things into consideration, are you satisfied or dissatisfied with your present house/apartment?"

- 041. Percent Satisfied

There were expectedly high levels of correlation among the different satisfaction/dissatisfaction responses. However, for the purposes of the analyses, only a few of the questions were pertinent.

III. Locally Generated Data

A. Population Density

- 042. Gross Population Density
- 043. Net Population Density

Gross population density simply equals persons per square mile; net population density equals persons per adjusted square mile. Population is from the 1970 Census, and area size is from Cleveland City Planning Commission records. For area used in the "net" measure, the author subtracted from the total size of each area large amounts of purely nonresidential land, such as cemeteries, industrial land, airports and very large commercial/office areas. It is by no means a perfect measure of population density but it more closely approximates conditions of actual density than the gross measure. For example, about a third of one planning area consists of the City's major airport and this land certainly cannot be considered as being freely usable to area residents; about 85% of another area contains only factories; and the Downtown area contains only small, scattered areas containing residences. Net population density was found to have far greater correlations with other variables than gross population density.

B. Crime Statistics

All 1970 crime figures were obtained from the Cleveland Department of Safety, which tabulates reported crime on a census tract basis. For the rate basis, population is from the 1970 Census, and area is from City Planning records. Nonresidential areas are included in all "Crime per Square Mile" figures for all planning areas, except Riverside, which contains the airport. The airport, with its own crime records, was omitted from the analysis.

"Violent" crime consists of reported crimes committed against individuals: murder, rape, robbery and assault. "Property" crimes involve the theft of property: breaking and entering, larceny and auto theft.

Murder is the criminal act of taking a person's life; it does not include justifiable homicide by either citizens or policemen and traffic manslaughter. Rape consists of major sexual abuse of a person; it does not include statutory rape and certain cases of child molestation. Robbery consists of both the armed and unarmed use of force in depriving an individual of his property. Assault includes both simple and aggravated assault, being simply all types of criminally injuring a person. Breaking and entering consists of unlawful entry into a residence or business for the purpose of theft. Larceny is a very broad classification of property crime, and, essentially, it consists of all types of theft or destruction of property that do not involve unlawful entry into a building; examples are shoplifting, vandalism, embezzlement, and stealing property from an automobile. Auto theft is self-defining.

The violent crime totals (Total Weighted Violent Crime, Estimated Street Violent Crime and Estimated Weighted Street Violent Crime) are derived from concepts developed in efforts by the Cleveland Community Renewal Program to more realistically allocate police patrol cars on the basis of preventable crime. These totals were adjusted for the incidence of nonreporting and for the importance that people attach to various crime types.

1. Crimes per 1,000 Population

- 044. Murder
- 045. Rape
- 046. Robbery
- 047. Assault
- 048. Breaking and Entering
- 049. Larceny
- 050. Auto Theft

2. Crimes per Square Mile

- 051. Murder
- 052. Rape
- 053. Robbery
- 054. Assault
- 055. Breaking and Entering
- 056. Larceny
- 057. Auto Theft

3. Aggregations of Violent Crime

- 058. Total Weighted Violent Crime per 1,000 Population
- 059. Total Weighted Violent Crime per Square Mile
- 060. Estimated Street Violent Crime per 1,000 Population
- 061. Estimated Street Violent Crime per Square Mile
- 062. Estimated Weighted Street Violent Crime per 1,000 Population
- 063. Estimated Weighted Street Violent Crime per Square Mile

C. Police Department Workloads

The following ratios attempt to measure indirectly various workloads of patrol cars in each planning area. Unfortunately, these measures are probably too indirect as low correlations were found between these variables and other variables, especially satisfaction with police protection. Part of the problem is that the measures do not account for the amount of time that a police car must spend at the scene of a crime. Another problem is that a zone car may be shifted to another zone in case of a very serious problem, such as a shootout, leaving the zone without a patrol car for varying amounts of time. However, the Police Department in Cleveland has used such measures for the allocation of patrol cars.

- 064. Ratio of Population to Police Coverage
- 065. Ratio of Violent Crime to Police Coverage
- 066. Ratio of Property Crime to Police Coverage
- 067. Ratio of Total Crime to Police Coverage

D. Fire Statistics

The numbers of different types of fire were obtained from the Department of Safety, which keeps such data on a zone basis. The zones are not perfectly compatible with census tracts or planning areas, and so estimates had to be made in some cases for some areas. For the rates given, area was obtained from City Planning records;

housing units are from the 1970 U.S. Census.

- 068. Fires per 1,000 One-Family Structures
- 069. Fires per 1,000 Two-Family Structures
- 070. Fires per Square Mile
- 071. Vacant Property Fires per Square Mile
- 072. Rubbish Fires per Square Mile

IV. Housing Data from the 1970 United States Census

A. Tenure and Vacancy Status

- 073. Percent of Units Owner-Occupied
- 074. Percent of Units Vacant
- 075. Percent of Units Vacant, Available for Sale or Rent
- 076. Percent of Units Vacant, Not Available for Sale or Rent

B. Availability of Facilities

- 077. Percent of Units Lacking Complete Plumbing Facilities
- 078. Percent of Units Lacking Complete Kitchen Facilities

These measures generally showed low correlations with all other variables. Part of the problem is that many units lacking such facilities were vacant.

C. Measures of Crowding

- 079. Percent of Occupied Units with 1.00 or Less Persons per Room
- 080. Percent of Occupied Units with 1.01 - 1.50 Persons per Room
- 081. Percent of Occupied Units with 1.51 or More Persons per Room
- 082. Percent of Occupied Units with 1.01 or More Persons per Room and Lacking Complete Plumbing Facilities

D. Measures of Age of Structure

- 083. Percent of Units Built in 1969 and 1970
- 084. Percent of Units Built 1965 to 1968
- 085. Percent of Units Built 1960 to 1964
- 086. Percent of Units Built 1950 to 1959
- 087. Percent of Units Built 1940 to 1949
- 088. Percent of Units Built Before 1940
- 089. Ratio of Total Number of Units Built after 1960 to Total Number Built before 1960
- 090. Ratio of Total Number of Units Built Between 1940 and 1959 to Total Number Built before 1940
- 091. Median Age of Units

All measures of age showed relatively low or no correlations with other variables, particularly housing condition. This is partially due to the fact that age alone does not account for condition or value; upkeep, initial cost of the unit, and structural types are more important.

E. Quality of Heat

092. Percent of Units with Poor or No Heating Facilities.

This variable scored low correlations with most all other variables.

F. Rents and Home Values

093. Median Contract Rent 094. Mean Contract Rent

"Contract" rent does not include the cost of utilities.

095. Mean Value of Owner-Occupied One-Family Homes on a lot of less than 10 Acres.

V. Locally Generated Measures of Housing Values

A. In 1971 the author tabulated the mean sale price of one-family homes in each census tract. The data for this was supplied by Realty Data Service of Cleveland, Inc.

096. 1970 Mean Sale Price of One-Family Homes.

VI. Locally Generated Measures of Housing Condition

A. In 1969 a 100% survey of the condition of all structures in Cleveland was undertaken by the Cleveland Community Renewal Program. The data for each planning area was tabulated from computer printouts showing the numbers of residential units in various types of condition for each census tract. The measures are of exterior condition only.

097. Percent of Units in Standard Condition

A structure in standard condition is free from any obvious defects.

098. Percent of Units in Substandard Minor Condition

Such a unit possesses minor defects that can be corrected in the course of normal maintenance and do not require large expense to repair. Examples are cracked window panes, cracked porch steps, broken screens, small cracks in the foundation, etc.

099. Percent of Units in Substandard Major Condition

Such units possess major defects that require major expenses, or may possess a multitude of minor defects. Such a unit must be economically capable of restoration to standard condition. Such a unit, if other conditions are met, may be eligible for governmental assistance for repair costs. Examples of major defects include badly cracked foundations, holes of less than three square feet in an outside wall, badly deteriorating chimneys, missing windows, missing doors, etc.

100. Percent of Units in Dilapidated Condition

Such units possess major defects that make it such that the unit cannot be restored to standard condition in economic terms (i.e., the cost of demolition and replacement nearly equals or is less than the cost of restoration). Units of inadequate construction, such as tin cans, tarpaper, etc. are classified as dilapidated. A major defect might be a collapsed foundation, tilted outside walls, or extensive fire damage. Such a unit is generally unsafe for human habitation.

101. Percent of Units in Substandard Major and Dilapidated Condition

VII. Housing Data from the Two Percent Household Survey

A. Values of Owner-Occupied Homes

Similarly to the Census Bureau's practices, owners were asked the value of their homes.

102. Median House Value

103. Mean House Value

It should be noted that rents were not used in the analysis. This was because several planning areas had very few or no rental units in the survey (some areas have over 90% owner-occupancy rates).

B. Measures of Condition as Assessed by the Occupant

104. Percent of Units Sound and Weathertight

105. Percent of Units with a Complete and Private Bathroom

106. Percent of Units with a Complete and Private Kitchen

107. Percent of Units with Adequate Central Heat

108. Percent of Units with Adequate Space Heat

- 109. Percent of Units with Clear Outside Entry, Free from Structural Hazards and Obstructions
- 110. Percent of Units with Two Means of Exit
- 111. Percent of Units with No Rats or Mice
- 112. Percent of Units with Electric Outlets and Lighting Facilities in Working Order

C. Measures of Condition as Assessed by the Interviewer

The measures of condition are almost identical to those described in VI.A. However, if interior defects were reported or observed, these were accounted for in the rating. For example, a house with no apparent exterior defects but in which the occupant had reported dangerous wiring would be rated as Substandard Major. The interior defect would be rated as minor or major in terms of the cost of repair as well as its factor in the safety of the occupants.

- 113. Percent of Units in Standard Condition
- 114. Percent of Units in Substandard Minor Condition
- 115. Percent of Units in Substandard Major or Dilapidated Condition

APPENDIX II
SURVEY QUESTIONNAIRE

As the questionnaire is very long (over 11 pages) and only a few parts of it were used for the thesis, only those questions relevant to the thesis are reproduced here.

(NOTE) An address was always recorded on each interview sheet. From this it was always possible to identify the census tract, and thereby, the statistical planning area.

4. TENURE: Is your home here --
Owned or being bought by you or someone
else in your household?.....1
A cooperative or condominium which is owned
or being bought by you or someone else in
your household?.....2
Rent for cash?.....3
Occupied without payment of cash rent?
(rent free).....4

(Ask this question if a "1" or "2" on Question 4 is recorded)

- 4A. What is the value of this home, that is, how much do you
think your home would sell for, if it were for sale?

\$ _____
Value of home

(Ask this question if "3" or "4" on Question 4 is recorded)

- 4B. If the rent payment is made by the month,
what is the monthly rent?

\$ _____
Monthly rent

- 4C. If the rent payment is not made by the
month, what is the rent charge?

\$ _____
Rent Charge

IF RENT PAYMENT NOT BY MONTH, ASK:

- 4D. What period does it cover?

Period Covered

5. HOUSING CONDITION:

- A. Is the building sound and weathertight?

YES...1
NO...2

- B. Is the bathroom fully equipped and for the exclusive use of the household? YES...1
NO...2
- C. Is the kitchen fully equipped and for the exclusive use of the household? YES...1
NO...2
- D. Is adequate central () heat provided? YES...1
space () NO...2
- E. Are stairs, porches, entrances, and any public spaces free of structural hazards or obstructions? YES...1
NO...2
- F. Are there two means of exit? YES...1
NO...2
- G. Is this building free of rats or mice? YES...1
NO...2
- H. Are electric outlets and lighting facilities in working order? YES...1
NO...2

FOR THE INTERVIEWER:

I. I find the unit to be --

- Standard or better.....1
Substandard Minor.....2
Substandard Major.....3
Dilapidated.....4

NOTE: If substandard (minor or major) or dilapidated, explain: (Seven lines of space were provided on the questionnaire).

6F. Total number in household _____

18. Taking all things into consideration, are you satisfied or dissatisfied with your present house/apt.? SATISFIED.....1
DISSATISFIED...2
NO OPINION.....3
27. Taking all things into consideration, are you satisfied or dissatisfied with this neighborhood? SATISFIED.....1
DISSATISFIED...2
NO OPINION.....3

28. Would you please tell me whether you are satisfied or not satisfied with the following things about this neighborhood?

(CIRCLE ONE CODE NUMBER ON EACH LINE FOR EACH QUESTION WHERE IT APPLIES)

<u>Question 28</u>			
	<u>Satis- fied</u>	<u>Not Satis- fied</u>	<u>No Opin.</u>
a. quietness of the neighborhood?	1	2	3
b. kind of people who live in the neighborhood?	4	5	6
c. cleanliness of the neighborhood?	7	8	9
d. police protection?	1	2	3
e. condition of the streets?	4	5	6
f. condition of the houses and apartments?	7	8	9
g. amount of traffic on the street?	1	2	3
h. quality of public schools in this neighborhood?	4	5	6
i. personal safety in this neighborhood?	7	8	9
j. garbage collection?	1	2	3
k. playgrounds?	4	5	6
l. public transportation?	7	8	9

(INTERVIEWEE WAS SHOWN A CARD WITH DOLLAR FIGURES ON IT CORRESPONDING TO INCOME FIGURES BELOW)

- 47B. Which of the following income groups comes closest to your total annual family income? Just give me the letter of the group, not the amount.
- | | |
|---|---------------------|
| A | UNDER \$3,000....1 |
| B | \$3,000-3,499....2 |
| C | \$3,500-3,999....3 |
| D | \$4,000-4,499....4 |
| E | \$4,500-4,999....5 |
| F | \$5,000-5,499....6 |
| G | \$5,500-5,999....7 |
| H | \$6,000-7,999....8 |
| I | \$8,000-9,999....9 |
| J | \$10,000-15,000...0 |
| K | Over \$15,000....X |
| | DON'T KNOW, |
| | REFUSED.....Y |

(NOTE: The following question was checked off by the interviewer and was not asked of the respondent)

53. Respondent's race WHITE....1
 NON-WHITE....2

APPENDIX III

STATISTICAL PLANNING AREAS
OF CLEVELAND:

DESCRIPTIVE TABLES AND MAPS

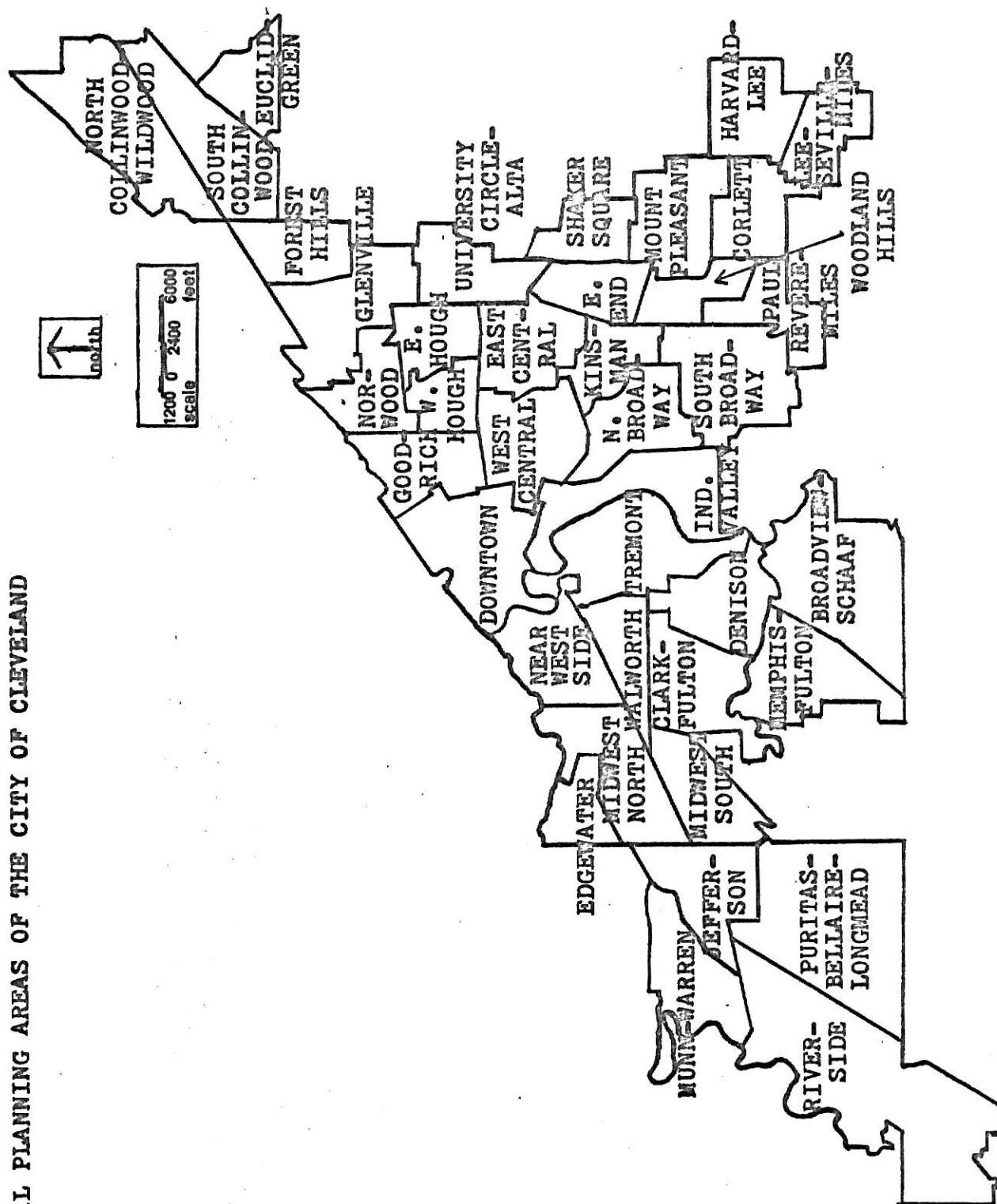
PLANNING AREA	1970 POP.	1970 RACIAL COMPOSITION		
		Percent White	Percent Black	Percent Other
1. N. Collinwood-Wildwood	22,439	96.94%	2.75%	.32%
2. South Collinwood	22,359	76.41	23.01	.58
3. Euclid-Green	9,185	97.60	1.22	1.18
4. Forest Hills	26,842	2.44	97.16	.40
5. Glenville	51,857	4.05	95.57	.38
6. Norwood	21,910	74.66	24.53	.81
7. Goodrich	7,966	95.34	2.30	2.36
8. Western Hough	20,070	6.14	93.44	.42
9. Eastern Hough	25,417	6.79	92.75	.46
10. Univ. Circle-Alta	12,804	72.13	25.52	2.35
11. East Central	25,663	6.17	93.43	.40
12. West Central	25,347	9.54	89.77	.69
13. Kinsman	11,855	9.16	90.38	.46
14. East End	14,676	60.13	38.97	.90
15. Shaker Square	18,496	71.88	27.10	1.02
16. Woodland Hills	14,648	32.09	67.46	.45
17. Mount Pleasant	33,613	4.37	95.23	.40
18. Harvard-Lee	15,964	7.86	91.81	.33
19. Lee-Seville-Miles	5,987	2.00	97.63	.37
20. Corlett	21,034	20.77	78.75	.48
21. Paul Revere-Miles	13,272	84.52	15.12	.36
22. South Broadway	25,455	99.41	.41	.18
23. North Broadway	13,424	97.96	1.44	.60
24. Industrial Valley	3,150	99.11	.06	.83
25. Downtown	6,530	72.47	24.33	3.20
26. Near West Side	23,802	93.62	4.57	1.81
27. Midwest North	24,274	98.57	.15	1.28
28. Edgewater	10,772	98.64	.19	1.17
29. Midwest South	21,964	99.46	.08	.46
30. Walworth	15,655	98.77	.34	.89
31. Tremont	16,393	95.77	3.25	.98
32. Denison	20,057	98.41	.55	1.04
33. Clark-Fulton	21,154	99.63	.01	.36
34. Memphis-Fulton	18,343	99.78	.03	.19
35. Broadview-Schaaf	24,896	99.56	.08	.36
36. Jefferson	19,409	99.52	.02	.46
37. Munn-Warren	12,983	99.22	.02	.75
38. Puritas-Bellaire	26,846	91.65	8.01	.34
39. Riverside	24,392	99.18	.40	.42
Total Cleveland City	750,903	61.00	38.33	.67

PLANNING AREA	1970 NET POPULATION DENSITY*	1970 MEDIAN FAMILY INCOME	1970 AVERAGE HOUSEHOLD SIZE
1. N. Collinwood-Wildwood	9,929	\$10,588	2.57
2. South Collinwood	17,887	9,326	2.93
3. Euclid-Green	11,481	10,617	2.48
4. Forest Hills	28,255	8,661	3.55
5. Glenville	25,420	7,509	3.40
6. Norwood	23,559	8,524	2.94
7. Goodrich	18,105	7,875	2.62
8. Western Hough	23,893	4,454	3.24
9. Eastern Hough	24,207	5,266	2.95
10. Univ. Circle-Alta	23,280	7,852	2.28
11. East Central	21,209	6,012	2.62
12. West Central	19,058	4,605	2.76
13. Kinsman	21,170	5,277	3.19
14. East End	14,676	8,422	2.72
15. Shaker Square	17,449	9,897	2.19
16. Woodland Hills	17,863	9,095	3.40
17. Mount Pleasant	17,149	8,494	3.07
18. Harvard-Lee	10,299	12,642	3.52
19. Lee-Seville-Miles	10,885	10,980	3.65
20. Corlett	17,676	9,622	3.43
21. Paul Revere-Miles	15,433	9,733	3.16
22. South Broadway	14,974	9,382	2.89
23. North Broadway	17,899	9,155	2.97
24. Industrial Valley	17,500	9,217	3.25
25. Downtown	22,517	7,372	1.74
26. Near West Side	28,677	7,143	2.90
27. Midwest North	20,926	9,779	2.96
28. Edgewater	16,321	10,513	2.37
29. Midwest South	16,270	10,495	3.01
30. Walworth	16,833	8,431	3.27
31. Tremont	16,072	7,659	3.05
32. Denison	18,745	9,364	2.97
33. Clark-Fulton	16,923	9,345	2.99
34. Memphis-Fulton	13,009	10,642	2.86
35. Broadview-Schaaf	9,086	10,618	2.86
36. Jefferson	14,704	10,755	2.89
37. Munn-Warren	7,682	12,750	2.97
38. Puritas-Bellaire	10,446	11,128	3.25
39. Riverside	6,738	11,361	3.37
Total Cleveland City	15,732	9,107	2.97

*Persons per square mile. Large nonresidential sections omitted from computations.

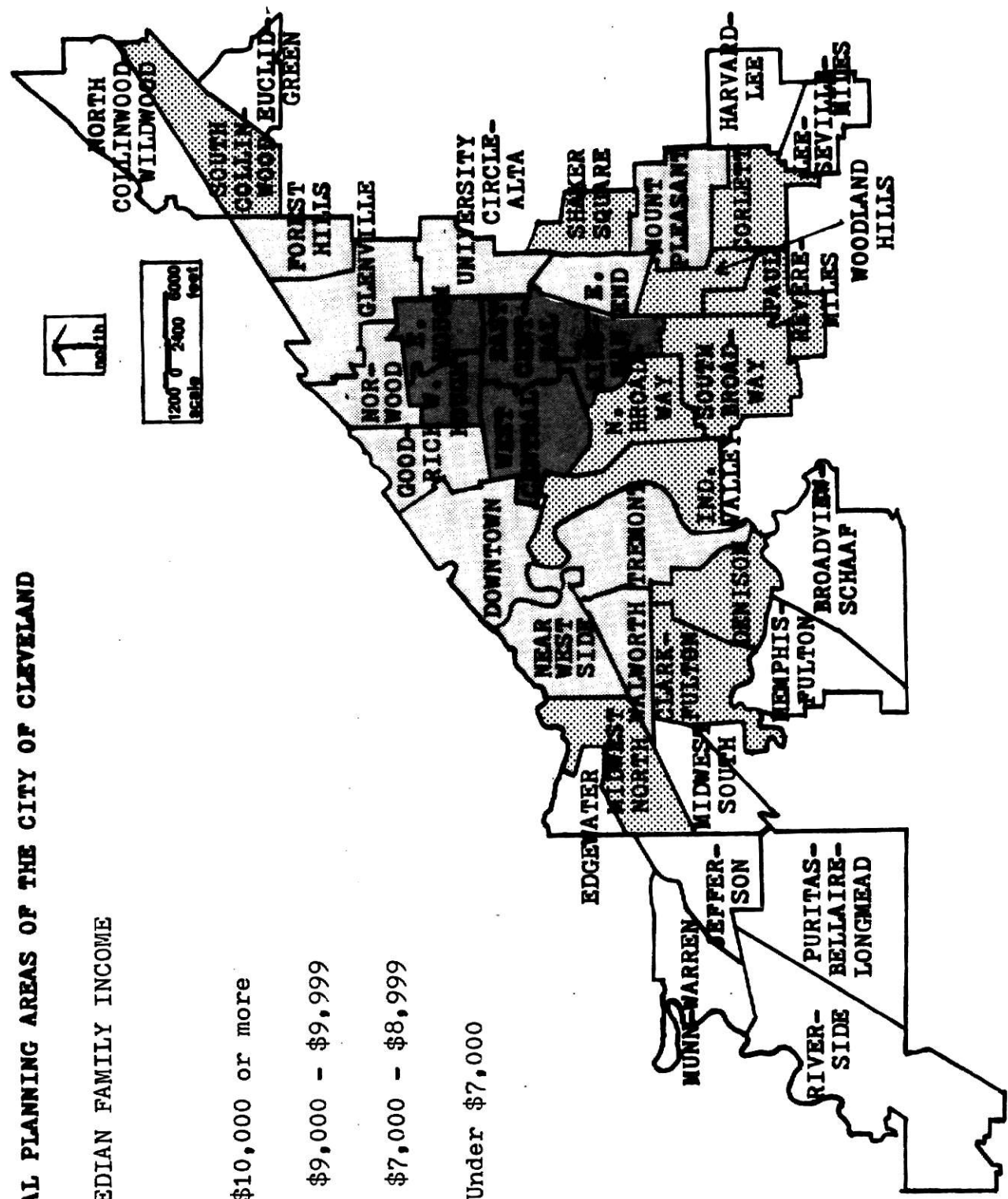
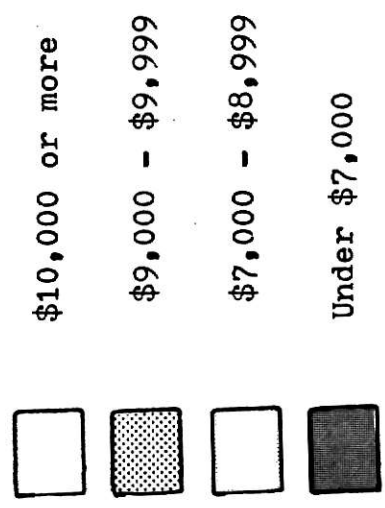
PLANNING AREA	1970 SELECTED ENVIRONMENTAL CONDITIONS			
	FIRES PER SQUARE MILE	WEIGHTED VIOLENT CRIME PER 1000 POP	PERCENT HOUSING UNITS SUBST. DILAP. COND.	PERCENT HOUSING UNITS WITH RATS OR MICE
1. N. Collinwood-Wildwood	57.24	7.67	.38%	1.82%
2. South Collinwood	68.37	16.33	.43	10.20
3. Euclid-Green	39.94	4.86	.16	1.92
4. Forest Hills	200.40	20.86	2.83	15.38
5. Glenville	193.22	30.52	5.19	13.50
6. Norwood	141.70	23.99	.76	6.09
7. Goodrich	182.56	31.97	4.14	27.50
8. Western Hough	579.65	71.05	20.15	34.65
9. Eastern Hough	377.00	55.10	8.08	19.23
10. Univ. Circle-Alta	162.79	36.55	5.32	6.98
11. East Central	253.29	59.06	6.49	31.97
12. West Central	260.24	62.87	33.68	29.93
13. Kinsman	194.71	38.11	20.48	31.58
14. East End	92.13	28.14	.49	14.29
15. Shaker Square	88.27	15.18	.18	13.76
16. Woodland Hills	106.05	28.86	1.33	12.50
17. Mount Pleasant	100.28	24.29	.46	14.97
18. Harvard-Lee	65.87	15.96	.07	.00
19. Lee-Seville-Miles	65.76	10.17	4.25	.00
20. Corlett	65.93	20.29	.51	2.15
21. Paul Revere-Miles	80.77	9.72	1.02	1.79
22. South Broadway	85.74	8.71	1.37	5.97
23. North Broadway	152.33	16.65	.36	4.48
24. Industrial Valley	60.90	19.84	1.28	8.33
25. Downtown	161.79	15.39	.97	39.13
26. Near West Side	213.06	20.12	18.64	7.21
27. Midwest North	123.08	9.55	1.01	3.20
28. Edgewater	123.08	7.05	.19	6.15
29. Midwest South	132.76	6.19	2.46	.87
30. Walworth	174.77	11.96	15.88	13.10
31. Tremont	142.90	13.69	4.10	16.67
32. Denison	76.75	5.74	.88	7.22
33. Clark-Fulton	89.51	7.15	1.05	1.90
34. Memphis-Fulton	35.01	3.40	.05	.00
35. Broadview-Schaaf	47.88	3.61	.06	3.12
36. Jefferson	28.40	4.63	.12	.93
37. Munn-Warren	24.43	2.31	.39	.00
38. Puritas-Bellaire	40.23	3.63	.35	.74
39. Riverside	24.43	1.29	.03	.82
Total Cleveland City	111.15	22.20	3.07	10.75

STATISTICAL PLANNING AREAS OF THE CITY OF CLEVELAND



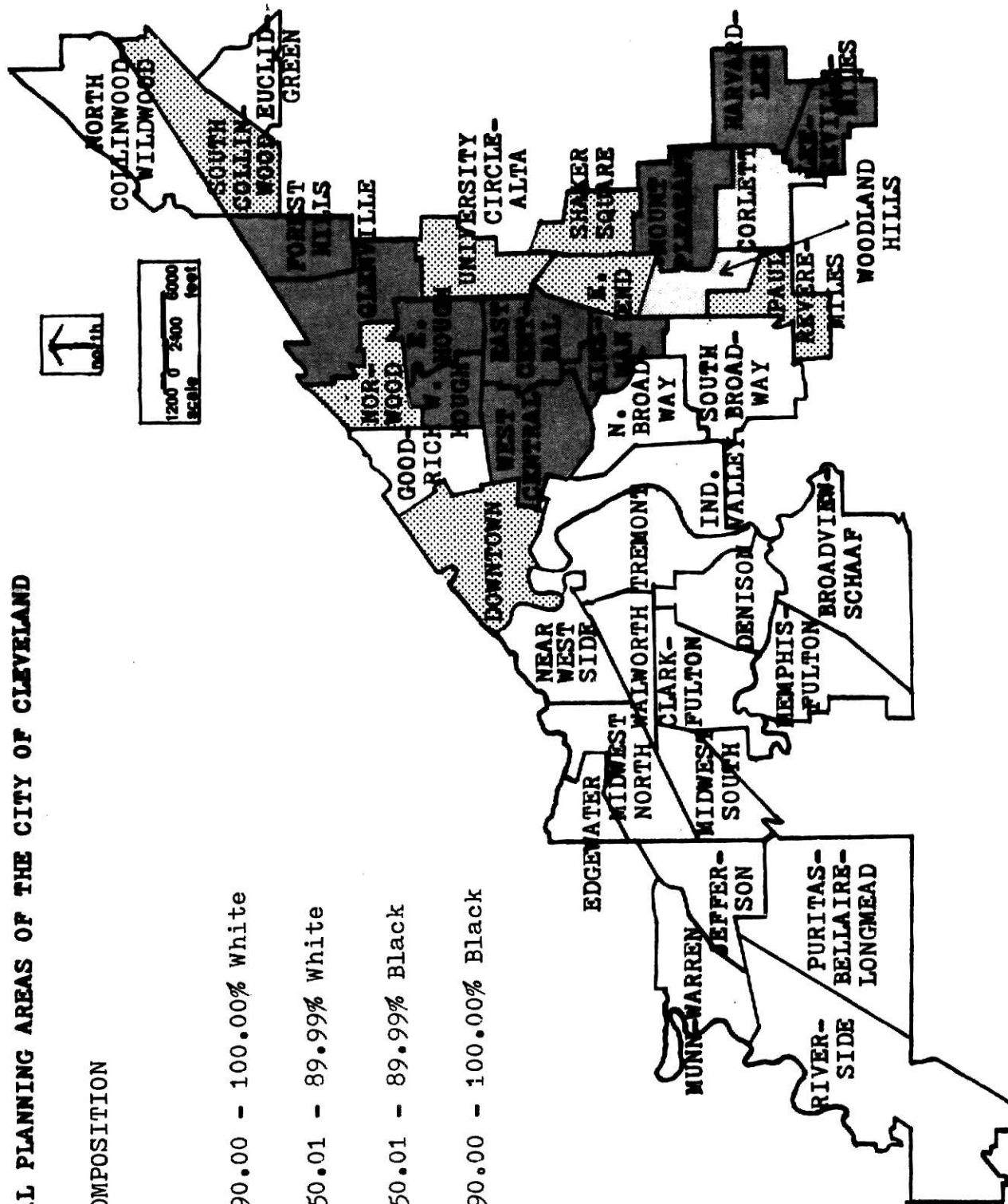
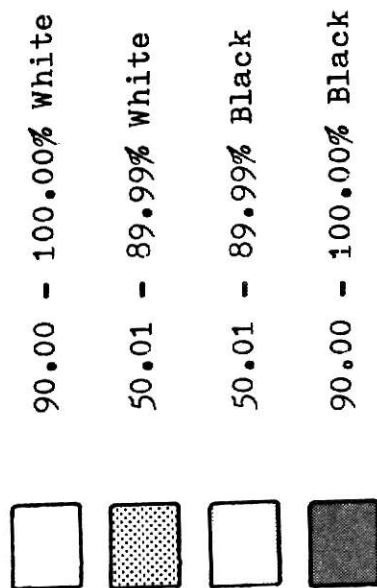
STATISTICAL PLANNING AREAS OF THE CITY OF CLEVELAND

ANNUAL MEDIAN FAMILY INCOME



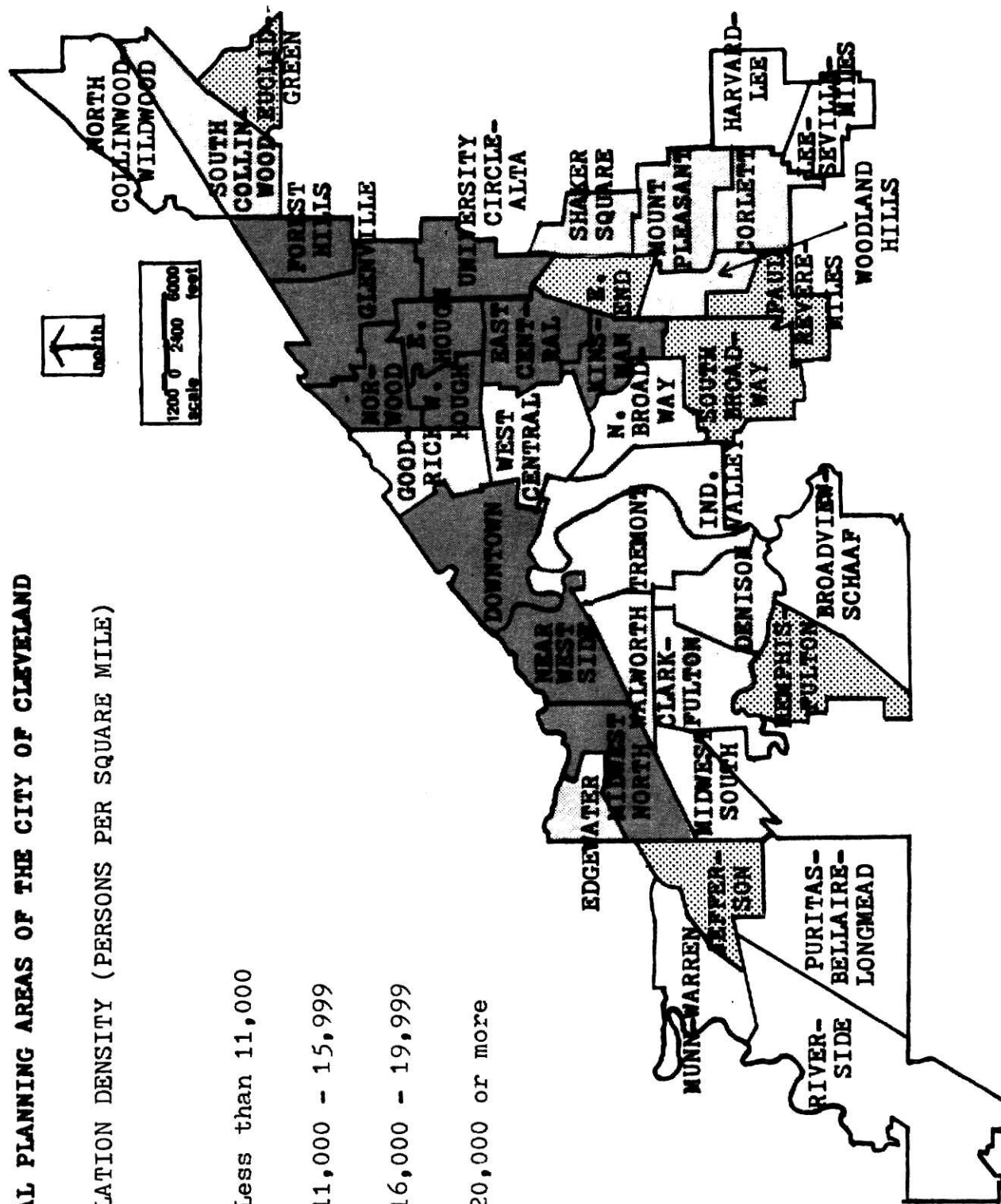
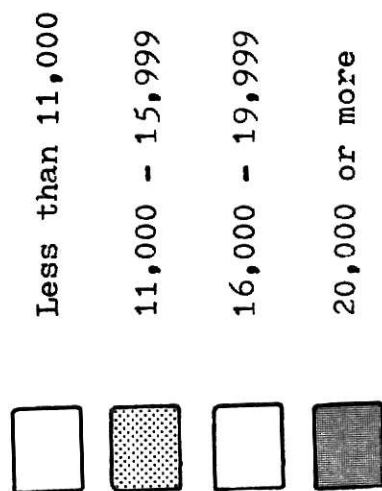
STATISTICAL PLANNING AREAS OF THE CITY OF CLEVELAND

RACIAL COMPOSITION



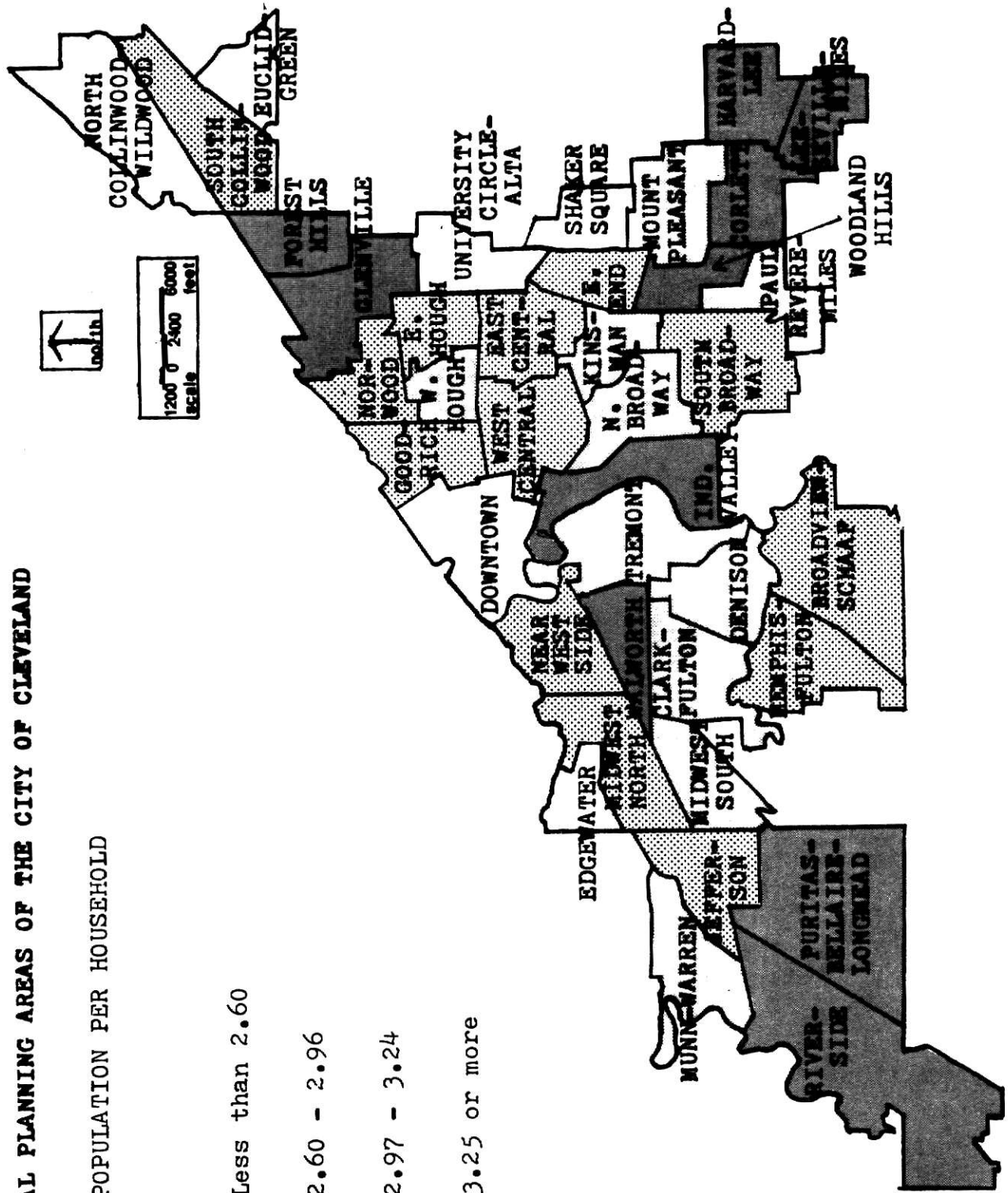
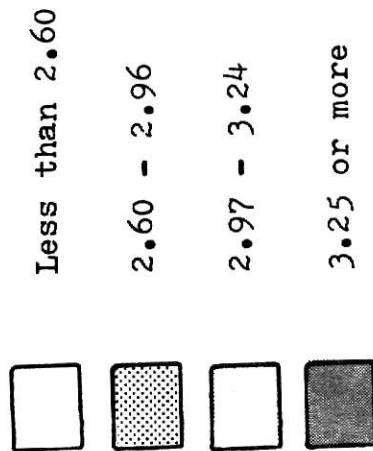
STATISTICAL PLANNING AREAS OF THE CITY OF CLEVELAND

NET POPULATION DENSITY (PERSONS PER SQUARE MILE)



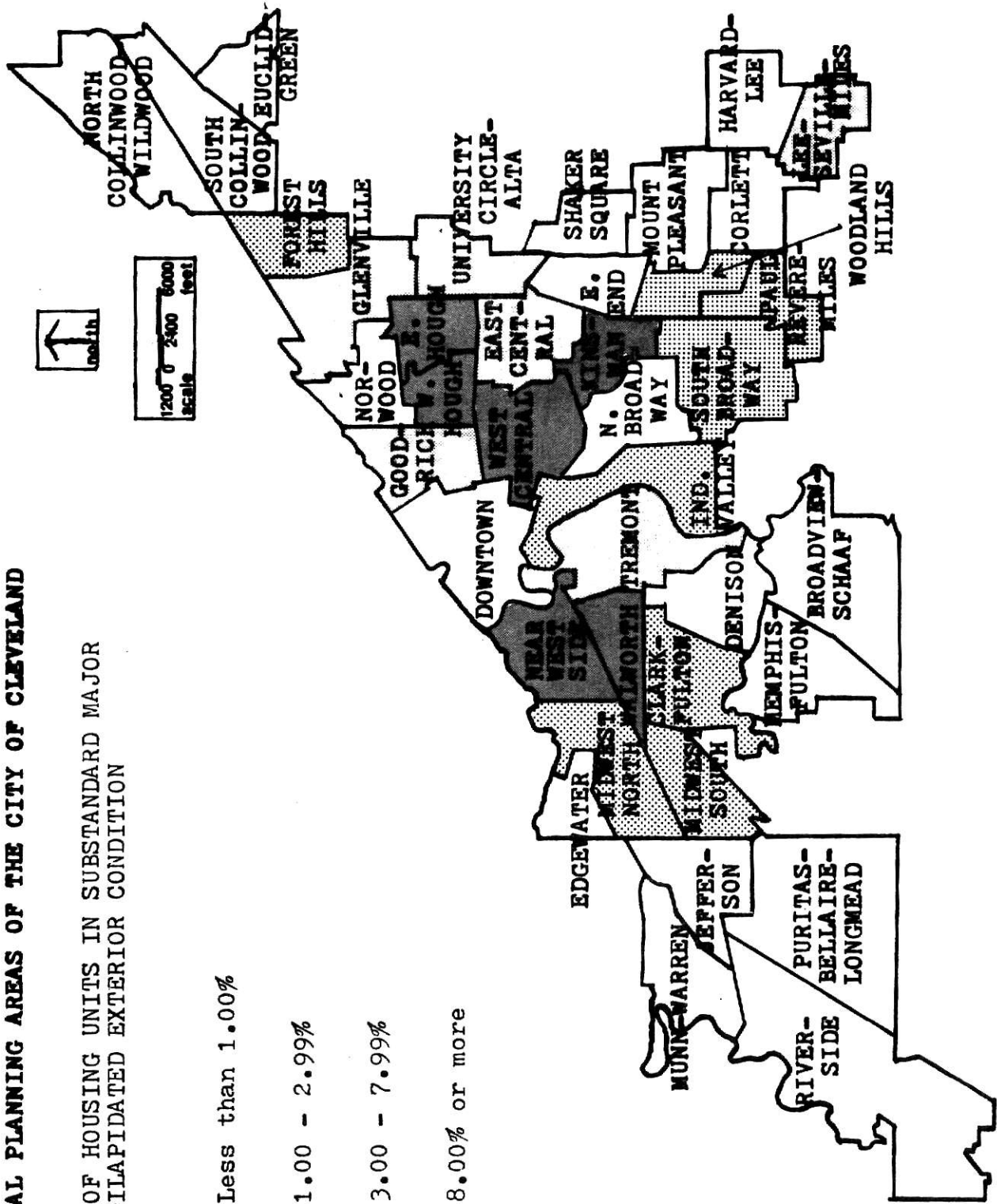
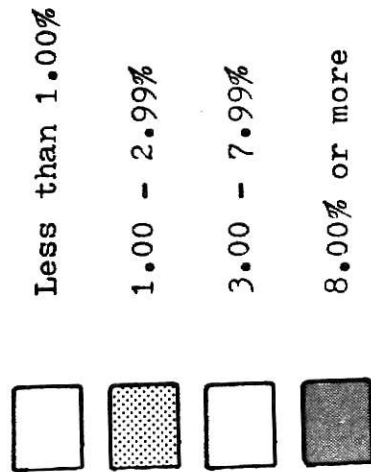
STATISTICAL PLANNING AREAS OF THE CITY OF CLEVELAND

AVERAGE POPULATION PER HOUSEHOLD



STATISTICAL PLANNING AREAS OF THE CITY OF CLEVELAND

PERCENT OF HOUSING UNITS IN SUBSTANDARD MAJOR
AND DILAPIDATED EXTERIOR CONDITION



APPENDIX IV

TWO PERCENT HOUSEHOLD SURVEY:

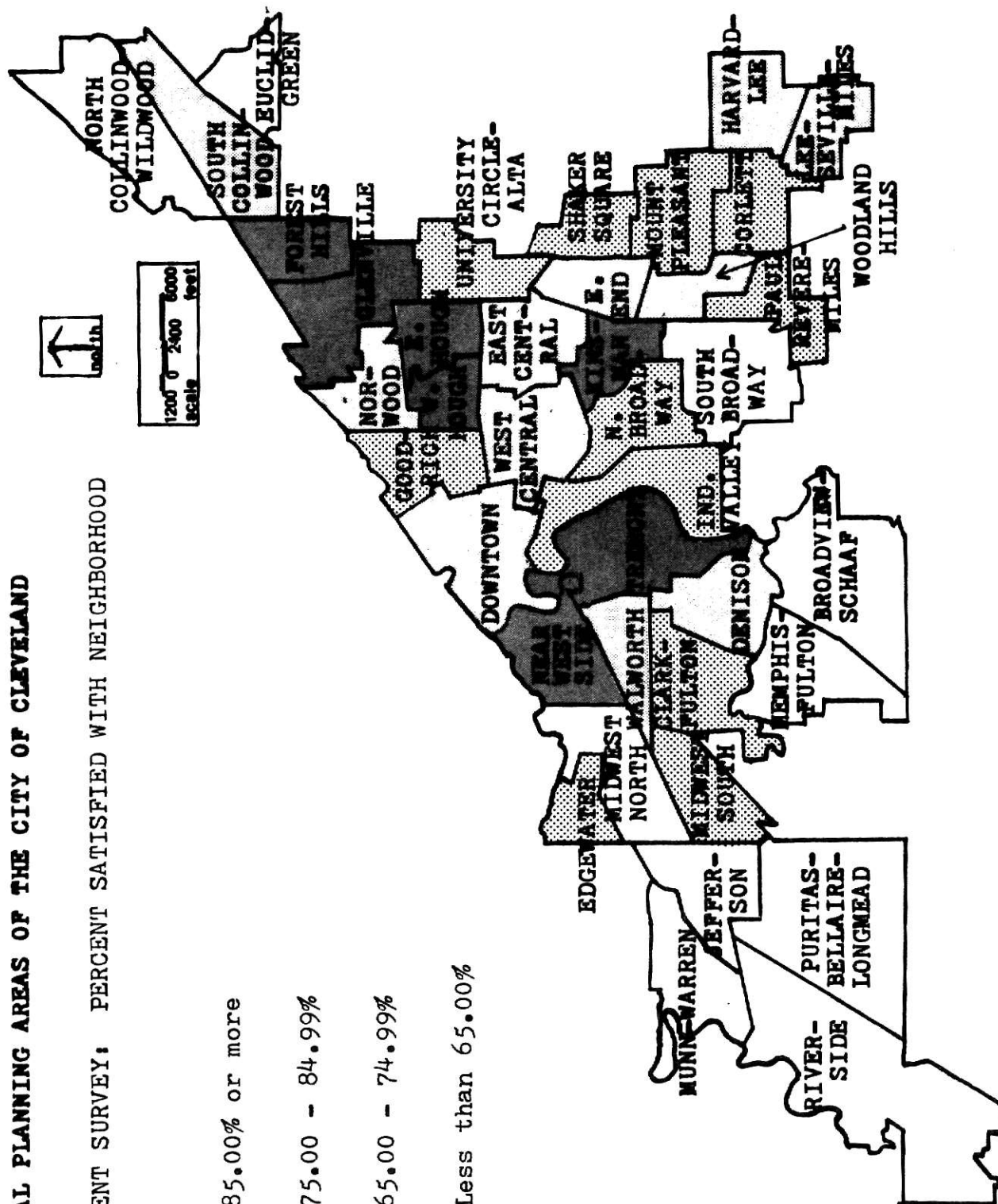
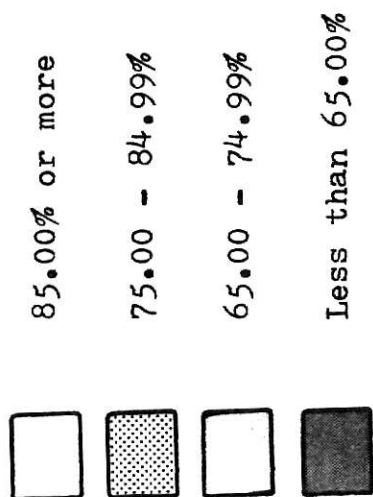
SELECTED RESULTS

BY

STATISTICAL PLANNING AREA

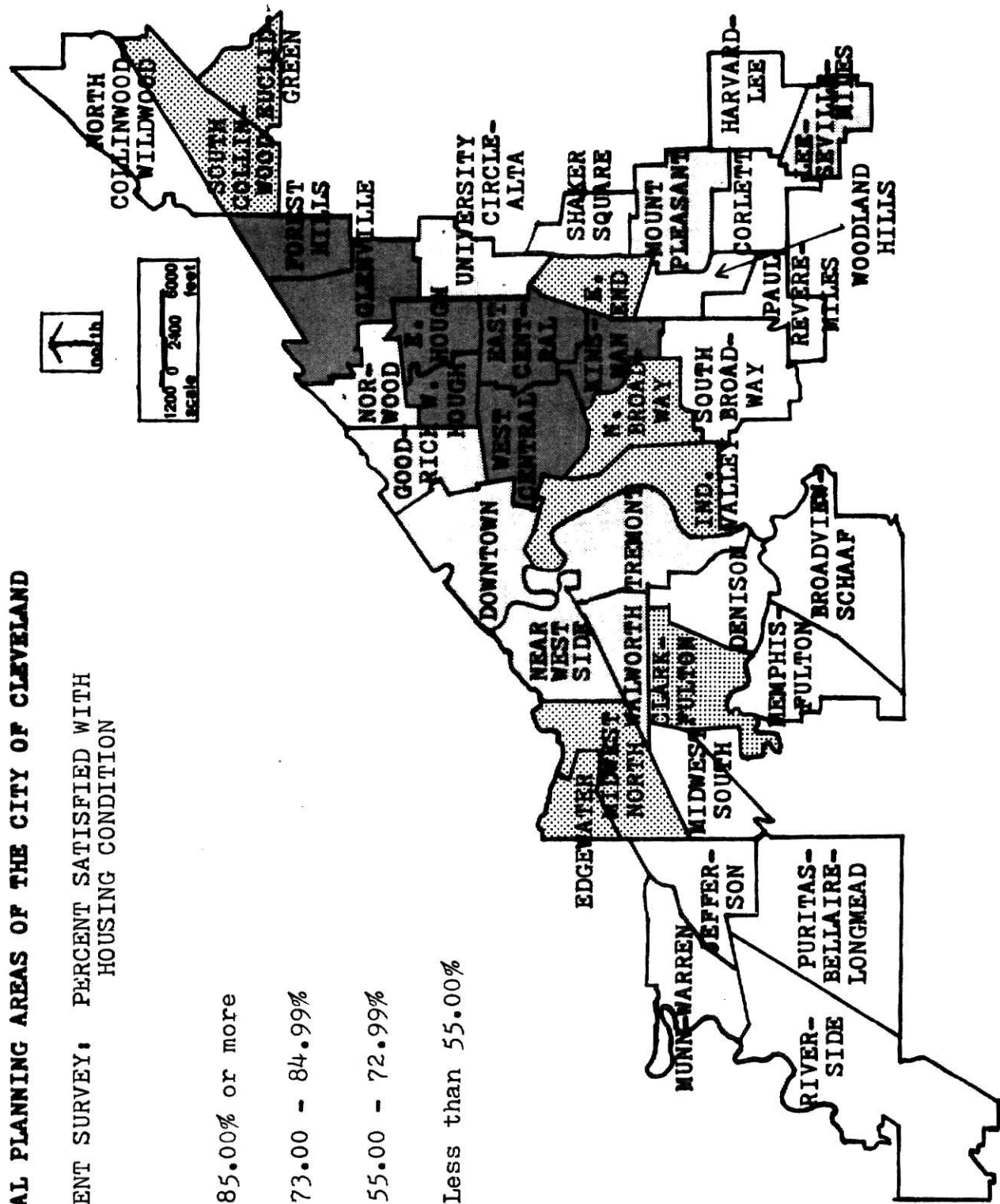
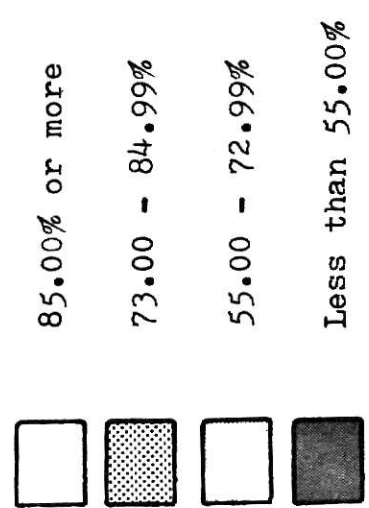
STATISTICAL PLANNING AREAS OF THE CITY OF CLEVELAND

TWO PERCENT SURVEY: PERCENT SATISFIED WITH NEIGHBORHOOD



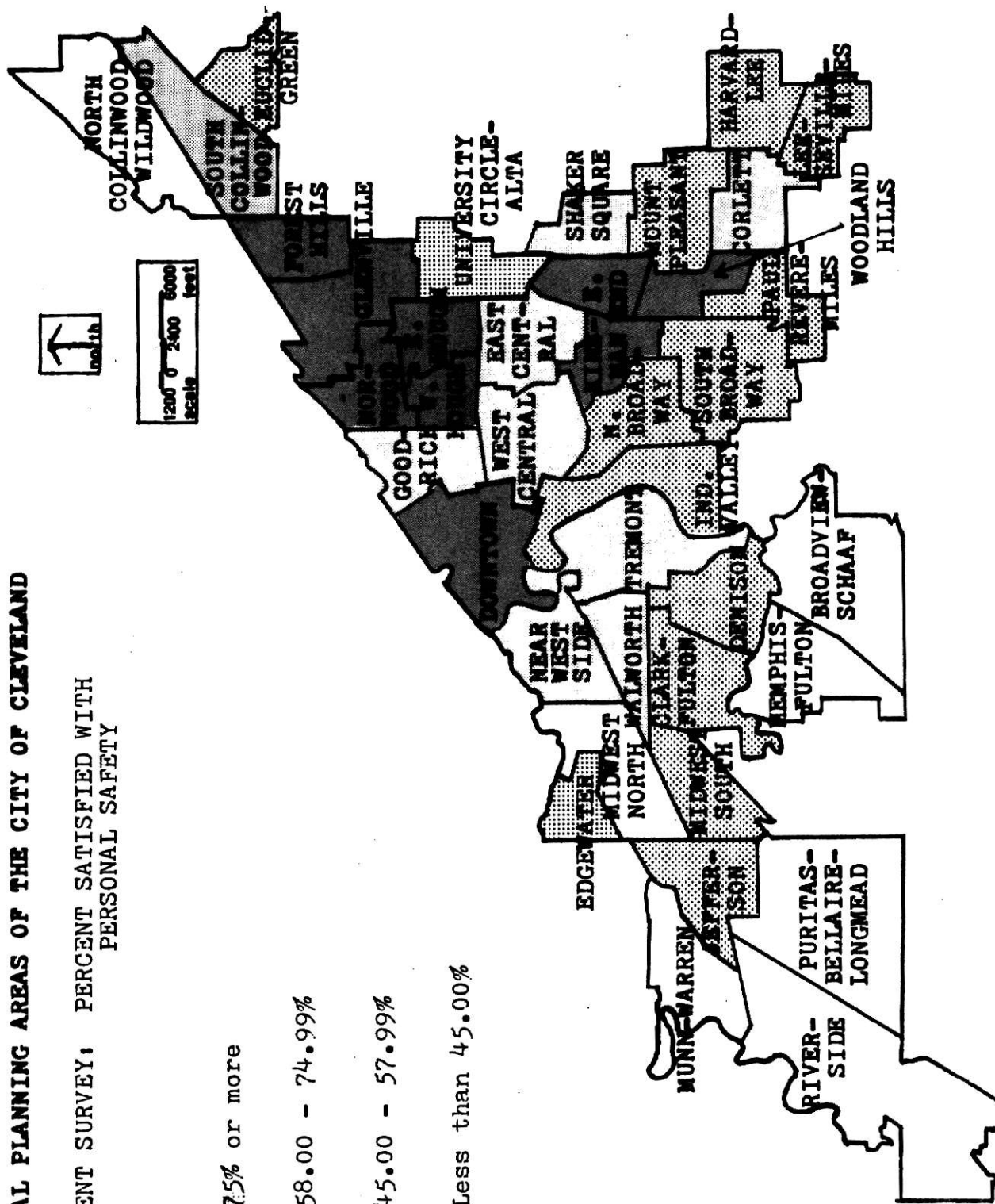
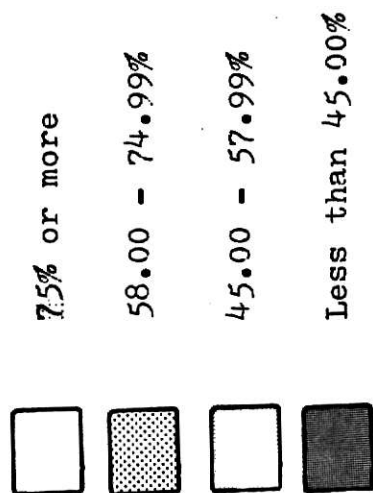
STATISTICAL PLANNING AREAS OF THE CITY OF CLEVELAND

TWO PERCENT SURVEY: PERCENT SATISFIED WITH HOUSING CONDITION



STATISTICAL PLANNING AREAS OF THE CITY OF CLEVELAND

TWO PERCENT SURVEY: PERCENT SATISFIED WITH
PERSONAL SAFETY



RESIDENTIAL SATISFACTION WITH THE LIVABILITY
OF URBAN NEIGHBORHOODS

by

SCOTT ALAN MILLS

B. A., Case Western Reserve University, 1970

AN ABSTRACT OF A MASTER'S THESIS

submitted in partial fulfillment of the

requirements for the degree

MASTER OF REGIONAL AND COMMUNITY PLANNING

Department of Regional and Community Planning

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1975

ABSTRACT

Residential satisfaction with the quality of neighborhoods, measures of which can be obtained from sample surveys, can be used in the planning process to help formulate neighborhood goals and objectives and to help set geographic areas of priority for action. The "livability" of neighborhoods can also be used in the planning process but the concept of livability varies with each individual, and measurements of livability may never pass the hypothetical stages. Satisfaction is not necessarily synonymous with livability, but satisfaction may be highly associated with living conditions that the planner is in a position to change.

A survey of relevant literature indicates that satisfaction with neighborhoods is related to the livability of such areas, but the relationship is imprecise. Physical conditions may be determinants of satisfaction, but there may also be non-physical factors determining satisfaction such as socio-economic status and neighborhood social interrelationships. Different socio-economic groups may attach varying degrees of importance to physical and non-physical factors that cause satisfaction. Changes in the physical quality of neighborhoods may be associated with changes in satisfaction levels of some socio-economic groups but not others. Livability models may thus be different for different socio-economic groups, and it is conceivable that

satisfaction levels could be identical in two areas that are widely diverse in measures of environmental quality.

Several hypotheses were formulated concerning the associations of various types of satisfaction levels with measures of relevant conditions; these hypotheses required testing, employing multiple partial correlation methods. The City of Cleveland, Ohio, served as the study area, and a two percent sample survey of Cleveland households, U.S. Census material and some locally generated information provided a fairly comprehensive data base for analyses of the hypotheses.

Analysis of the hypotheses yielded several findings. Residential satisfaction with the neighborhood was found to be very highly associated with income measures and with overcrowding in dwelling units. Strong associations were also detected between such satisfaction and several other factors: racial composition, violent crime, fire rates, population density, and several measures of housing condition.

Environmental characteristics were generally found to explain more of the variation in several types of satisfaction than socio-economic characteristics. It was determined that a greater proportion of the variation in satisfaction with housing condition was explained by measures of housing condition than by socio-economic measures. The particular housing measures included overcrowding, general condition of dwelling units, and a measure of minor upkeep.

A hypothesis stating that a greater proportion of the variation in satisfaction with personal safety is explained by measures of criminal activity than by socio-economic measures could not be substantiated by the data. But a large part of such lack of substantiation may be caused by the fact that most all crime reporting does not account for nonreporting of crime, offender-victim relationship, and location of crime. It may be likely that the type of crimes explaining most of the variation in satisfaction with personal safety are those committed by a person unknown to the victim, in an outdoor location, a public place, or during the course of unlawful entry into a building.

Finally, it was found that housing conditions and crime measures explain more of the variation in satisfaction with the neighborhood than do socio-economic measures. The major implication of this is that such satisfaction is not largely the result of income differences. But not all neighborhood physical or social improvements will automatically generate increased satisfaction. The improvements should be related to those neighborhood characteristics that are not wholly explained by income differences and that are related to satisfaction.