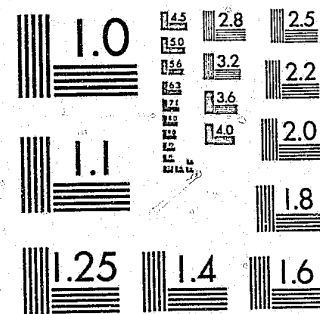


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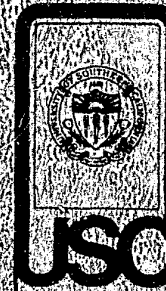
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UNIVERSITY OF SOUTHERN CALIFORNIA

## social science research institute

CRIME AND CHANGING NEIGHBORHOODS

EXECUTIVE SUMMARY

Submitted to  
United States Department of Justice  
National Institute of Justice  
638 Indiana Avenue, N.W.  
Washington, D.C. 20031

December 1983



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633 Indiana Avenue, N.W.  
Washington, D.C. 20531

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JUN 19 1984

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## EXECUTIVE SUMMARY

### INTRODUCTION

The rapid spread of crime into urban neighborhoods which until very recently were relatively crime free poses an unprecedented set of problems. Students of crime as well as criminal justice personnel have long been familiar with the earlier pattern in which crime rates were distributed in our larger cities. Neighborhoods afflicted with the crime problem in its severest form were known to be located in the older physically deteriorated areas populated by the city's lowest income groups and, most frequently, by minority ethnic groups. These neighborhoods were known to differ recognizably from those that were most recently built up and settled by middle and upper income groups.

During the past several decades, the earlier pattern with its relatively clear differentiation of high crime from relatively crime-free city neighborhoods has become markedly unstable. The composition of urban populations has been extensively altered as a result of at least three major factors: continuous in-migration of minority ethnic groups; changes in transportation technology which has stimulated widespread suburban development, inducing an ongoing abandonment of central city residential areas by the more affluent groups; and shifts in social and political values, resulting in the breakdown of historic patterns of residential segregation. Among the many consequences of these developments has been the unsettling and anxiety-provoking intrusion of the crime problem into formerly unaffected neighborhoods.

The study summarized in this report has examined in extensive detail, in one major metropolis of the United States, how it happens that urban neighborhoods undergo such transformation. To accomplish this aim the history of the most heavily crime-impacted neighborhoods of the urban region formed by Los Angeles County was examined with a view to discovering the specific conditions accompanying their development as high crime areas over the 26-year period, 1950-1976. A long-term time frame was selected because the urban process is not, of course, instantaneous. It has not been known, for example, whether "good" neighborhoods first begin to deteriorate through neglect and abandonment, leaving the way open for the invasion of a more crime-prone population, or whether an initial rise in crime induces their deterioration and leads to an eventual displacement of their original residents by a succeeding population. The general objective of the research was to uncover sequences of change in neighborhood social conditions associated with changes in its crime level.

## Scenario

The main study findings regarding the changes through which neighborhoods in Los Angeles County were transformed into high crime areas may be broadly sketched in the form of the following scenario.

Most of the high crime areas in Los Angeles County in 1970 were relatively crime free at an earlier point in their history. However, with the passage of time, many once desirable areas in the urban region became the "older neighborhoods," losing their physical as well as their social attractiveness as residential sites. Once predominantly neighborhoods of low density, single family neighborhoods, their basic housing stock began to be replaced by multiplex and apartment dwellings with a gradual increase in the area's population density. The neighborhood's altered character induced zoning changes, permitting slow growth in the number of commercial and industrial establishments. Although land use initially changed slowly, the higher income intact families began to abandon these neighborhoods at a relatively rapid pace. But the lower income non-intact families and households composed of unattached individuals tended to leave much more slowly. The net effect of differential evacuation rates was a steady displacement of a higher income population by a lower income group, with a slow increase in the proportion of ethnic minorities. Thus, the most telling initial change was a steady decline in neighborhood socioeconomic status, ushering in a period marked by extensive "mix" in income level and ethnic composition. It was during this period that crime began its rapid rise, marking the first, or emerging, stage in the development of the region's crime areas.

As rapidly rising crime in the very early stage of neighborhood transformation became emblematic of neighborhood deterioration, the declining cost of housing began to select into the neighborhood ever larger numbers of unattached individuals, single-parent families, and large families, drastically increasing the ratio of children and youth to the adult population. Although these elements of population composition constituted a large component of the displacing lower income population, it was not the pace of the increase by itself that accounted for the accelerating rise in the neighborhood crime measure. Without two other changes, crime in the early stage of neighborhoods may well have remained unaffected. The principal change was the increasing heterogeneity of neighborhood socioeconomic status as larger numbers of low income groups moved in. With this there occurred a decline in the capacity of the population to maintain control over the conduct of its residents, particularly those in the younger and more crime-prone age groups. As a result, a neighborhood subculture began to take root in which law violation in the eyes of many of its adolescent and young adult males became a tolerated if not an approved source of income and a vehicle through which to gain the approval and respect of peers. Resistance to the rise of the subculture on the part of the largely law-abiding adult population was,

moreover, subverted by two factors. First, for the ethnic minority groups now displacing the earlier residents, the legitimacy of legal authority was already eroded by a protracted experience of poverty and depreciated status, and further weakened in those minority groups with a history of suppression and abuse. The second element of the neighborhood subculture, subverting resistance to law violation, was the shift in family structure from the prior normative two-parent type with reduced female participation in the labor force to an increasing number of single-parent families with high proportions of females in full-time employment. The shift in family structure tended to affect directly parental capacity to control the conduct of children and youth as they became increasingly exposed to the influences of neighborhood street life.

In the course of time, conditions associated with crime continued to worsen to the point of "saturation" as neighborhoods became increasingly impacted high crime areas. Both their deterioration and their crime levels tended to stabilize and to persist unchanged. However, a reversal occurred in the relationship between neighborhood deterioration and crime. In the earlier stages, it was deterioration that drove rising crime; in the later stages, increases in crime induced whatever further marginal deterioration was possible.

But it is the onset of neighborhood transformation that is most significant in understanding how high crime areas come to be created. Once the transformation is underway, economic, social, and political forces conspire to advance their deterioration beyond redemption.

We found that as urban neighborhoods aged they rapidly lost their higher income, generally intact families. A highly mixed population, consisting of single-parent families of relatively lower income and higher income unrelated individuals and other childless households, either stayed behind or left more slowly. Concurrently, a decline in housing costs invited the infiltration of growing numbers of lower income ethnic groups. These mixed developments drastically changed neighborhood socioeconomic status, with the change accelerating rapidly over the course of a single decade. During this early stage period, there was typically minor and slow change in land use, and the physical deterioration of the neighborhood was little in evidence. But with incoming ethnic minorities replacing the former residents, a shift occurred in neighborhood social climate. Orderliness in the use of its public spaces declined and the prior middle class norms of conduct were overlaid by behavior patterns regarded by the older residents as strange at the least and offensive at the most. It was precisely the speed of these changes in the initial stage of their transformation that gave the neighborhoods their unsettled character and their aspect of latent conflict. Moreover, these features were exacerbated by an increase in crimes against persons which, while relatively moderate compared to its level in neighborhoods at the late stage of transformation, represented an alarming rise from prior levels.



The replacing population was likely initially to be least responsible for the rise in crime. But as the pace of population change increased, these neighborhoods were opened to predatory invasion by offenders from the impacted high crime areas seeking opportunity targets. And, finally, although property crimes were generally the more frequent type of offense, there occurred a period of several years at the end of the initial stage of neighborhood change when person offenses exceeded them in frequency, raising crime to the status of the neighborhood's most critical problem.

### 1. Objectives of the Research

In their reconstruction of past events, all histories select out of the past only those that are relevant to the historian's already formed ideas about what it is useful to know. In turn, notions about useful historical information depend on the selection of the problems and issues that an understanding of past events can help solve or illuminate. The present study is no exception. The concerns in this study were the policy problems that seem invariably to arise in efforts to check the progressive transformation of residentially desirable urban neighborhoods into high crime areas. To know what the changes and developments were that precipitated neighborhood decline in the past may help policy planners focus on the specific elements of current neighborhood changes whose control becomes imperative if such decline is to be checked in the future.

To provide a basis for the reader's understanding of the research findings, three major elements are examined. These include an explanation of the concept of "neighborhood" as used in this study; the crime measures used; and how neighborhood social conditions were measured. Three sections of study findings follow, describing trends from 1950 to 1976 in crime and in the features of a set of neighborhoods identified in 1970 as the highest crime areas of Los Angeles County. These sections trace the changes that transform neighborhoods into deteriorated and crime-ridden areas. The changes in neighborhood conditions that appear to be most responsible for the rise in crime, and the time bound sequences between neighborhood change and crime will then be presented. A final section assesses some of the implications of the findings for crime control policy.

### 2. Main Study Findings

Before presenting the relationships between neighborhood deterioration and crime in the extensive detail of their measurement, the major findings are summarized here. Five types of measures were used to assess the effects of neighborhood change on crime and of crime on neighborhood change as high crime areas came into existence in Los Angeles County over a 26-year period. Each of these measures addressed a separate aspect of the neighborhood transformation process and was responsive to a specific and limited question. Study findings can thus be

summarized in a series of questions and answers as provided by data analyses.

A. Ten sets of census tract clusters were identified as constituting in 1970 the high crime areas of Los Angeles County. Were they uniform in their crime levels, or could they be distinguished in this respect? An examination of trends in crime over the preceding 20 years, 1950-1970, placed the 1970 crime levels of these areas in three distinct orders of magnitude. Three of the ten sets of census tract clusters, or neighborhoods, with the lowest measure of crime in 1950 were those that moved into the high crime category only in 1970. These were designated the emerging high crime areas and represented the initial stage of neighborhood transformation. A second set of four clusters was not only distinctly higher than the emerging areas in their crime measure in 1970, but had higher measures of crime in 1960 as well. They were designated the transitional high crime areas, representing a more advanced stage of transformation. A third set of three census tract clusters was the highest in their crime measure not only in 1970 but in 1960 and 1950 as well. Designated the enduring high crime areas, they represented the highly crime-impacted terminal stage of neighborhood transformation.

B. As neighborhoods deteriorated in the transition from the emerging to the enduring high crime stage, did the decline of the neighborhood precede or follow an increase in crime?

At the early stage, changes in land use and in population composition preceded the increase in crime. The crime rise occurred after single family dwellings gave way to apartment buildings, neighborhood space became increasingly occupied by industrial and commercial structures, intact two-parent families were replaced by broken and single-parent families and by unattached persons, and children and youth constituted an increasing proportion of the population. But as neighborhoods developed further as high crime areas, these changes no longer preceded a continuing increase in crime. In both the transitional and enduring high crime areas, the decline in neighborhood socioeconomic status and an increase in crime (fostering a change in its subculture) occurred at an earlier date than the rise in their crime measure. Stated most generally, the type of neighborhood conditions whose changes preceded the increase in crime shifted from the ecological factors of land use and population composition in the initial stage of transformation to the social and cultural factors of socioeconomic status and neighborhood social climate in the late stages. But the answer to the time priority question tells us nothing about how much impact prior neighborhood change had on subsequent increases in crime. This is the concern of the next question.

C. How much of the subsequent crime increase was accounted for by prior changes in neighborhood conditions, and were there shifts in these respects in neighborhoods at different stages of development? The issue here was more complex and the picture

more highly differentiated than was the case in response to the simpler "chicken-egg" question. The measure used in this analysis assessed the effect of the level of neighborhood deterioration in 1950 on crime in 1960, and 1960 neighborhood conditions on crime in 1970. This was done for high crime areas at each stage of development. The effects of earlier date neighborhood conditions on later date crime were examined, and the effects in the emerging and the enduring stage areas compared. The starting point in deterioration is found in the emerging high crime neighborhoods during the 1950-1960 decade; its terminal point in the enduring high crime neighborhoods during the 1960-1970 decade. Simply stated, taken together the four types of neighborhood conditions indexing deterioration (land use, demographics, socioeconomic status, and subculture) have their greatest effect on crime at the beginning of the transformation process, and the least effect at the end. This is not to say that at the terminal stage neighborhood conditions are without their effect on crime. On the contrary, they remain substantial. In statistical terms, neighborhood conditions in the emerging areas in 1950 accounted for 60 percent of the variation in the 1960 crime measure; in the enduring areas where high crime rates were already well-established, the 1960 state of the neighborhood accounted for 48 percent of the variation in the 1970 crime measure.

Perhaps more important in gaining a picture of the neighborhood transformation process are the shifts in the effects on crime of the several types of neighborhood conditions. The strongest early effects are those of land use, followed very closely by those of population composition. Both socioeconomic status and subculture have negligible effects during the initial stage, although as we shall see, the rate of change in these features does not have negligible effects. With the passage of time socioeconomic status and subculture move into prominence in their crime effects, while those of land use and population composition decline. The detailed measures support the general proposition that in Los Angeles County the transformation of neighborhoods from crime-free to crime-impacted areas proceeds from an initial physical change to change in population composition to change in its socioeconomic status to change in prevailing normative controls. In brief, as suggested by the preceding time priority measures, the initial changes are ecological, followed by sociocultural changes.

An additional potentially important aspect of the relationship between neighborhood change and crime remains to be examined: the effect of the rate or velocity of change in neighborhoods on the rate at which the crime level was found to increase. It seems reasonable to assume that, other things being equal, the more rapidly neighborhoods deteriorate the more disruptive the effect on the orderliness of neighborhood life and on the previously effective control over the conduct of its residents, and therefore the higher the rate of increase in its crime.

Two questions follow from this argument.

D. What was the overall comparative rate of change between neighborhood conditions and crime over the entire two decades? Was the velocity of change greater in the former than in the latter throughout the 20-year period? Were change velocity differences the same or different for neighborhoods at the several stages of transformation?

The relationship between the velocity of neighborhood change and the rate of crime change was found to differ at the early and the late stages of neighborhood transformation. In the emerging areas, all neighborhood conditions with the exception of subculture changed at a faster rate than did crime. In particular, the velocity of change in the early stage with respect to population composition and socioeconomic status was far greater than the velocity of crime change. However, in the later transitional and enduring stages of transformation, crime increased faster than the advance of neighborhood deterioration. So far as comparative velocity changes are concerned, the findings from this analysis suggest that in general rapid early neighborhood change provides a powerful "push" to later very rapid increases in crime. The pace of neighborhood change is later reduced as deterioration approaches a saturation point, but crime continues its high rate of increase.

However, this observation is implied rather than demonstrated by the data of comparative velocity change analysis based on an examination of the entire 20-year period. A further measure was employed to test this implication and to determine the specific neighborhood features whose earlier velocities are related to later high crime change velocity. The measure was the method of lagged velocity relationships, in which later crime change velocity was examined in the light of early velocity changes in neighborhood conditions. The findings of that analysis were responsive to the following question.

E. Which earlier decade change velocities in neighborhood conditions were most highly related to later decade crime change velocity?

The most important single finding of this analysis was that in the initial stage emerging areas, it was the high velocity of change primarily in neighborhood socioeconomic status that was most related to the high velocity of crime change in the second decade. Earlier land use change velocity had no similar effect; indeed, the crime measure increased in the first decade at a much higher rate than did land use in the second decade. The same was true for the demographic features of not only the early stage neighborhoods but of those in the later stages as well. Subcultural change was the only neighborhood feature other than socioeconomic change whose earlier change velocities exceeded the later crime change rate, and therefore presumably "drove" it.

Thus, the two most important signs of an impending conversion of a neighborhood into a high crime area, and which may well function as leading indicators, are first a very high rate of change in its socioeconomic status and a moderately high rate of change in subculture. This may mean that a high velocity of land use change during the early stage of neighborhood transformation that does not entail high velocity changes in socioeconomic status and subculture does not necessarily produce rapid subsequent increases in crime. Findings from the comparative velocity analysis highlight in a precise way the importance of neighborhood change rates in inducing a rise in crime. As shown in the analyses of both time priority and of lagged effects of earlier measures of neighborhood conditions on later crime measures, change in and of itself was associated with an increase in crime. In general there is first a shift in the ecological factors of land use and population composition, and only later a change in the sociocultural factors of socioeconomic status and subculture. Analysis based on lagged comparative velocity changes indicates that while ecological change might well constitute a necessary condition for the subsequent rise in crime, it is not the sufficient condition. Given ecological change, the sufficient condition becomes high velocity of early change in socioeconomic status and in subculture. An illustrative example would be the hypothetical neighborhood which undergoes (a) rapid land use change from single family to multiplex dwellings and from a lower to a higher ratio of commercial and light industrial use, (b) a shift in population composition from intact two-parent families to high proportions of non-intact families and unattached individuals, and (c) with both these changes reducing only moderately the ratio of children to adults. As we have seen, these are the necessary conditions for subsequent increases in the neighborhood crime level. But the increase is not likely to be realized absent the sufficient condition of an early high rate of change in neighborhood socioeconomic status together with its associated high rate of change in neighborhood social climate.

### 3. The "Neighborhood" Unit

References to residential neighborhoods of large cities focus attention primarily on their geographic location. In addition, they are usually identified and recognized in common discourse as "good" or "bad" places to live. Such popular judgments rest on four dimensions. First, they are rated as environmentally pleasant or offensive, and second, on their access to the city's transportation network. A third and more critical factor is the income and social status level of their residents. Finally, the idea of "neighborhood" still retains a nostalgic and sentimental component. For many, the associated imagery evokes memories of the country's rural past. Economic activity and social life were then locality centered. Residents were bound to one another by the claims of friendship and kinship and by the demands of mutual help. However, little of this has survived in the modern metropolis.

Whether outdated or contemporary, none of these ways of defining city neighborhoods met the requirements of this study. Needed was a method of locating areas of Los Angeles County whose boundaries could be precisely designated, which could be distinguished from one another by differences in their crime measures, and for which there existed information useful in the measurement of their social conditions as well as crime levels. Briefly stated, the "neighborhoods" referred to in this study consisted of units of territory similar first of all in their crime problem. In addition, they were required to be similar in their pattern of residential, commercial, and industrial land use, and in their population characteristics. So defined, such units of territory constitute neighborhoods in the special sense that their residents are generally more likely to resemble other residents of these than of other neighborhoods. Among other things, they were found to share roughly similar housing conditions, patterns of family composition, placement in an occupational prestige scale, educational attainment, ethnic group membership, and the magnitude of their crime problem. The County area was found to be comprised of 1142 census tracts having identical boundaries in 1950, 1960, and 1970. A statistical procedure was then used to assemble contiguous census tracts into 192 clusters, or neighborhoods, differentiated in the ways indicated.

### 4. How Crime Was Measured

The measurement of crime across long periods of time presents special problems. Crime can be measured in a number of ways. There is, of course, no way that the actual number of law violations that occur in a large population can be accurately counted: it is possible to enumerate only those that are reported to and recorded by police and those recorded by prosecutors and courts. These counts provide only an index of the volume of crime. Each measures some fraction of total offenses committed. Because they are closest to the actual commission of the act, the best of these indexes is that of crimes reported to the police. Unfortunately, this information was available in Los Angeles County for each of its census tracts only for 1970. The only available recorded data uniformly compiled by census tract for the earlier years of 1960 and 1950 as well as after 1970 were those of juveniles petitioned to the court for law violations. Their geographic distribution in the County in 1970 with the distribution of crime reports was compared, and the two types of indexes were found to be distributed in an almost identical manner. Census tracts high in the number crime reports for that year were also high in juveniles petitioned to the court; tracts with very few juvenile offenders recorded very few crime reports. In another context, 1970 juvenile petitions were compared to adult offenders living in the same area. The results of the comparison essentially demonstrated a mirror image of each other.



Where a large number of adult offenders lived in a given area there were also a large number of juvenile offenders. The comparability of the two measures was also disclosed in other research conducted at an earlier time period in another city. The decision was therefore made to use the juvenile offender data as a surrogate, or substitute, for crime reports.

#### 5. Indicators of Neighborhood Social Conditions

The concern in this study was the relationship between neighborhood change and trends in crime. The method for the measurement of crime having been selected, the task now became how to represent neighborhood change in measurable ways. The changes of particular interest were those that reflected neighborhood deterioration and decay. However, while these terms serve as metaphors of useful intuitive meaning, they must be given empirical specification. It is necessary, in other words, to determine specifically the features of neighborhoods whose changes induce their decay. Further, it is necessary to specify neighborhood characteristics for which there exist data for their measurement.

The problem was approached by defining four dimensions, or aspects, of urban areas. Changes in each tend generally to be associated with changes in the others. But because they tend also to change at different rates, each feature of urban neighborhoods maintains some degree of independence.

The first of these dimensions is land use, that is, the extent to which the physical space of a neighborhood is differentially occupied by various types of residential dwellings and by commercial and industrial structures. The second is the demographic composition of the population as defined by measures of density, i.e., the number per square mile, as well as by type of household unit, residential mobility, and the ratio of the very young and the very old to those in the employable ages. The third was the socioeconomic character of neighborhoods as characterized by the occupations of its labor force, some key housing conditions associated with income level, and educational attainment. The final dimension was the important if elusive factor of neighborhood subculture. This was defined by patterns of activity that reflected the capacity of residents to control and limit the kinds of deviant behavior among its adolescent and young adult groups likely to lead to and support illegal conduct.

Each of these dimensions of neighborhood character as they existed in 1950, 1960, 1970, 1973, and 1976 was measured by many variables or indexes. (A full list of the variables employed is presented in Chapters II and VII of the full report). For the periods between 1950 and 1970 nine variables were used to measure land use; eight for the demographic composition of neighborhood populations; eight for socioeconomic level; and 12 variables in the measurement of subculture. For the period 1970-1976, seven variables were derived to measure land use; five for demographic composition; 18 for socioeconomic level; and 19 variables

measuring subcultures. For the 1950-1970 period the data used were obtained from the decennial census reports; data for the 1970-1976 period were obtained from existing local administrative data files.

The above variables were, moreover, measured in three different ways: concentration, distribution, and unit share. The unit share measure designates the proportion, or share, formed by the magnitude, or amount, of a given neighborhood feature to its total amount in the metropolitan area. The distribution measure is simply the ratio, or rate, of a feature to its population base, e.g., the percent unskilled laborers to the labor force. The preferred measure, and the one principally used in the analysis of neighborhood change and crime, was that of concentration. This measure expresses the magnitude of a given neighborhood feature per unit of territory, in this case per square mile. It was preferred because it conveys most clearly the character of a neighborhood as perceived by its residents and is likely, therefore, to affect most directly residents' decisions to move or stay as local conditions change.

Extensive analyses were made probing the relationships of trends in the 37 variables indexing neighborhood social conditions to trends in their crime problem. These analyses are presented in detail in several chapters of the full report. We decided, however, that the trend relationships disclosed in these analyses required both simplification and clarification. To this end, a single measure of each of the four aspects of neighborhood social conditions as well as of the crime measure was constructed for each of the four dimensions and for each of the four time points through which the history of the County's highest crime areas was recovered. This was done by factor analyzing separately the multiple variables constituting the land use, demographic, socioeconomic, and subcultural dimensions of neighborhood social conditions. These produced four separate sets of composite social indicator scores. The score values for both crime and neighborhood conditions register the extent to which they differ from the mean for the County. All values are thus calibrated on a uniform scale, permitting comparability across all scores. The analysis findings to be presented here are uniformly based on these composite indicator scores.

#### 6. Main Trends in Neighborhood Change and Crime

The first topic examined in the study addresses the pattern of crime increase during the prior two decades in neighborhoods identified as the high crime areas of Los Angeles County in 1970. This is followed by an assessment of the uniformity of the trend in all such neighborhoods where crime increase differences among them define unique stages in their development as high crime areas. Three stages in the development of high crime areas were identified. Neighborhoods in the early, or emerging, stage were those in 1970 which encountered their first experience of a precipitous rise in crime and the onset of neighborhood deterioration. A second, or transitional, stage was found in

neighborhoods with decisively higher levels of crime and measures of neighborhood decline than those in the emerging areas and had experienced high levels of crime for at least ten years. The final, or enduring, stage was represented by the heavily crime-impacted and extensively deteriorated neighborhoods at the end of the cycle of neighborhood transformation. In real terms, crime has persisted as an intensive activity for over 20 years. Several decades earlier, the enduring stage areas were the emerging stage areas. Given the existence of developmental stages, findings will be presented with respect to types of offenses that differentially characterize each. With crime trend patterns described, attention will then be given to neighborhood changes over the same 26-year period.

#### 7. Crime Trends

When measured against the trend in the County as a whole, crime climbed steadily upward at a differentially higher rate in the high crime areas between 1950 and 1970 (Table 1 and Figure 1). In 1950, the ten highest crime areas accounted for approximately one-quarter of the County's volume of crime; by 1970 this share had increased to one-third. The general trend was thus one of a differentially greater increase in the crime level in the highest crime areas in the face of a generally rising level of crime throughout the County. Further evidence of the growing concentration of crime in the high crime areas was the increase in the unit share of juvenile property offenses, from 26 percent of all such juvenile offenses in the County in 1950, to 40 percent in 1970. Similarly, the unit share measure of offenses against the person increased during this period from 28 to 52 percent in the high crime areas. The slight post-1970 downward trend in crime in these neighborhoods may have been an effect of reduction in the percentage in the population of those in the crime prone youth groups.

It is particularly significant that trends in crime differed among the ten 1970 high crime areas during the preceding 20 years. Three trend patterns may be distinguished. Those neighborhoods with highest crime density or concentration measures in 1950, the enduring high crime areas, held that position throughout the period. A second set of neighborhoods, the transitional high crime areas, were moderately high in crime in 1950 and moved steadily upward during the next two decades. A third group of neighborhoods, the emerging high crime areas, were virtually crime free in 1950, with only a slight rise by 1960, but with high levels by 1970. Their crime measure, while consistently below those in the first two sets of neighborhoods, rose steadily in the next 20 years. And unlike the first two, their crime measure continued its earlier upward trend in the post-1970 years.

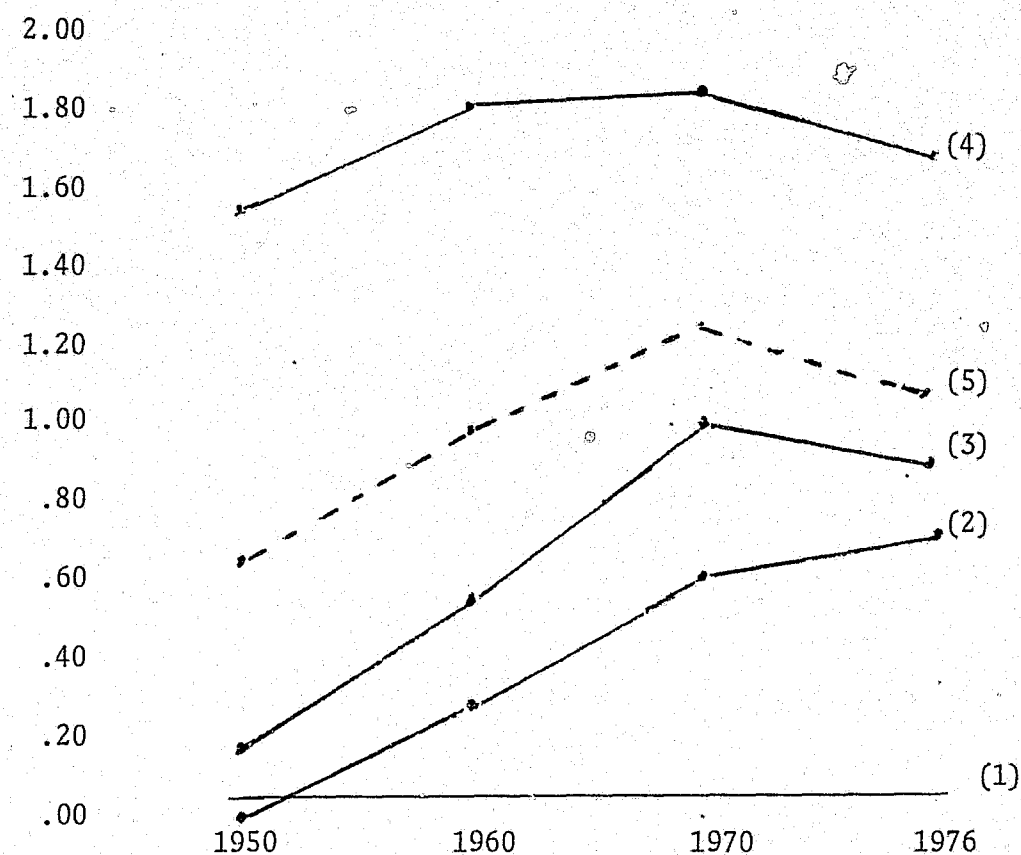
The three crime trend patterns indicate that in 1970 the ten clusters of census tracts identified as the County's highest crime areas were at three distinguishable stages of development. The designation of these neighborhoods as emerging, transitional,

Table 1. *Trends in Standardized Mean Crime Composite Indicator Scores, 1950-1976, Ten 1970 Highest Crime Areas and High Crime Areas at Three Stages of Development, Los Angeles County*

|                         | <u>1950</u> | <u>1960</u> | <u>1970</u> | <u>1976</u> |
|-------------------------|-------------|-------------|-------------|-------------|
| Ten Highest Crime Areas | .63         | .99         | 1.26        | 1.16        |
| Emerging                | -.05        | .27         | .60         | .70         |
| Transitional            | .16         | .56         | 1.00        | .90         |
| Enduring                | 1.54        | 1.82        | 1.86        | 1.70        |



Figure 1. Trends in Standardized Mean Crime Composite Indicator Scores, 1950-1976, Ten 1970 Highest Crime Areas and High Crime Areas at Three Stages of Development, Los Angeles County



1. County mean at each time point
2. Emerging High Crime Areas
3. Transitional High Crime Areas
4. Enduring High Crime Areas
5. Ten 1970 Highest Crime Areas

and enduring serves to describe differences in their "maturity" as high crime areas, and to define the main stages in a cycle of development from a relatively crime free to a high crime condition. We note, for example, that the 1950 crime measure for the high crime neighborhoods that were just emerging in 1970 was below the average crime level for the County. By 1960, these neighborhoods showed a higher crime measure than prevailed in 1950 in the more "advanced" transitional high crime areas. Similarly, in 1970 the emerging areas had a higher level of crime than did the transitional areas in 1960. These time-lagged differences demonstrate the developmental progression in the creation of crime-impacted neighborhoods.

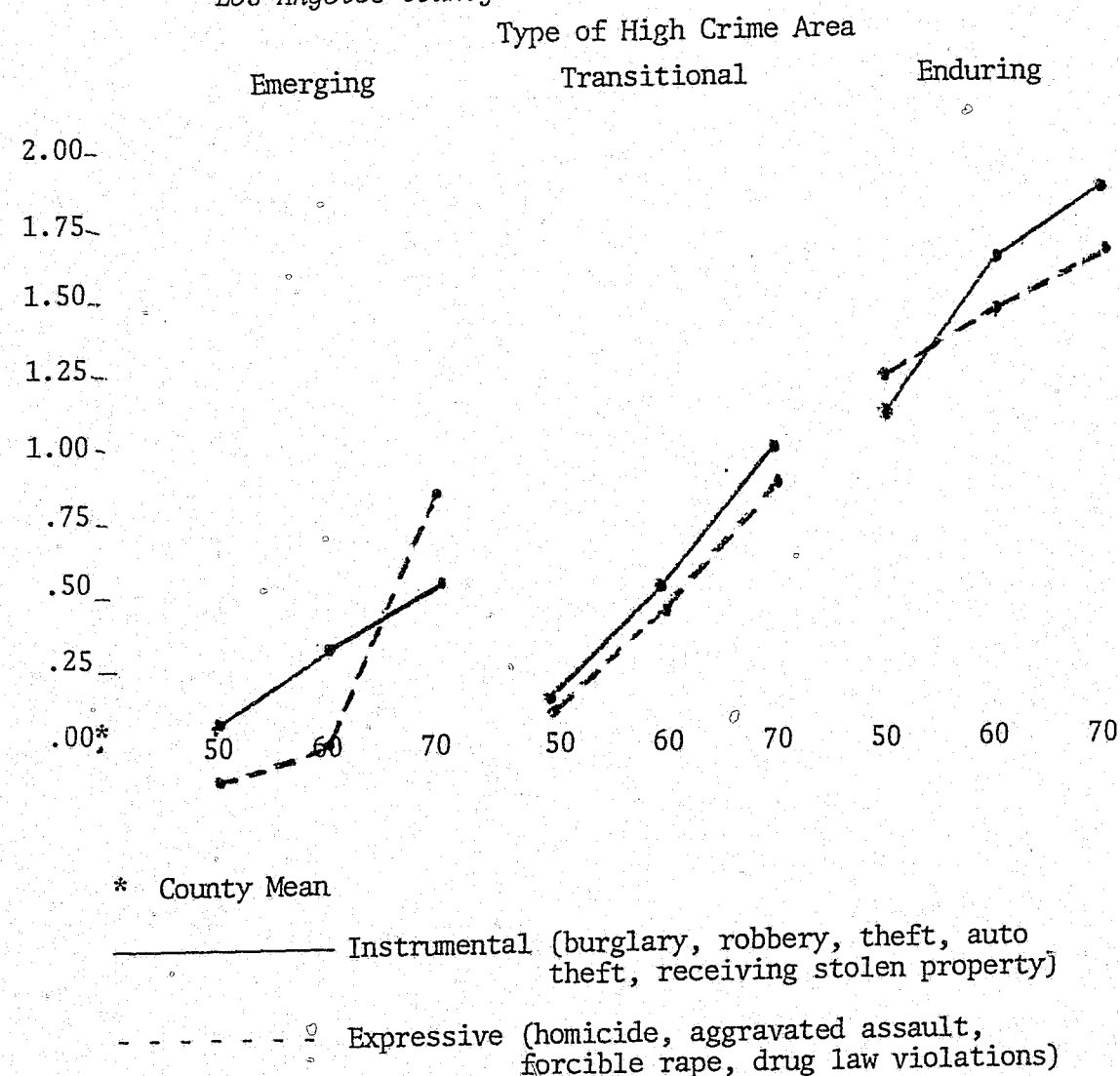
#### 8. Trends in Offense Types

Instrumental property crimes, such as burglary, robbery, theft, auto theft, and receiving stolen property are generally far more frequent than such expressive offenses as homicide, assault, rape, and drug law violations. However, this difference in predominant crime type is reversed in neighborhoods when they first emerge as high crime areas. As shown in Figure 2, while the measure of instrumental offenses was substantially higher than expressive offenses in the emerging areas in 1950, this was reversed by 1970. That this effect is only temporary is indicated in the relatively higher magnitudes of instrumental offenses in neighborhoods at the later stages of development. But the temporary reversal is noteworthy as a possible indicator of impending neighborhood transformation to a crime-impacted status. An upsurge of such expressive offense behavior as assault, rape, drug law violations and the like in neighborhoods where these were previously rare or absent is suggestive of the rapid decay of public order and of the informal control over behavior commonly exercised by residents.

#### 9. Trends in Neighborhood Social Conditions

To understand the transformation of neighborhoods from low to high crime areas and to note the changes in their social features, the reader should bear in mind how these changes have been measured. The measurements constructed have taken into account any extraneous changes in the same social indicators that occurred in Los Angeles County over the same 20-year period (e.g., changes in family income due to inflation, normal increase in home values, etc.). As a rapidly growing urban region, Los Angeles County almost doubled in population since 1950. This included very large increases in minority groups, and the extended dense settlement of large areas that were previously rural. The County experienced an extraordinary degree of residential mobility as newly developed communities were opened for settlement, and witnessed the decentralization of commerce common to the contemporary American city. Such massive changes occurring over a relatively brief span of time meant that social conditions typically associated with differences among residential neighborhoods in their crime problems tended to become more widely distributed over the County. Consequently,

Figure 2. Trends in Standardized Mean Composite Indicator Scores, Instrumental and Expressive Offenses, 1950-1970, Census Tract Clusters at Three Stages of Development as High Crime Areas in 1970, Los Angeles County



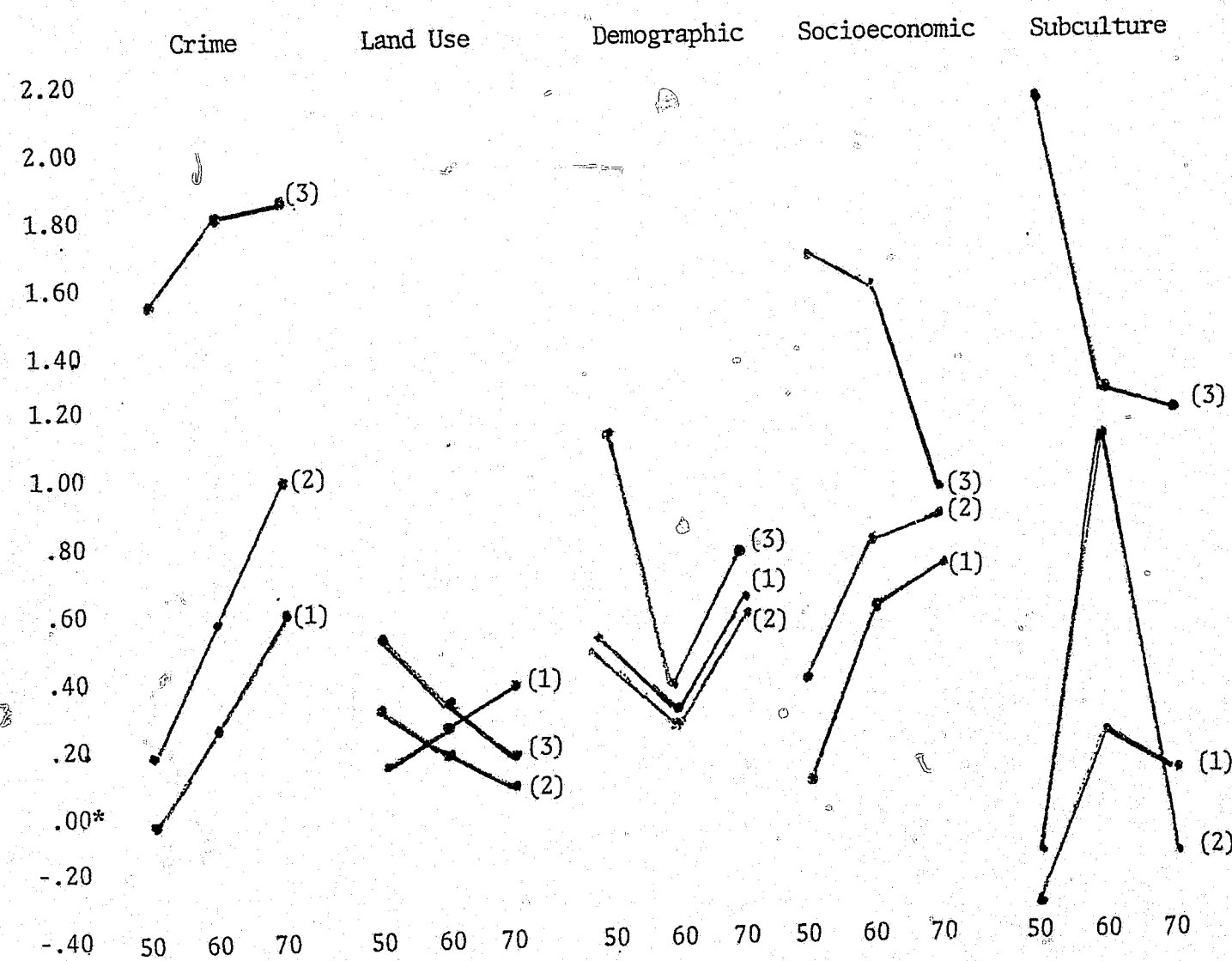
high crime areas can be identified only by the degree to which they differ in their social features from those generally prevailing over the urbanized region. To identify this disparity a measure was created that expresses the difference between the average level of a given social feature in the County, set at a value of zero, and its level in any specific neighborhood. That is, a "standardized" measure was created. The numbers used to represent the level of any neighborhood feature as well as its crime level are thus measures of differences from the County mean.

We have already noted that there are four basic ways that neighborhoods may deteriorate as their crime levels rise. Where they were originally built up as residential areas of predominantly owner-occupied single family dwellings, their land use pattern may in time shift to reflect an increasing proportion of commercial and industrial establishments. Second, their demographic character may change as neighborhoods become more or less densely populated, with households containing larger proportions of individuals without families and with growing numbers of families broken by divorce or desertion. In addition, the age distribution of the population may shift, increasing the proportion of dependent children and the aged to adults in the employable ages. Third, the socioeconomic level of neighborhoods can be altered by shifts in the characteristics of the population in the labor force (from advanced education in the well-paid occupations to reduced educational attainment in the semi-skilled and unskilled occupations) and by overcrowding (stimulated by the conversion of large apartments to small quarters). Fourth, norms affecting law observance and constituting relevant elements of the neighborhood subculture can undergo change as their earlier stable population is rapidly displaced by groups, whether ethnic minorities or otherwise, who are relatively recent migrants to the city and subject to economic disabilities and lower average educational attainment. Control over the early socialization of the young is affected by the growing proportions of females in the labor force. A description follows of trends during the 1950-1970 period for each of these four components of neighborhood social conditions, as changes occurred in what became the County's high crime areas.

A summary representation of social trends in neighborhoods moving into a high crime condition is provided in Figure 3. Compared to their average for the County, measures of neighborhood conditions increase during the early stages of development, and decline in the last, or enduring, stage. Since these are measures of deterioration, the decline in the last stage areas indicates not a reversal of deterioration but a decline in the degree of change in this respect from an earlier period. Having arrived earlier at a point of maximum deterioration, further increases become unlikely. Except for the measure of land use, measures of the demographic, socioeconomic, and subcultural conditions in the enduring stage areas are highest at each of the three time points of 1950, 1960, and 1970.



Figure 3. Standardized Comparative Trends in Crime and Neighborhood Conditions by Type of High Crime Areas, Los Angeles County, 1950-1970



\* County Mean  
 (1) Emerging  
 (2) Transitional  
 (3) Enduring

The significant feature of the land use measure is that it increased consistently in relation to the average for the County only in the emerging stage areas. This does not mean, however, that by the end point of 1970 the enduring stage areas were lower in their absolute measure on land use variables indexing neighborhood deterioration. It was lower only in relation to Countywide changes. A visit to the two types of neighborhoods would reveal evident land use differences. For example, the weighted percentage of renter-occupied dwellings in the enduring stage areas in 1970 was higher (65.4) than in the emerging areas on the same date (63.2). The same absolute difference would be found for the percentage of land parcels devoted to commercial uses: 7.6 in the enduring and 6.2 in the emerging areas.

The same relative and absolute differences are evident for the demographic and socioeconomic features of neighborhoods at the early and late stages of development. As an aside, it should be noted that the decline in the demographic measure between 1950 and 1960 was an unfortunate artifact of the absence in 1960 of data for several important indexes of population composition. Both types of social conditions measuring neighborhood deterioration increased in the two earlier stage areas and stabilized in the last stage areas.

Trends in subculture, on the other hand, differ from trends in the other neighborhood measures. In both the emerging and transitional areas, the subculture measure moved sharply upward in the first decade of the 20-year period. Its decline during the next decade suggests that the change had reached a maximum for neighborhoods at that point in their development during that time period. Had 1940-1950 data been available for the enduring stage areas, a sharp rise in the measure of neighborhood subculture is likely to have been evident.

Overall, the evidence provided by the trend data reveals a pattern of time sequence among the land use, demographic, and socioeconomic changes in neighborhood conditions. Since they were measured on a uniform scale expressing the difference between the level of each neighborhood feature and its mean for the County, shifts in each measure between 1950 and 1970 indicate the order of change among neighborhood conditions. In the emerging high crime areas, the 1950 magnitude of the composite land use score was .12; the 1970 demographic score was .66 and for socioeconomic status in 1970 it was .72. This is to say that in the early stage (in 1950) neighborhood land use differed least in its measure from its mean for the County. By 1970 these areas were more distinctive in their demographic features and most in their socioeconomic features. Similarly, for the transitional stage areas, composite scores for the three neighborhood features, showed an almost identical progression.

To summarize, in the development of neighborhoods as high crime areas the initial changes are those of land use. These include a shift from owner- to renter-occupied housing, from single to multiple family dwellings, and from exclusively

residential use to increasing commercial and industrial use. In large part, the changes reflect the aging of such neighborhoods, since they comprise the sections of the urban area that were built up earliest in its history. With shifts in their land use pattern these neighborhoods become more densely populated, the proportion of single-parent families and of single person households increases as does the general residential mobility, and children and youth come to constitute a growing proportion of the population. The socioeconomic level of high crime areas then declines as the labor force shifts to increasing numbers of unskilled and semi-skilled workers, and as housing becomes increasingly crowded.

Among the changes in population characteristics as neighborhood transformation occurs is a shift in features affecting its efforts to preserve local public order and to maintain control over the behavior of their youth groups. Important among these features are the occupations and social status of the population that displaces the prior residents of changing neighborhoods. In the American metropolitan areas, these are most frequently low income minority ethnic groups. They continue to experience poverty and status denigration, and often perpetuate traditions of non-urban origin, that may or may not be supportive of the legitimacy of laws issued from remote centers of power. Within this context, adaptive practices develop which make their appearance as an evolving subculture in changing neighborhoods. A persisting pattern of law violation is accommodated within the subculture as well, particularly among the youth of successive generations. A neighborhood subculture supportive of criminal activity has been shown in this study to take root very rapidly during the early stages of neighborhood transformation, and to come to full flower only in the last stage, when it stabilizes as one of its fixed attributes.

Although its source is in the historical experience and current situation of the residents, the neighborhood subculture supportive of crime and delinquency in the high crime areas never embraces more than a small fraction of their populations. The interests and values of most of their residents are identical with those embedded in the culture of the wider society. They reflect the conventional concerns with stable and legitimate employment, with the establishment and maintenance of family ties, with the search for opportunity to "get ahead," and the like. Frequently unable to realize such "normal" aspirations in even modest form, their residents are massively handicapped in their efforts to maintain a social and institutional fabric possessing the usual capacity for elemental social control. The average resident is often twice victimized by residence in a high crime area, first by the predatory activities of offenders who are frequently close neighbors and second because he tends to be viewed with suspicion as a proto-criminal by those outside his community. This creates a formidable barrier to the free residential movement of those with the resources and desire to escape the pervasive insecurity of person and property they suffer in the high crime areas.

Continuously induced by conditions that sustain the neighborhood subculture of such neighborhoods, crime and delinquency become increasingly fixed attributes as neighborhoods assume a permanent status as high crime areas. It is this feature alone that in the end affects the possibility of favorable change, obstructing the recruitment of a population less handicapped by poverty and its associated disabling problems, and the upgrading of its economic base by bringing back the departed commercial and industrial enterprises that at an earlier period had regarded these areas as favorable locations.

#### 10. Neighborhood Change and Crime: The Chicken-Egg Issue

Do neighborhoods first deteriorate and then become high crime areas, or does an initial rise in crime induce their deterioration? For many urban dwellers the question may be regarded as posing a distinction without a difference. Those who have escaped to the less endangered quarters of the city are bound to see the rising crime of the neighborhoods they have left as in itself the essential aspect of their deterioration. Other kinds of emergent changes that also may have overtaken these neighborhoods tend to be seen as having developed simultaneously with their now exacerbated crime problem. On the other hand, those whose profession it is to deal with urban problems from a policy and planning standpoint must concern themselves, among other important matters, with the decay of widening reaches of the urban area into enclaves of massive social neglect and crime. Whether remedial effort focuses primarily on crime control as a means of checking neighborhood deterioration, or on the control of neighborhood change as a means of stemming the rise of crime, there is a need for detailed knowledge of the relationship of each to the other. Which comes first and which follows, the type of neighborhood changes that do or do not induce an increase in crime, the effects of rising crime on still other kinds of neighborhood changes, the kinds of changes that are consequences of rapid and those that result from slow increases in crime--all these and similar concerns are entailed in the "chicken-egg" issue.

The description just presented of 20-year trends in crime and neighborhood conditions in Los Angeles County suggest that crime has a general tendency to increase after changes occur in neighborhood conditions. The trends depicted in Figure 3 indicate that in the emerging high crime areas all four types of neighborhood conditions indexing deterioration increased between 1950 and 1970. However, this evidence is far from conclusive, since the time sequences between the two types of change were pictured rather than subjected to precise and detailed measurement.

There are five other time trends which provide a perspective with respect to the deterioration-crime sequence issue. First is the question of whether the sequence from prior neighborhood change to subsequent crime change would be confirmed with use of an appropriate measurement method. If the observations based on



trend data survive the test of measurement, a second, more specific question concerns the degree to which the crime measure in a subsequent period was accounted for by the measures of particular neighborhood conditions in a prior time period. Moreover, we would want to know also at what stage of neighborhood transformation each such condition most accounts for later crime.

A third question concerns the comparative amount of change over time between neighborhood conditions and crime. Was a very small increase in, for example, land use or population composition between 1960 and 1970 associated with a similar, larger, or smaller increase in crime over the same period? These comparative measures are useful in discriminating among types of neighborhood change that may be more or less critical for changes in their crime problems.

Information regarding the concurrent amount of change in crime and neighborhood conditions over an identical time period provides grounds for a preliminary assessment of their comparative change rates. It permits only a provisional answer to the following kinds of questions: over any given time period, do neighborhoods deteriorate at a faster rate than crime increases, or does crime increase at the higher velocity? Are the relative change velocities of the two the same at all stages of neighborhood transformation, or do they differ at each stage? To obtain more definitive answers to these questions a fourth measure was then employed. This measure provided a precise assessment of comparative time change velocities in neighborhood conditions and crime across the entire 20-year period, 1950-1970. Speculatively, there are good reasons, derived from general sociological knowledge, to expect that it may not be change in neighborhood conditions per se that is most responsible for driving up crime in changing neighborhoods, but the velocity of change in these conditions.

#### 11. Lead-Lag Relationships, Neighborhood Conditions and Crime

Provisional findings that changes in neighborhood conditions precede changes in crime were generally confirmed when lead-lag relationships between the two were measured by the method of cross-lagged correlation. With measurement, moreover, it became possible to note shifts in the leading effects of neighborhood change in the genesis and development of the County's high crime areas.

The findings are charted in Figure 4. In their general form, lead-lag relationships are most clearly apparent when the entire County is treated as the unit of analysis. In the earlier 1950-1960 decade, changes in all but subculture among the four types of neighborhood conditions in 1950 preceded change in the 1960 crime measure. During this decade it was the 1950 change in crime that preceded the 1960 change in neighborhood subculture. By the 1960-1970 decade, changes in both the land use and the demographic measures in 1970 were preceded by the 1960 changes in

Figure 4. *Lead-Lag Relationships Between Neighborhood Conditions and Crime, 1950-1960 and 1960-1970, Los Angeles County, Emerging and Enduring High Crime Areas*

|                           | County    |           |
|---------------------------|-----------|-----------|
|                           | 1950-1960 | 1960-1970 |
| Land Use                  | +         | -         |
| Demographic               | +         | -         |
| Socioeconomic             | +         | +         |
| Subculture                | -         | +         |
| <hr/>                     |           |           |
| Emerging High Crime Areas |           |           |
| Land Use                  | +         | -         |
| Demographic               | +         | -         |
| Socioeconomic             | +         | +         |
| Subculture                | +         | -         |
| <hr/>                     |           |           |
| Enduring High Crime Areas |           |           |
| Land Use                  | -         | -         |
| Demographic               | +         | -         |
| Socioeconomic             | -         | +         |
| Subculture                | -         | +         |

#### Symbol Key

Neighborhood change prior to crime change: +  
Crime change prior to neighborhood change: -

crime. On the other hand, the two types of neighborhood conditions whose earlier changes preceded later changes in crime were those of socioeconomic status and subculture. In general, then, lead-lag measures shift slightly from prior change in neighborhood conditions during the earlier period to a growing prominence in the priority of crime change in the later period.

This shift is highlighted with the use of the emerging and the enduring high crime areas as the units of analysis. Uniformly in the emerging areas during the earlier 1950-1960 decade, it was neighborhood change that preceded the later change in crime. By the second decade of 1960-1970 this relationship was all but reversed: earlier date crime change preceded subsequent change in neighborhood conditions. Socioeconomic status was the single type of condition that retained its earlier driving force in relation to subsequent crime.

But most illuminating is the contrast between the lead-lag situation in the emerging areas during the earlier 1950-1960 decade and the situation in the enduring areas during the later 1960-1970 decade. In the transformation process, the first represents the onset of neighborhood deterioration and rising crime; the second indicates the situation at its terminal point when extremely high crime measures become stabilized as a virtually permanent neighborhood feature. Early in the initial stage, neighborhood change is consistently prior to crime change. Late in the last stage it is crime change that precedes change in both land use and population composition, although prior change in both socioeconomic status and subculture continues to drive subsequent change in crime.

It would seem, then, that at the end point of neighborhood transformation the crime level becomes a major influence in its continuing physical deterioration and in the selection of a population which, among other demographic factors, is heavily weighted with single-parent families, unattached individuals, and high ratios of dependent children and youth. While rising crime appears initially to develop as an aftermath of neighborhood change, in time a high crime condition becomes a strong determinant of further neighborhood change. Above all, attention is called to the fact that in the last stage of neighborhood transformation crime levels continue to reflect the continuing action of socioeconomic status and neighborhood subculture.

## 12. Neighborhood Change and Effects on Crime

It is useful also to raise a quite different issue regarding the time sequence pattern of neighborhood change and crime. Instead of asking what the prior changes were in the course of neighborhood transformation, we may ask how much any prior neighborhood change affected the subsequent crime measure and, where this is the case, the degree of effect of prior crime change on subsequent neighborhood change. The measures used in response to each of the two issues are entirely unrelated. The first answers the question of simple change sequence. The

measure presented in this section focuses on the degree of the effect of either earlier neighborhood or crime change on whichever one was subsequent. The first measure, based on double cross-lagged simple correlations, can well show for example, neighborhood socioeconomic status as occurring prior to change in crime. However, the measure now presented, based on unidirectional cross-lagged regression coefficients, may indicate that on the contrary the crime change during an earlier period, even at a very low level, has in fact been exerting a leading effect on the amount of change in neighborhood socioeconomic status.

The cross-lagged regression measures presented in Table 2 indicate that in the initial stage of transformation the neighborhood crime level is primarily an effect of prior change in land use and demographic factors. This statistic tells us, for example, that each unit of increase in the 1950 land use measure had the effect of increasing the 1960 crime measure by almost half a unit. The effect on the 1960 crime measure of demographic factors is even more striking: each unit of increase at the earlier date had the effect of increasing later crime by a virtually equivalent unit. The subculture measure, heavily weighted by the number of ethnic minority group members per square mile, accounted least for the subsequent crime level in neighborhoods still in the emerging stage. On the other hand, the large negative coefficient indicates that at this stage the decline in neighborhood socioeconomic status was a very strong effect of an earlier rise in its crime level. With the exception of socioeconomic status, then, change in neighborhood conditions during the initial stage of transformation accounted for the subsequent increase in crime. The contrast between the role of the demographic and the socioeconomic factors suggests the possibility that when neighborhoods begin to change, there first occurs a shift in population composition, including changes in density of settlement, in the dominant form of the family, and in the number in the dependent younger age groups. These shifts may be followed shortly by a small but perceptible rise in crime which then produces a large and steady replacement of higher with lower income residents.

By the end point of neighborhood transformation, the factors representing neighborhood conditions at an earlier stage still account largely for high crime measures. The relationship of neighborhood features to crime remains essentially unchanged. However, the effects of several of these factors on crime are altered in ways that define the character of neighborhoods at the enduring high crime stage. The slow but cumulative effects of changing land use become much more prominent. In addition, the very high crime level has a strong selective impact on population composition, as indicated by the high negative regression coefficient for demographics. This is in stark contrast to the final stage of neighborhood transformation, where the low income population becomes one of its stable features, unlike the income mix of the population in the emerging high crime areas. But the most telling change in the course of neighborhood transformation



Table 2. *Standardized Cross-lagged Regression Coefficients, Subsequent Crime on Prior Neighborhood Conditions, Initial and Terminal Stages of Neighborhood Transformation, Los Angeles County*

|                | Emerging High<br>Crime Areas<br>1950 - 1960 | Enduring High<br>Crime Areas<br>1960 - 1970 |
|----------------|---|---|
| Land Use       | .45   | .87   |
| Demographic    | .98   | -.97  |
| Socioeconomic  | -.49  | .18   |
| Subculture     | .29   | .53   |
| R <sup>2</sup> | .60   | .48   |

is reflected in the crime effect value of neighborhood subculture. The least influential during the initial stage of transformation, subculture together with land use accounted most fully for the very high crime level. Concretely, these features of the enduring high crime neighborhoods are consistent with the view of such neighborhoods, available to even casual observation, as physically deteriorated and inhabited by a population unable to keep predatory crime in check.

To this point, neighborhood change and crime have been examined with reference to simple sequences as each changed over two decades. The sequences were then assessed with respect to the degree of effect exerted by prior neighborhood conditions on subsequent crime levels, or the reverse where this was the case.

The next three measures concern a more crucial issue. As is well known, social change of all kinds occurs continuously. However, their effects may be vastly different depending on the rate at which they occur. In general, the more rapid the change the more disruptive their effects on established regularities of conduct, undermining the control capacities of societal rules and weakening the informal mutual controls that guide interpersonal conduct. When change occurs at a slower pace there is time to accommodate them, and their disruptive effects are minimized. By the same token, their effects are at a maximum when change is accelerated. It becomes important, consequently, to raise the question of the effect on the development of high crime areas of the rate at which crime and neighborhood conditions change.

The first of the three measures that follow examines simply the extent of neighborhood change in relation to the extent of change in neighborhood crime levels over the same period of time, and provides a first look at their comparative change rates. A second measure then offers a more precise comparison of neighborhood change between 1950 and 1970 and change in crime for the same period. One may think of this measure as representing a race between neighborhood change and crime change that starts at Time 1 (1950) and ends at Time 2 (1970). The third measure then focuses on the effect that the velocity or rate of change in neighborhood conditions during a prior period has on the velocity of change in crime level in the subsequent decade. On the basis of the principle stated above regarding the differential effects of variation in the velocity of change, we should expect a comparatively rapid rate of neighborhood change in the first decade to be followed in the second by a comparatively high crime change velocity. Moreover, it should be possible also to discriminate those neighborhood conditions whose earlier velocities have a critical effect on later crime change velocity from those with reduced effect. The statistic employed to assess change velocities is described in Chapter VI of the Final Report.

### 13. Decennial Change Rates: Neighborhood Conditions and Crime

With several exceptions, the most striking finding to emerge from the analysis of change in each of the two decades is the

very much higher acceleration in crime activity than in most neighborhood features (Table 3). The more "mature" a neighborhood is as a high crime area, the more its crime measure increases during a prior period, and the more sharply the increase is reduced during a subsequent period. That the change rate in crime in these areas first moves rapidly upward and then levels off to a lower rate of increase. This aspect of change, i.e., subsequent reduced rate of increase is very much more marked in neighborhoods in the enduring high crime areas, the end point in neighborhood transformation.

Rates of increase in measures of neighborhood conditions vary widely, suggesting that some do and some do not accompany the change in crime. As represented by the symbol chart of Figure 5, the data of Table 3 indicate that a major shift in the amount of land use change occurs during the emerging stage of transformation. However, as high crime areas "mature," the rate at which land use changes is reduced. The same is true of change rates in the socioeconomic character of these neighborhoods. In contrast, at each stage of neighborhood transformation, population composition change rates increase continuously. Finally, subculture measures that at all three time points (1950, 1960, and 1970) are relatively low in both the emerging and the transitional areas, and very much higher in the enduring areas, exhibit no change between prior and subsequent decades in the emerging areas. It is in the transitional areas that the second, or subsequent, decade witnesses a sharp increase in the subculture change rate. But in the enduring areas the two decades show virtually the same rate of increase.

To summarize, the pattern of change in the course of neighborhood transformation indicates that crime increases most rapidly in the initial stage, with change in their very high crime measures reduced in the later stage areas at the later time points. It may be for this reason that when neighborhoods begin to show signs of deterioration, the change that most commands the attention and concern of residents is its sharp and unwelcome increase in crime. Almost equally compelling is the speed of change in the composition of the population. With the passage of time and advancing neighborhood transformation, the speed of change in its demographic character continues unremittingly to increase. Change in socioeconomic status, however, like that in land use, is most rapid during the earliest period in newly transforming neighborhoods. On the other hand, the highest change in measures of subculture occur only during the transitional stage of development rather than in the emerging stage as is the case with other neighborhood conditions. This would suggest that despite the initial very rapid rise in crime seen in neighborhoods at the earliest stage of transformation, during the first decade, the decisive shift in its social climate, marked by decline in their orderliness and safety and in the decay of local social control, occurs over the course of the subsequent decade.

Table 3. Standardized Mean Composite Indicator Scores and Change Rates\* for Prior and Subsequent Decades, Crime and Neighborhood Conditions, High Crime Areas at Three Stages of Development, Los Angeles County

| Neighborhood Features | Ten 1970 Highest Crime Areas |      |             |       |       | Emerging   |      |             |       |       | Transitional |      |             |       |       | Enduring   |      |             |       |       |
|-----------------------|------------------------------|------|-------------|-------|-------|------------|------|-------------|-------|-------|--------------|------|-------------|-------|-------|------------|------|-------------|-------|-------|
|                       | Mean Score                   |      | Change Rate |       |       | Mean Score |      | Change Rate |       |       | Mean Score   |      | Change Rate |       |       | Mean Score |      | Change Rate |       |       |
|                       | 1950                         | 1960 | 1970        | 50-60 | 60-70 | 1950       | 1960 | 1970        | 50-60 | 60-70 | 1950         | 1960 | 1970        | 50-60 | 60-70 | 1950       | 1960 | 1970        | 50-60 | 60-70 |
| Crime                 | .63                          | .99  | 1.26        | .56   | .69   | -.05       | .27  | .60         | .82   | .68   | .16          | .56  | 1.00        | .92   | .69   | 1.54       | 1.82 | 1.86        | .98   | .42   |
| Land Use              | .35                          | .24  | .18         | .19   | .21   | .12        | .27  | .38         | .33   | .44   | .30          | .18  | .14         | .10   | .12   | .51        | .31  | .16         | .33   | .31   |
| Demographic           | .73                          | .29  | .66         | .34   | .51   | .47        | .27  | .66         | .21   | .75   | .50          | .28  | .60         | .17   | .28   | 1.15       | .32  | .75         | .44   | .70   |
| Socioeconomic         | .81                          | 1.06 | .91         | .35   | .41   | .08        | .60  | .72         | .28   | .44   | .38          | .80  | .90         | .28   | .24   | 1.69       | 1.60 | .98         | .41   | .50   |
| Subculture            | .70                          | 1.08 | .39         | .99   | .96   | -.23       | .32  | .11         | .99   | 1.00  | -.12         | 1.11 | -.11        | .88   | .99   | 2.17       | 1.29 | 1.23        | .80   | .75   |

\* Change rate = 1.00 minus square of interannual correlation value



Figure 5. Shifts in Change Rates Between Initial and Subsequent Decades by Stages in the Development of High Crime Areas, Los Angeles County

|               | Emerging |       | Transitional |       | Enduring |       |
|---------------|----------|-------|--------------|-------|----------|-------|
|               | 60-70    | 50-60 | 60-70        | 50-60 | 60-70    | 50-60 |
| Crime         | -        |       | -            |       | -        |       |
| Land Use      | +        |       | 0            |       | 0        |       |
| Demographic   | +        |       | +            |       | +        |       |
| Socioeconomic | +        |       | 0            |       | 0        |       |
| Subculture    | 0        |       | +            |       | 0        |       |

Symbol Key:

- + = Change rate more than .10 higher in 1960-1970
- = Change rate more than .10 lower in 1960-1970
- 0 = Change rate in 1960-1970 less than .10

Finally, the analysis of differences in degree of change for types of offenses has shown that the expressive crimes of homicide, assault, rape, and drug law violation increase more rapidly relative to increase in the instrumental, property, crimes at the very inception of neighborhood transformation. During subsequent stages, both types of offense increase at approximately similar rates. Only at the terminal point of the neighborhood change process, i.e., during the 1960-1970 decade in the enduring areas, does the instrumental crime change rate exceed that for the expressive offenses. It would seem, then, that in its most general form the development of high crime areas with respect to offense type begins with differentially rapid rates of increase in person or violent crimes and ends with differentially rapid rates of increase in property crime.

Neighborhood and Crime Change Velocities over Two Decades

The comparison of the amount of change in neighborhood conditions and crime between the earlier and later decades gives some indication of shifts in pattern of change across successive decades and across neighborhoods that in 1970 were at different stages of development in their evolution as high crime areas. This information does not, however, provide a direct measure of change velocity in the sense of the acceleration or deceleration in the speed of change as shifts occurred in the course of neighborhood transformation.

Velocity changes were examined in two ways. First, the velocity of change in neighborhood characteristics at each of the three stages of development was compared to the corresponding velocity of crime change over the 1950-1970 two-decade period. Comparative change velocities in neighborhood conditions and in crime for the County's high crime areas during the 1950-1970 period are presented in Table 4 and Figure 6. The measures are readily interpretable. A positive regression coefficient means that the particular aspect of neighborhood deterioration increased faster than did crime, and the larger the coefficient the more its velocity exceeded that for crime. A negative regression coefficient indicates a higher velocity of change in crime than change in a given aspect of neighborhood deterioration, and the larger the coefficient the more its velocity of change exceeds that of the identified neighborhood condition.

These data reveal that in the course of the transformation of neighborhoods from a low to a high crime state, crime increases at a faster pace than neighborhoods deteriorate. However, it is instructive to examine the differences among neighborhood conditions in neighborhoods that are more or less advanced in their deterioration. At the initial, or emerging, state of transformation, both land use and population composition change at a higher velocity than does crime. But by the next, or transitional, stage the crime change velocity has begun to outpace the land use change velocity, increasing its speed of change relative to that of land use as neighborhoods move into

Table 4. Standardized Regression Coefficients and Adjusted R<sup>2</sup>, Multiple Deviational Correlations, Comparative Change Velocities in Neighborhood Conditions, 1950-1970, and Crime, 1950-1970, by Types of High Crime Areas, Los Angeles County

| Elements of<br>Neighborhood Change | County | Stage of Development |              |          |
|------------------------------------|--------|----------------------|--------------|----------|
|                                    |        | Emerging             | Transitional | Enduring |
| Land Use                           | -.09   | .30                  | -.17         | -.51     |
| Demographic                        | .32    | .69                  | .24          | .38      |
| Socioeconomic                      | -.10   | -.18                 | -.12         | -.05     |
| Subculture                         | -.09   | -.39                 | -.04         | -.06     |
| R <sup>2</sup>                     | .08    | .48                  | .04          | .30      |

Figure 6. Comparative Change Velocities, Neighborhood Conditions and Crime, 1950-1970, by Types of High Crime Areas, Los Angeles County

|               | Emerging<br>Neigh Crime | Transitional<br>Neigh Crime | Enduring<br>Neigh Crime |
|---------------|-------------------------|-----------------------------|-------------------------|
| Land Use      | +                       | -                           | -                       |
| Demographic   | +                       | +                           | +                       |
| Socioeconomic | -                       | -                           | -                       |
| Subculture    | -                       | -                           | -                       |

Symbol key:  
 + = Neighborhood change velocity higher  
 - = Crime change velocity higher

the last, or enduring, stage to become durably crime-impacted. This is not the case, however, for changes in neighborhood population composition. The velocity of change in population composition exceeds that for crime in every one of the developmental stages, with the largest differences occurring when neighborhoods first emerge as high crime areas. On the other hand, crime changes at a higher velocity than does either the socioeconomic status or the subculture of high crime areas at all stages of development. But here, too, it may be seen that with progressive neighborhood deterioration the crime change slows perceptibly although it remains greater than change in socioeconomic status and subculture. The reduction in crime change velocity may well reflect its having reached a point of saturation at the terminal stage of neighborhood transformation.

The deceleration in the crime increase velocity in the later stages of neighborhood transformation suggests a growing stability in this respect. The question may be raised whether a similar growing stability characterizes neighborhood conditions. Data presented in Table 3 respecting comparative change patterns for the 1950-1960 and the 1960-1970 decades indicate that for the most part it does, and for substantially the same reason. There is a limit beyond which marginal increases in measures of neighborhood deterioration cannot occur. The single exception is population composition. The change velocity of demographic conditions continues in the enduring stage neighborhoods to exceed that of crime. This may mean only that given its tendency to maintain the earlier high velocity of change, with crime in the final stage of neighborhood transformation decelerating more quickly as the point of saturation is reached, the persisting high velocity of demographic change is relative only to the slowdown in crime change.

#### 14. Cross-Lagged Change Velocities

The second way in which change velocities were examined was more definitive for the lead-lag issue. The question in this analysis was the extent to which the velocity of change in neighborhood conditions during the 1950-1960 decade accounted for the change velocity of crime in the subsequent 1960-1970 decade. Cross-lagged change velocity data are pointedly relevant to the concerns of urban planning and crime control agencies. The data reveal those neighborhood conditions whose velocity of earlier increase most accounts for the velocity of later crime. It may be difficult if not impossible to reverse the course of neighborhood change in light of the powerful economic, political, and social forces of which it is the end product. But the velocity of change may be open to intervention with a view to limiting the extent to which it is likely to be followed by a rapid increase in crime. The findings of cross-lagged change velocity analysis identifies those neighborhood conditions whose magnitudes of earlier change velocities show a measurable relationship to how quickly crime is likely subsequently to increase, and at what stage in neighborhood transformation.

Again, the findings were consistent with those of the preceding analysis respecting patterns of relationship between neighborhood change and crime. As shown in Table 5, land use measures indexing deterioration in the first decade at the initial stage of neighborhood transformation increased more slowly than did the measure of crime in the second decade. The lagged effect of the velocity of change in land use is perhaps not surprising in view of its intrinsically slower pace of change. Changes in land use are constrained by cost problems of considerable magnitude and by zoning issues that encounter strong vested interests. However, in time its lagged effect on the velocity of crime change is overcome. In the later stages of neighborhood transformation seen in the transitional and enduring stage high crime areas, the 1950-1960 land use change velocities had a strong and positive association with the 1960-1970 crime change velocities in both these later stage areas.

A similar shift was not, however, found for the lagged effect of the change velocity in population composition on crime change velocity, as measured by the composite demographic score. At every stage of neighborhood transformation the velocity of crime change in the later 1960-1970 decade was uniformly greater than that for demographics in the earlier, 1950-1960, decade. Thus, at no point in the development of high crime areas does the earlier speed of change in demographics "drive" the later change velocity in crime. A relatively low velocity of change in demographic elements indexing neighborhood deterioration is consistently associated with a higher later rate of increase in crime throughout the process of neighborhood transformation. In other words, velocity change relations between population composition and crime are unaffected by a neighborhood's stage of development as a high crime area. This is not true for land use change velocity, particularly in the later stage areas. In the later stages of neighborhood transformation a large share of the crime change velocity in the second decade is accounted for by the velocity of land use change in the first decade.

Earlier velocity changes in two additional neighborhood conditions are similarly associated with later crime change velocity: socioeconomic status and subculture. Of these, as indicated in Table 5 by the very high positive regression coefficient, prior velocity change in neighborhood socioeconomic status had a strikingly important effect on the subsequent acceleration of the crime measure only in the initial, emerging, stage areas. The effect is sharply reduced in the transitional stage areas. In areas in the last stage of development, the relationship is reversed, suggesting that eventually it is the prior change velocity in crime that impacts the subsequent velocity of socioeconomic change. However, prior change velocity in neighborhood subculture has a consistent positive impact on later crime change velocity, although the strength of the effect declines during the later stages of neighborhood transformation.

Assuming the tenability of the view that it is the rapidity of neighborhood change that obstructs the accommodations and



Table 5. *Standardized Regression Coefficients and Adjusted R<sup>2</sup>, Multiple Deviatonal Correlations, Change Velocity of Crime, 1960-1970, on Change Velocities of Neighborhood Conditions, 1950-1960, by Types of High Crime Areas, Los Angeles County*

| Elements of<br>Neighborhood Change | County | Stage of Development |              |          |
|------------------------------------|--------|----------------------|--------------|----------|
|                                    |        | Emerging             | Transitional | Enduring |
| Land Use                           | .14    | .58                  | .31          | .49      |
| Demographic                        | -.17   | -.12                 | -.09         | -.41     |
| Socioeconomic                      | .14    | .96                  | .09          | -.11     |
| Subculture                         | .23    | .22                  | .24          | .13      |
| R <sup>2</sup>                     | .14    | .66                  | .33          | .17      |

adjustments that might otherwise keep rising crime in check when neighborhoods first begin to deteriorate, which neighborhood conditions now appear to be most implicated in the development of high crime areas? To answer this question it is necessary, first, to distinguish the immediacy with which an earlier change velocity of a given neighborhood condition affects the later change velocity of crime; and, secondly, the strength of the acceleration effect on neighborhood change and on the later change velocity of criminal activity.

The evidence provided by the lagged change velocity relationships between neighborhood conditions and crime indicates that as neighborhoods in Los Angeles County were transformed from a crime-free to a crime-impacted state, the most rapid changes were in neither land use nor population composition. The most immediate and strongest effects stemmed from very rapid initial velocity change in socioeconomic status and subculture. The most prominent delayed effect was that of land use. Rapid earlier change in population composition over the entire course of neighborhood transformation did not, on the contrary, produce rapid crime change velocities.

#### Implications for Crime Control Policy

There are two ways to read the implications of the major study findings for the problem of crime control. The first of these derives from the finding that the crime level of urban neighborhoods rises as a consequence of their deterioration, and that the more advanced their deterioration, the more severe becomes their crime problem. This will hardly come as news to the urban dweller for whom the connection between neighborhood deterioration and crime has frequently been a matter of personal experience. Implied is that the path to crime control is through the control of neighborhood deterioration. Immediately encountered in a pursuit of this notion are the well-established social and economic forces that distribute populations over urban space in such a way as to locate in the city's aging residential areas or in areas that are otherwise regarded as undesirable its most socially and economically disabled crime-prone segments. The urban residential segregation process is a reflection of powerful "natural" forces flowing from the innumerable private decisions made in the course of competition for desirable residential space among individuals distributed over a wide range of economic power. At the very outset, then, any attempt to deal with the crime problem by an effort to alter these forces would appear to be likely to fail.

There is a second and possibly more fruitful way of viewing the crime control implications of the study findings. We may note the differences in the play of such "natural" forces at the various stages through which neighborhoods move in their transformation from a relatively crime-free to a highly crime-impacted state. It is important in particular to focus on the relationship between neighborhood change and crime during the early or initial stage in the transformation process. An

understanding of the situation in such neighborhoods is crucial because it exemplifies the conditions currently encountered with increasing frequency in ever-widening reaches of the contemporary American metropolis.

Historically largely confined to the city's "bad" areas, the crime problem in a severe form now reaches into neighborhoods that earlier would have remained relatively untouched. How this change has occurred can be briefly described. Prior to 1940, and more marked in the older than in the newer cities of the United States, the pattern of population distribution was indeed very largely a product of the sorting process alluded to above. Following the end of World War II, and continuing over the next three decades, the pattern of urban population distribution was slowly but continuously altered by a number of important developments. The first of these was suburban growth. With the older fixed rail mode of intracity movement giving way increasingly to automobile transport, massively encouraged by the building of high-speed expressways into the heart of the city, residential sites in the physically attractive semirural periphery of urban regions became accessible for settlement by those who could afford both automobiles and expensive housing. The older middle class residential areas closer in to the city's center underwent steady, decades-long evacuation.

A second significant development of the period altered the social class composition of cities. Attracted by employment opportunities offered by the post-war expanding economy, low income groups from the rural regions of the southern and southwestern states moved into the larger industrial cities at a now increased rate. New accretions to the population in the past two decades was further increased by the immigration of other low income groups, largely from the neighboring, less developed countries. Taken together, the need of these two newly arriving groups for residential space could be met most readily by the steadily evacuated older residential areas as the middle class became increasingly suburbanized. The upshot was a reduction in the proportion of city populations constituted by the more affluent and an increase in both the proportion and absolute numbers of low income groups.

As is usual in large-scale social change, these developments--transition to automobile transport, the removal of higher income groups to the suburbs, and high rates of immigration of lower income groups--were not without strain, tension, and conflict. These changes occurred over a protracted period. The evacuation of older residential sites occupied by the middle class was frequently slower than was the rising need for housing on the part of the newcomers. While families with children were prone to leave more promptly for the suburbs, older residents often resisted their replacement. Others among the higher income groups were also reluctant to leave for the suburban "incubators" of a new generation because they valued access to the cultural amenities of the central city--its shops, theaters, and the like. With automobile use becoming accessible

to all incoming groups, and with a network of intracity highways providing access to all sectors of the city, the reluctant leavers in many of the older but otherwise "good" neighborhoods came under growing pressure of a very specific kind. While not alone to be subjected to the pressure, the most seriously affected of these neighborhoods tended to be those closest to the city's now established network of limited access highways. The pressure took the form of initial incursions into many such neighborhoods, typically by small numbers of families and individuals who by virtue of social class or ethnicity were regarded as an alien intrusion.

Thus, unlike the situation earlier in this century, when residential areas of in-migrating low income groups tended to grow in a continuous belt of expansion, the growth in the recent period has had a "scattershot" and "leapfrogging" character. And, so far as higher crime rates have been associated historically with low income city residents, the now changed intracity pattern of residential movement has resulted in the "spread of crime" to hitherto unaffected neighborhoods. But it is necessary at the same time to recognize that none of the neighborhoods that experience such initial move-ins are instantly converted into high crime areas. We have seen in this study that their transformation occurs slowly, often requiring as much as a decade. This period witnesses a growing presence of "strangers" in the neighborhood, frequently including offenders who travel with ease from the more distant enduring high crime areas, subjecting the residents to increasingly frequent victimization. Given these developments of the past several decades, what possibilities remain open for forms of intervention that may have a crime control payoff?

In the absence of unlikely changes in our system of social stratification and in the political economy of the country, and perhaps not even then, there is probably little that can be done to reduce crime in neighborhoods in which high crime rates have persisted over many years. Their crime rates have long since been stabilized at a point that balances an affordable investment in law enforcement with their endemic criminogenic character. The marginal utility of an increase in law enforcement devoted to these areas is likely to be extremely low.

However, as this study has shown, early in the history of the more recently developed high crime areas, there was a period when it was relatively crime-free. The process of neighborhood change presented in this study was captured in the 26-year history of high crime areas at their emerging, transitional, and enduring stages of development. Historical reconstruction of the developmental process was accomplished by representing neighborhood conditions in the transitional high crime areas as those that in time came to characterize the emerging high crime areas, terminating eventually in their establishment as enduring high crime areas.

It would seem evident that from the standpoint of long-term crime control objectives intervention effort should focus on the

emerging high crime areas. Any neighborhood that has had a high level of crime over a period of several decades may be considered "lost" territory for purposes of effective crime reduction. These are the urban areas that absorb a major share of police resources, necessarily devoted to the task of keeping an already precarious order from deteriorating into an irredeemable social jungle. There is even some question whether neighborhoods that have been identified in this study as transitional high crime areas have not by that point in their development already become irreversibly crime-impacted. Only a strenuous effort of containment by the police may offer hope that the pace of their transformation into enduring high crime areas can be slowed. It remains, then, that only the currently emerging high crime neighborhoods may offer opportunity to reverse their eventual establishment as persisting high crime areas.

The indicators by which emerging high crime areas may be identified are reasonably clear. As to their age, in Los Angeles County they were found to be those in which both single and multiple dwelling units were built before 1940, but in which no conversion to commercial or industrial land use had occurred by 1970. They thus constituted the middle-aged rather than the oldest residential areas, in which a decade-long shift had occurred from owner- to renter-occupied housing. Second, while a slow change in population composition accompanied the shift, marked by rising population density and rising rates of single-parent families and unattached individuals, the most rapid change of the preceding decade was a reduction in the socioeconomic status of the neighborhood. Third, a gradual transformation in neighborhood social climate was underway, marked by rising numbers in the minority ethnic groups with a relatively high proportion among them of individuals with advanced education, a large increase in juvenile status offenses, and a sharply rising trend in the ratio of females to males in the labor force. Thus, in the language of urban ecology, the emerging high crime areas represent communities of a relatively unsorted mix prior to the point of becoming residential sites specialized in the housing of the ethnic urban poor.

Whether policy initiatives can be suggested capable of inhibiting or reversing what has in the past proven to be a predictably course of development depends on the existence of countervailing "natural" forces. Although they may be of uncertain strength, a number of these can be indicated. The effectiveness with which they can be deployed is consequently heavily dependent on vigorous political and administrative supports.

Among these forces may be mentioned, first, the initial reluctance of substantial numbers of both home owners and renters to cut the ties of sentiment to their neighborhoods. Second, residence in the closer-in older city areas is currently rising in value as a result of expected increases in the cost of travel from the outer reaches of metropolitan regions. Third, there is growing evidence that earlier patterns of middle class "white

flight" from the older city areas based on race prejudice has declined, to be replaced by social class prejudice. Recent years have seen an increase in the number of stable communities with an ethnic mix.

Based on these factors, policies designed to interrupt the impending deterioration of the emerging high crime areas would in the first instance be required to control their advancing cross-class mix. Clearly, this is a matter of vigorous local political control of zoning, and exemplary enforcement of building code requirements. Moreover, such change would have to be supplemented by a set of social and educational services to assist those lower income families that do move in, even if small in number, in coping with their economic and social problems and in adapting to general neighborhood norms, most particularly those respecting the use of public space. Finally, because the emerging high crime areas are now easily accessible from the enduring high crime areas, and therefore highly vulnerable to predatory invasion, a crucial element of policy would concern law enforcement. It is likely that the emerging areas would have to be established as special police administrative districts with a higher than average ratio of police to population, and with an emphasis on foot patrolling. Needed would be relentless law enforcement by a police cadre devoted to developing the reality as well as the image of the "friendly neighborhood cop."

There is little reason to assume that such policy initiatives can be readily implemented. There is even less reason to assume that, if implemented, they might have substantial immediate payoff in overall crime reduction. They would leave untouched the major sources of metropolitan crime in the enduring high crime neighborhoods. The most that can be claimed for such policy moves, if successfully implemented, is that they might slow the spread of serious crime problems to ever larger reaches of the city, provisionally segregating the locus of the problem in a limited portion of urban space. However, this approach may provide the grounds for the development of crime control programs differentiated with respect to the varying character of the problem in subareas in distinguishable stages of "maturity: as crime areas. It may well be the case that crime prevention and control programs instituted in the enduring high crime areas demonstrate little effect because they are appropriate only for areas at earlier stages of development.

This scenario is of course based on the assumption of stability in the size of the more crime prone urban poverty population. The fact is, however, that the size of this population has continued to increase to the present day both in absolute numbers and in their proportion to the total population. This being the case, the problem of neighborhood deterioration in its more general aspects with its attendant effect of rising crime is linked to wider problems of polity and economy, whose solution transcends both the resources and the authority of local governments. Policies capable of meeting these problems, and contributing to the control of urban decay and crime, can come only from higher levels of government.



**END**