HOUSING DISCRIMINATION STUDY

Analyzing Racial and Ethnic Steering

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Prepared for:
U.S. Department of Housing and Urban
  Development

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Contract HC-5811

October 1991

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Housing Discrimination Study Reports

Methodology and Data Documentation

Incidence and Severity of Unfavorable Treatment

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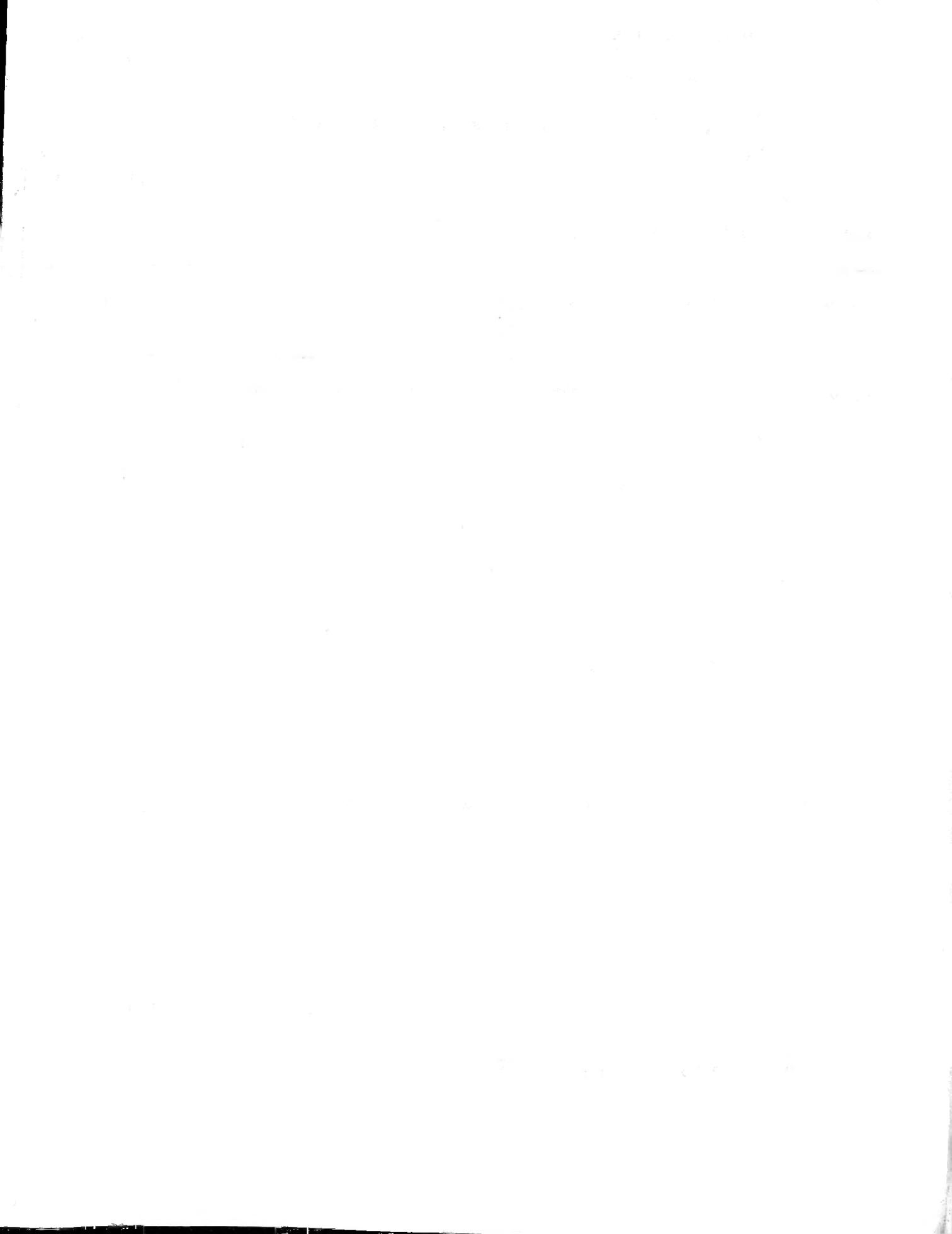
The Housing Discrimination Study

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EXECUTIVE SUMMARY

This report analyzes the incidence and severity of steering, examining the hypothesis that black and Hispanic homebuyers are "steered" away from predominantly white Anglo neighborhoods, and offered housing opportunities in more integrated or less affluent neighborhoods instead. This analysis was conducted as part of the Housing Discrimination Study, a national fair housing audit study sponsored by the U.S. Department of Housing and Urban Development's Office of Policy Development and Research, and conducted by The Urban Institute and Syracuse University. Results are based on over 2,100 sales audits (paired tests) conducted in 25 metropolitan areas during the late spring and early summer of 1989. The data gathering period for HDS coincided with initial implementation of the 1988 Fair Housing Act Amendments. Therefore, study results can be regarded as a benchmark against which the effects of the Amendments can be measured.

Background

In 1977, HUD's Office of Policy Development and Research conducted the Housing Market Practices Survey (HMPS), the first national audit study of housing market discrimination. Pairs of auditors -- one white and the other black -- posed as otherwise identical homeseekers. They responded separately to advertisements randomly selected from the major newspapers of forty metropolitan areas, and recorded their treatment by real estate and rental agents.

The current Housing Discrimination Study (HDS) was designed to build on the experience of HMPS in order to achieve four key objectives:

o   Provide a current national estimate of the level of discrimination against blacks in urban areas.

o   Provide, for the first time, a comparable national estimate of the level of discrimination against Hispanics.

o   Effectively measure racial and ethnic steering, whereby minorities may be shown or recommended housing units, but are "steered" away from majority neighborhoods.

o   Advance the state-of-the-art in the methodology of systematic housing audits, providing advocacy and enforcement agencies with more reliable tools for measuring patterns of discrimination.

Analysis presented here focuses on racial and ethnic steering. It compares characteristics of neighborhoods where houses were shown or recommended to minority and majority auditors, to test the hypothesis that black and Hispanic homebuyers are

"steered" away from predominantly white Anglo neighborhoods, and offered housing opportunities in more integrated or less affluent neighborhoods instead.

Audit Methodology

The Housing Discrimination Study implemented essentially the same audit methodology developed in the 1977 Housing Market Practices Survey (HMPS). Specifically:

o   A sample of metropolitan areas was selected to yield nationally representative estimates of differential treatment for minority homeseekers in major urban areas.

o   Advertisements were randomly selected from the major newspaper in each metropolitan area.

o   Teams of minority and majority auditors were sent to sampled sales and rental agents to inquire about the availability of housing units.

o   Minority and majority auditors independently recorded their treatment on structured data collection forms.

The two studies differ, however, in several critical respects. Most importantly, each HDS audit began with a request for a specific, advertised unit selected from the most recent Sunday newspaper. In HMPS, only one sample of advertisements was drawn in advance of the field work for each metropolitan area, and auditors did not explicitly ask for the advertised unit. By "anchoring" audits to specific advertised units, HDS ensured that the opening requests by both members of an audit team were identical.

In conjunction with these key changes in the audit methodology, HDS refined and expanded the HMPS data collection procedures. For purposes of the steering analysis, HDS explicitly instructed auditors to ask about the availability of homes similar in size and price to the advertised unit, to avoid expressing a preference for any particular neighborhood or community, to inspect as many homes as possible, and to record the addresses of any other homes recommended by the agent for future inspection.

It is important to understand that the HDS audits were designed to measure the extent to which blacks and Hispanics experience discrimination when they look for housing in urban areas throughout the country. HDS audits were not designed to assemble evidence of discrimination in individual cases. The question of when differential treatment warrants prosecution and the related question of whether sufficient evidence is available to prevail in court are extremely complex and can only be resolved on a case by case basis. These questions are entirely outside the scope of the HDS analysis and reports.

Steering Analysis

Past audit studies strongly suggest that steering occurs in the home sales market, constraining housing opportunities for minority homebuyers. However, due to methodological and data limitations, none of the audit studies conducted to date provides conclusive estimates of either the incidence or the severity of steering for the nation as a whole. The results reported here represent the first comprehensive analysis of steering for both black and Hispanic homebuyers in large urban areas throughout the United States.

Steering occurs when minority homeseekers are offered houses, but in systematically different neighborhoods than their white Anglo counterparts. Steering can only occur when an agent identifies addresses that would be of interest to a customer. For this report, steering evidence is presented for cases in which both auditors were shown or recommended one or more houses.

Two complementary methodologies were employed in this analysis of racial and ethnic steering. First, we conducted statistical analysis of the characteristics of neighborhoods where houses were shown or recommended to minority and majority homeseekers. In addition, data from the five in-depth audit sites (Chicago, New York, Los Angeles, San Antonio, and Atlanta) were used to map the locations of houses shown and recommended to minority and majority homeseekers.

Mapping is an important component of the analysis as a whole because steering is a spatial phenomenon; if steering occurs, the probability that a house will be made available to minorities or to whites is determined by the location of that unit relative to the location of minority neighborhoods in the city. Mapping analysis was incorporated into the HDS because statistical analysis alone might not fully reflect patterns of racial steering, because spatial patterns might be more effectively illustrated with maps, and because new hypotheses about steering behavior might be suggested by visual examination of spatial patterns.

Summary of Findings

Both black and Hispanic auditors experienced steering of one form or another in 21 percent of the cases where they were shown or recommended addresses. In other words, the gross incidence of differential treatment is 21 percent. When black homeseekers respond to advertisements in major metropolitan newspapers, those who are shown or recommended houses face a 12 percent chance of being steered toward neighborhoods that have a lower percent white than those shown and recommended to comparable white Anglo homeseekers, an 11 percent chance of being steered to lower income neighborhoods, and a 17 percent chance of being steered to neighborhoods with lower house values. Hispanic homebuyers who are shown or recommended houses also face a 12 percent chance of being steered to lower percent Anglo neighborhoods, an

11 percent chance of being steered to lower income neighborhoods, and a 17 percent chance of being steered to neighborhoods with lower house values. These findings clearly demonstrate that steering occurs, and that it limits the housing and neighborhood choices of both minority and majority households.

Although the incidence of steering is significant, its severity is low. In other words, the magnitude of differences between neighborhoods shown and recommended to minority and majority homebuyers is small. The average percent white in neighborhoods shown and recommended to black and white auditors differed by only 3 percentage points, and the median house value differed by only $1,700. For Hispanics and Anglos, average neighborhood percent Anglo differed by only 1 percentage point and median house value by less than $1,000. Thus, HDS results do not provide evidence that minority homeseekers are systematically steered to predominantly black or Hispanic neighborhoods, but rather that they are steered to less predominantly white neighborhoods than comparable white homebuyers.

One of the primary reasons why differences in neighborhood characteristics are so small is that the vast majority of addresses advertised, recommended, and shown by audited agents were located in predominantly white, middle-income neighborhoods. In other words, a random sample of homes advertised in major metropolitan newspapers yields very few addresses in minority or integrated neighborhoods, and the agents encompassed by this sample do not show or recommend addresses in minority or integrated neighborhoods. Even after controlling for the size and value of the owner-occupied stock, black and Hispanic neighborhoods are less likely to be advertised in major metropolitan newspapers or marketed by agents in our sample than predominantly white Anglo neighborhoods.

Thus, both minority and majority homebuyers are limited in their neighborhood choices in two important ways. First, black and Hispanic homebuyers who are shown and recommended addresses are likely to be steered to neighborhoods that are lower percent white and less affluent than those shown and recommended to comparable white Anglo homebuyers. And second, all homebuyers who start their search by inquiring about the availability of units advertised in major metropolitan newspapers are likely to be shown and recommended houses in predominantly white Anglo neighborhoods, rather than in integrated or minority neighborhoods.

1. BACKGROUND AND INTRODUCTION

This report analyzes the incidence and severity of racial steering, as part of the Housing Discrimination Study, a two-year fair housing audit study sponsored by the U.S. Department of Housing and Urban Development's Office of Policy Development and Research. Analysis presented here compares characteristics of neighborhoods where houses were shown or recommended to minority and majority auditors, to test the hypothesis that black and Hispanic homebuyers are "steered" away from predominantly white Anglo neighborhoods, and offered housing opportunities in integrated or minority neighborhoods instead.

The Housing Discrimination Study

In 1977, the Department of Housing and Urban Development's (HUD) Office of Policy Development and Research conducted the first national study of housing market discrimination. This Housing Market Practices Survey (HMPS) used the "audit" methodology to directly observe differential treatment of black and white homeseekers.[1] Specifically, pairs of auditors -- one white and the other black -- posed as otherwise identical homeseekers. They responded separately to advertisements randomly selected from the major newspapers of forty metropolitan areas, and recorded their treatment by real estate and rental agents. Because audit teammates were identically qualified as homebuyers or renters, systematic differences in treatment could be attributed to their race.

Since 1977, several smaller scale audit studies have been conducted in individual cities, and HUD sponsored an audit study in Dallas to document the extent of discrimination against Hispanic households.[2] In 1988, HUD's Office of Policy Development and Research initiated a second national audit study of housing market discrimination. This two-year Housing Discrimination Study (HDS) was carried out by The Urban Institute and Syracuse University. A total of 3,800 audits were conducted in 25 metropolitan areas during the late spring and early summer of 1989.

The current Housing Discrimination Study (HDS) was designed to achieve four key objectives. First, HDS provides a current national estimate of the level of unfavorable treatment experienced by blacks in urban areas. The second objective of HDS is to produce, for the first time, a comparable national estimate of the level of unfavorable treatment experienced by Hispanics. The third major objective of HDS is to measure the incidence of racial and ethnic steering. And finally, HDS seeks to advance the state-of-the-art in the methodology of systematic housing audits, providing fair housing enforcement agencies and organizations, as well as researchers, with more reliable tools for measuring patterns of discrimination against minority homeseekers in individual housing markets.

Analysis of Racial and Ethnic Steering

One of the primary objectives of HDS was to measure the incidence of racial and ethnic steering, whereby minorities may be shown or recommended housing units, but are "steered" away from predominantly white Anglo neighborhoods toward neighborhoods that are already integrated or predominantly black or Hispanic.[3] Previous researchers have explored this issue. But HMPS did not report measures of racial steering, and other audit studies of steering have focused on individual metropolitan areas. Therefore, the results presented here represent the first nationwide analysis of racial and ethnic steering in urban housing markets.

Steering is often difficult for individual homeseekers to detect, since minorities may be shown houses that meet their specifications and have few opportunities to find out about the houses they are not shown. But if minorities are systematically steered away from predominantly white neighborhoods -- and vice versa -- this form of discrimination clearly limits housing and neighborhood choice, and may play a role in perpetuating patterns of residential segregation.

Two complementary methodologies were employed in this analysis. First, we conducted statistical analysis of the characteristics of neighborhoods where houses were shown or recommended to minority and majority homeseekers. In addition, data from the five in-depth audit sites (Chicago, New York, Los Angeles, San Antonio, and Atlanta) were used to map the locations of houses shown and recommended to minority and majority homeseekers.

Mapping is a critical component of the analysis as a whole because racial steering is a spatial phenomenon; if steering occurs, the probability that a house will be made available to minorities or to whites is determined by the location of that unit relative to the location of minority neighborhoods in the city. We hypothesized that statistical analysis alone might not fully reflect patterns of racial steering, that spatial patterns might be more effectively illustrated with maps, and that new hypotheses about steering behavior might be suggested by mapping analysis.

The remainder of this chapter provides a brief overview of past analyses of racial steering conducted as part of housing audit studies. Chapter 2 describes the methods employed to collect and analyze data on steering in the Housing Discrimination Study. Chapter 3 presents the detailed results of both the statistical and mapping analyses to measure the incidence and severity of racial and ethnic steering. Finally, Chapter 4 supplements this analysis with a broader comparison of neighborhoods where audited addresses were located with all neighborhoods in the sampled metropolitan areas.

<u>Previous Audit Studies of Racial Steering</u>

Many analysts of housing market discrimination have considered the issue of steering and its potential role in perpetuating racial segregation in their analyses of discriminatory practices.[4] However, only a few audit studies of housing market discrimination have incorporated analysis of racial steering. Prominent examples include:

> Harriet Newburger (1981), "The Nature and Extent of Racial Steering Practices in U.S. Housing Markets;"

> Judith Feins and Rachel Bratt (1981), "Barred in Boston: Racial Discrimination in Housing;" and

> Diana Pearce (1979), "Gatekeepers and Homeseekers: Institutional Patterns in Racial Steering."

Key findings of these audit studies are briefly reviewed here.

Newburger's (1981) study relied on data from the sales audits conducted in HUD's 1977 Housing Market Practices Survey (HMPS). Matched pairs of black and white auditors visited real estate agents in 40 metropolitan areas for a total of 1,655 sales audits. Audits were based on a random sample of advertised units from each area's major newspaper. Auditors were instructed not to ask for the specific advertised unit, but rather for housing in the designated price range, size category, and location.

Newburger's methodology followed the basic approach used more generally in HMPS, which focused on computing measures of the difference between white and black experience for each audit pair. Audits were designated as "white higher," "black higher," or "no difference" on a number of different indicators, including average percent white (using 1970 Census tract values), average tract income (updated to 1976), median house value (in 1970), percent of tract housing built before 1950, and percent total population change, 1970 through 1976.

Newburger's results showed that blacks were more likely to be shown houses in neighborhoods with a higher percentage black population, with lower income levels and lower house values. Specifically, in 47 percent of the audits, blacks were shown houses in higher percent black neighborhoods than their white partners, while whites were shown houses in higher percent black neighborhoods in only 26 percent of the audits. Correspondingly, whites were shown houses in higher income neighborhoods than their black partners in 45 percent of the audits, while blacks were shown houses in higher income neighborhoods only 31 percent of the time. Newburger's results also suggested that differences in neighborhood characteristics may be more likely for houses recommended for future inspection than for houses actually shown to white and black auditors.

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However, the magnitude of the differences in neighborhood racial composition for houses either shown or recommended to whites and blacks were very small. For example, of the 432 audits in which blacks were shown houses in higher percent black neighborhoods than their white counterparts, in 327 (76 percent) the difference in percent black between the two auditors was less than 2.5 points. Moreover, in 72 percent of all cases, both the black and the white auditor were shown houses in neighborhoods that were less than 2.5 percent black. In other words, although the incidence of differential treatment was statistically significant, the size of the differences was extremely small.

The Feins and Bratt (1981) study of housing discrimination in Boston focused primarily on differences in housing availability in seven racially mixed neighborhoods. Two all black and four predominantly white neighborhoods were excluded from the study. The audit sample was randomly drawn from advertisements for rentals and sales in the Boston Globe and in local neighborhood papers. Auditors were instructed to ask for a specific advertised housing unit. This "anchored" the audits, ensuring that both minority and white house seekers made the same initial request of the real estate agent. Auditors were subsequently instructed to request other units similar in price and size, and in the same broadly defined neighborhood.

Although the measurement and analysis of steering was only a secondary goal of the Boston study, an attempt was made to associate the locations of houses shown to blacks and whites with the racial composition of the neighborhood. Updated, but approximate, racial composition data were obtained from a local survey. The results showed no strong significant differences in the racial composition of neighborhoods in which the white and black auditors were shown houses.

Pearce (1979) focused more explicitly on the steering issue in her audit study of the Detroit metropolitan area. Audits were conducted at a random sample of agent's offices. They were not related to specific advertised units, and the visits by white and minority auditors were often months apart. By design, all auditor teams posed as professionals with above-average incomes and indicated that they were new to homebuying.

Using these audit data, Pearce explored differences in 1) neighborhood racial composition; 2) the average house value of the city where the house shown was located; and 3) the distance from black population areas. Census data for 1970 were used to determine average house values and racial composition. The results indicated that blacks were shown houses in slightly higher percent black neighborhoods and in cities with lower house values. Specifically, the neighborhoods where blacks were shown houses had an average black population of 4 percent and an average house value of $21,500, compared to an average black population of 1 percent and an average house value of $22,500 for neighborhoods in which houses were shown to whites.

To complement these statistical results, Pearce mapped metropolitan Detroit, showing both Census tract and city boundaries. She then plotted the point pattern of

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houses shown to black and white auditors. The geographic distribution of the two point patterns demonstrated visually that blacks were systematically shown houses in areas closer to black population areas. On average, houses shown to blacks were approximately one mile closer to predominantly black tracts than houses shown to whites. Pearce also found that the houses shown to blacks were less likely to be located in the same city as the agent's office.

In summary, past audit studies strongly suggest that steering occurs, constraining housing opportunities for minority homebuyers. However, due to methodological and data limitations, none of the audit studies conducted to data provides conclusive estimates of either the incidence or the severity of steering for the nation as a whole. The results reported here represent the first comprehensive analysis of steering for both black and Hispanic homebuyers in large urban areas throughout the United States.

2. DATA SOURCES AND METHODS

This chapter describes the audit methodology, data sources, and analytic procedures upon which the steering analysis is based. First, the basic audit design implemented in the Housing Discrimination Study (HDS) is summarized, and methods for selecting the twenty-five audit sites are briefly reviewed. Next, we discuss the source and coverage of data on neighborhood characteristics for the sample of twenty-five metropolitan areas. The fourth section of this chapter, describes the procedures used to match the addresses shown and recommended to majority and minority auditors to Census tract identifiers for all twenty-five audit sites, and to specific map locations for the five in-depth sites. And finally, we outline statistical procedures used to measure the incidence and severity of steering.

HDS Audit Methodology

The Housing Discrimination Study has implemented essentially the same audit methodology developed in the 1977 Housing Market Practices Survey (HMPS). In both studies, a sample of metropolitan areas was selected to yield nationally representative estimates of differential treatment for minority homeseekers in major urban areas. The two studies did not employ identical sampling strategies, nor did they conduct audits in the same cities. Nevertheless, both sampling plans were designed to yield statistically reliable national estimates of differential treatment in urban housing markets.

In each sampled metropolitan area, advertisements were randomly selected from the major metropolitan newspaper, and teams of minority and majority auditors visited sampled sales and rental agents to inquire about the availability of housing units.[5] Income and other household characteristics of the auditor pairs were assigned to be the same and to qualify both team members for the advertised housing unit. Finally, minority and majority auditors independently recorded their treatment by landlords and real estate agents on structured data collection forms; these data were subsequently coded and analyzed for differences in treatment.

The two studies also employed essentially the same administrative procedures. Audits were mainly conducted by local fair housing organizations, which employed and trained local auditors. Regional supervisors, working under the direction of a central audit manager, monitored activities at the individual audit sites to ensure that audits were being conducted consistently and that results were being recorded objectively and exhaustively. Samples of advertisements were drawn centrally by research staff, and all audit reporting forms were reviewed for completeness and consistency at the local, regional, and central research office level.

Although HDS adopted the same basic methodology pioneered in HMPS, the two studies differ in several important respects. To ensure that both members of each audit team made identical opening requests for housing, each HDS audit began with a request for a specific, advertised unit selected from the most recent Sunday

newspaper. In HMPS, only one sample of advertisements was drawn in advance of the field work for each metropolitan area, and auditors did not explicitly ask for the advertised unit.

This research design decision may limit the extent to which agents engaged in steering, since both the minority and majority auditors started out by asking for housing in the same location. However, the "anchoring" procedure ensures that any findings that steering does occur will be plausible and defensible, since both minority and majority auditors gave exactly the same locational signals at the start of the audit.

Despite the constraint imposed by the anchoring procedure, agents were given "opportunities" to engage in steering because auditors were instructed to ask about other housing units of similar size and price, whether or not the advertised unit was available. If asked by the agent for neighborhood or community preferences, the auditors were told to be non-committal, indicating only that they were looking for the right size house in their price range. Thus, differential treatment on neighborhood characteristics can occur whenever one or both auditors were shown or told about units other than the advertised "anchor" unit.

It is time-consuming and expensive for auditors to visit a large number of houses. Therefore, for analysis of steering to be effective, it is essential that auditors obtain a complete address for every house that the agent recommends and would be willing to show to an auditor. HMPS audit procedures made a distinction between 1) houses suggested as serious possibilities, 2) houses that the agent offered to show to the auditor, and 3) houses actually inspected by the auditor.

However, the distinction between "suggested as serious possibilities" and "offered to show" proved to be an ambiguous one. Therefore, HDS auditors were simply instructed to inspect as many units as possible, and to obtain the addresses of as many other houses as possible, by asking the agent to recommend houses that they might visit together at another time or that the auditor might drive by to determine their suitability. This enabled the HDS steering analysis to extend beyond houses that the agent and auditor actually visited, and to include additional addresses that the agent identified as available and recommended for inspection by the auditor. An issue explored in the next chapter is whether steering is either more or less prevalent for the sub-set of units agents actually go to the trouble to show an auditor than for the full set of possible addresses recommended for future inspection.

It is important to reiterate that in both HMPS and HDS the sample of real estate and rental agents to be audited was drawn from newspaper advertisements, and that the economic characteristics of audit teams were matched to the characteristics of the advertised units. Specifically, the income, assets, debt, and household size assigned to each audit team ensured that the auditors qualified for the cost and size of the advertised housing unit.

Limitations of this approach are that not all housing units for sale or rent are advertised in major metropolitan newspapers, not all real estate and rental agents use

this means to attract customers, and not all minority homeseekers use newspaper advertisements in their housing search. In fact, little is known about strategies used by minority and majority homeseekers in their housing search, about the share and characteristics of the housing market covered by newspaper advertisements, or about differences in the incidence of discrimination across different segments of the market.[6]

As discussed further in Chapter 4, advertised units do not represent the full range of metropolitan neighborhoods in which owner-occupied housing units are available. Therefore, results presented here cannot be interpreted to reflect the experience of homeseekers searching in an average urban neighborhood, or the likely outcome of the typical minority housing search process. Instead, HDS documents the treatment of homeseekers who begin their search for housing by responding to advertisements in a major metropolitan newspaper. In other words, HDS (like HMPS) captures the incidence of discrimination in a major segment of the metropolitan housing market, but not in the market as a whole.

Sampled Metropolitan Areas

HDS audits were conducted in 25 metropolitan areas, representative of large urban areas with significant minority populations. Specifically, metropolitan areas were included in the universe for selection if they had central city populations greater than 100,000, and were more than 12 percent black or more than 7 percent Hispanic -- the average share of blacks and Hispanics in U.S. central cities overall. This universe of 105 metropolitan areas is broken down into three categories:

23 areas that are both more than 12 percent black and more than 7 percent Hispanic, from which 8 sample areas were selected, and where both black-white and Hispanic-Anglo audits were conducted;

62 areas that are more than 12 percent black but less than 7 percent Hispanic, from which 12 sample areas were selected, and where only black-white audits were conducted; and

20 areas that are more than 7 percent Hispanic but less than 12 percent black, from which 5 sample areas were selected, and where only Hispanic-Anglo audits were conducted.

Because of their importance as places of residence for the majority of America's black and Hispanic populations, five sites were selected with certainty for inclusion in the sample. In each of these metropolitan areas, additional audits were conducted to allow for city-specific analysis of discriminatory practices. These five in-depth sites are New York, Chicago, and Los Angeles, where both black-white and Hispanic-Anglo audits were conducted; Atlanta, where only black-white audits were conducted; and San Antonio, where only Hispanic-Anglo audits were conducted.

The remaining 20 audit sites were selected randomly from each of the three categories of metropolitan areas. Probabilities of selection were directly related to metropolitan area population, so that large areas -- where a larger share of the nation's black and Hispanic populations live -- were more likely to be included in the sample. Nevertheless, the sample includes small metropolitan areas such as Pueblo, Colorado and Macon-Warner-Robins, Georgia, along with many of the largest urban areas in the country. In addition, the sample is geographically diverse, representing all four Census regions and a wide range of states.

Statistical results presented in this report are based on values weighted to adjust for the sampling scheme. Specifically, because the probability of selection varied with a metropolitan area's size, the final sample of HDS audit results is weighted such that observations from metropolitan areas that are under-represented in the sample are weighted more heavily than observations from metropolitan areas that are over-represented in the sample.[7]

Census Tract Characteristics

For each metropolitan area in which audits were conducted, data were assembled on the socio-economic characteristics of Census tracts within the urban area. Clearly, 1980 Census data would be of limited value for this analysis, since racial and ethnic change can be expected to have occurred in many tracts. Therefore, projected values for 1988 Census tract population, racial and ethnic composition, and incomes were obtained for each of the twenty-five audit sites. Annex Table A-1 lists the full set Census tract characteristics obtained from National Decision Systems.[8]

These tract characteristics are utilized both in the statistical analysis of racial and ethnic steering for all twenty-five audit sites, and in the mapping analysis conducted for the five in-depth sites. In order to display neighborhood characteristics on metropolitan area maps for the five in-depth sites and in frequency tabulations for the full sample of audits, it was necessary to define discrete value ranges. For consistency, a common set of value ranges was defined across all sites for racial and ethnic composition, incomes and house values, age of the housing stock, and owner-occupancy rate. These ranges correspond roughly to quartiles, but have been adjusted so that each range contains a reasonable number of tracts for each site.

Defining sensible value ranges for neighborhood racial and ethnic composition presented the greatest challenge, largely because of the severity of residential segregation in U.S. metropolitan areas. Value ranges have been defined to represent meaningful differences in neighborhood composition, and to ensure reasonable cell sizes in each of the five in-depth sites. It did not seem to make either theoretical or policy sense to differentiate between tracts with one percent black population and those with two percent. Nor would it be useful to define a range consisting of very small numbers of Census tracts. Therefore, the following categories were defined for neighborhood racial composition:

Percent Black	Neighborhood Type	Percent of Census Tracts
0 - 2.49%	Exclusively white	50.1
2.5 - 9.9%	Predominantly white	18.0
10 - 59.9%	Integrated	17.2
60 - 100%	Predominantly black	14.7

It is important to note that the "integrated" category represents a very wide range of neighborhood types, although it encompasses only 17 percent of the tracts in the sampled metropolitan areas.

Metropolitan areas with substantial Hispanic populations are less severely segregated with respect to neighborhood ethnic composition. Therefore, a different set of value ranges was required, although as much consistency as possible was retained with the ranges defined for neighborhood percent black:

Percent Hispanic	Neighborhood Type	Percent of Census Tracts
0 - 9.9%	Predominantly Anglo	67.3
10 - 19.9%	Majority Anglo	11.2
20 - 59.9%	Integrated	13.4
60 - 100%	Predominantly Hispanic	8.2

In some metropolitan areas, the distribution of neighborhoods by racial composition differs quite substantially from the overall average. Table 1 presents the distribution of tracts by racial and ethnic composition for each of the five in-depth audit sites. Chicago, for example, is one of the most racially and ethnically segregated metropolitan areas (as illustrated further by Maps 1 and 2), with 55 percent of all tracts exclusively white.[9] In contrast, almost half of San Antonio's tracts are predominantly Hispanic, and Atlanta's tracts are roughly evenly divided among the four racial composition categories.

Table 1

RACIAL AND ETHNIC COMPOSITION OF CENSUS TRACTS

In-Depth Sites

	Chicago	New York	Los Angeles	Atlanta*	San Antonio*
Percent Black					
0-2.49%	54.7	45.2	59.4	25.6	—
2.5-9.9%	9.3	16.9	19.7	25.6	—
10-59.9	11.5	21.2	11.3	23.2	—
60-100%	24.5	16.6	9.6	25.6	—
Percent Hispanic					
0-9.9%	71.4	51.0	25.4	—	4.5
10-19.9%	7.2	14.8	22.6	—	16.7
20-59.9%	13.0	20.4	32.4	—	30.3
60-100%	8.4	13.8	19.6	—	48.5

* Only black-white audits were conducted on Atlanta, and only Hispanic-Anglo audits were conducted in San Antonio

MAP 1
PERCENT BLACK BY TRACT
CHICAGO METRO AREA

PERCENT BLACK BY TRACT
CHICAGO — 1988

▓	60	to 100	(329)
▨	10	to 59.99	(154)
✕	2.5	to 9.99	(125)
╱	0	to 2.49	(908)

Lake Michigan
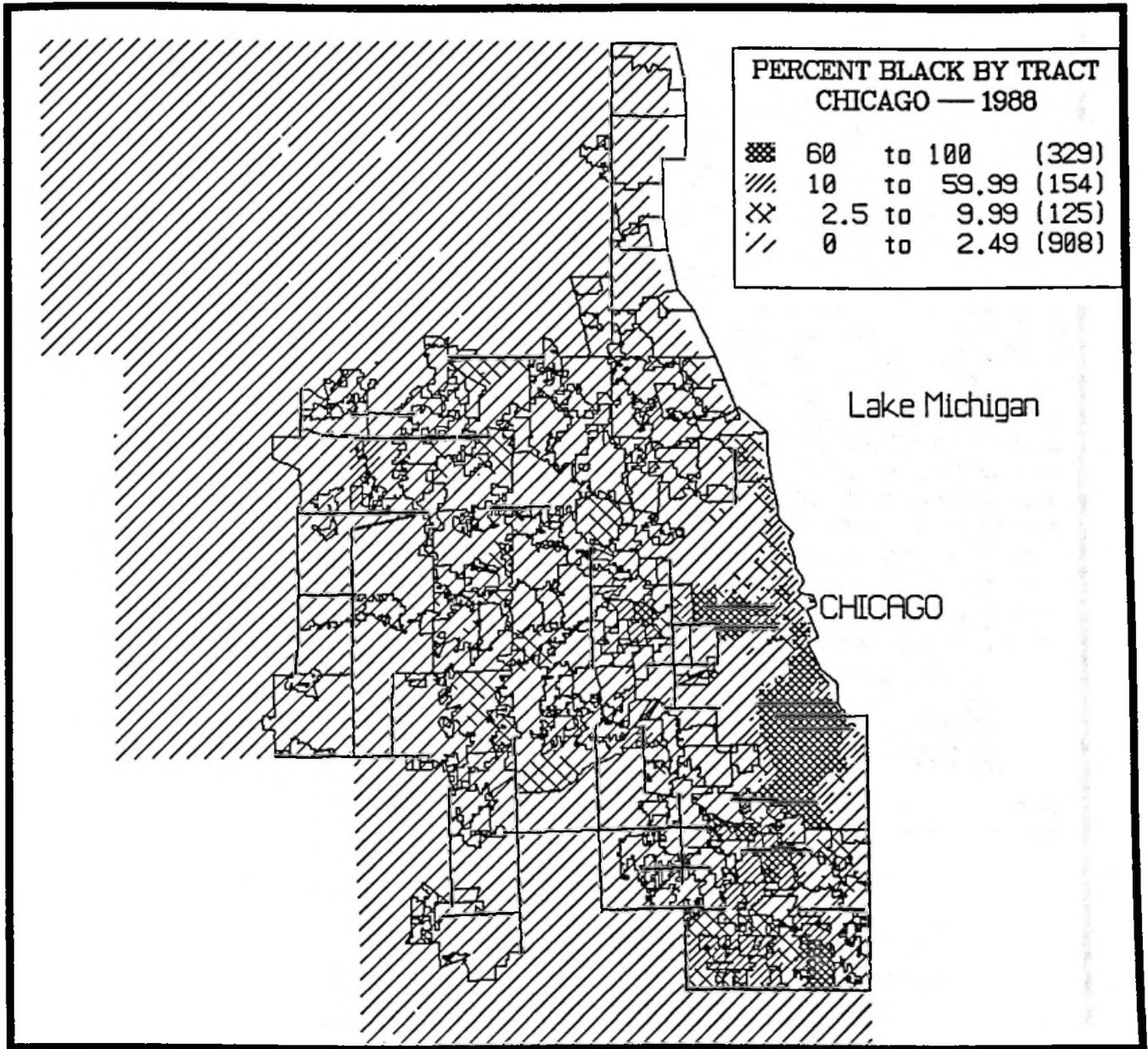
CHICAGO

— Political jurisdictions

MAP 2
PERCENT HISPANIC BY TRACT
CHICAGO METRO AREA

PERCENT HISPANIC BY TRACT
CHICAGO — 1988

▓	60 to 100	(112)
▨	20 to 59.99	(175)
✕✕	10 to 19.99	(96)
╱╱	0 to 9.99	(1133)

Lake Michigan

CHICAGO
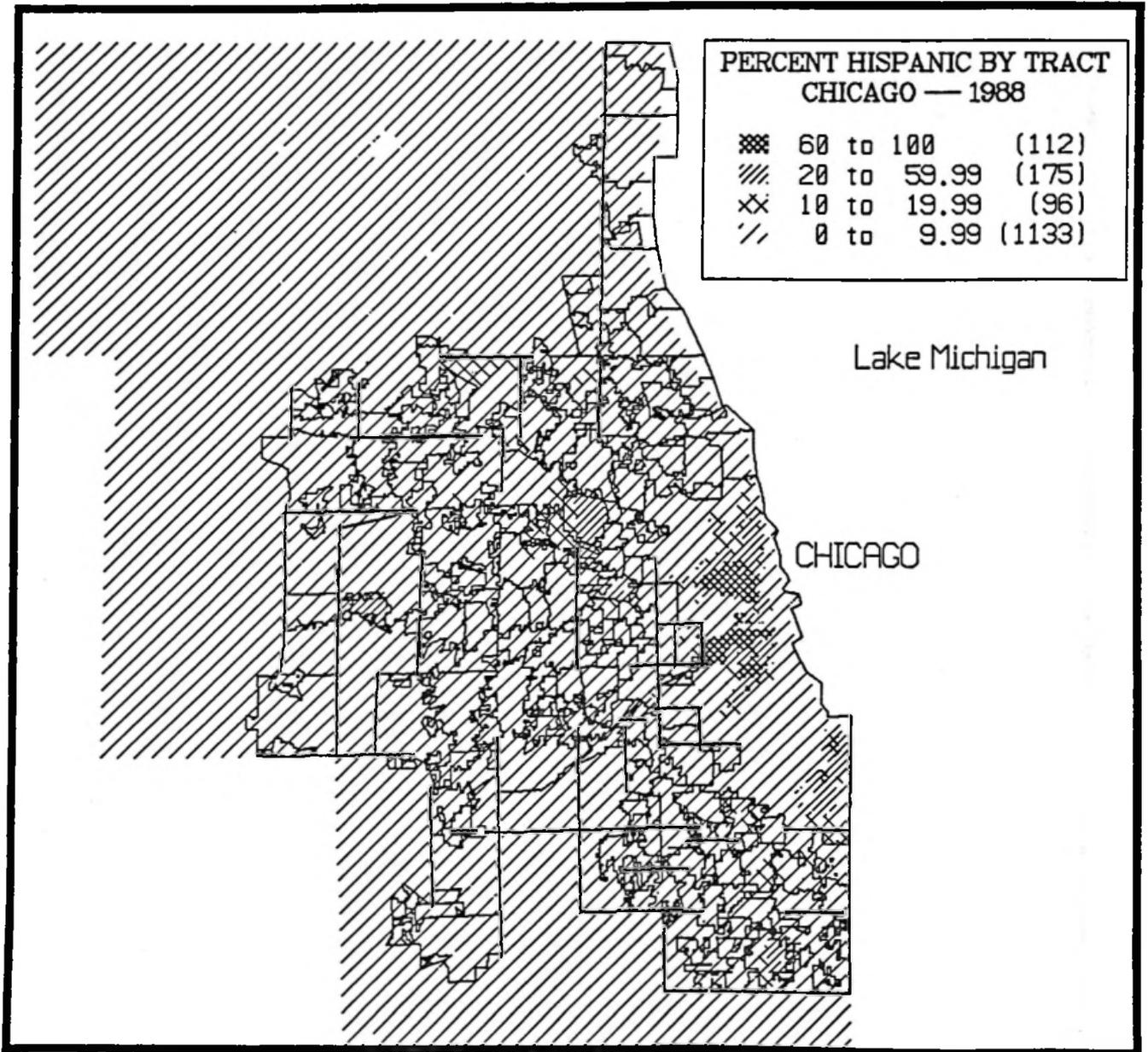
—   Political jurisdictions

Census Tract Geo-Coding

The addresses of all for-sale houses and condominiums inspected or recommended for inspection have been linked to their Census tract identifiers, using a process known as "geo-coding."[10] Overall, 85 percent of the sales addresses were successfully geo-coded, providing a total of 8,588 addresses for statistical steering analysis (see Annex Table A-2). Addresses shown and recommended to minority auditors were geo-coded just as successfully as those shown and recommended to their majority teammates. Advertised units -- the "anchors" for each of the HDS audits -- were geo-coded more successfully than the remainder of the addresses shown and recommended to minority and majority auditors. The addresses of agents' offices were also recorded by the auditors, and geo-coded to Census tract identifiers. Office addresses were even more successfully geo-coded than house addresses.   Overall, 92 percent of all office addresses were matched to tract identifiers.

The tract geo-coding process was conducted independently from the process of matching addresses to their map coordinates (longitude and latitude) for the five in-depth audit sites. Using mapping software and Census data bases, map coordinates were identified for addresses shown and recommended to auditors in the five in-depth sites. Annex Table A-3 reports success rates for matching addresses to street level map locations.[11]

In two sites -- San Antonio and Atlanta -- difficulty was encountered mapping the street addresses recorded by auditors for houses they were shown and recommended to map coordinates. Unmatched addresses were therefore matched to the center of their Census tracts.[12]   Since Census tracts are small at the scale to which maps have been drawn, this procedure does not seriously obscure the spatial patterns of locations shown and recommended to minority and majority auditors. In other words, a point anywhere in a Census tract would appear very close to a point at the center of that tract, given the scale of the maps.   However, this approximation procedure does increase the number of cases in which the minority and majority auditors appear on the map to have been shown or recommended a house at exactly the same location.

Measuring Steering

Analysis of racial and ethnic steering focuses on differences in treatment between minority and majority homebuyers with respect to neighborhood attributes. Specifically, the following hypothesis is tested:

> When minority homeseekers are shown or recommended housing units,
> these addresses are in neighborhoods that have higher percent minority
> or are less affluent than those shown or recommended to comparable
> majority homeseekers.

Results are based on audit-by-audit measures of differences between the treatment of the majority homeseeker and the treatment of the minority partner. Specifically, for

each audit the average neighborhood attributes of houses shown or recommended were computed for each auditor. Then differences in average values between the minority and majority team members were analyzed.

Two versions of this basic steering analysis were conducted. The first version excludes the anchoring, advertised unit, while the second includes it. The first approach reflects the view that steering cannot occur until an agent goes beyond the advertised unit that was initially requested, and shows or recommends other units that may differ for minority and majority customers. Thus, the advertised unit is excluded when average neighborhood attributes are computed for houses shown and recommended to each auditor. Moreover, in cases where one or both auditors was not shown any units beyond the advertised unit, the whole audit has to be dropped from analysis, because according to the definition of steering adopted in this approach, steering cannot occur unless an agent makes at least one unit beyond the advertised unit available to both minority and majority auditors. A total of 380 black-white sales audits and 387 Hispanic-Anglo sales audits meet this criterion.

The alternate version of the steering analysis includes the anchoring unit, because it is possible to envision circumstances in which steering occurred even though one auditor was only shown the advertised unit. For example, suppose the advertised unit is in a neighborhood with low percent minority. An agent seeking to steer minority customers away from this unit might show the advertised unit to the majority, while showing a unit in some other neighborhood to the minority. Or the agent might show both auditors the advertised unit, but also show the minority additional houses in other neighborhoods. Cases of this type would be excluded using the definition of steering adopted in the first analytic approach. Therefore, the second approach includes all audits in which both auditors were shown or recommended at least one address. The only audits excluded are those in which one (or both) of the auditors was told that nothing was available. A total of 828 black-white audits and 847 Hispanic-Anglo audits meet this criterion.

Both continuous and categorical measures of differences in treatment were constructed for each indicator. The categorical measures reflect the **incidence** of steering -- what is the probability that steering will occur? Continuous measures, on the other hand, reflect the **severity** of differential treatment --how large are the differences, on average, between neighborhoods shown or recommended to minority and majority homeseekers?

The incidence of racial and ethnic steering is defined as the share of cases in which a majority auditor is shown or recommended houses in neighborhoods that have a higher percent majority population or higher incomes and house values than neighborhoods shown or recommended to the minority partner. To construct this measure, each audit is classified as "majority higher," "minority higher," or "no difference" for each of the following neighborhood attributes:

o   1988 percent white or Anglo

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o   1988 per capita income

o   1980 median house value

o   percent of 1980 housing stock built after 1940

o   1980 owner occupancy rate

For each neighborhood attribute, a threshold value was defined beyond which the two members of an audit team are deemed to have received differential treatment (see Table 2). These thresholds, which are necessarily arbitrary, were selected to capture meaningful differences in neighborhood characteristics. In other words, a difference in percent white of less than five percentage points is not considered a meaningful difference in treatment between a white and black auditor. The sensitivity of results to the choice of threshold values is analyzed in Chapter 3.

The share of audits in which the majority is offered houses in neighborhoods with higher values (beyond the threshold) for one of these attributes represents the incidence -- or probability -- that steering will occur when minority and majority homeseekers search for housing by responding to advertisements in their metropolitan newspapers. This is the primary measure presented in this report, and because HDS audits were conducted in a random sample of metropolitan areas, the results are applicable to all large urban areas with significant minority population throughout the United States.

Black or Hispanic auditors can encounter unfavorable treatment when they visit a real estate broker either because these housing agents discriminate against minority customers or because random factors favor the majority auditor. Discrimination exists when a housing agent purposefully treats minority customers less favorably. Random factors, on the other hand, can lead to a housing agent inadvertently to favor majority customers.

From the perspective of a black or Hispanic homeseeker, the distinction between discrimination and random differential treatment may not be an important one. These homeseekers simply want to know how often they can expect to encounter different treatment than that encountered by white Anglo customers. Thus the most basic issue to be addressed with audit data is the likelihood that black or Hispanic auditors will encounter differential treatment, for whatever reasons, when they visit a real estate broker. The focus of this report, therefore, in on the incidence of differential treatment of black and Hispanic auditors.

From the perspective of a policy maker, however, the distinction between discrimination and random differential treatment is crucial. Policy makers have little hope of influencing random events, but they can alter the incentives that lead housing agents to purposely treat minority customers less favorably--that is, to discriminate. However, separating discrimination from random unfavorable treatment requires

Table 2

THRESHOLD VALUES FOR
DIFFERENCES IN TREATMENT

Treatment	Threshold
Average percent white or Anglo for addresses shown and recommended to the majority auditor minus average percent white or Anglo for addresses shown and recommended to the minority	A value of plus or minus 5 percentage points is classified as no difference; more than 5 points is classified as majority higher; less than -5 points is classified as minority higher
Average per capita income for addresses shown and recommended to the majority auditor minus average per capita income for addresses shown and recommended to the minority	A value of plus or minus $2,500 is classified as no difference; less than -$2,500 is classified as minority higher; more than $2,500 is classified as majority higher
Average house value for addresses shown and recommended to the majority auditor minus average house value for addresses shown and recommended to the minority	A value of plus or minus $5,000 is classified as no difference; less than -$5,000 is classified as minority higher; more than $5,000 is classified as majority higher
Average percent of housing stock built since 1940 for houses shown and recommended to the majority auditor minus average percent of housing stock built since 1940 for houses shown and recommended to the minority	A value of plus or minus 5 percentage points is classified as no difference; a value greater than or equal to 5 percentage points is classified as majority higher; a value less than or equal to -5 percentage points is classified as minority higher
Average percent owner-occupants for addresses shown and recommended to the majority auditor minus average percent owner-occupants for addresses shown and recommended to the minority	A value of plus or minus 5 percentage points is classified as no difference; less than -5 points is classified as minority higher; more than 5 points is classified as majority higher

advanced statistical procedures. This separation is therefore presented in another HDS report ("Incidence of Discrimination and Variations in Discriminatory Behavior"), which explains these procedures in detail.

HUD's previous national study of discrimination in housing, the HMPS report, focuses on the "net" incidence of unfavorable treatment of minorities, which is defined as the incidence of unfavorable treatment of minority auditors minus the incidence of unfavorable treatment of majority auditors. The HMPS report makes two assumptions, namely that random factors are the only reason blacks are ever favored and that random factors are equally likely to lead to a white-favored or black-favored outcome. On the basis of these assumptions, the report argues that subtracting the incidence of black-favored audits is equivalent to eliminating the impact of random factors. In fact, however, the net incidence measure systematically understates the incidence of discrimination in most cases.[13]

Therefore, this report focuses on the gross incidence of unfavorable treatment of minorities. In other words, if focuses on the share of audits in which minority auditors encounter differential treatment for either systematic or random reason. Although this gross measure may be a reasonable approximation of the incidence of discrimination in some cases, it is not interpreted as a measure of discrimination in this report. Net incidence measures are not presented. Because these measures can be interpreted as a lower-bound estimate of discrimination, however, it is safe to conclude that discrimination does not exist whenever the net measure is less than or equal to zero, that is, when the minority auditor is as likely to be favored as is the majority auditor.

In addition to measures of the incidence of racial and ethnic steering, this report presents measures of the severity of differences in neighborhood attributes. The severity of steering is defined as the magnitude of the difference in neighborhood characteristics between addresses shown and recommended minority and majority homeseekers. One advantage of analyzing the severity of discrimination is that the effects of random factors do not create the same problems of interpretation that arise in analysis of incidence measures. Random factors are, of course, still present, but they have a symmetrical impact on the continuous measure of treatment of both minority and majority auditors. Random factors will sometimes make the observed difference between minority and majority outcomes higher and sometimes make it lower; but over many audits, these effects (by the definition of randomness) will offset each other. Thus, when the average difference across audits is calculated, the effects of random factors will cancel out.

Together, incidence and severity measures provide a comprehensive picture of patterns of racial and ethnic steering. It is possible for the incidence of differential treatment to be high, while the severity is low -- indicating that minorities are often steered but that the size of differences in treatment are small. Conversely, the incidence of differential treatment may be low, while the severity is high -- suggesting that in the occasional circumstances where steering occurs, differences between minority and majority outcomes are substantial.

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3.   INCIDENCE AND SEVERITY OF RACIAL AND ETHNIC STEERING

This chapter presents findings based on statistical analysis of racial and ethnic steering conducted for the full sample of twenty-five audit sites, supplemented by mapping analysis for the five in-depth sites. Only maps for the Chicago metropolitan area are presented in the body of this chapter, to illustrate key findings. A complete set of maps for all five in-depth sites is provided in "Mapping Analysis of Racial and Ethnic Steering."

Steering Experienced by Blacks and Whites

This section focuses on differences in neighborhood attributes for houses shown and recommended to blacks and whites. The section begins by presenting national measures of the incidence of racial steering, followed by measures of the severity or magnitude of steering at the national level. Next, site-by-site results are presented for the four in-depth metropolitan areas in which black-white audits were conducted. And finally, the results of mapping analysis for the Chicago metropolitan area are presented to illustrate the broader findings based on statistical analysis.

Incidence of Steering.   Table 3 presents estimates of differences in neighborhood attributes beyond threshold values for all units shown and recommended other than the advertised unit. For audits in which both partners were either shown or recommended addresses beyond the advertised unit, the table reports the percent of audits in which neighborhood values were higher for whites, the percent in which values were higher for blacks, and the percent in which both auditors received the same treatment (within threshold ranges). In addition, the standard error term for each of these percentages is reported, indicating that all reported incidence measures are significantly different from zero at a 95 percent confidence interval.[14]

These results indicate that for cases in which agents identified available addresses beyond the advertised unit, the gross incidence of steering is about 20 percent. Specifically, once beyond the advertised unit, neighborhoods shown and recommended to whites have higher percent white in 20 percent of the qualifying audits, higher income in 16 percent, and higher value in 23 percent. Whites also have a 17 percent chance of being shown or recommended neighborhoods with newer housing, and a 27 percent chance of being shown or recommended neighborhoods with higher homeownership rates. However, the probability that blacks will be shown neighborhoods with higher values for these last two attributes is equally high, suggesting that differences are not systematic, and do not reflect intentional steering on the basis of race.

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Table 3

INCIDENCE OF DIFFERENTIAL
TREATMENT FOR BLACKS AND WHITES

National Sample
All Units Shown and Recommended
Excluding Advertised Unit

	% of audits	Standard Error
Percent White (1988)		
No difference	72.4	5.27
White higher	19.7	4.42
Black higher	7.9	1.34
Per Capita Income (1988)		
No difference	69.3	2.91
White higher	16.4	1.80
Black higher	14.4	2.58
Median House Value (1980)		
No difference	58.6	3.52
White higher	23.4	1.82
Black higher	18.0	2.29
Percent Newer Units (1980)		
No difference	67.8	4.41
White higher	16.7	3.10
Black higher	15.6	2.48
Percent Owner-Occupied (1980)		
No difference	44.9	4.24
White higher	27.4	2.95
Black higher	27.7	2.93

Number of Audits: 380

Note: Incidences of white higher and black higher outcomes are all statistically significant at a 95 percent confidence level.

Incidences with no difference are all significantly different from 100 percent at a 95 percent confidence level.

If the advertised unit is included in the comparison of neighborhood attributes for minority and majority homebuyers, the incidence of steering is lower. Table 4 presents results for all audits where at least one house was made available to both minority and majority auditors. When the advertised unit is included in the comparison, neighborhoods shown and recommended to whites have higher percent white in 12 percent of the audits, higher income in 11 percent, and higher house values in 17 percent. For age of the housing stock and homeownership rates, blacks and whites are again equally likely to have higher values, suggesting that the differences are not systematic.

Not surprisingly, the incidence of differential treatment observed varies with the definition of a "meaningful difference." As discussed earlier, audits were classified as "no difference" if differences between the attributes of neighborhoods shown and recommended to blacks and whites did not exceed threshold values. Tables 5 and 6 present the share of audits with small, moderate, and large differences in neighborhood attributes, first excluding and then including the advertised unit. To illustrate, a "small" difference in neighborhood percent white is defined as less than a five percentage point differential, a "moderate" difference is between five and ten percentage points, and a "large" difference is greater than ten percentage points. Comparable ranges have been defined for the other neighborhood attributes as well, as indicated in the tables.

Most of the differential treatment that does occur is of relatively low severity. Because most of the units advertised, shown, and recommended to HDS auditors were in predominantly white, middle-class neighborhoods, few homeseekers encountered large differences in treatment. When they did, however, blacks were likely to be shown and recommended neighborhoods that have lower percent white, lower income levels, and lower house values. For example, in Table 5, once beyond the advertised unit, whites were shown or recommended neighborhoods with percent white more than 10 points higher than their black counterparts in 15 percent of the audits. Large differences in neighborhood income levels and house values were also more likely to favor whites than blacks.

To summarize the incidence of differential treatment of blacks and whites with respect to neighborhood attributes, a composite index was developed, based on neighborhood percent black, per capita income, and median house value. The age of the housing stock and owner-occupancy rate were excluded from this index, because earlier results showed no systematic treatment patterns with regard to these neighborhood attributes. Following the procedures used in HMPS, two versions of the composite steering index have been constructed:

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Table 4

INCIDENCE OF DIFFERENTIAL
TREATMENT FOR BLACKS AND WHITES

National Sample
All Units Shown and Recommended

	% of audits	Standard Error
Percent White (1988)		
No difference	82.7	4.21
White higher	11.8	3.45
Black higher	5.6	1.24
Per Capita Income (1988)		
No difference	82.5	1.96
White higher	10.6	1.61
Black higher	6.9	0.81
Median House Value (1980)		
No difference	70.7	2.75
White higher	17.2	1.83
Black higher	12.1	1.43
Percent Newer Units (1980)		
No difference	78.0	3.01
White higher	10.6	1.92
Black higher	11.5	1.61
Percent Owner-Occupied (1980)		
No difference	65.1	3.77
White higher	17.5	2.51
Black higher	17.5	2.27

Number of Audits: 828

Note: Incidences of white higher and black higher outcomes are all statistically significant at a 95 percent confidence level.

Incidences with no difference are all significantly different from 100 percent at a 95 percent confidence level.

Table 5

INCIDENCE AND DEGREE OF DIFFERENTIAL TREATMENT FOR BLACKS AND WHITES

National Sample
All Units Shown and Recommended
Excluding the Avertised Unit

	White Higher		Black Higher	
	% of audits	Standard Error	% of audits	Standard Error
Percent White (1988)				
small difference (<5%)	23.6	3.24	27.7	3.46
moderate difference (5-10%)	5.1	1.50	3.8	0.87
large difference (>10%)	14.6	3.30	4.0	0.84
Per Capita Income (1988)				
small difference (<$2,500)	21.5	2.32	26.2	2.02
moderate difference ($2,500-5,000)	7.2	1.30	7.2	2.62
large difference ($5,000)	9.1	1.95	7.1	1.20
Median House Value (1980)				
small difference ($5,000)	19.7	2.59	17.3	2.37
moderate difference ($5,000-10,000)	6.5	1.01	6.3	1.44
large difference (>$10,000)	16.9	1.74	11.6	1.46
Percent Newer Stock (1980)				
small difference (<5%)	22.8	2.97	22.3	1.92
moderate difference (5-10%)	6.7	1.33	5.0	1.26
large difference (>10%)	9.9	2.69	10.4	1.54
Percent Owner-Occupied (1980)				
small difference (<5%)	12.2	2.20	11.5	1.75
moderate difference (5-10%)	10.4	1.46	9.2	2.53
large difference (>10%)	16.8	1.90	18.5	1.89

Number of Audits: 380

Table 6

INCIDENCE AND DEGREE OF DIFFERENTIAL
TREATMENT FOR BLACKS AND WHITES

National Sample
All Units Shown and Recommended

	White Higher		Black Higher	
	% of audits	Standard Error	% of audits	Standard Error
Percent White (1988)				
small difference (<5%)	18.7	2.44	21.2	2.38
moderate difference (5-10%)	4.1	1.25	2.9	0.65
large difference (>10%)	7.6	2.47	2.6	0.69
Per Capita Income (1988)				
small difference (<$2,500)	18.2	1.97	20.9	2.18
moderate difference ($2,500-5,000)	5.5	1.03	4.5	0.66
large difference ($5,000)	5.1	1.56	2.5	0.50
Median House Value (1980)				
small difference ($5,000)	14.8	1.87	12.3	1.92
moderate difference ($5,000-10,000)	5.6	0.63	5.7	0.83
large difference (>$10,000)	11.7	1.58	6.4	0.91
Percent Newer Stock (1980)				
small difference (<5%)	16.3	1.93	18.0	1.99
moderate difference (5-10%)	4.3	1.16	5.0	1.06
large difference (>10%)	6.3	1.14	6.4	1.12
Percent Owner-Occ (1980)				
small difference (<5%)	11.6	1.01	11.2	1.15
moderate difference (5-10%)	5.7	1.14	7.0	1.37
large difference (>10%)	11.8	1.74	10.5	1.47

Number of Audits: 828

Index 1

An audit is classified as "white higher" if the white auditor had higher values for percent white, income, or house value, while the black auditor did not have higher values on any attribute.

An audit is classified as "black higher " if the black auditor had higher values on percent white, income, or house value, while

the white auditor did not have higher values on any attribute.

An audit is classified as "no difference" if neither auditor had higher values on any neighborhood attribute, or if both had higher values on one or more.

Index 2

An audit is classified as "white higher" if the white auditor had higher values on more attributes than the black auditor.

An audit is classified as "black higher" if the black auditor had higher values on more attributes than the white auditor.

An audit is classified as "no difference" if both auditors had high values on the same number of attributes.

As Table 7 reports, both methods of index construction yield essentially the same results. Once beyond the advertised unit, blacks have a 30 percent chance of being steered to neighborhoods that are either lower percent white or less affluent. If the advertised unit is included, the composite index shows a 21 percent probability of steering. Thus, black homebuyers for whom houses are made available face a significant chance of being steered toward neighborhoods that are more predominantly black or less affluent than the neighborhoods where their white counterparts are shown and recommended houses.[15]

As discussed earlier, steering is a form of differential treatment that is contingent upon other forms of treatment by a real estate agent. According to our first definition of steering, an agent must show or recommend addresses beyond the advertised unit to both minority and majority auditors before steering can occur. And according to our second definition, an agent must show or recommend at least one address to both auditors. Results presented thus far reflect the incidence of steering for the subset of cases where there was an **opportunity** for steering to occur.

Table 8 presents the incidence of steering across all audits, including those in which houses were not made available to one or both auditors. Audits in which no houses were shown or recommended to either or both auditors are classified as "no difference," along with audits in which both teammates were recommended or shown the same or similar neighborhoods. Naturally, the incidence of steering is lower when

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Table 7

COMPOSITE INDEX OF STEERING
FOR BLACKS AND WHITES

National Sample

	Excluding Advertised Unit			*All Units Shown and Recommended*	
	% of Audits	Standard Error		% of Audits	Standard Error
Index 1					
No difference	51.6	3.04		67.5	2.91
White higher	30.2	2.50		20.9	2.57
Black higher	18.3	2.77		11.6	1.18
Index 2					
No difference	49.1	3.16		65.5	3.13
White higher	30.9	2.39		21.8	2.53
Black higher	20.0	2.70		12.7	1.28
Number of Audits	380			828	

Note: Incidences of white higher and black higher outcomes are all statistically significant at a 95 percent confidence level.

Incidences with no difference are all significantly different from 100 percent at a 95 percent confidence level.

Table 8

INCIDENCE OF STEERING FOR BLACKS
AND WHITES ACROSS ALL AUDITS

National Sample

	Incidence of "White Higher" Outcomes
Neighborhood Percent White	9.8%
Composite Index 1	17.4%
Composite Index 2	18.2%

Note: These measures reflect the incidence of steering across all audits, including those where no units were shown or recommended. Audits where no units were available for one or both auditors are classified as "no difference" for purposes of these calculations.

calculated across this larger pool of cases. Nevertheless, the likelihood that blacks will encounter steering is significant. In 10 percent of all sales audits, blacks were shown or recommended houses, but in neighborhoods with lower percent white than those shown or recommended to their white counterparts. And in 17 percent of all sales audits, houses were shown and recommended to blacks in neighborhoods that were either lower percent white, lower income, or lower house value than those shown and recommended to comparable whites.

Severity of Steering. The incidence measures presented above reflect the probability that blacks will encounter steering, but not the magnitude of differences in neighborhood characteristics. Table 9 presents differences between blacks and whites in the average values across audits of neighborhood attributes.[16]

The four columns in Table 9 compare neighborhood characteristics for four categories of units shown and recommended to whites and blacks. The first column applies to units shown and recommended other than the advertised unit, and the second applies to all units shown and recommended, including the advertised unit. The third applies only to units, other than the advertised unit that the agent actually showed to an auditor, and the fourth column refers to units recommended for further inspection.[17] These last two columns were included to test the hypothesis that the behavior of agents may differ for houses they go to the trouble of showing relative to those they recommend for future inspection.

These results show that differences in neighborhood attributes for black and white homeseekers are very small. Once beyond the advertised unit, blacks have been shown and recommended houses in neighborhoods that are only 3 points lower percent white, with $1,700 lower median house values than their white teammates. Differences in neighborhood per capita incomes, age of the housing stock, and owner-occupancy rates are not statistically significant.

When the advertised unit is included in the comparison of neighborhoods shown and recommended to whites and blacks, the severity of differential treatment is even lower. Across all audits in which both blacks and whites were shown or recommended at least one unit, the average percent white is less than 2 points lower for blacks and the median house value is less than $1,300 lower. Differences in other neighborhood attributes are not statistically significant.

Differential treatment is more severe for houses recommended for future inspection than for those actually inspected. In fact, for addresses recommended (but not advertised or shown) the average neighborhood percent white is four percentage points lower for black auditors than for whites. For units actually inspected, on the other hand, the difference in neighborhood percent black is only 1 percentage point. In addition, for both blacks and whites, the average percent white in neighborhoods recommended for future inspection is higher than for neighborhoods actually shown. These results suggest that agents advertise and show houses in neighborhoods with very low percent black, and that, given the narrow range of variation in these neighborhoods, the severity of any steering that may occur is necessarily low.

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Table 9

SEVERITY OF DIFFERENTIAL TREATMENT
FOR BLACKS AND WHITES

National Sample

		Excluding the Advertised Unit		
	All Units	Shown & Rec.	Units Shown	Units Rec.
Percent White (1988)				
White average	91.5	90.5	91.8	87.9
Black average	90.1	87.7	90.6	84.0
T-statistic	3.11**	4.78**	3.25**	3.29**
Per Capita Income (1988)				
White average	17,020	16,824	17,471	15,527
Black average	16,863	16,696	17,401	16,246
T-statistic	2.16*	0.97	0.49	-2.23*
Median House Value (1980)				
White Average	69,708	68,383	70,690	63,466
Black Average	68,485	66,728	68,796	65,341
T-statistic	4.60**	3.04**	3.04**	-1.51
Percent Newer Units (1980)				
White average	82.8	81.8	81.7	81.2
Black average	81.9	81.2	81.0	81.4
T-statistic	0.33	1.36	2.84**	-0.22
Percent Owner-Occ (1980)				
White average	66.9	66.2	66.0	65.2
Black average	66.4	66.1	65.8	65.6
T-statistic	1.46	0.19	0.61	-0.20
Number of Audits	828	380	205	145

** Difference between the means is statistically significant at a 99% confidence level using a paired t-test.
* Difference between the means is statistically significant at a 95% confidence level using a paired t-test.

However, agents recommend a wider range of neighborhoods for future inspection, and consequently the magnitude of differences in treatment between white and black customers is greater.

In-Depth Sites. The incidence and severity of steering vary substantially across metropolitan areas. In the four in-depth sites where black-white audits were conducted, blacks appear less likely to be steered toward neighborhoods that are lower percent white than the national average, but more likely to be steered to neighborhoods with lower incomes or house values.

Table 10 and 11 report the incidence and severity of differential treatment on neighborhood percent white, per capita income, and median house value for Chicago, New York, Los Angeles and Atlanta. Only in Atlanta do blacks face a significant probability of being shown or recommended neighborhoods with lower percent white than their white teammates. Once beyond the advertised unit, the incidence of steering to lower percent white neighborhoods is 7 percent in Atlanta, and the severity is 4 percentage points.

In all four in-depth sites, blacks appear more likely to be steered to neighborhoods with lower income levels or house values. For example, once beyond the advertised unit, the probability that blacks will be steered to lower income neighborhoods than their white counterparts is 26 percent in Chicago, 19 percent in New York, 13 percent in Los Angeles, and 20 percent in Atlanta. The severity of differences in neighborhood income, however, is consistently low. Finally, in New York and Atlanta, blacks face a 35 percent probability of being shown or recommended neighborhoods with lower house values than comparable white homeseekers. These results strongly suggest that patterns of racial steering vary from one housing market to another.

Mapping Results. Visual inspection of the spatial distribution of houses shown and recommended to black auditors in Chicago supports the findings of the statistical analysis. Map 3 displays the locations of houses other than the advertised unit that were shown or recommended to an auditor by the agent -- 167 houses shown or recommended to whites and 159 houses shown or recommended to blacks. Houses shown or recommended to whites are represented by open squares. Houses shown or recommended to blacks are represented by black stars. When a house was shown or recommended to both a black and a white auditor, it is represented by a filled square.

Although agents showed more units to whites, and were more likely to suggest addresses beyond the advertised unit, the addresses shown and recommended to blacks do not appear to be located in systematically different neighborhoods than the addresses shown to whites. Nor do blacks appear to be steered toward neighborhoods with a higher percent black or to areas closer to predominantly black neighborhoods.

Table 10

INCIDENCE OF DIFFERENTIAL TREATMENT
FOR BLACKS AND WHITES

In-Depth Sites

	Chicago		*New York*		*Los Angeles*		*Atlanta*	
	All Units	Exc Adv Unit	All Units	Exc Adv Unit	All Units	Exc Adv Unit	All Units	Exc Adv Unit
Percent White (1988)								
No difference	90.0	82.1	92.2	90.4	97.3	95.6	87.0	88.4
White higher	3.3	7.7	4.6	6.6	2.7	4.4	7.3	9.3
Black higher	6.7	10.3	3.2	3.0	0.0	0.0	5.8	2.3
Per Capita Income (1988)								
No difference	77.8	59.0	81.2	70.7	85.1	77.8	81.2	67.4
White higher	13.3	25.6	12.4	19.2	10.8	13.3	10.1	20.9
Black higher	8.9	15.4	6.3	10.1	4.1	8.9	8.7	11.6
Median House Value (1980)								
No difference	60.0	42.6	71.7	51.5	75.4	51.2	71.0	58.1
White higher	21.1	28.2	20.2	35.4	16.4	35.5	14.5	23.3
Black higher	18.9	25.6	8.1	13.1	8.2	13.3	14.5	18.6
Number of Audits:	90	39	64	31	74	23	69	43

Table 11

SEVERITY OF DIFFERENTIAL TREATMENT
FOR BLACKS AND WHITES

In-Depth Sites

	Chicago		New York		Los Angeles		Atlanta	
	All Units	Exc Adv Unit	All Units	Exc Adv Unit	All Units	Exc Adv Unit	All Units	Exc Adv Unit
Percent White (1988)								
White average	95.4	96.1	94.5	95.6	94.0	96.3	95.6	96.9
Black average	95.4	95.5	94.2	94.7	93.4	93.9	93.5	93.0
T-statistic	0.01	-0.82	-1.39	-1.60	-1.89+	-1.46	-2.53*	-3.24**
Per Capita Income (1988)								
White average	19,250	18,119	26,530	27,228	18,258	17,118	21,474	20,381
Black average	18,829	17,708	26,103	27,130	18,082	17,098	21,360	20,352
T-statistic	1.44	1.69+	2.01*	0.22	0.94	0.06	0.45	0.06
Median House Value (1980)								
White Average	91,778	84,159	112,753	112,384	119,611	115,188	73,157	70,632
Black Average	88,385	76,950	108,503	105,239	118,383	109,537	72,918	68,440
T-statistic	1.84+	2.16*	1.88+	1.49	1.43	2.70*	0.26	1.71+
Number of Audits	90	39	64	31	74	23	69	43

** Difference between the means is statistically significant at a 99% confidence level using a paired t-test.
* Difference between the means is statistically significant at a 95% confidence level using a paired t-test.
+ Difference between the means is statistically significant at a 90% confidence level using a paired t-test.

MAP 3
ADDRESSES SHOWN AND RECOMMENDED TO BLACKS AND WHITES, EXCLUDING ADVERTISED UNIT

PERCENT BLACK BY TRACT
CHICAGO — 1988

60	to	100	(329)
10	to	59.99	(154)
2.5	to	9.99	(125)
0	to	2.49	(908)
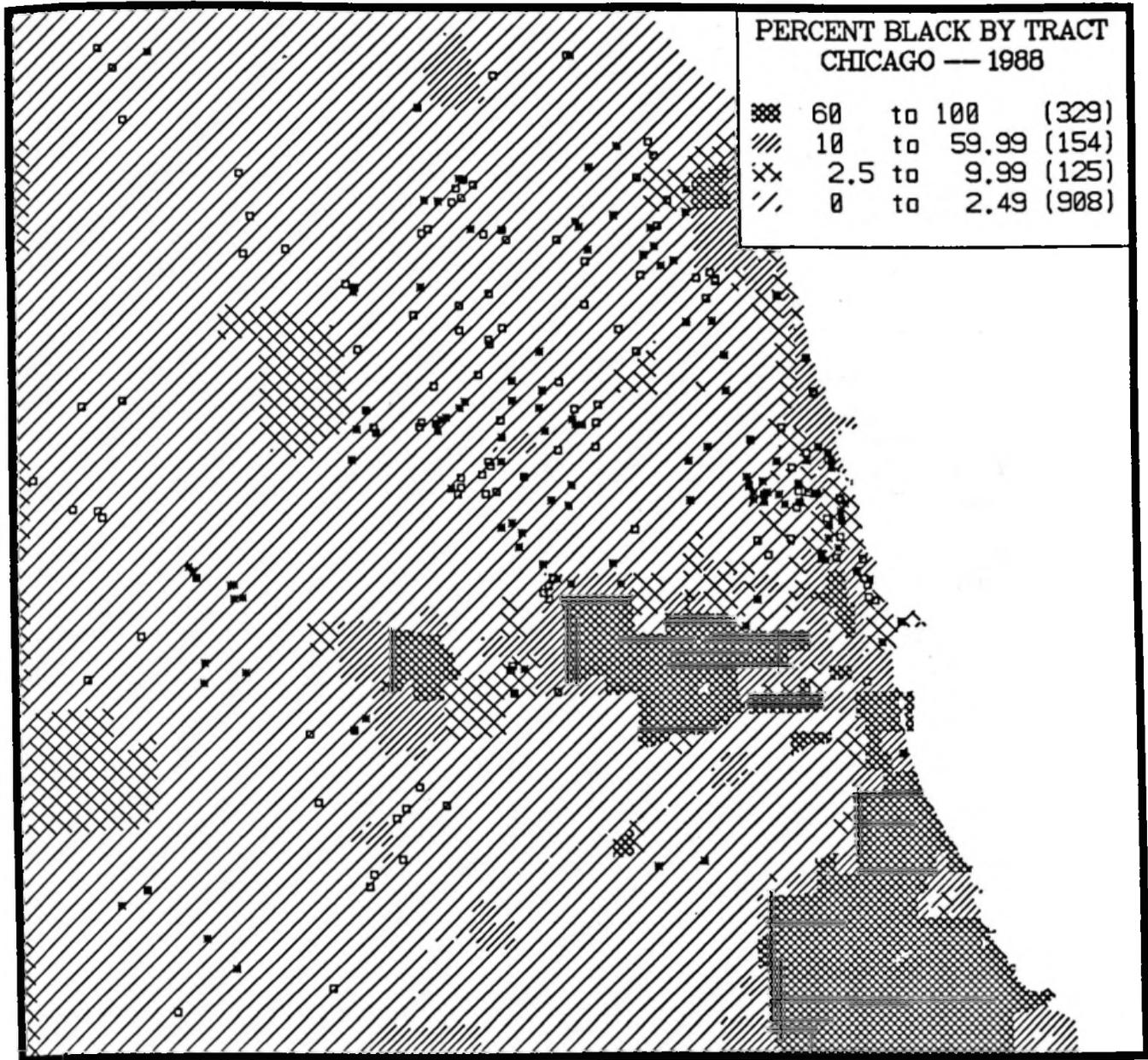
□ White Addresses
* Black addresses
■ Black and white addresses coincide

Houses along the lake shore were shown to both blacks and whites, as were houses bordering on integrated neighborhoods, and houses in predominantly white suburban areas. One can find exclusively white neighborhoods in the suburbs in which units were only shown or recommended to white auditors. However, in many other white neighborhoods, units were shown or recommended to both blacks and whites. Moreover, locations bordering on integrated or black areas seem just as likely to be shown or recommended to whites as to blacks. (See Annex B for further spatial analysis for the Chicago metropolitan area.)

Mapping results for the other in-depth sites also support the conclusion that black and white auditors were shown and recommended houses in essentially the same, predominantly white neighborhoods, with no convincing evidence that agents are steering black customers to separate neighborhoods or communities within the metropolitan area. In other words, mapping confirms that the statistical analysis does not overlook or obscure important patterns of differential treatment with regard to location or neighborhood attributes.[18]

Steering Experienced by Hispanics and Anglos

This section presents the results of statistical and mapping analysis of differences in treatment between Hispanic and Anglo homeseekers. As for blacks and whites, we focus on audit-by-audit differences in treatment between Anglo and Hispanic teammates, tabulating both the incidence and the severity of differential treatment across audits. National estimates are provided first, followed by site-specific results for the four in-depth sites where Hispanic-Anglo audits were conducted. Finally, results of mapping analysis for the Chicago metropolitan area are presented to illustrate the statistical findings.

Incidence of Steering. Table 12 reports the incidence of steering for audits in which both Anglo and Hispanic auditors were shown or recommended addresses beyond the advertised unit. In general, Hispanics appear less likely than blacks to be steered to minority neighborhoods, but more likely to be steered to less affluent neighborhoods.

Specifically, Table 12 shows that, once beyond the advertised unit, neighborhoods shown and recommended to Anglos have higher percent Anglo in 13 percent of the qualifying audits, higher income in 19 percent, and higher value in 26 percent. Anglos also have a 14 percent chance of being shown or recommended neighborhoods with newer housing, and a 26 percent chance of being shown or recommended neighborhoods with higher homeownership rates. However, the probability that Hispanics will be shown neighborhoods with higher values for these last two attributes is almost equally high, suggesting that differences are not systematic, and do not reflect intentional steering on the basis of ethnicity.

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Table 12

INCIDENCE OF DIFFERENTIAL
TREATMENT FOR HISPANICS AND ANGLOS

National Sample
All Units Shown and Recommended
Excluding Advertised Unit

	% of Audits	Standard Error
Percent Anglo (1988)		
No difference	74.3	6.24
Anglo higher	13.1	3.24
Hispanic higher	12.6	3.19
Per Capita Income (1988)		
No difference	69.8	3.76
Anglo higher	19.0	2.80
Hispanic higher	11.3	1.61
Median House Value (1980)		
No difference	53.0	3.00
Anglo higher	26.5	2.62
Hispanic higher	20.5	2.04
Percent Newer Units (1980)		
No difference	75.0	4.20
Anglo higher	14.0	2.59
Hispanic higher	10.9	2.11
Percent Owner-Occ (1980)		
No difference	49.5	3.87
Anglo higher	26.0	2.23
Hispanic higher	24.5	2.34

Number of Audits: 387

Note: Incidences of Anglo higher and Hispanic higher outcomes are all statistically significant at a 95 percent confidence level.

Incidences with no difference are all significantly different from 100 percent at a 95 percent confidence level.

Table 13 presents results for all audits where houses were made available to both Hispanic and Anglo auditors. When the advertised unit is included in the comparison, neighborhoods shown and recommended to Anglos have higher percent Anglo in 12 percent of the audits, higher income in 11 percent, and higher house values in 17 percent. For age of the housing stock and homeownership rates, Hispanics and Anglos are again equally likely to have higher values, suggesting that differences are not systematic.

As was observed for blacks, the incidence of differential treatment varies with the definition of a "meaningful difference." If any (non-zero) difference in neighborhood ethnic composition is considered to be meaningful, then the incidence of differential treatment will be higher. Tables 14 and 15 present the share of audits with small, moderate, and large differences in neighborhood attributes, first excluding and then including the advertised unit.

Because most of the units advertised, shown, and recommended to HDS auditors were in predominantly Anglo neighborhoods, few homeseekers encountered large differences in treatment. When they did, however, Hispanics (like blacks) were likely to be shown and recommended neighborhoods that have lower percent Anglo, lower income levels, and lower house values. For example, once beyond the advertised unit, Anglos were shown or recommended neighborhoods with percent Anglo more than 10 points higher than their Hispanic counterparts in 9 percent of the audits.

Table 16 presents the two composite indices of differential treatment for Hispanic and Anglo homeseekers. These indices measure the incidence of differential treatment on neighborhood ethnic composition, income, or house values, and are constructed using the same methods described for the black-white indices. Results are consistent with earlier findings; they show that once beyond the advertised unit, Hispanics (like blacks) have a 30 percent chance of experiencing steering in one form or another. When the advertised unit is included in the comparison, the incidence of steering for Hispanic homebuyers is 21 percent.

The measures presented above reflect the incidence of steering for the subset of cases where there was an opportunity for steering to occur. Table 17 presents the incidence of steering for Hispanic homebuyers across all audits, including those in which houses were not made available to one or both auditors. Audits in which no houses were shown or recommended to either or both auditors are classified as "no difference," along with audits in which both teammates were recommended or shown the same or similar neighborhoods.

Naturally, the incidence of steering is lower when calculated across this larger pool of cases. Nevertheless, the likelihood that Hispanics will encounter steering remains significant, and is essentially the same as the incidence of steering experienced by black homebuyers. In 10 percent of all sales audits, Hispanics were shown or recommended houses, but in neighborhoods with lower percent Anglo than those shown

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Table 13

INCIDENCE OF DIFFERENTIAL
TREATMENT FOR HISPANICS AND ANGLOS

National Sample
All Units Shown and Recommended

	% of Audits	Standard Error
Percent Anglo (1988)		
No difference	80.0	4.94
Anglo higher	12.4	2.97
Hispanic higher	7.6	2.20
Per Capita Income (1988)		
No difference	81.9	2.83
Anglo higher	10.8	2.01
Hispanic higher	7.3	1.13
Median House Value (1980)		
No difference	67.7	3.35
Anglo higher	16.8	2.11
Hispanic higher	15.5	1.73
Percent Newer Units (1980)		
No difference	75.7	3.94
Anglo higher	11.7	2.00
Hispanic higher	12.6	2.12
Percent Owner-Occ (1980)		
No difference	66.6	3.61
Anglo higher	17.3	2.16
Hispanic higher	16.2	1.71

Number of Audits: 847

Note: Incidences of Anglo higher and Hispanic higher outcomes are all statistically significant at a 95 percent confidence level.

Incidences with no difference are all significantly different from 100 percent at a 95 percent confidence level.

Table 14

INCIDENCE AND DEGREE OF DIFFERENTIAL TREATMENT FOR HISPANICS AND ANGLOS

National Sample
All Units Shown and Recommended
Excluding the Advertised Unit

	Anglo Higher		Hispanic Higher	
	% of Audits	Standard Error	% of Audits	Standard Error
Percent Anglo (1988)				
small difference (<5%)	28.5	3.69	20.1	3.46
moderate difference (5-10%)	4.1	1.31	7.5	1.90
large difference (>10%)	9.0	2.69	5.1	1.44
Per Capita Income (1988)				
small difference (<$2,500)	24.1	1.66	19.0	2.71
moderate difference ($2,500-5,000)	10.1	1.24	7.1	1.27
large difference ($5,000)	8.8	1.93	4.2	0.91
Median House Value (1980)				
small difference ($5,000)	17.1	2.18	9.2	1.07
moderate difference ($5,000-10,000)	11.3	2.49	6.0	1.34
large difference (>$10,000)	15.2	2.28	14.6	1.45
Percent Newer Stock (1980)				
small difference (<5%)	22.2	2.44	25.0	2.87
moderate difference (5-10%)	5.7	1.09	4.2	1.19
large difference (>10%)	8.3	2.28	6.7	1.32
Percent Owner-Occ (1980)				
small difference (<5%)	10.9	1.51	12.4	1.57
moderate difference (5-10%)	11.1	1.46	9.3	0.80
large difference (>10%)	14.9	1.31	15.2	1.81

Number of Audits: 387

Table 15

INCIDENCE AND DEGREE OF DIFFERENTIAL TREATMENT FOR HISPANICS AND ANGLOS

National Sample
All Units Shown and Recommended

| | Anglo Higher | | Hispanic Higher | |
	% of Audits	Standard Error	% of Audits	Standard Error
Percent Anglo (1988)				
small difference (<5%)	22.3	2.26	21.8	3.17
moderate difference (5-10%)	4.6	1.13	3.2	1.11
large difference (>10%)	7.9	2.15	4.4	1.38
Per Capita Income (1988)				
small difference (<$2,500)	24.3	2.05	21.1	2.75
moderate difference ($2,500-5,000)	7.0	1.22	4.8	0.83
large difference ($5,000)	3.8	1.11	2.4	0.71
Median House Value (1980)				
small difference ($5,000)	18.6	2.23	12.5	1.17
moderate difference ($5,000-10,000)	7.1	1.02	7.7	1.49
large difference (>$10,000)	9.7	1.61	7.9	1.04
Percent Newer Stock (1980)				
small difference (<5%)	19.8	1.45	19.5	2.60
moderate difference (5-10%)	4.4	0.70	6.1	1.26
large difference (>10%)	7.3	1.74	6.6	1.01
Percent Owner-Occ (1980)				
small difference (<5%)	13.7	1.35	17.1	2.43
moderate difference (5-10%)	9.8	1.25	8.0	0.85
large difference (>10%)	7.5	1.52	8.1	0.93

Number of Audits: 847

Table 16

COMPOSITE INDEX OF DIFFERENTIAL
TREATMENT FOR HISPANICS AND ANGLOS

National Sample

	Excluding Advertised Unit		*All Units Shown and Recommended*	
	% of Audits	Standard Error	% of Audits	Standard Error
Index 1				
No difference	47.9	2.66	62.1	3.44
Anglo higher	30.0	2.13	21.3	2.14
Hispanic higher	22.1	1.38	16.7	1.77
Index 2				
No difference	47.6	2.72	61.5	3.56
Anglo higher	30.0	2.13	21.7	2.23
Hispanic higher	22.5	1.45	16.8	1.78
Number of Audits	387		847	

Note: Incidences of Anglo higher and Hispanic higher outcomes are all statistically significant at a 95 percent confidence level.

Incidences with no difference are all significantly different from 100 percent at a 95 percent confidence level.

Table 17

INCIDENCE OF STEERING FOR HISPANICS
AND ANGLOS ACROSS ALL AUDITS

National Sample

	Incidence of *"Anglo Higher" Outcomes*
Neighborhood Percent Anglo	10.3 %
Composite Index 1	17.6 %
Composite Index 2	18.0 %

Note: These measures reflect the incidence of steering across all audits, including those where no units were shown or recommended. Audits where no units were available for one or both auditors are classified as "no difference" for purposes of these calculations.

or recommended to their Anglo counterparts. And in 18 percent of all sales audits, houses were shown and recommended to Hispanics in neighborhoods that were either lower percent Anglo, lower income, or lower house value than those shown and recommended to comparable Anglos.

Severity of Steering. As for blacks and whites, Hispanic and Anglo auditors experience small but statistically significant differences in the neighborhood attributes of houses shown and recommended. Table 18 presents average values across audits of neighborhood attributes for houses shown and recommended to Hispanics compared to those shown and recommended to their Anglo counterparts. Once beyond the advertised unit, Hispanics have been shown and recommended houses in neighborhoods that are only 1 point lower percent Anglo, with $600 lower per capita income levels.

When the advertised unit is included in the comparison of neighborhoods shown and recommended to Anglos and Hispanics, the severity of differential treatment is essentially the same. Across all audits in which both Hispanics and Anglos were shown or recommended at least one unit, the average percent Anglo is only 1 point lower for Hispanics, per capita income is less than $300 lower, and the median house value is about $500 lower. Differences in other neighborhood attributes are not statistically significant.

Differential treatment is no more severe for houses recommended for future inspection than for those actually inspected. In fact, for Hispanics and Anglos, there are no statistically significant differences in neighborhood characteristics for addresses recommended for future inspection. This pattern differs from that observed for blacks and whites, where blacks are most likely to encounter differential treatment for units recommended for future inspection, and less likely for units actually inspected.

In-Depth Sites. Analysis of ethnic steering in the four in-depth sites where Hispanic-Anglo audits were conducted confirms the earlier finding that patterns of steering vary substantially across housing markets. As illustrated by Table 19, Hispanics in Chicago, New York, and Los Angeles appear less likely to be steered to neighborhoods with lower percent white than the national average, but equally likely to be steered to neighborhoods with lower incomes or house values. In San Antonio, on the other hand, the incidence of steering is high on all three measures: once beyond the advertised unit, the likelihood that Hispanics will be shown or recommended houses in neighborhoods different from their white counterparts is 22 percent for neighborhood percent Anglo, 27 percent for per capita income, and 27 percent for median house value.

Table 20 reports the severity of steering for the four in-depth sites where Hispanic-Anglo audits were conducted. In Chicago, the average neighborhood percent Anglo is actually lower for Anglos than for Hispanics, and in the other sites, differences are negligible. In San Antonio, however, differences in other neighborhood attributes are relatively large and statistically significant, although these results are based on a very small number of audits (22).

Table 18

SEVERITY OF DIFFERENTIAL TREATMENT
FOR HISPANICS AND ANGLOS

National Sample

	All Units	*Excluding the Advertised Unit*		
		Shown & Rec.	Units Shown	Units Rec.
Percent Anglo (1988)				
Anglo average	85.3	87.4	89.0	82.5
Hispanic average	84.4	86.6	87.8	83.5
T-statistic	5.26**	3.23**	2.53*	-1.58
Per Capita Income (1988)				
Anglo average	16,397	17,214	17,448	16,238
Hispanic average	16,128	16,576	16,776	15,397
T-statistic	3.04**	3.41**	5.40**	2.74*
Median House Value (1980)				
Anglo Average	74,873	77,163	79,376	69,992
Hispanic Average	74,353	76,236	77,702	68,702
T-statistic	2.29*	2.37*	2.80**	1.31
Percent Newer Units (1980)				
Anglo average	84.0	84.3	82.7	87.5
Hispanic average	83.9	83.9	82.0	87.2
T-statistic	0.63	1.15	1.76+	0.32
Percent Owner-Occ (1980)				
Anglo average	69.6	68.1	68.3	66.2
Hispanic average	69.8	68.2	68.6	65.0
T-statistic	-1.03	-0.21	-0.52	1.14
Number of Audits	847	387	248	113

** Difference between the means is statistically significant at a 99% confidence level using a paired t-test.
* Difference between the means is statistically significant at a 95% confidence level using a paired t-test.
+ Difference between the means is statistically significant at a 90% confidence level using a paried t-test.

Table 19

INCIDENCE OF DIFFERENTIAL TREATMENT
FOR HISPANICS AND ANGLOS

In-Depth Sites

	Chicago		New York		Los Angeles		San Antonio	
	All Units	Exc Adv Unit	All Units	Exc Adv Unit	All Units	Exc Adv Unit	All Units	Exc Adv Unit
Percent Anglo (1988)								
No difference	95.1	94.1	95.1	94.3	92.5	81.5	90.9	77.3
Anglo higher	5.0	5.9	4.9	5.7	7.5	18.5	9.1	22.7
Hispanic higher	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Per Capita Income (1988)								
No difference	80.2	70.6	72.8	62.2	89.3	66.6	91.9	68.2
Anglo higher	8.9	17.7	13.5	18.8	8.6	22.2	8.1	27.3
Hispanic higher	10.9	11.8	13.6	18.9	2.2	11.1	0.0	4.5
Median House Value (1980)								
No difference	67.3	54.9	66.7	52.9	82.8	55.5	84.9	63.6
Anglo higher	12.9	17.7	20.9	24.4	10.8	33.4	12.1	27.3
Hispanic higher	19.8	27.5	12.4	22.7	6.4	11.1	3.0	9.1
Number of Audits	101	51	81	53	93	27	99	22

** Difference between the means is statistically significant at a 99% confidence level using a paired t-test.
* Difference between the means is statistically significant at a 95% confidence level using a paired t-test.
+ Difference between the means is statistically significant at a 90% confidence level using a paired t-test.

Table 20

SEVERITY OF DIFFERENTIAL TREATMENT FOR HISPANICS AND ANGLOS

In-Depth Sites

	Chicago		New York		Los Angeles		San Antonio	
	All Units	Exc Adv Unit	All Units	Exc Adv Unit	All Units	Exc Adv Unit	All Units	Exc Adv Unit
Percent Anglo (1988)								
Anglo average	92.8	91.8	90.9	91.8	77.7	79.2	67.7	66.7
Hispanic average	93.3	93.1	90.5	91.6	77.1	77.8	67.0	66.4
T-statistic	1.24	1.92+	-2.09*	-0.76	-1.19	-0.89	-6.35**	-6.62**
Per Capita Income (1988)								
Anglo average	19,765	19,705	26,147	26,873	17,349	20,482	14,509	14,780
Hispanic average	19,721	19,616	26,098	27,265	16,089	16,769	13,790	13,311
T-statistic	0.12	0.13	0.18	-0.83	2.12*	1.83+	9.38**	10.63**
Median House Value (1980)								
Anglo Average	84,741	81,679	102,294	104,623	107,263	112,561	56,351	59,917
Hispanic Average	85,309	83,719	98,134	99,119	105,669	109,712	54,460	55,057
T-statistic	-0.30	-0.47	2.59*	2.12*	1.62	1.24	10.66**	9.59**
Number of Audits	101	51	64	53	93	27	99	22

** Difference between the means is statistically significant at a 99% confidence level using a paired t-test.
* Difference between the means is statistically significant at a 95% confidence level using a paired t-test.
+ Difference between the means is statistically significant at a 90% confidence level using a paired t-test.

Mapping Results. Visual inspection of the spatial distribution of houses shown and recommended to Hispanic and Anglo auditors in Chicago supports the statistical findings. Map 4 displays the locations of houses other than the advertised unit that were actually shown to an auditor by the agent. Houses shown or recommended to Anglos are represented by open squares, those shown or recommended to Hispanics are represented by black stars, and those shown or recommended to both are represented by filled squares. The addresses shown and recommended to Hispanics do not appear to be located in more predominantly Hispanic neighborhoods than the addresses shown to Anglos. Nor do Hispanics appear to be steered toward areas closer to predominantly Hispanic neighborhoods. (See Annex B for further spatial analysis.)

MAP 4
ADDRESSES SHOWN AND RECOMMENDED TO ANGLOS AND HISPANICS, EXCLUDING ADVERTISED UNIT

PERCENT HISPANIC BY TRACT
CHICAGO — 1988

▓ 60 to 100	(112)
▨ 20 to 59.99	(175)
✕ 10 to 19.99	(96)
⁄ 0 to 9.99	(1133)
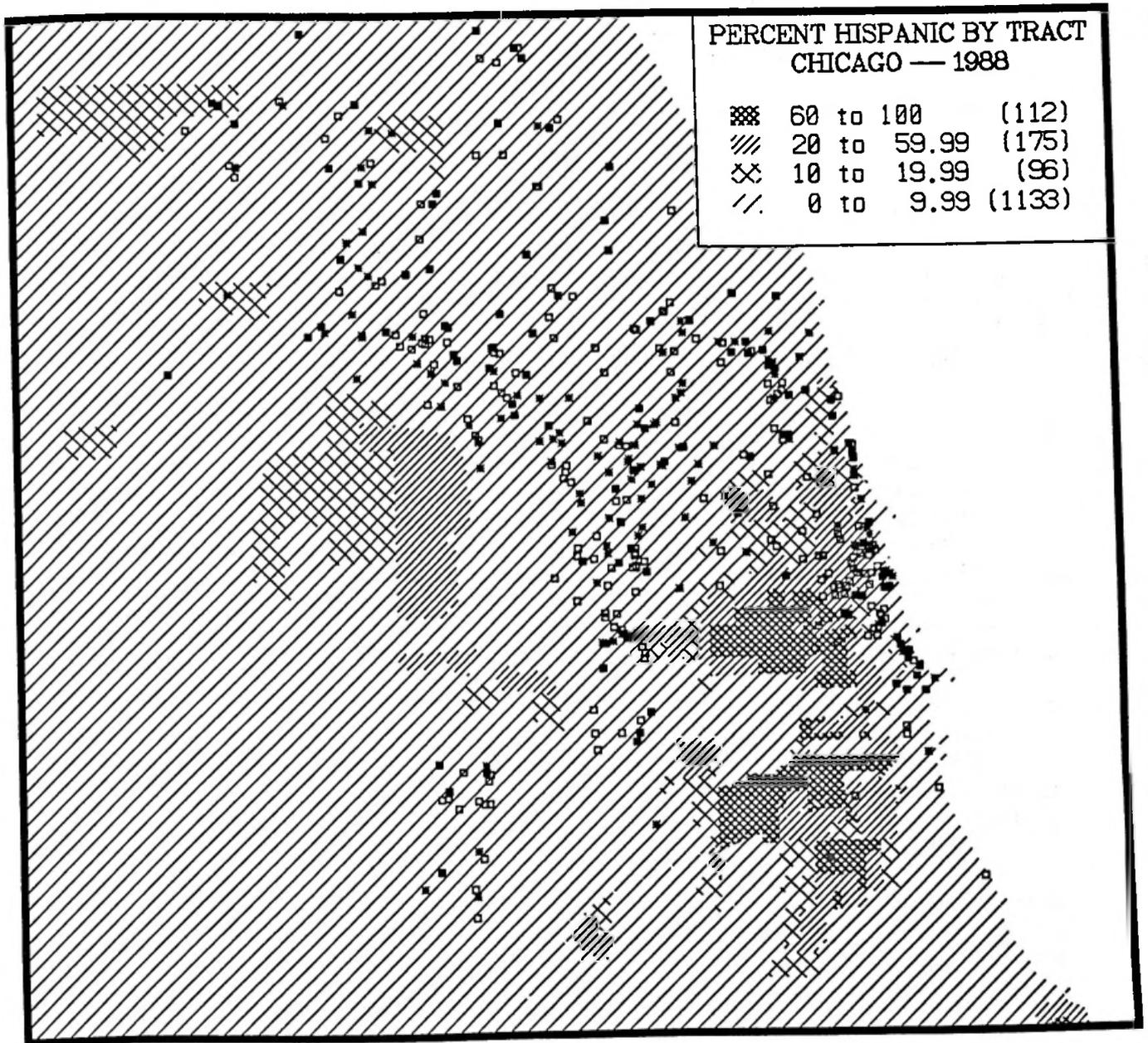
□ Anglo addresses
∗ Hispanic addresses
● Hispanic and Anglo addresses coincide

4. NEIGHBORHOOD CHARACTERISTICS OF AUDITED ADDRESSES

As explained earlier, the HDS audits were "anchored" to a random sample of addresses advertised in major metropolitan newspapers of twenty-five sites. Thus, the agents that were audited, the locations in which audits were initiated, and the locational cues initially provided by auditors were all constrained by the spatial distribution of advertised addresses. This chapter focuses on the neighborhood attributes of the sample of advertised units, as well as the locational characteristics of agents' offices and of other houses shown and recommended to auditors. We then compare characteristics of Census tracts included in the HDS audit sample to those of tracts not in the sample.

Neighborhood Characteristics of HDS Addresses

Table 21 presents average values of Census tract characteristics for advertised addresses, for other addresses shown to auditors, for addresses that were recommended for future inspection, and for the offices of audited sales agents.[19] Data from both the black-white and the Hispanic-Anglo audits are presented in this table. Annex C provides more detail on the distribution of addresses in the HDS audit sample by tract characteristics.

The typical, for-sale house advertised in a major metropolitan newspaper is located in a predominantly white, middle- to upper-income neighborhood. Across the black-white audits, for example, the average advertised unit was in a neighborhood with only 8 percent black population, a per capita income of $17,000, and a median 1980 house value of $69,000. Less than 20 percent of the housing units in these neighborhoods date to the pre-war era, and two thirds of neighborhood households are homeowners. In contrast, the average Census tract in the black-white audit sites is 20 percent black, with a per capita income of only about $13,000 and a median 1980 house value of $57,000. Almost one third of the housing stock was built before 1940, and the homeownership rate is only about 55 percent.

The average neighborhood income and housing characteristics for advertised units in the Hispanic-Anglo sample are essentially the same as those in the black-white audit sample. The Hispanic population in neighborhoods surrounding advertised units averaged 16 percent, compared to an average of 24 percent across all tracts in the Hispanic-Anglo audit sites.

Addresses other than the advertised unit that were shown by agents to auditors are in even more predominantly white and affluent neighborhoods. However, agents appear to recommend addresses for future inspection in more diverse locations. For example, among Hispanic-Anglo audits the average unit recommended (but not shown) was in a 16 percent Hispanic neighborhood, while the average unit actually inspected was in a 12 percent Hispanic neighborhood. The differential is smaller with regard to

Table 21

AVERAGE NEIGHBORHOOD CHARACTERISTICS
FOR SALES AUDIT ADDRESSES

National Sample

	All Units Shown and Recomd'd	Advertised Units	Other Units Shown	Other Units Recomd'd	Agent Office	All Census Tracts in Sampled Metro Areas
Black-White Audits:						
Percent Black (1988)	8.75	7.91	7.29	10.10	7.17	19.87
Per Capita Income (1988)	16,882	17,002	17,282	16,039	18,261	13,410
Med House Value (1980)	69,154	68,690	70,254	64,567	75,645	56,913
Percent Old Housing (1980)	17.89	17.87	16.78	17.78	20.60	31.32
Percent Homeowners (1980)	67.19	66.93	68.90	66.28	62.92	54.85
Total Audits	988	798	524	458	918	---
Hispanic-Anglo Audits:						
Percent Hispanic (1988)	15.64	15.76	11.91	16.04	15.29	23.78
Per Capita Income (1988)	16,279	16,159	17,337	15,516	17,888	13,134
Med House Value (1980)	74,841	74,389	78,413	71,130	82,795	63,474
Percent Old Housing (1980)	16.07	16.36	16.62	15.59	20.30	30.35
Percent Homeowners (1980)	69.64	70.28	69.70	69.88	61.47	48.98
Total Audits	1009	827	565	455	919	---

Note: The sample of metropolitan areas in which Black-White audits were conducted overlaps with, but is not identical to, the sample of metropolitan areas in which Hispanic-Anglo audits were selected.

Average values of tract characteristics for various groups of addresses are calculated by averaging across units in each audit, and then averaging across audits, applying the applicable sampling weights.

All differences between neighborhood characteristics of audit addresses and average neighborhood characteristics for the sampled metro areas are statistically significant at the 95% confidence level.

neighborhood race, however. Even among recommended units, the average percent black is only 10 percent, half the average across all Census tracts in the black-white audit sites.

The offices of audited real estate agents are also in predominantly white neighborhoods. In other words, the real estate agents who advertise units in major metropolitan newspapers have offices in predominantly white, affluent neighborhoods, and do most of their business in these neighborhoods. In fact, the racial or ethnic composition of the neighborhood surrounding an agent's office is an excellent predictor of the composition of the addresses he advertises, shows, and recommends. A simple OLS regression relating racial or ethnic composition for addresses shown or recommended in an audit to the racial or ethnic composition of the agent's office indicates a strong, positive relationship (see Annex C).

All five in-depth sites exhibit the same pattern, as shown in Table 22. Both black and Hispanic representation in neighborhoods where agents have their offices and where they market houses are substantially below metropolitan area averages. In Atlanta, for example, the average agent's office is in a neighborhood that is less than 3 percent black, while the average for all Atlanta neighborhoods is 31 percent black. Hispanic representation in neighborhoods where these agents do business is generally higher, especially in cities such as Los Angeles and San Antonio, with substantial Hispanic populations. Nevertheless, even in San Antonio, where the average Census tract is almost 60 percent Hispanic, the average agent's office is in a neighborhood that is only about 25 percent Hispanic.

Maps 5 and 6 further illustrate the spatial pattern of advertised units and addresses shown and recommended relative to black and Hispanic neighborhoods in Chicago. Virtually no houses in integrated or minority neighborhoods are advertised in Chicago's major newspaper. Agents' offices are located either in the affluent and racially mixed neighborhoods of Chicago's lake shore area or in exclusively white suburban neighborhoods. And when homeseekers respond to advertisements, agents show or recommend few addresses outside of the predominantly white areas in which they advertise. Black central city neighborhoods on the south side of Chicago, in particular, show virtually no activity. And suburban neighborhoods with black populations as small as 2.5 to 10 percent appear to have little or no activity. Even in metropolitan areas less severely segregated than Chicago, agents advertise, show, and recommend almost no addresses in integrated and predominantly black neighborhoods (see Annex Table C-1). Hispanic neighborhoods are more likely to be included in the HDS audit sample, but the vast majority of addresses advertised, recommended, and shown are clearly located in predominantly white, Anglo neighborhoods.

Thus, a random sample of advertisements in major metropolitan newspapers yields very few addresses in minority or integrated neighborhoods. And when homeseekers inquire about the availability of units other than those advertised, most of the addresses shown or recommended are in predominantly white neighborhoods. In

Table 22

AVERAGE NEIGHBORHOOD RACE AND ETHNICITY

In-Depth Sites

	Black-White Audits Percent Black	Hispanic-Anglo Audits Percent Hispanic
Chicago		
Agent's office	4.21	4.44
Addresses shown & recmd'd	4.62	6.57
All tracts	27.27	14.49
New York		
Agent's office	5.55	9.66
Addresses shown & recmd'd	7.45	9.84
All tracts	21.01	22.75
Los Angeles		
Agent's office	2.39	15.58
Addresses shown & recmd'd	6.53	22.49
All tracts	12.20	32.57
San Antonio		
Agent's office	-	25.40
Addresses shown & recmd'd	-	31.91
All tracts	-	57.01
Atlanta		
Agent's office	2.95	-
Addresses shown & recmd'd	5.33	-
All tracts	30.86	-

Note: In San Antonio, only Hispanic-Anglo audits were conducted. In Atlanta, only black-white audits were conducted.

Average values of tract characteristics for various groups of addresses are calculated by averaging across units in each audit, and then averaging across audits, applying the applicable sampling weights.

All differences between neighborhood characteristics of audit addresses and average neighborhood characteristics for the sampled metro areas are statistically significant at the 95% confidence level.

MAP 5
SALES MARKET ACTIVITY IN CHICAGO
BY NEIGHBORHOOD RACIAL COMPOSITION

PERCENT BLACK BY TRACT
CHICAGO — 1988

▨	60 to 100	(329)
▤	10 to 59.99	(154)
✕	2.5 to 9.99	(125)
▨	0 to 2.49	(908)
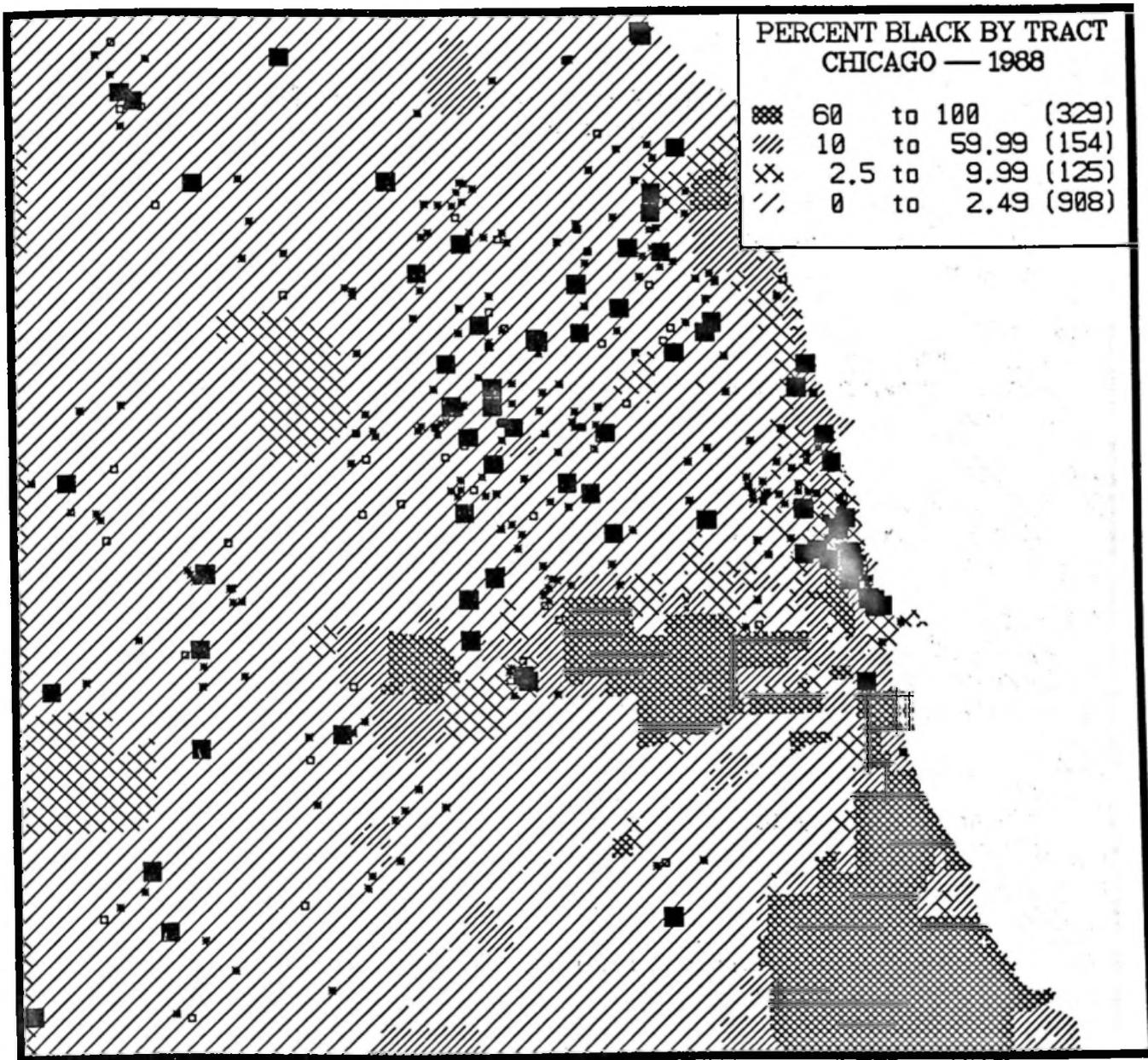
■   Agents office
□   Advertised unit
*   All houses shown and recommended

MAP 6
SALES MARKET ACTIVITY IN CHICAGO
BY NEIGHBORHOOD ETHNIC
COMPOSITION

PERCENT HISPANIC BY TRACT
CHICAGO — 1988

▓ 60 to 100	(112)
▨ 20 to 59.99	(175)
✕ 10 to 19.99	(96)
╱ 0 to 9.99	(1133)
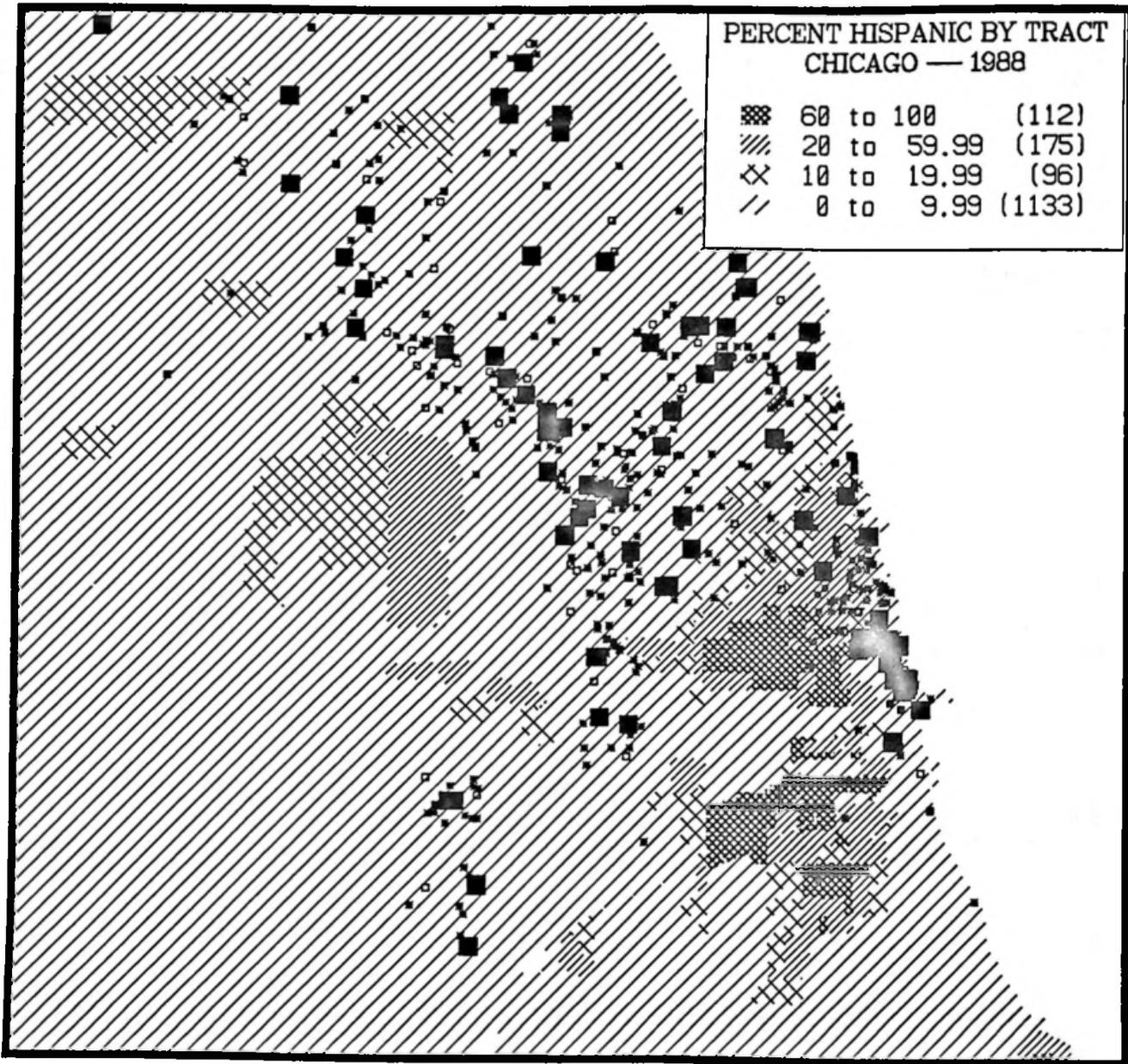
■   Agents office
▫   Advertised unit
*   All houses shown and recommended

particular, agents tend to show houses in the most predominantly white and affluent neighborhoods, while recommending addresses in neighborhoods with a slightly more diverse range of attributes.

Census Tract Analysis

To further explore these patterns, we shifted the focus of statistical analysis to the full set of Census tracts in the twenty-five metropolitan areas audited. For each tract we recorded whether or not any addresses within the tract were shown or recommended to one of the HDS auditors. This makes it possible to compare the neighborhoods where audited real estate agents are advertising and marketing houses with those in which houses are not advertised, recommended, or shown.

Table 23 presents the average characteristics of neighborhoods shown and recommended compared to those not shown or recommended. The results are quite striking. In the sample as a whole, neighborhoods not shown average over 21 percent black versus only about 7 percent black in the neighborhoods where houses were shown or recommended. The percent Hispanic is also higher in the neighborhoods not shown, but the differential is much smaller than for the percent black. Neighborhoods not shown or recommended also have fewer homeowners, lower incomes, more older housing, and lower house values. A standard T-test has been used to test the statistical significance of differences between the means for tracts shown and not shown. As indicated in the table, differences in the national sample are all highly significant.

These differences can also be seen in the five in-depth sites with varying degrees of severity and significance. Atlanta and Chicago exhibit the greatest degree of difference with respect to neighborhood racial composition. Almost 30 percentage points separate the average percent black for neighborhoods shown and not shown in these two metropolitan areas. Atlanta and Chicago show the smallest difference in percent Hispanic between neighborhoods shown and not shown, probably because Atlanta and Chicago have the smallest Hispanic populations of the in-depth sites. Correspondingly, Los Angeles and San Antonio, which have very few blacks but many more Hispanics, exhibit much greater differences with respect to neighborhood Hispanic population than with respect to black population. New York, which has roughly equal numbers of blacks and Hispanics, shows similar differences for black and Hispanic neighborhoods. All the in-depth sites also exhibit substantial differences in average income, age of housing stock, house value, and owner-occupancy rate between neighborhoods shown and not shown.

What is driving these differences? Black and Hispanic neighborhoods tend to be more predominantly rental, older, and less affluent than white Anglo neighborhoods. This suggests that minority neighborhoods may be under-represented in the HDS sample primarily because they do not offer attractive sales opportunities. Annex B provides maps that offer an initial test of this hypothesis by excluding low-income neighborhoods (1988 median household income less than $15,000) from the display of

Table 23

AVERAGE CHARACTERISTICS OF CENSUS TRACTS SHOWN OR RECOMMENDED AND THOSE NOT SHOWN OR RECOMMENDED

	1988 Percent Black	1988 Percent Hispanic	1988 Per Capita Income	1980 Median House Value	Percent 1980 Housing Stock Built Before 1940	Percent Owner Occupied	Number of Tracts
Sample							
Shown	7.45**	11.68**	16631**	73671**	20.77**	1527**	2341
Not Shown	21.13	15.77	12818	55353	31.50	857	11227
Chicago							
Shown	5.17**	10.64**	16879**	77286**	37.25**	1385**	290
Not Shown	33.76	15.84	11036	48392	44.68	860	1030
New York							
Shown	7.53**	11.34**	24168**	92043**	49.08	738**	222
Not Shown	22.65	24.48	12099	48901	51.18	366	2178
Los Angeles							
Shown	7.36**	23.44**	16342**	106708	13.63**	1053**	234
Not Shown	13.09	34.53	13415	90192	18.83	896	1385
San Antonio							
Shown	3.15*	41.11**	13212**	48626	7.73**	2630**	64
Not Shown	6.63	64.60	8126	28276	19.70	920	134
Atlanta							
Shown	7.50*	1.66	19559**	64918**	8.47**	2989**	82
Not Shown	37.58	1.30	11750	37513	16.08	1436	285

Numbers in parentheses are numbers in sample

** 99% probability level that the true means of the shown and not shown neighborhoods are different

* 95% probability level that the true means of the shown and not shown neighborhoods are different

neighborhood racial composition for Chicago. These maps do not support the hypothesis that the minority neighborhoods where houses are not shown or recommended are too poor to offer sales opportunities.

Table 24 presents a multivariate model estimating the independent effects of neighborhood race and ethnicity after controlling for the size of the owner-occupied housing stock, the age of the stock, income levels, and owner-occupied house values. The dependent variable is whether or not any addresses in a Census tract were shown or recommended. Since this is a dichotomous outcome, maximum-likelihood estimates were employed and logistic multiple regression model was fitted to the data for the national sample and for the five in-depth sites.[20]

As anticipated, higher per capita incomes and house values, as well as a larger and newer owner-occupied stock all increase the probability that addresses will be shown or recommended in the neighborhood. However, even after controlling for income levels, house values, owner-occupancy rates, and age of the housing stock, higher percentages of blacks substantially reduce the probability that addresses will be shown or recommended in the neighborhood. Similarly, neighborhood Hispanic population has a significant independent impact on the probability that addresses will be shown or recommended. The impact of the Hispanic variable is non-linear. Specifically, the probability of market activity declines more gradually at low levels of Hispanic population than at higher levels.[21] For the national sample, all of these results are statistically significant.

The relative treatment of black and Hispanic neighborhoods differs substantially from one metropolitan area to another, however. Chicago reflects the most severe under-representation of black neighborhoods, with the largest and most significant coefficient for percent black among the five in-depth sites. Los Angeles shows the most severe under-representation of Hispanic neighborhoods, with the largest and most significant coefficient for percent Hispanic. All the other cities show differential treatment to some extent for both black and Hispanic neighborhoods. Differences between the in-depth sites suggest that treatment of minority neighborhoods may be related to the degree of segregation, with minority neighborhoods more likely to be under-represented when segregation is at its most extreme.

One possible explanation for the characteristics of neighborhoods included in the audit sample may be that the anchoring procedure employed in the Housing Discrimination Study limited the range of neighborhoods shown and recommended. If agents tend to advertise addresses that are in white neighborhoods, an auditor's initial request for the advertised unit may send such strong locational signals that all other addresses shown and recommended were in the same vicinity. However, HDS auditors gave agents ample "opportunity" to steer by asking for information about additional homes for sale in any neighborhood. Moreover, the neighborhood attributes of houses shown and recommended in HDS are essentially the same as in the 1977 Housing Market Practices Study (HMPS), where auditors did not explicitly ask for the advertised unit.[22] Thus, it does not appear that the differential treatment of minority neighborhoods observed in HDS is a function of the anchoring procedures.

Table 24

DETERMINANTS OF NEIGHBORHOOD MARKETING

	Total National Sample	Atlanta	Chicago	Los Angeles	New York	Antonio
Intercept	-2.557** (0.09)	-3.498** (0.592)	-2.670** (0.347)	-2.047** (0.443)	-4.420** (0.310)	-4.350** (1.244)
1988 Percent Black	-1.47** (0.134)	-1.71 (0.859)	-2.45** (0.439)	-1.190** (0.461)	-1.09* (0.428)	------ ------
1988 Percent Hispanic	-3.64* (0.383)	------ ------	3.87** (1.400)	2.45+ (1.35)	1.96 (1.41)	4.43 (3.21)
1988 Percent Hispanic Squared	-5.29** (0.522)	------ ------	-6.19** (1.810)	-4.51** (1.47)	-3.18+ (1.80)	-3.69 (2.68)
1988 Per Capita Income	0.249** (0.042)	0.757 (.48)	0.522* (.191)	-0.043 (0.136)	0.661** (0.106)	1.10+ (0.659)
Percent 1980 Housing Stock Built By 1940	-0.308** (0.103)	-1.26 (1.27)	0.313 (0.333)	-0.647 (0.491)	0.339 (.333)	-1.793 (1.461)
1980 Median House Value	0.028** (0.009)	0.179 (.141)	0.099** (0.034)	0.41 (0.029)	0.102** (0.022)	-0.006 (.181)
Number of Owner Occupied Households	0.048** (0.003)	0.030** (.142)	0.013 (.008)	0.009 (0.011)	0.053** (0.013)	0.123** (0.029)
R	0.332	0.511	0.421	0.203	0.454	0.520

Numbers in parentheses are standard errors

** Significant at the 99% level
* Significant at the 95% level
+ Significant at the 90% level

In summary, analysis of neighborhood characteristics of houses shown and recommended in the Housing Discrimination Study reveals that both minority and majority homebuyers are limited in their neighborhood choices in two ways. First, black and Hispanic homebuyers who are shown and recommended addresses are likely to be steered to neighborhoods that are lower percent white and less affluent than those shown and recommended to comparable white Anglo homebuyers. And second, all homebuyers who start their search by inquiring about the availability of units advertised in major metropolitan newspapers are likely to be shown and recommended houses in predominantly white Anglo neighborhoods, rather than in integrated or minority neighborhoods. Even after controlling for the size and value of a neighborhood's owner-occupied stock, minority and integrated neighborhoods are significantly less likely to be advertised, shown, or recommended than comparable white Anglo neighborhoods.

ENDNOTES

1.   Wienk, Ronald E. et al. Measuring Discrimination in American Housing Markets: The Housing Market Practices Survey. Washington, D.C.: U.S. Department of Housing and Urban Development. 1979.

2.   Galster, George. "Summary of Racial Testing Studies." Wooster, Ohio: Wooster College. 1989; Hakken, J. "Discrimination Against Chicanos in the Dallas Rental Housing Market: An Experimental Extension of the Housing Market Practices Survey." Washington, D.C: U.S. Department of Housing and Urban Development. 1979.

3.   Throughout this report, the following terminology has been adopted. For audits focusing on differential treatment of blacks, the majority group is referred to as whites. For audits focusing on differential treatment of Hispanics, the majority group is referred to as Anglos.   In some instances in which the discussion focuses generally on differential treatment of both blacks and Hispanics, the majority group is referred to as white Anglos.

4.   See, for example, John Simonson and Ronald Wienk (1984), "Racial Discrimination in Housing Sales: An Empirical Test of Alternative Models of Broker Behavior." Among the most recent of these is a theoretical analysis of the economic incentives for discriminatory treatment by real estate agents. See, Harriet Newburger (1989), "Discrimination by a Profit-Maximizing Real Estate Broker in Response to White Prejudice", Journal of Urban Economics. vol 26, pages 1-19.

5.   HDS included condominiums among the for sale units eligible for inclusion in the sample, because condominiums have become such a significant part of the market in some metropolitan areas. HMPS did not include condominiums.

6.   See, for example, Lake, Robert W. The New Suburbanites: Race and Housing in the Suburbs. New Brunswick, N.J.: Center for Urban Policy Research.

7.   The HDS sampling methodology was designed to detect differences in treatment of 11 percent or more at a significance level of 5 percent and a power level of 95 percent.   See "Methodology and Data Documentation." Washington, D.C.: U.S. Department of Housing and Urban Development. 1991.

8.   National Decision Systems is one of several firms that offer data sets in which changes in tract characteristics have been estimated, using proprietary forecasting algorithms, combined with supplemental data gathered by state, regional, county, and municipal planning departments as well as test surveys conducted by the Census Bureau.   These estimates may be inaccurate in rapidly changing areas, including large new developments. Note that tracts are defined to be homogeneous with respect to population and housing characteristics, and have between 2,500 and 8,000 residents.

9. In fact, Chicago is one of several metropolitan areas identified as "hypersegregated" because of its high values on five alternative segregation measures. Massey, D. and Denton, N. (1989) "Hypersegregation in U.S. Metropolitan Areas: Black and Hispanic Segregation Along Five Dimensions," Demography, vol. 26, no. 3.

10. A machine-readable file of addresses was sent to Harte-Hanks Data Technologies, which used its in-house geo-coding system to provide the Census tract identifier for each address. After completing one full pass through our data, Harte-Hanks returned the file of addresses to The Urban Institute, where we corrected or supplemented addresses that had not been successfully matched to Census tract identifiers. More specifically, research staff referred to the original data collection instruments, local zip code directories, and detailed maps of the twenty-five metropolitan areas to improve the quality of the address data to the greatest extent feasible. Addresses were then returned to Harte-Hanks for a second pass through the geo-coding process. This resulted in a significant improvement in the share of addresses matched to Census tract identifiers.

11. The 1990 Census map data bases -- known as "TIGER" files -- were used to match addresses to map coordinates for all of the in-depth metropolitan areas except for New York. New York's TIGER file had not yet been released by the Census Bureau, so the 1980 Census map data base -- known as a "DIME" file -- was utilized instead for coordinate matching.

12. The tract identifiers provided by Harte-Hanks Data Technologies were used for this purpose.

13. For more information on this issue, see "Incidence and Severity of Unfavorable Treatment."

14. For details on procedures for testing statistical significance in HDS, see Yinger, John. "Measuring Differential Treatment in the Housing Discrimination Study." Washington, D.C.: U.S. Department of Housing and Urban Development. 1990.

15. Since blacks were shown houses in predominantly white neighborhoods in a significant share of audits, we tested the hypothesis that agents use favorable and unfavorable comments about neighborhood attributes to steer blacks away from the neighborhoods, or to steer whites away from racially mixed areas. These results suggest that the number of favorable comments may be lower for houses in predominantly black neighborhoods, there is no evidence that comments vary with the race of the auditor. Moreover, so few comments were made by agents under any circumstances, that differential patterns cannot be discerned with any reasonable degree of statistical certainty.

16. The statistical significance of differences between black and white averages is estimated by a paired means T-test, which adjusts for the covariance between the two samples. This test is explained fully in John Yinger "Incidence and Servity of Unfavorable Treatment." Washington, D.C.: U.S. Department of Housing and Urban Development. 1991

17.   The number of audits for the "shown" and "recommended" columns do not add up to the number in the "shown and rec" column, because results in these columns are based on audits where **both** auditors were shown at least one address beyond the advertised unit, and those in which **both** auditors were recommended at least one unit for future inspection. Audits in which one partner was shown a unit and the other was recommended a unit would be included in the first column but not in either of the second two.

18.   For a complete set of maps for all five in-depth audit sites, see Mikelsons, Maris and M.A. Turner (1991), "Mapping Patterns of Steering"

19.   Average characteristics for each sub-set of addresses were computed by first averaging the characteristics of addresses for each audit, and then averaging across audits, applying normalized sampling weights.

20.   We also estimated an OLS regression equation predicting the **number** of houses recommended or shown in those tracts where the number was greater than zero. This contingent regression model did not contribute any additional insights to the results presented here.

21.   We also tested for a non-linear relationship between percent black and the probability of market activity, but found that when the squared percent black term was introduced to the list of explanatory variables, the coefficient on the linear term became insignificant.

22.   For example, in 89 percent of the HMPS audits where both auditors saw houses, these houses were all in neighborhoods that were less than 10 percent black.

ANNEX A

Supplemental Data Tables

Table A-1

CENSUS TRACT DATA ITEMS

Population	1980 number of households 1988 estimated population 1988 estimated number of households 1980 total occupied housing units 1988 estimated total occupied housing units
Racial Composition	1980 percent white 1980 percent black 1980 percent Spanish origin 1988 estimated percent white 1988 estimated percent black 1988 estimated percent Hispanic
Income	1980 median household income 1980 per capita income 1988 estimated median household income 1988 estimated per capita income Percent 1988 households with annual income $75,000 or more Percent 1988 households with annual income 50,000 to 74,999 Percent 1988 households with annual income 35,000 to 49,999 Percent 1988 households with annual income 25,000 to 34,999 Percent 1988 households with annual income 15,000 to 24,999 Percent 1988 households with annual income 7,500 to 14,999 Percent 1988 households with annual income 7,499 or less
Home Ownership	Percent 1980 housing units owner-occupied
House Values	1980 median house value
Housing Stock	Percent 1980 housing units built 1979 to 1980 Percent 1980 housing units built 1975 to 1978 Percent 1980 housing units built 1970 to 1974 Percent 1980 housing units built 1960 to 1969 Percent 1980 housing units built 1950 to 1959 Percent 1980 housing units built 1940 to 1949 Percent 1980 housing units built 1939 or earlier

Note: No estimated data are available on 1988 homeownership rates, house values, or year built.

Table A-2

GEOCODING SUCCESS RATES
SALES AND AGENT OFFICE ADDRESSES

	Black	White	Hispanic	Anglo
Sales Addresses				
Total Addresses	2307	2757	2190	2886
Deocoded Addresses	1907	2304	1862	2515
Percent Geocoded	82.7	83.6	85.0	87.1
Without Advertised Unit				
Total Addresses	1512	1888	1415	2042
Geocoded Addresses	1230	1553	1175	1768
Percent Geocoded	81.3	82.3	83.0	86.6
Office Addresses				
Total Addresses	1910		1878	
Geocoded Addresses	1751		1741	
Percent Geocoded	91.7		92.7	

Table A-3

MAPPING SUCCESS RATES
SALES ADDRESSES

		Chicago	New York	San Antonio*	Los Angeles	Atlanta*
Black-White Audits						
addresses	**Blacks**	97.0%	72.6%	--	88.9%	80.5%
shown:	**Whites**	97.0	74.8	--	92.3	78.0
addresses	**Blacks**	91.4	30.0	--	81.8	63.6
recommended:	**Whites**	90.9	64.8	--	73.3	77.5
Hispanic-Anglo Audits						
addresses	**Hispanics**	96.6	55.8	88.5	79.0	--
shown:	**Anglos**	97.5	55.5	88.9	79.0	--
addresses	**Hispanics**	91.7	21.4	100.0	80.9	--
recommended:	**Anglos**	97.1	28.8	82.8	77.9	--

* Harte Hanks supplied Census tract numbers were used to locate addresses that could not be successfully matched.

ANNEX B

Supplemental Mapping Analysis

As part of the mapping analysis of racial and ethnic steering, we considered the possibility that differences in the spatial distribution of houses shown and recommended to whites and blacks might be obscured by the overlapping sets of points generated by independent audits. Therefore, we summarized the spatial distribution of houses shown and recommended by displaying the **mean center** of all houses shown and recommended to each auditor. The mean center represents the "average" location in a point pattern -- the point at the center of a scattered set of points.

Specifically, given a set of n points, whose locations are defined by their x and y coordinates -- $\{(x_1,y_1), (x_2,y_2) \ldots (x_n,y_n)\}$ -- the mean center (M) is calculated as:

$$M = \left(\frac{1}{n}\sum_{i=1}^{n}x_i, \frac{1}{n}\sum_{i=1}^{n}y_i\right).$$

This calculation yields a pair of coordinates indicating a map location at the center of the point pattern. Map B-1 displays only one point per team member for each audit -- the mean center of all points shown or recommended to that team member, other than the advertised unit. If some or all agents showed or recommended houses to blacks that were closer to black neighborhoods than the houses they showed or recommended to whites, we would expect the mean centers to reflect this pattern. However, these summary displays still provide no visual evidence that agents steer black homeseekers toward more predominantly black neighborhoods, or even toward white neighborhoods on the border of more predominantly black neighborhoods.

Map B-2 summarizes the spatial distribution of houses shown and recommended to Hispanics and Anglos by displaying the **mean center** of all houses shown and recommended to each auditor. As explained earlier, the mean center represents the "average" location in a point pattern -- the point at the center of a scattered set of points. Again, this summary display provide no visual evidence that agents steer Hispanic homeseekers toward more predominantly Hispanic neighborhoods, or even toward Anglo neighborhoods on the border of more predominantly Hispanic neighborhoods. Mapping results for the other in-depth sites also support the conclusion that Hispanic and Anglo auditors were shown and recommended houses in essentially the same, predominantly Anglo neighborhoods, with no convincing evidence that agents are steering Hispanic customers to particular neighborhoods or communities within the metropolitan area.

Maps B-3 and B-4 provide visual tests of the hypothesis that minority and integrated neighborhoods are not advertised, shown, or recommended primarily because incomes and house values in these neighborhoods are too

low to make them attractive to profit motivated real estate agents. These maps display the spatial distribution of houses shown and recommended. in conjunction with the racial or ethnic composition of tracts. Tracts with low household incomes (less than $15,000 in 1988) are completely unshaded (left blank) to indicate where neighborhoods markets may be too depressed to be attractive to the real estate industry. Indeed. some minority neighborhoods have very income levels. However. many other integrated and minority neighborhoods appear to have moderate or even high incomes. but are still not advertised. shown. or recommended by the agents included in the HDS audit sample.

MAP B1
MEAN CENTERS FOR HOUSES SHOWN AND RECOMMENDED TO BLACKS AND WHITES EXCLUDING ADVERTISED UNIT BY NEIGHBORHOOD RACIAL COMPOSITION

PERCENT BLACK BY TRACT
CHICAGO -- 1988

▒	60	to	100	(329)
▨	10	to	59.99	(154)
✕	2.5	to	9.99	(125)
⁄⁄	0	to	2.49	(923)
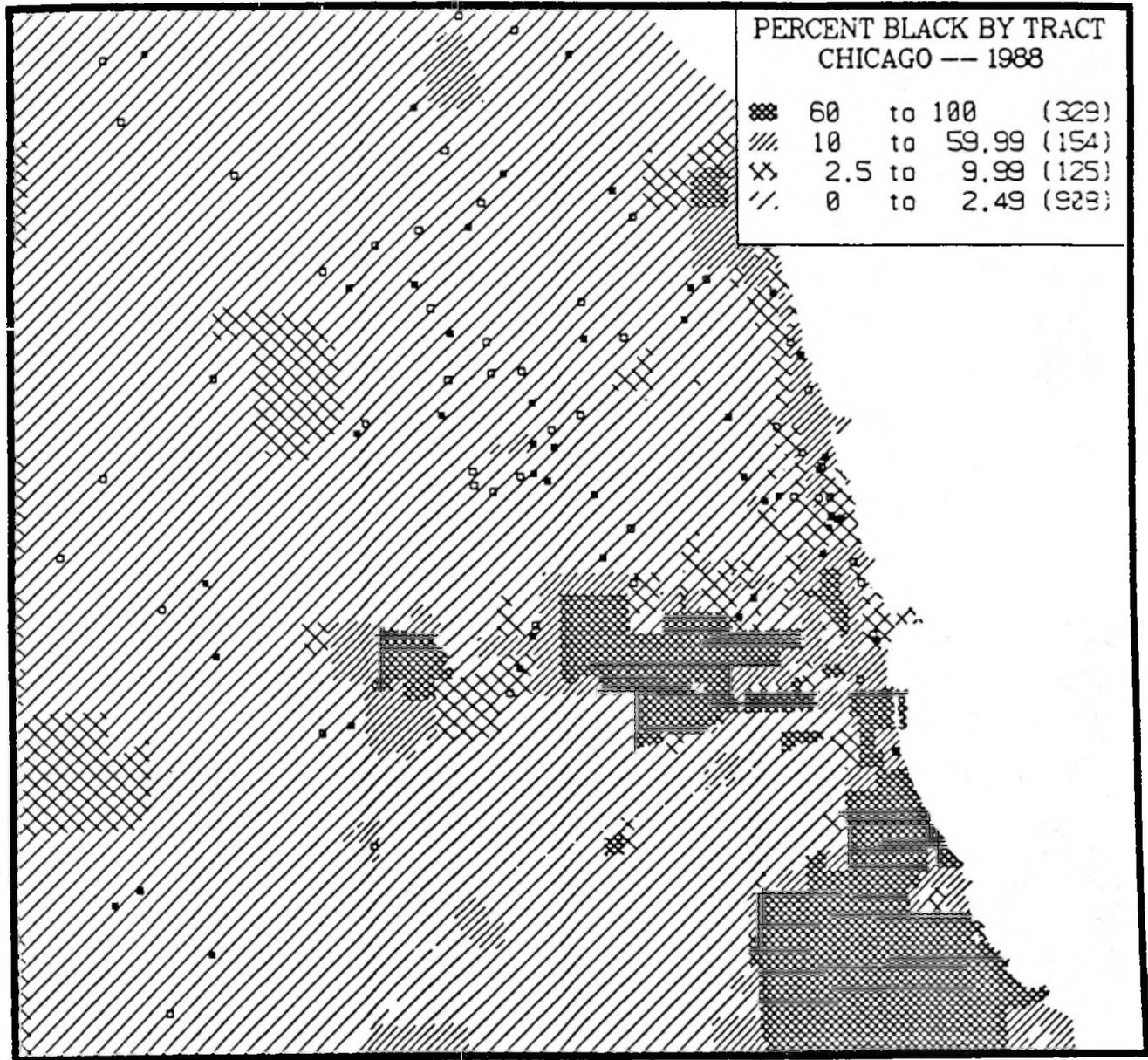
□ White mean centers
∗ Black mean centers
◨ Black and white mean centers coincide

MAP B2

MEAN CENTERS FOR ALL HOUSES SHOWN AND RECOMMENDED TO HISPANICS AND ANGLOS EXCLUDING ADVERTISED UNIT BY NEIGHBORHOOD ETHNIC COMPOSITION

PERCENT HISPANIC BY TRACT
CHICAGO -- 1988

▨	60 to 100	(112)
▨	20 to 59.99	(175)
✕	10 to 19.99	(96)
⁄⁄	0 to 9.99	(1133)
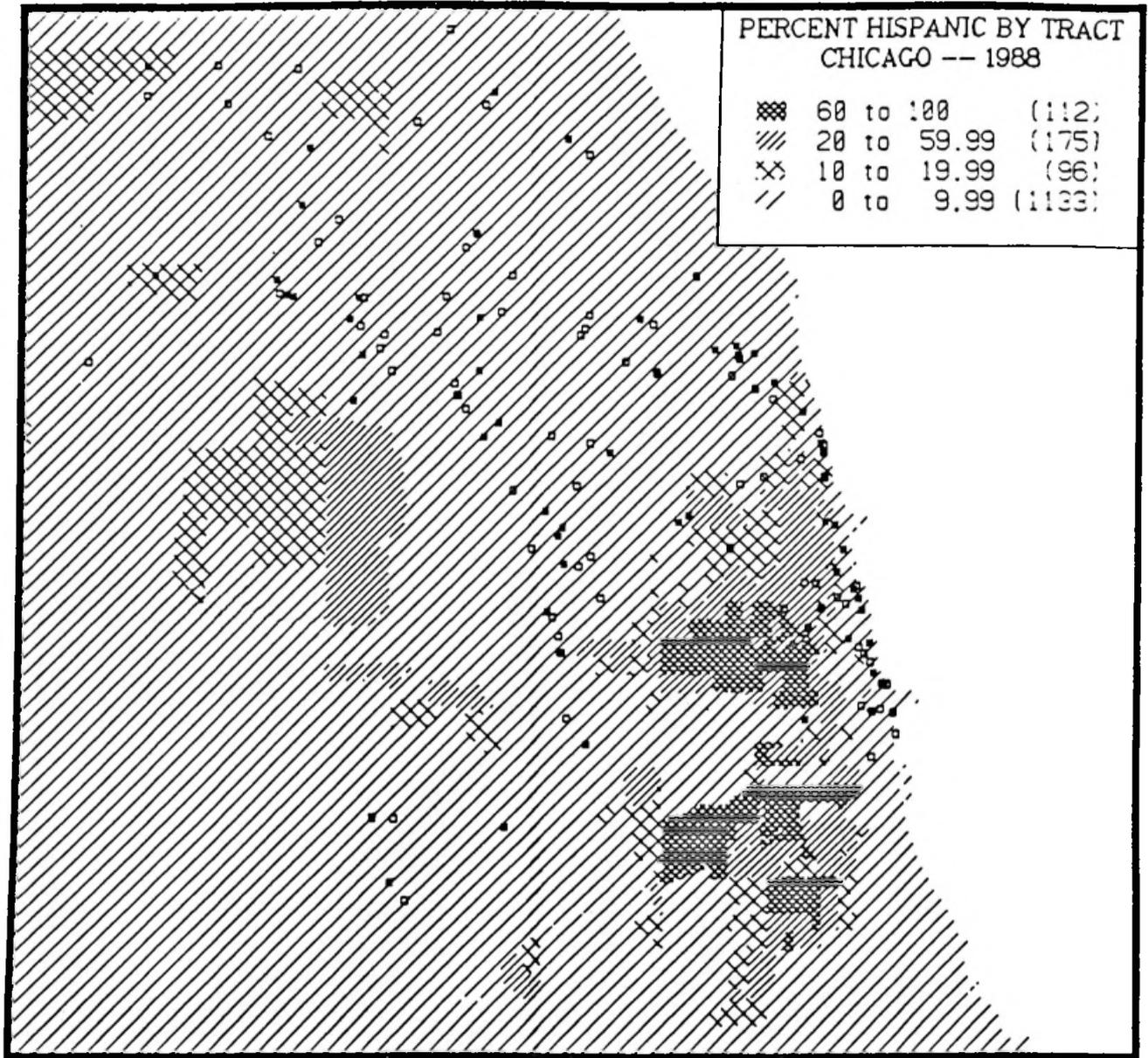
□   Anglo mean centers
∗   Hispanic mean centers
▪   Hispanic and Anglo centers coincide

MAP B3

HOUSES SHOWN AND RECOMMENDED TO BLACKS AND WHITES BY NEIGHBORHOOD RACIAL COMPOSITION, EXCLUDING POOR NEIGHBORHOODS

PERCENT BLACK BY TRACT
CHICAGO -- 1988

▓▓▓	60	to 100	(329)
⁄⁄⁄	10	to 59.99	(154)
✕✕	2.5	to 9.99	(125)
⁄⁄	0	to 2.49	(908)

med hh income < $15,000
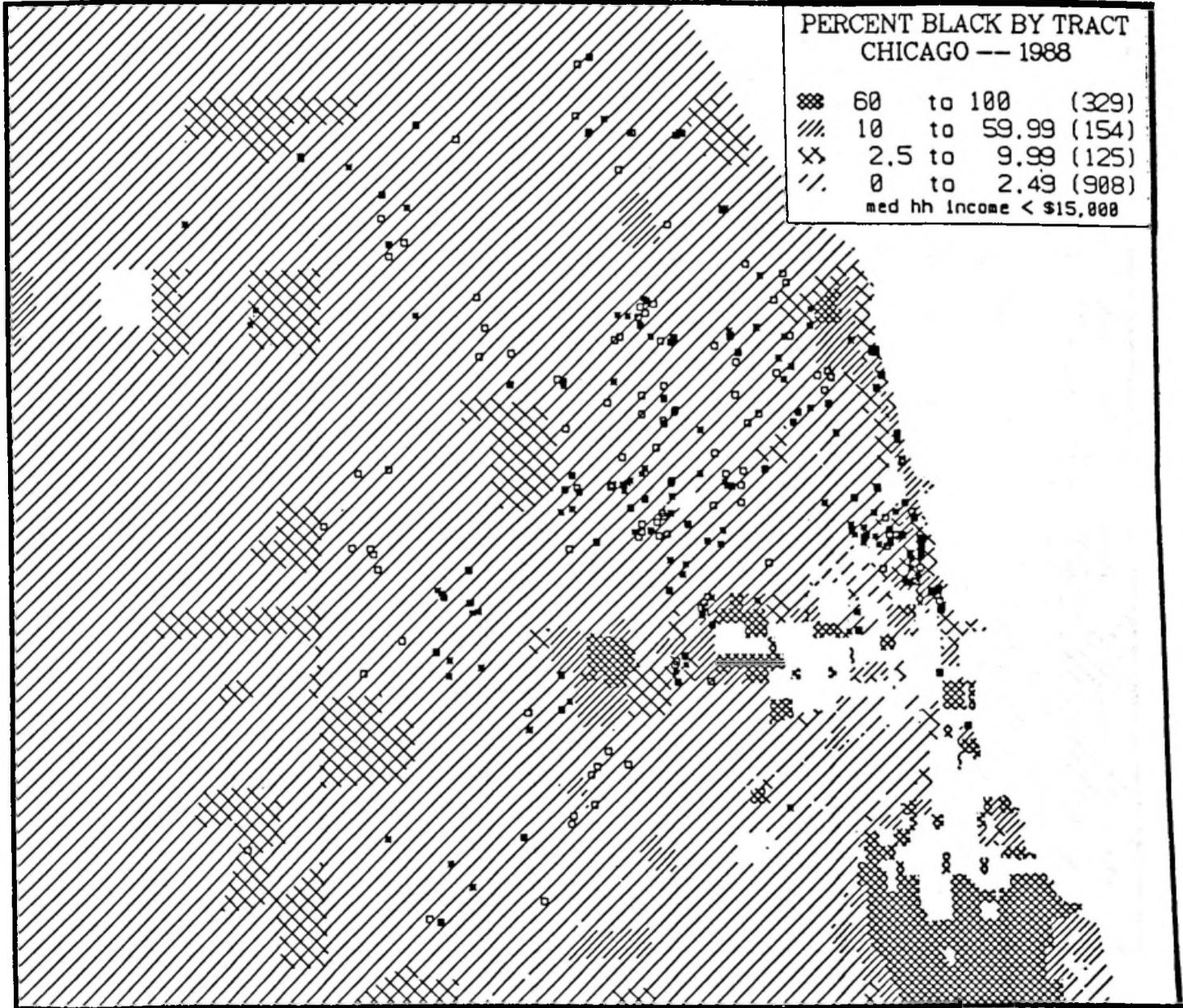
□ White Addresses
* Black addresses
◼ Black and White addresses coincide

MAP B4

HOUSES SHOWN AND RECOMMENDED TO HISPANICS AND ANGLOS BY NEIGHBORHOOD ETHNIC COMPOSITION, EXCLUDING POOR NEIGHBORHOODS

Percent Hispanic by Tract
CHICAGO -- 1988

▨	60 to 100	(77)
▧	20 to 59.9	(162)
Y	10 to 19.9	(97)
╱	0 to 9.9	(929)

med hh income < $15,000
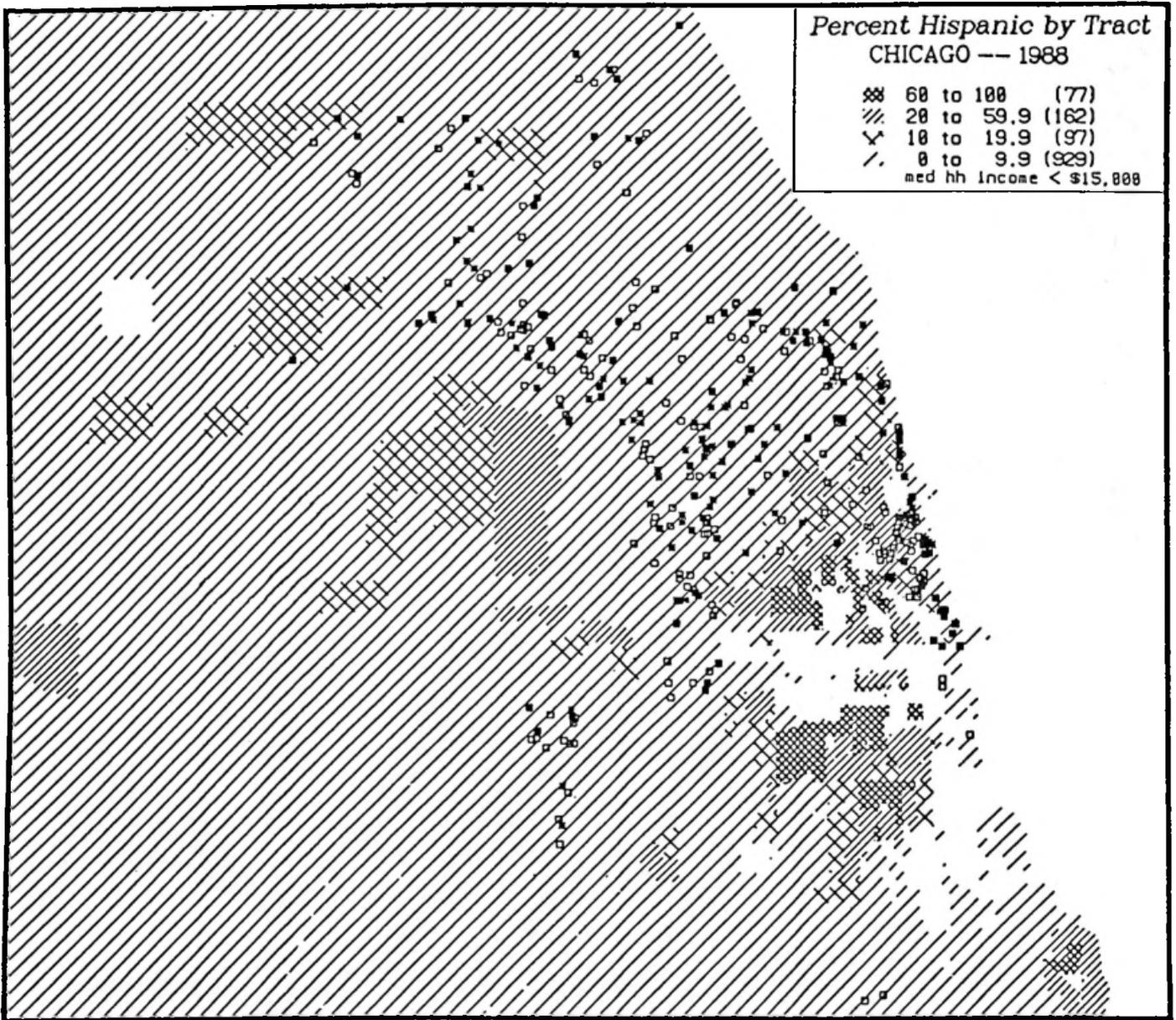
□ Anglo Addresses
∗ Hispanic addresses
■ Hispanic and Anglo addresses coincide

ANNEX C

Supplemental Statistical Analysis

Table C-1

DISTRIBUTION OF AUDITED ADDRESSES BY TRACT CHARACTERISTICS

	All Units Shown & Recommended	Advertised Units	Other Units Shown	Other Units Recommended	All Tracts in Sample Metro Areas
Black-White Audits					
Percent Black					
0 - 2.49%	47.8%	85.9	52.9	44.9	50.1
2.5 - 9.9%	29.3	8.0	28.5	26.3	18.0
10 - 59.9%	21.0	5.3	17.1	27.4	17.2
60 - 100%	1.9	0.8	1.5	1.4	14.7
Hispanic-Anglo Audits					
Percent Hispanic					
0 - 9.9%	51.0	52.3	64.7	45.2	67.3
10 - 19.9%	19.6	18.5	17.7	21.5	11.2
20 - 59.9%	27.2	26.3	16.0	31.8	13.4
60 - 100%	2.1	2.9	1.6	1.5	8.2

Table C-2

Agent's Office Location and Tract Characteristics
of Addresses Shown and Recommended

Black-White Audits: average neighborhood percent black for houses shown and recommended

	coefficient	standard error
Intercept	6.12	0.53
Neighborhood percent black for agent's office	0.37	0.03
R^2	12.2%	

Hispanic-Anglo Audits: average neighborhood percent Hispanic for houses shown and recommended

	coefficient	standard error
Intercept	7.58	0.52
Neighborhood percent Hispanic for agent's office	0.50	0.02
R^2	38.9%	

DUE DATE

MAR 2 4 1992			
FEB 2 6 1992			
AUG 2 8 1995			
			Printed in USA