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ABSTRACT

TOWARD A THEORY OF GENTRIFICATION

by Herman Leon Baxter

Even after 40 years of scholarship there remains much disagreement among social scientists about the causes of gentrification. To "supply-side," structuralist observers gentrification is seen as the result of changes in the macro-economy, policy shifts, and revanchism on the part of wealthier, middle class residents. To observers favoring "demand side," rational choice explanations gentrification is the result of disillusionment with suburbia by some in the middle class. For members of this latter camp, understanding the causes of gentrification necessarily requires understanding the motives of gentrifiers. To help resolve this debate, insights from both the "supply side" and "demand side" are combined to articulate a generalizable, testable theory of gentrification. The theory is devised using results from a qualitative, univariate, "descriptive" model and a quantitative, multivariate, "predictive" model. Tests of the latter model indicate that it cannot be used to predict gentrification's occurrence precisely, but that it can be used to identify areas ripe for gentrifying activity. Gentrification policies are subsequently examined in light of the proposed theory, and the theory's validity is itself evaluated using abductive reasoning. The theory is seen as valid; however given the deficiencies associated with abductive reasoning the theory is also seen as needing additional testing for validity strengthening.

TOWARD A THEORY OF GENTRIFICATION

A DISSERTATION

Submitted to the Faculty of

Miami University in partial

fulfillment of the requirements

for the degree of

Doctor of Philosophy

Department of Political Science

by

Herman Leon Baxter Miami University Oxford, Ohio

2009

Dissertation Director: Dr. Douglas H. Shumavon

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Dedication

To: R.L.R.

Acknowledgements

Sincerest thanks to my dissertation committee members: Dennis Sullivan, James Rubenstein, and especially director Doug Shumavon. Also thanks to Bryce Amburn, Betsy Burger, Christina Carrubba-Whetstine, Linda Dixon, Sandy Mastandrea, John Rothgeb, Caroline Statkus, and Arp Trivedi for their encouragement and support. Special thanks to Kristy Drobney.

Very special thanks to my parents Herman and Jacqueline Baxter, my brothers Duane and Terry, and their families.

Chapter 1 Introduction

Gentrification is the "upgrading" of geographic space so that it reflects middle class values. It is a key urban redevelopment process both in the United States and other industrialized countries (Bounds & Morris, 2006; Brun & Fagnani, 1994; Butler, 2007; Danyluk & Ley, 2007; Slater, 2004). Though gentrification often occurs in major cities, it has also been witnessed in both suburban and rural areas (Darling, 2005; Ghose, 2004; Housing Assistance Council, 2005; Marcel, 2005; Niedt, 2006).

Gentrification is a gradual process, occurring over years and even decades. It entails middle class households moving into a disinvested, economically-depressed area, buying real properties, renovating them and, by virtue of doing so, increasing property values. The property appreciation in turn increases contract rents and property tax bills, often resulting in lower class household displacement (Atkinson, 2000; Davidson & Lees, 2005; Laska & Spain, 1979; Smith, 1996).¹

Though gentrification emerged as a unit of analysis in American academe in the 1960s (Clark, 1995), the phenomenon has existed at least to the mid-nineteenth century. In the 1860s Baron Haussmann, a member of Napoleon III's court, ordered that housing for the poor be demolished to make way for boulevards and housing for Paris's political and economic elite. Cases have been found of gentrification occurring in American cities like Charleston, New Orleans, and New York as early as the 1930s (Lees, Slater, & Wyly, 2008, p. 5).

American scholars have often used case studies to examine gentrification (Berrey, 2005; Gale, 1984; Kennedy & Leonard, 2001; Kerstein, 1990; Lloyd, 2004; Smith, 1979; Smith & DeFilippis, 1999). These studies have examined the characteristics associated with gentrified and gentrifying areas, such as their concentrations of historically- and architecturally-significant housing, their distance from major employment centers, and their proximity to public transportation lines. These characteristics are known as *supply side hedonic traits*: "supply side" in that they are things that a gentrified or gentrifying

¹ However for an alternative view of gentrification and displacement, see Freeman & Braconi, 2004.

area supplies and "hedonic" in that, upon their acquisition, they augment the gentrifier's "utility" or level of satisfaction (Berry, 1985; Redfern, 1997; Wyly & Hammel, 1998).²

Case studies have also examined the characteristics associated with gentrifiers, those middle class members driving the gentrification process. Gentrifiers are often non-Hispanic and White, have particular income levels and household arrangements, often hold college degrees, and typically work in white-collar occupations. Like most people, they wish to live in areas with high concentrations of people like themselves. Given these characteristics, gentrifiers are said to demand the existence of certain traits in areas in which they plan to invest (Berry, 1985; Lauria & Knopp, 1985; Redfern, 2003).

While studies mapping the supply and demand sides of gentrification are useful, they are deficient in that, as case studies, they are not generalizable. Recent work — particularly that of geographers Daniel Hammel and Elvin Wyly — has attempted to articulate a generalizable theory (Hammel & Wyly, 1996; Wyly & Hammel, 1998; 1999; 2001). Such work employs statistical methods like discriminant analysis and regression techniques to cross-sections of gentrified areas. While the work is promising, it unfortunately uses a small number of gentrified or gentrifying areas, or relies on subjective assessments such as field surveys for *a priori* identification of such areas. *1. Research Agenda*

The present research uses a more rigorous technique for *a priori* identification of gentrified and gentrifying areas. It also uses data from 30 such neighborhoods in 24 different American cities to craft a more encompassing theory of gentrification. Identifying this theory is the primary purpose of this dissertation, and it is a necessary first step in fulfilling the secondary purpose of assessing the efficacy of local policies that promote gentrification.

Hypotheses associated with each of this work's purposes are identified below.

² For more information on hedonic trait theory, see O'Sullivan, 2002.

1.1 The primary purpose. The primary purpose of this work is to craft a theory of gentrification. The theory will articulate (1) which hedonic traits an area must supply to stimulate demand by gentrifiers, and (2) the extent to which such traits must be supplied.

We will see that gentrifiers seek out a number of traits when evaluating areas, including the existence of historically-significant housing, the presence of diverse populations, and the existence of low property values. These traits are seen here as attractive due to their *novelty* and *assumability*. The traits are *novel* in the sense that they exist in abundance in the gentrified or gentrifying area, but are scarce in nearby areas. They are *assumable* in that they can be incorporated into one's identity and subsequently promoted to others.

This research's primary null hypothesis is that gentrifiers are more likely to invest in relatively safe areas that supply a wealth of novel and assumable hedonic traits. It is believed that gentrifiers will not invest in an area until an "equilibrium" exists between their demand of certain traits, and the neighborhood's supply of them.

1.2 The secondary purpose. The secondary purpose of this work is to assess the efficacy of local policies that promote gentrification. This assessment will take place in light of the gentrification theory.

It will be shown that when local governments promote gentrification, they often do so by stimulating demand. Demand stimulation is accomplished by working to create environments that nurture the development of amenable hedonic traits in areas, or by simply providing these traits to targeted areas outright.

To fulfill this research's secondary purpose, the effectiveness of local policies encouraging gentrification will be assessed using case studies. The case studies will be used to prove this research's secondary null hypothesis that a positive relationship exists between the efficacy of local gentrification policies and the extent to which these policies incorporate aspects of the gentrification theory.

1.3 Plan of this work. The idea that a gentrification theory can exist implies that gentrification processes — and the gentrifiers actuating them — evolve in a particular way. How gentrifiers and gentrification are seen to work by individual researchers, scholars, and commentators is indicative of that individual's ontological stance regarding

the phenomena. The ontology chosen acts as a frame through which the phenomena are examined and critiqued.

The current debate about gentrification — particularly in the discipline of geography — is essentially an ontological one (Beauregard, 1986; Hamnett, 1991; Lees et al., 2008). It is characterized by two camps: structuralists who believe that gentrification is the result of complex political and economic processes to which gentrifiers merely respond, and rationalists who contend that gentrification is the result of rational responses on the part of gentrifiers to locate near persons of like mind, belief, or occupation. An important figure in the former camp is geographer Neil Smith (1979; 1982; 1996; 2002) while Loretta Lees and David Ley are two important voices in the latter (Lees, 1994; 1996; 2000; Ley, 1986; 1987; 1994; 1996; 2003; 2004).

The theoretical framework the present research adopts sympathizes with both views. It is assumed that gentrifiers come to their location positions rationally, but it is also assumed that these rational choices are circumscribed (implicitly, explicitly, or both) by various structures.

In this dissertation, gentrification is assumed to be the result of "bounded rationality" on the part of gentrifiers. Here, gentrifiers are seen as making "rational" decisions, but these decisions are not seen as being fully purposive. Instead, they are bound by the existence of political, economic, cultural, and other kinds of structures — the existences of which the gentrifier may be aware. In the next section of this chapter we outline the two main ontologies reflected in gentrification research: structuralism and rational choice. It will be asserted that the ontology of structuralism has the better capacity to provide a coherent gentrification theory than the ontology of rational choice, but that the rational choice ontology should not be dismissed when construction a gentrification theory.

In the subsequent chapter, the structuralist ontology will be used to understand the supply and demand sides of gentrification. The structuralist work of French theorist Henri Lefebvre will be used to demonstrate that cities are structures comprised of what Lefebvre calls "products." Gentrifiers seek those products that enhance their utility and, because of this, products emerge as hedonic traits that cities and neighborhoods within cities supply to varying degrees. The more desired products are provided in certain

neighborhoods, the greater the likelihood that gentrifiers will locate there to partake in them. The more gentrifiers move into a neighborhood, the further along the gentrification process is pushed.

After examining the ways in which traits are supplied in cities, attention will be paid to the reasons for gentrifier demand of traits. It will be argued that the character of gentrifiers' demands is largely explained by their adherence to "middle class values." This connection between gentrifiers and middle class values is a complicated one to make, largely because a clear definition of "middle class" is lacking.

"Middle class" is often determined by monetary earnings, but both experts and laypersons often do not agree on the earnings thresholds. A person in San Antonio — a place with relatively low living costs — may consider a person earning \$35,000 to be middle class, while residents of expensive San Francisco may consider that same worker impoverished. Google "middle class" and one of the first results is an MSNBC website titled "Who or what is the middle class?"

Others assert that finances are a poor criterion for identifying the middle class. To them, middle class persons reflect specific attitudes. These attitudes are aspirational rather than complacent in manner: Middle class persons place an emphasis on education or start new businesses in hopes of improving their individual and their family's quality of life. Middle class persons are seen as dignified and proud (though not haughty), reluctant to take charity and practicing a dogged self-reliance.

Still others view middle class persons as owning certain kinds of illiquid assets. Here, "middle class" is defined in terms of capital ownership, such as real property, securities, life insurance, or machinery. Upper class persons have an abundance of these assets. Lower class persons own none of them.

Undoubtedly even more criteria can be used for identifying "middle class" in particular and "classes" in general, and debate continues to rage on which criteria should or should not be used. In this work, the notion of class is reduced to a series of "situated practices," and we will see that middle class members have specific situated practices. Clarification of the notions of "class" and "middle class," as well as an articulation of what specifically is meant by "middle class values," is provided in Chapter 2.

While gentrifiers largely make investment decisions that are in accordance with "middle class values," it will be shown that their obedience to such values is not complete. Through the evaluation of case studies in the penultimate section of Chapter 2, it will be shown that gentrifiers to some extent eschew middle class values such as conformity, modesty, self-reliance, and veneration of the nuclear family. They instead appear to be more appreciative of values such as communitarianism,³ diversity, and individual identity development.

Identifying those values that help characterize the demands of gentrifiers, it will be possible to identify various independent variables reflecting those demands. Variable identification will occur in that chapter's final section.

In Chapter 3, the variables will be incorporated into two models. The first is a "descriptive" model used to understand the differing *milieux* of gentrifying and nongentrifying areas. It is a univariate model with each variable examined separately and without holding other variables constant. The second model is a multivariate "predictive" model. It will be used to test whether the hedonic traits measured by the variables are truly demanded by gentrifiers holding all other variables constant. It will also indicate the extent to which these traits must exist in order for the area to be desirable. The model is "predictive" in that its results will be used to predict gentrification's occurrence in various neighborhoods.

With results from both the descriptive and predictive models it will be possible to articulate a gentrification theory. The generalizability of this theory will be evaluated using three tests. Test methodologies and results will likewise be provided in Chapter 3.

Chapter 4 is reserved for fulfilling this dissertation's secondary purpose of assessing urban policies that promote gentrification. These policies are evaluated in light of the gentrification theory's findings. Through abductive reasoning, it will be shown that the more these policies conform to the gentrification theory, the more effectively they promote gentrification. After evaluating urban policies in this manner, conclusions and research implications are provided in Chapter 5.

³ Communitarian beliefs are characterized by a veneration of the interests of the community rather than of the individual. Human values are seen as coming from the community, and so the best way of shaping human values is by shaping the communities in which humans live. For more information on communitarianism, see Charles Taylor's *Sources of the Self* (1989) or Amitai Etzioni's *The Spirit of Community* (1993).

With the general flow of the work outlined, we now attempt to fulfill this research's primary purpose of crafting a gentrification theory. The first step in doing so is to propose a framework through which gentrification and gentrifiers can best be examined.

2. Theoretical Framework

Among academic commentators in the United States, gentrification has been examined through one of two distinct frames. It has been seen as a process reflecting the implementation of neoliberal policies and economics, or as the result of rational actors wishing to increase their utility by maximizing profits or by locating near others of like mind or belief.

The chosen frame is indicative of the researcher's ontological stance with regard to gentrification. Structuralist ontologies posit gentrification as the result of various processes that frame the motivations and choices of human actors. In this conceptualization, gentrifiers possess some degree of agency, but that agency is always bounded or tempered by governmental, economical, societal, and other kinds of structures within which people find themselves.

Rational choice theorists, on the other hand, tend to see gentrification as the result of gentrifiers acting purposively to fulfill their own wishes. Gentrifiers in this conceptualization are seen as having a fuller degree of agency than in the structuralist conceptualization. The rational gentrifier is seen as largely free to make his or her location decisions. They are bound solely by the amount of resources they can devote to utility maximization.

Each of these ontologies will be considered in turn and, after conducting an immanent critique of the rational choice conceptualization, the structuralist ontology will be explored in more depth.

2.1 The structuralist conceptualization. Adherents to the structuralist ontology argue that gentrification's ascendance in the mid-1970s and its continued existence is due to the workings of collections of economic, political, social, and cultural decisions and contingencies — otherwise known as "structures." For structuralists gentrification in the American context is seen as an investor response to property devaluations caused by widespread suburbanization in the mid-twentieth century.

Suburbanization was the result of a number of political, social and economic decisions. Judicial decisions such as the Supreme Court case *Brown v. Board of Education* prompted many Whites to remove their children from inner-city public schools, and re-enroll them in local private and parochial schools, or (in most cases) leave the city altogether and relocate to suburban areas. "White flight" to suburbs was exacerbated by the discriminatory economic practice of "redlining" which prevented potential borrowers from receiving mortgage loans in certain inner-city areas. The systematic exclusion of ethnic and racial minorities from suburban areas through homeowner's associations and discrimination on the part of mortgage loan lenders, real estate professionals, and landowner use of "restrictive covenants" helped keep 1960s and early 1970s suburbia monolithically White and middle class (Hirsh, 2000; Squires, 1994; 2002; Wilson, 1987).

Structuralists contend that the "return to the city" that gentrification engendered was not completely the result of middle class persons making rational and free resettlement decisions. Instead, it was the result of previous judicial, economic, and political policies that helped decrease inner-city property values. Geographer Neil Smith calls these decreases "rent gaps." Some of these gaps attracted middle class persons looking for investments with high return potential.

Gentrification, therefore, is seen primarily as a function of political and economic maneuvers. The notion that gentrifiers wanted to escape the narrow, family-oriented life of suburbia may be true, but for structuralists such motives are incidental to their desire for high investment returns made possible by 1960s- and 1970s-era policies. Smith in particular is famously quoted as seeing gentrification as a return to the city "by capital not people" (1979).

2.2 The rational choice conceptualization. Rational choice theorists are largely critical of structuralist conceptualizations of gentrification. Such conceptualizations, rational choice theorists argue, work to deny agency as they posit human motivation as mere reactions to social, economic, and political constraints. Rational choice theorists assume that each human being is capable of satisfying his or her own needs and desires — that is maximizing his or her own utility.

For rational choice theorists, any form of community investment (be it gentrification, investment in suburbs, brownfield development, etc.) allows human beings to maximize their individual utilities. The utility that is maximized could be the desire to live near persons of the same race, ethnicity, or sexual orientation; the desire to live near one's workplace and commute using public transportation; or the desire to live alone in a rural area. The utility to be maximized could also include the desire to increase returns on investment, though rational choice theorists would dismiss the notion that such a drive was affected by the existence of political and economic structures. For such theorists, the desire for utility maximization is not and should not be impeded by structures. To do so would deny rational actors humanity and agency (Lees, 1994).

Examining gentrification, therefore, requires paying specific attention to the desires of gentrifiers themselves rather than the structures within which they may or may not live. Understanding gentrification requires an examination of what geographer Loretta Lees calls "the underlying social relations" that occur within gentrified or gentrifying spaces (2000, p. 401). It is believed that attention to these relations will uncover the desires of gentrifiers and the fundamental motive behind the gentrification process.

2.3 The problem with rational choice. The structuralist and rational choice conceptualizations of gentrification are not mutually exclusive. Structuralists do not go so far as to consider human beings automatons, but they do assert that the existence of structures explains much in the way of human behavior. Rational choice theorists concede that not all choices can be completely purposive and free. Choices are partially mitigated by an economic system which rations resources like education, money, and raw materials, each of which may be needed to make certain utility-maximizing choices.

Though the two ontologies are not mutually exclusive their explanatory powers differ. Specifically, the structuralist ontology is seen here as explaining the phenomenon of gentrification better than the rational choice ontology. The deficiencies of the rational choice and the advantages of structuralism can be seen when comparing the two ontologies.

The two ontologies are not mutually exclusive and can even be seen as sharing a relationship. As articulated above, structures could be seen as serving as bounds within which utility-maximizing behaviors occur.

Where a relationship between the two ontologies exists it is, of necessity, one way. Structure can be said to always be the independent variable and rational choice the dependent variable. This is because what is considered the "rational" choice is seen as depending upon the character of the structure.

If the situation were reversed — if rational choice were the independent variable and the character of the structure dependent on it — then the rational choices that help construct the structure would soon be superseded by the structure, and the structure would confine choices to the extent that they would not be free. For example, a structure of trading norms always evolves from a free market devoid of rules and regulations. The norms are implemented to ensure efficient operation and fair outcomes (Bonacich, 2004).

The fact that rational choices in a free environment would soon be superseded by a structure holds true only if individuals were unaware of the existence of the structure and, consequently, were unable to understand how to alter or remove the structure to again make their choices more purposive. Awareness of the structure — and a subsequent awareness that one's choices occur within and are influenced by the structure — is the manner by which rational choices are sustained. The ability to maximize one's own utility, strangely enough, depends on the primacy of structure and human awareness of the bounds of that structure.

The rational choice ontology suffers from a deficiency more serious than its myth of free, purposive, rational action unencumbered by structure. Rational choice theorists assume that people act in such a way as to maximize their utility. However, there appears no standard with which to assess this utility. If utility is the satisfaction gained by the sale or consumption of a good, then assessing utility is not altogether difficult. Utility is seen as deriving from the good's sale or consumption, and that utility is maximized when both buyer and seller agree on a price for exchange.

However there are instances when a person has interests competing with the interest of selling or buying a good. People attempt to maximize utility through means outside of price negotiation. Adherents to Ayn Rand's Objectivist philosophy would

argue that a soldier enlisting in the army during wartime would gain utility with an act most would consider selfless (Rand, 1964; 1990). Some maximize utility through acts many consider heinous, such as torture.

If utility maximization is paramount in the rational choice conceptualization, what prevents such acts from being used as yardsticks for the assessment of utility? Practically any act a person undertakes could reasonably be construed as an attempt at maximizing utility. Without knowing the specific interests motivating a person to act, an objective assessment of utility and its degree of maximization become difficult things to comprehend.

Because utility maximization is the driving force behind the rational choice ontology, and because a gauge for measuring utility cannot be established objectively, it is difficult to see how the rational choice ontology can be used for crafting a gentrification theory. Different observers of gentrifiers, for example, could and in fact do see different motives and means for utility maximizing. Acts of gentrification among single women in England could be seen as attempts to create "safe spaces" in the city (Holcomb, 1984), while such actions by gay men in New Orleans can be seen as a result of exclusion and a subsequent desire for consciousness-raising (Knopp, 1997). Such different theories of gentrifier action may be valid for individual persons or small subcultures. However when they are applied to other persons, groups, and geographic settings — i.e., when an attempt is made at generalization — the theories become less sound.

In sum, an examination of gentrification through rational choice frames is seen as deficient because the rational choices sustaining them cannot exist without some notion of structure. It is also deficient because no standard exists for assessing the utility that rational, purposive actions attempt to maximize.

This dismissal of the rational choice ontology with regard to gentrification should not be taken as a dismissal of the notion of rational, purposive action on the part of individuals. The problem with rational choice is that it provides a weak foundation for a gentrification theory. In and of itself, rational action does exist. However such action is seen here as always being bounded by or contingent upon various forms of structure.

In the next chapter it will be demonstrated that the structuralist ontology provides a stronger, more coherent foundation upon which to craft a gentrification theory. Prior to this demonstration, however, additional information about "structure" and "structuralism" is necessary.

2.4 A closer look at structuralism. A structure is a collection of situations or contingencies that governs or directs action. These contingencies can be social, economic, legal, political, cultural, and even geographic in nature (Latour, 2005). Usually the totality of the structure is not tangible, but some of its components often are. "The American legal system" is, for example, an abstract behemoth composed of unwritten rules, argumentation, and various punishments, but the courthouses within which this legal system works are (figuratively and often literally) concrete, as are the gavels, black robes, and volumes of books within which the law is inscribed. The interaction of these concrete and abstract components helps create the totality of the structure we call "the legal system."

In its essence the legal system — indeed all structures — are *semiological*, meaning that they are collections of words, gestures, logos, rites of passage, and other kinds of "signs" used to convey meaning.

As signs are the building blocks of structure they can be seen as important parts of a structure's *infrastructure*. Here, infrastructure does not merely refer to those concrete objects which governments provide for the transmission of people, products, or electricity. Infrastructure within any structure or system is used for the transmission of any thing. Words are the infrastructural components of sentences in that words work to transmit meaning. Railroads used to transport goods are one infrastructural component of a country's transportation system. High technology firms that, among other things, transmit dollars to their employees and to local governments are important infrastructural components of Northern California's economic structure. In the most general sense, infrastructure acts as a structure's means of transmission.⁴

The infrastructural unit of all structures is the sign, and signs can be thought of as things which stand for or signify something else. For example, the word "book" signifies

⁴ In the next chapter we will see that "infrastructure" comprising the urban structure can be separated into two categories: "physical infrastructure" and "socio-economic infrastructure."

the rectangular object containing printed words. Technically, a sign is the tying of a *signifier* — the word, gesture, or symbol used to transmit meaning — to the object or concept itself, or the *signified*. The sign emerges from the utterance of the signifier "book," and the signified object that comes to a person's mind upon hearing that word (Holdcroft, 1991; Saussure, 1983).

A "symbol" is a special kind of sign. Symbols do more than signify other things; they serve as the embodiment of feelings about the thing to which is being referred. These feelings are not monolithic and can often be contradictory. For example, the cross which symbolizes Christianity may be seen as a sign of mercy to its adherents, but to Muslims in the Arab World it is seen as a sign of imperialism. The Peace sign often symbolizes to the displayer disgust with war and a desire to overcome grievances through discussion. To others, it is a sign of wishful thinking at best and appeasement at worst. The symbol, "the sign in its profound … geological dimension," is an embodiment housing all sorts of connotations and, as such, can elicit very different reactions among different people and even from the same person (Barthes, 1972, p. 206).

Communicators arrange collections of symbols and other signs into a system to transmit different meanings. When arranged in this system, these signs can be said to be "contingent" on each other. A lone sign may make sense to most people, but if it appears in conjunction with other signs a different meaning emerges. The meaning of the message is therefore contingent on the number of signs appearing together and the manner in which those signs are arranged. For instance, "ball" may bring to one's consciousness a soft, bouncy object used for play, but "wrecking ball" transmits a different meaning entirely, connoting a massive, heavy sphere used for work.

The existence of certain signs and the manner in which signs relate in a system (that is, the character of sign contingency) is indicative of the sophistication level of communicators and listeners. It is also indicative of the communicator's system of evaluating concepts — that is of his or her *valorization system*.

All communication transmissions reflect valorization systems. These systems may be unique to the individual but are often informed by years of custom.⁵ A wrecking

⁵ Incidentally, acclaimed writers, artists, and musicians are often lauded for their ability to defy or transcend custom and establish a unique, yet comprehensible, valorization system. This can clearly be seen

ball has come to be understood as no ordinary ball. In Romance languages the concepts of "ground" and "earth" are synonymous, their signifieds associated with that which is "feminine" (*la terre* in French; *a terra* in Portuguese). In the American suburban landscape, manicured lawns communicate stability while pink flamingo lawn ornaments indicate kitsch. Be they in sentences, societies, or geographic spaces; *objets d'art*, standard operating procedures, or any other means of communication; the arrangement of signs for the communication of ideas always reflects a value system. Moreover, the signs and the values relayed upon their arrangement combine to create structures that are grammatical, sociological, geographic, aesthetic, and even bureaucratic in character (Barthes, 1972, 1993; Lefebvre, 1958; Holdcroft, 1991).

The character of such structures may also be judicial. Returning to the example of the American legal system, one can see that the structure is filled with signs directing both the actions and attitudes of persons within its jurisdiction. A gavel strike compels silence. A court may use a written document ordering its recipient to take specific actions. The judge's seat on a platform signifies his or her dominance over the proceedings. The often austere architecture of courthouses connotes and promotes the legal system's privileging of the rational over the visceral, the stable over the insecure.

So a structure is a collection of valued signs that work to transmit meaning. These signs are infrastructural components arranged in a semiological system, creating situations that in some way influence the actions of those interacting with them. Understanding the nature of the system necessarily entails understanding the signs that comprise them.

The structuralist inquiry is therefore an inquiry into the nature of signs and the specific character of their contingencies. It is a phenomenological inquiry — stripping down observed phenomena to basic foundations, exploring them, and then building a theory of the workings of the phenomenon in light of the exploration's findings. The purpose of the structuralist activity must be, in Barthes' words, "to reconstruct an 'object' in such a way as to manifest thereby the rules of functioning (the 'functions') of this object" (1972, p. 214). Once the relevant signs and symbols of the phenomena are laid

with Roland Barthes' fascination with the work of Bertolt Brecht, as well as in the works of other critics who laud artists for their ability to see in nature or in humanity that which had previously not been expressed, those who have "given new meaning" to the taken-for-granted.

bare, the character of their contingencies — the semiological system — can be rearticulated and the valorization systems they reflect can be better understood.

We undertake just such an inquiry in the next chapter. There, the phenomenon of gentrification will be examined through both its supply-side and demand-side associations.

Chapter 2 A Structuralist View of Gentrification's Supply and Demand Sides

The structuralist inquiry requires that particular attention be paid to the interplay of symbols and other kinds of signs. These signs emerge from the existence and naming of phenomena and perform in particular ways when juxtaposed with other signs.

"The city" is a sign. However it contains a number of other signs to which gentrifiers are attracted. In this chapter, we examine the relationship between "the city" and signs using the work of French structuralist Henri Lefebvre. From there we examine the reasons behind gentrifier demand for certain signs. It will be shown that these demands are largely driven by their countervailing needs of ascribing to and differentiating from those practices commonly considered "middle class."

Understanding these needs requires an excursion into the heart of "class" itself. We undertake this somewhat difficult excursion later in this chapter. In the meantime, we turn to a more straightforward examination of the supply side of the gentrification phenomenon, identifying those signs in the city giving rise to it.

1. The Sign-Supplying City

In a behind-the-scenes documentary of the HBO sitcom "Sex and the City," one of the show's executive producers, Michael Patrick King, described New York ("the City" in "Sex and the City") as one of the series' chief characters, integral, apparently, to shaping the psyches and decisions of all the other characters (2002). As a character, the seemingly inanimate New York is infused with psychological depth, is intimately involved with social, political, and cultural activities, makes demands of and offers conciliations to all those with whom it interacts. The city is multi-dimensional: the result of and host to complex and numerous psychological processes.

To employ a term from urban theorist Henri Lefebvre, the city is an *oeuvre* — an amalgam of entities that create a space, "a place of encounter, the assemblage of differences" (2000, p. 18). It is a "totality" that, according to Lefebvre, should not be examined unidimensionally but, for proper study,

requires the use of all the methodological tools: form, function, structure, levels, dimensions, text, context, field and whole, writing and reading, system, signified and signifier, language and metalanguage, institutions, etc. (2000, p. 111).

For Lefebvre the city is not merely a collection of "products"; nor is it merely a center for exchange.

Examining the city through any single dimension will not always lead to *incorrect* results: Such analyses, Lefebvre acknowledges, can lead to "positive but scattered facts" (p. 95). However these analyses will always yield *incomplete* results, or will fail to relate these "positive facts" to other facts obtained by sociologists, psychologists, demographers, and other students of their own niches of the city. Just as attention paid to a single word in a sentence will not provide the sentence's complete meaning, attention paid to one product in the oeuvre will fail to capture the city as a totality. This privileging of the product over the *oeuvre* is known as "fetishization." Lefebvre asserts that fetishizing city's products prevents the examiner from understanding the city on a deeper, philosophical level (Lefebvre, 1967).

Lefebvre also asserts that fetishization has led to a "crisis" in urbanism. Detailed examination of the city's products has institutionalized a myopic view of the city. These products and the "experts" claiming to understand them now compete for dominance in the marketplace of ideas about the *oeuvre*. As a result, the richness, complexity, and openness of the *oeuvre* is obscured by its products and the various agents promoting them. And so Robert Moses champions the transportation component in New York City in the early 20th Century, privileging function through a near-messianic advocacy of highway construction to ensure proper "flow," while forever altering both urban form and the character of the *oeuvre* in all of the city's boroughs (Ballon & Jackson, 2007; Jacobs, 1964). Frank Lloyd Wright advocates American families living in single-family houses on one-acre estates outside of cities to allow Americans to reconnect with pastoral life, giving rise to the first ideas about low-density, contemporary suburbia and, consequently, writing the prescription for the "urban sprawl" many American cities experience today (1958). Respectively, these two men saw cities as little more than transportation conduits and collections of residences, and the realization of these two ideas, particularly in the

United States, were important factors in the decline of cities in the latter half of the twentieth century.

For Lefebvre, ending these crises in urbanism brought on by fetishization requires a re-assertion of the *oeuvre* and a thorough study thereof. "[T]he semiology of the city is of greatest theoretical and practical interest," he writes (2000, p. 114). This semiology requires an articulation of the interconnectedness of the city's products, and an understanding of the structures governing them. No city, if it is to be understood properly, can be seen just in terms of its road network or its predominant architectural style. For Lefebvre, the character of its educational and cultural institutions, economic regimes, styles of government, and other kinds of structures must be examined in conjunction to understand how products and their respective characters came into being. A proper understanding of the city requires an analysis of the connections and contingencies that create it.

Though Lefebvre's programmatic call is a zealous one, he does caution us about paying too much attention to any one sign found in cities. Such an act runs the risk of privileging the product and re-establishing the crisis. Examination of any one sign in the city must be seen in the context of the systems and sub-systems which have produced it and given it meaning. "The theory of the city as a system of significations tends toward an ideology," Lefebvre writes. "[I]t separates the *urban* from its morphological basis and from social practice, by reducing it to a signifier-signified relation and by extrapolating from actually perceived significations" (2000, p. 114, emphasis in the original). For him, the signs comprising the *oeuvre* should not and cannot be divorced from the actual structures of which they are borne.

Lefebvre also cautions against fetishizing the signifier-signified relationship due to the tendency of researchers who do so of "passively accept[ing] the ideology of organized consumption" (2000, p. 115). He fears that accepting such an ideology would contribute to a pure and shallow examination of the consumption of signs. In such an ideology, the signs would reduce to phenomena a person would consume to satisfy a need or a want. In other words, the signs would serve as *hedonic traits*, and Lefebvre's fear is that examination of the consumption of these traits would emerge as the be-all and endall of urban analysis. Attention would solely be paid to the consumption of "happiness,"

"wealth," or "power." For Lefebvre, privileging the consumption of signs not only runs the risk of dismissing the structures that shape them, but also runs the risk of viewing the city as merely a collection of exchange values rather than as an *oeuvre* that contains use value to all those with whom the city interacts.

It is here where we part company with Lefebvre. While the fetishizing of signs is a legitimate fear, its effects can be averted by not losing sight of the city as *oeuvre*, by making conscious connections between the hedonic trait under analysis and its place in urban structures, by making a conscious effort to go beyond the superficiality of exchange. It is our belief that the choice of goods and services exchanged — the signs or hedonic traits in the *oeuvre* a person chooses to consume or eschew — reflect one's meanings and intentions. Moreover, such choices are seen as reflecting how the person sees him or herself in relation to the *oeuvre* and all other persons within it.

It should be added that the purposive behavior of human beings is always bound by the *oeuvre's* political, cultural, social, and economic structures. Again, the rational choices of human beings can never be free from structure; indeed they depend on it. We can understand this purposive behavior by examining a person's consumption of hedonic traits in geographic space, but we cannot forget that such choices are bound by structure, and that if the structure changes, it is likely that choices too will change.

Preoccupation with various signs in the *oeuvre* is seen here as a conspicuous and therefore avoidable trap. We can observe these traps without falling into them — that is without dismissing the importance of the structures within which they are located. In fact, examination of structures is necessary to understand why the signs and the traps are there in the first place.

More importantly, we can examine the traps to determine who they ensnare and why. A structuralist inquiry can elucidate, for example, gentrifiers' fascination with signs such as "diversity." The inquiry can allow an understanding of why this sign and other signs emerge as hedonic traits for gentrifiers.

In sum, a structuralist inquiry into the city necessitates an examination of the signs or "products" of the city — what they are, how they relate semiologically to each other, and how they relate to the *oeuvre* of the city. For the observer, preoccupation with signs at expense of the *oeuvre* producing them is a trap, but it is a conspicuous and

avoidable one. Awareness of this trap allows one an understanding of why others fall into it — that is, why a sign is so attractive for some that it rises to the level of a hedonic trait.

The structuralist city is a city of signs, its components or products working together to relay a sense of safety or danger, despair or prosperity, stability or chaos. For each person interacting with the city each sign supplied has a particular value. If a person wishes to live in the city and regularly partake in the dialogue occurring among these signs, he or she will very likely seek them out. The city dweller will try to find where such signs are in abundance so that he or she can be near them and assume them.

The question remains: Which signs are of interest to gentrifiers in particular and why? We will see in the next section that the answer lies in gentrifiers' desire to reflect "middle class values." To understand what those values are requires close examination of the ideas of "class" and "middle class." As with the supply side, this examination will occur through a structuralist lens.

2. Understanding Demand Through Class

Gentrifiers are the primary agents of gentrification; their work "upgrades" spaces so that they reflect "middle class values." Understanding these values will, theoretically, provide an understanding of what gentrifiers demand.

Understanding these values, however, is not a simple matter. The difficulty arises from the notion of "middle class" being so loaded, and this loading is due to the expansiveness of the term "class." "Class" has long served as a construct for sociological analyses, and yet during that time it has remained amorphous.

Here, we hone the notion of "class" to render it more useful for our purposes. This exercise employs the works of four commentators — Henri de Saint-Simon, Karl Marx, Max Weber, and most importantly Anthony Giddens — to articulate a construct of "class" and identify a notion of "middle class" with which the intentions of gentrifiers can be compared. We begin our exploration of class with the "Father of French socialism," Claude Henri de Rouvroy, Comte de Saint-Simon.

2.1 Saint-Simon. While class always implies the existence of certain "endowments and behaviors" (Elster, 1985, pp. 330-331), and sometimes implies group awareness and power (Giddens, 1975), the nineteenth-century French commentator Henri de Saint-Simon asserted that, at bottom, class depends upon a group's relationship to a society's primary means of production. In *Social Psychology*, Saint-Simon claims that the decline of feudalism and the rise of industrialism during the High Middle Ages prompted a shift away from land's dominance as the means of production. As classes in feudalism were structured around a group's relationship to land, the decline of feudalism and the concentration of capital in cities prompted freed persons to become members of *les industriels*, a group of industrial workers living in cities. This shift in economic character prompted by industrialization would end, according to Saint-Simon, with the establishment of one dominant class of industrial workers and, in the cities at least, the end of economic and social inequality (1976).

2.2 Marx. Later in the 19th Century, Karl Marx extended Saint-Simon's theories about class and social transformation in *Capital*. Like Saint-Simon, Marx theorizes that classes are distinguished by their relationship to the means of production and that the primary means of production during feudalism — land — has been partially supplanted by another — capital — by virtue of the Industrial Revolution. Marx identified two classes based upon each group's relationship to capital. One is a class of producers or a *proletariat* which uses its labor to make goods for sale in a market, adding value to the product at each point in the supply chain. The other is a non-producing capitalist class, a *bourgeoisie*, which owns the capital the proletariat uses (Marx & Engels, 1946).

More than just owning capital, the non-producer class lives off the "surplus value" created by labor's manufacture of goods. This "surplus value" is the difference between the wage the capitalist pays the worker, and the worker's actual "labor-power," the capacity of a worker to produce (Engels, 1966). Though Marx thought that this labor-power could be monetized, he asserted that such monetization does not occur precisely so that the capitalist can control the worker. This control occurs by recasting labor as "a commodity, like every other article of commerce … consequently exposed to all the vicissitudes of competition, to all the fluctuations of the market" (Marx, 1906, p. 23). As a result, the individual that supplies labor becomes, in the mind of the capitalist but also in the mind of the worker, easily replaceable.

Members of the capitalist class benefit not only from labor's (rather than laborpower's) commodification, but also from its "division." To Marx, the division of labor

benefits the capitalist in that worker separation into overseeing different parts of the production process inhibits communication and consensus among workers. Labor division also benefits the capitalist in that the separation provides more points in the production process upon which the capitalist may build surplus value (1999).

In sum, the alienation of human beings from their labor-power coupled with labor's division divides the population into two classes. Though Marx never specifically defined class, its notion can be said to incorporate not only Saint-Simon's theory of a group's relation to society's dominant means of production, but also the character of the structure of the producer class (namely the degree to which labor is divided) and the character of the market mechanism that commodifies and monetizes members of that class (Marx & Engels, 1946; Marx, 1999).

2.3 Weber. Though largely critical of Marx, the early 20th Century sociologist Max Weber appears to agree with Marx's (and by extension Saint-Simon's) characterization of class being the outgrowth of the relationship between humans and a society's dominant means of production. However Weber's characterization of class is different from Marx's in three respects. First, Weber agrees with Saint-Simon that land is the primary means of production. Weber holds this view even in the context of his writing in a nascent capitalist society. To Weber, capital appears incidental to societal and class development; capital is important insofar as it can be used for the purchase of real property (Weber, 1958; Wiley, 1987).

Secondly, Weber envisions a multiplicity of classes rather than Marx's dual class system. Weber's classes, however, can be grouped into two broad categories: the "ownership" or "property classes" which own land, and the "acquisition classes" which do not own land and sell their "marketable skills" in the labor market. The price fetched in this labor market depends on the amount of education a person receives to improve his or her skill set, or the degree to which manual laborers "monopolize" their skill through, for example, unionization or guild formation. In either case, the more novel the skill or the greater the degree of monopolization, the higher the price of the labor and the more capital the laborer accrues — provided the laborer is savvy enough to negotiate effectively. To put it another way, the more educated the worker and/or the more "scarce" similar workers are, the higher the price a worker can fetch in the labor market.

As humans have varying amounts of skill and land, Weber theorizes that a number of "middle classes" exists between the "positively privileged" class that owns large amounts of land and possesses highly marketable skills, to the "negatively privileged" class that owns no land and sells its (unskilled) labor (Cox, 1950).

Finally, Weber's analysis of class differs from Marx's in that Weber does not assume that members of a class would always have a consciousness and that they would explicitly agree to work together to defeat, maintain, or somehow alter the capitalist system. He rejected Marx's notion of the immediacy of class consciousness by virtue of its contradistinction from an (or, in the case of Marx, *the*) other. For Weber, a class does not immediately develop consciousness based on its *not being* some other existing class. Consciousness occurs when groups become aware of and come to an understanding of their relationship with the labor market — specifically, how this market works to value their labor in comparison with the labor of others. When consciousness is achieved in this way, the class can then make demands on the current economic and social order (Giddens, 1975; Portes, 1971).

It should also be noted that the labor market not only assigns value to a labor unit's production activities. By virtue of its ability to appraise workers, it also assigns or distributes economic and social power in society. To Weber, classes are "phenomena of the distribution of power" (Weber, 1970, p. 181); they are the results of labor market action. Class consciousness, therefore, shares a positive relationship with the degree of economic and social power a group of laborers possesses: The more power a group has and asserts in the labor market, the greater the likelihood the group will become conscious of itself as a class.

2.4 Giddens. The labor market's twin powers of worker appraisal and power assignation are seized upon by Anthony Giddens in his further development of the phenomenon of class. Giddens is particularly interested in a laborer's or a group's savvy in market negotiations — the power or "market capacity" individuals and groups bring to the market when negotiating price. He envisions "market capacity" as a kind of property or asset that individuals and groups possess, but it is not necessarily a means of production as are capital and labor. "Market capacity," rather, is a kind of instrument that provides workers the ability to harness the power of the labor market for their benefit and

to the detriment of those with whom they are negotiating. As individuals become aware of their market capacities and see others in situations similar to their own, the idea of class is constructed.

The construction of the idea of class occurs, according to Giddens, through the "structuration" of class relationships. In structuration theory, the formation and character of the idea of class depends upon the situated practices people perform given society's "rules and resources" — the unique infrastructural character comprising each social structure (1981).⁶

Giddens uses the development of the "new middle class" (white-collar workers) in 19th Century Britain and America to explain structuration. In both countries during that time, the increased availability of education allowed children to leave their bluecollar existences and join the ranks of a burgeoning non-manual labor sector. This sector was itself the result of, in part, the need of entrepreneurs to maximize the efficient production of goods to decrease cost and compete with other entrepreneurs more ably. As entrepreneurs were then operating in the management paradigm of vertical integration, they hired more "knowledge workers" — clerks, accountants, engineers and the like — charging them with improving production efficiency. In essence, the societal "resource" of education and the capitalist "rule" of vertical integration helped create a new class of white-collar worker in the early 1800s (1975).⁷

The existence of rules and resources in an economic or any other structure appears necessary for the emergence of class as a concept, however it is not sufficient.

⁶ Consider, by contrast, a society in what philosopher Thomas Hobbes calls a "state of nature," before the evolution of societal norms, where resources and particularly rules are non-existent. In such a state, the idea of class or differentiation among human beings disappears and only reappears when one lays claims to resources and/or when norms or rules develop. Contemporary examples of this can be seen in the aftermath of large natural disasters, such as 2005's Hurricane Katrina. One observer commented to Salon Magazine that the hurricane "leveled everybody," creating a short period wherein "everybody had the same experience." The collapse of social infrastructure due to the hurricane eviscerated class distinctions because all persons to whom the class concept applied were first to adopt the same situated practices. With the rules and resources that came with the recovery effort, however, that equalization quickly disappeared. "[T]here's really been two recoveries," a local attorney said. "[O]ne that generally favored homeowners with resources, and another one that basically priced the poor out of the housing market" (Shorrock, 2007).

⁷ The "rules and resources" that Giddens poses as the prerequisite for the concept of class need not be economical in nature, as the above example may suggest. Political institutions like legislatures or bureaucracies often serve as "resources." Often, there exists a number of "rules" governing how members of a society may interact with or use these resources.

The lack of sufficiency stems from the non-consideration of situated practices of persons within the structure.

Structures have within them rules and resources with which all persons within the structure must engage. However, one cannot assume that all persons will interact with the infrastructure in the same manner. Indeed, it appears self-evident that some persons in a structure or system ignore some of its rules, often routinely. Moreover, persons use different resources to achieve similar results. Laborers with little formal education pour over want-ads in newspapers and on the Internet to find low-paying jobs paying by the hour, for example. In contrast, persons with advanced college degrees find salaried employment using trade journals, exclusive internet job boards, and through word-of-mouth.

Differences in situated practices are, therefore, necessary for the class concept to emerge, and so an examination of class requires identification of the existence of societal differences in situated practices.

While these social practices may be situated in relation to infrastructure they should not be seen as static. It is, of course, possible for persons in a society to learn and adopt new practices. People can, for example, find novel ways to affect changes in local government. A machinist, to cite another example, may attend a university and learn the intricacies of computer science.

The ability of persons in a society to re-assess the nature of the structure and/or infrastructure, change tactics, and alter their situated practices aids in the development of society. People see a desire on the part of capitalists for knowledge workers; they receive training in the intricacies of such work; they fill these positions; and society progresses. These reassessments and developments occur not only in society's economic dimension, but also in its cultural, political, and moral dimensions.

It is the economic dimension, however, that is of primary interest. This is because the economic dimension, at base, governs the concept of class. Class is determined by situated practices; for Giddens, these practices are a function of market capacity.

Therefore moving to a different class requires a change in market capacity. Giddens states in particular that class movement requires an ability on the part of individuals to cross the "manual/non-manual" or blue-collar/white-collar occupational

line. The greater the opportunity of economic mobility within a society, the greater the degree of class structuration. The more a person's situated practices develop. Just as the existence of natural selection propels the biological process of evolution, the existence of mobility propels the sociological process of structuration, thereby ensuring the continued differentiation of classes in a society (1975).

In Giddens' framework, "mobility" refers to individual and intergenerational movement "to provide for the reproduction of common life experience over the generations" (Giddens, 1975, p. 107). The "common life experience[s]" encountered, for example, in one's youth typically set the "standard" that must be reproduced or exceeded in one's adulthood, and this most often occurs through the inheritance of assets or through the acquisition of newer, though similar assets. One accomplishes the former in capitalist societies using one's labor-power. To reproduce "common life experiences" — to maintain a "standard of living" across generations — requires the usage of one's labor-power in labor that is valued as high as or higher than the previous generation's. Such valorization increases as one's market capacity increases — that is shifts from the sale of one's skill as a manual laborer, to the development and acquisition of new skills through education, and finally to varying degrees of capital ownership.⁸

The more difficult mobility is to achieve, the greater the likelihood of "class awareness." With class awareness, a person finds that he or she shares similar attitudes, beliefs, and lifestyles with those having similar market capacity. With time this awareness evolves into "class consciousness," wherein the person sees distinctions between the character of his class, and the character of other classes with less or more market capacity.

Class awareness and class consciousness develop with "mobility closure." Mobility is impeded when a society provides inadequate amounts of infrastructure, that is when rules and resources in a society are few and/or difficult to understand or access.

It often takes generations for class awareness and class consciousness to evolve. When successive generations of children grow up to work as machinists, when three generations of women in a family marry small-business owners, when an individual buys

⁸ Incidentally, these manifestations of market capacity serve as the foundations of the "lower," "middle," and "upper" classes respectively.

the same style and size of home as a parent and a grandparent, fodder exists for the development of class consciousness. The situated, recursive practices performed over generations solidify and reinforce class structure (Giddens, 1975, 1981).

Degrees of mobility in a society fundamentally depend upon the character of societal infrastructure, specifically the character of a society's political and fiduciary frameworks. Laws and access to public institutions play a key mediating role in class structuration in that these institutions often have the capacity to enhance or to hinder a worker's mobility. The character of a society's laws and public institutions is in turn related to the governing system of the state; dictatorships, for example, often prohibit free and open access to public institutions. Such prohibitions inhibit a person's ability to harness the power of the state to make structural changes that benefit him or herself, or entire groups of people. If this inability to harness the power of the state lasts over generations, if the inability to use public institutions persists, the effects of the sustained mobility closure may collectively serve as a catalyst for which the aggrieved group may develop a consciousness.

On the other hand, individuals in democratic states have the power to use public institutions to remove or prevent mobility closures. In the United States, for example, the resource of compulsory education was made available to citizens through the Progressives' use of America's democratic institutions during the late 19th Century (Berube, 1994). Progressives were instrumental in prompting the federal government to create and enforce minimum primary education law during the first half of the 20th Century. However when that country's military authoritarian regime came to power in 1964, it made substantial cuts in education spending that lasted a generation, severely restricting public access to education. Entreaties on the part of education reformers and political leftists were met with harsh sanctions such as imprisonment, at times even torture. Reformers' inability to use state institutions to affect change in that country helped lead to a two-tier class system from which Brazil is currently evolving (Brown, 2002). The development of class consciousness in Giddens' framework, therefore, is more likely to occur in sustained non-democratic regimes.
It is important to recognize that Giddens' idea of class is not one represented by a group of individuals. To him *class is an idea*: an invisible structure used to house an imagined community of persons with similar situated practices informed by their various market capacities. This structure is not permanent or monolithic; it rests upon the foundation of market capacity which is itself a function of, in part, the strength of other market players and state policies affecting an individual's social and economic mobility.

Class has the ability to move from the abstract to the "concrete": It does possess the power of deposition, allowing it to move from the theoretical to the idea being physically embodied in a group of persons with similar situated practices. For such deposition to occur however there would have to exist both a social infrastructure that deprives its users the means of economic progress, and distinct variations in the character of situated practices among persons in the society.

For Giddens deposition is only a possibility; the class concept need not be accompanied by a group. While "class" does not always imply "group," it always implies differences in situated practices — those differences fundamentally determined by the practitioner's market capacity.

To summarize, the scholarship of Saint-Simon, Marx, Weber, and Giddens has provided some structure to the amorphous phenomenon of class. Using their works one understands that class implies an individual: (1) possessing certain endowments and behaviors, (2) having some relationship to society's dominant means of production, (3) being commodified in a labor market based on his or her labor-power, (4) possessing market capacity, and (5) having some chance at mobility provided that there is at least some degree of openness in the societal infrastructure.

One understands from Giddens in particular that the concept of class does not necessarily imply the existence of a group. Groups may adopt class as a consciousnessraising construct, but such adoption requires the existence, to some degree, of "mobility closure," an inability of persons to cross the blue collar/white collar divide. The idea of class and class structuration therefore exists independently of groups, and examination of class can be accomplished through identification of the situated practices that structure class rather than through the scrutiny of groups that are believed to reflect them. These situated practices are performed in response to the character of the infrastructure that

society provides; moreover, one's situated practices are largely governed by the practitioner's market capacity. One may enhance market capacity by seeking more education, or by being employed in a trade with a high degree of monopolization. Increases in market capacity allow one to fetch higher prices in the labor market, thereby allowing for the consumption of more and better goods and services. Classes can therefore be differentiated by articulating criteria that identifies similar situated practices (in consumption, in speech patterns, in mannerisms, in mores, etc.) as governed or determined by individual market capacities.

3. Delineating "The Middle Class"

Categorizing situated practices is the necessary first step for categorizing or delineating classes. Over the years however, various criteria have been used for class categorization. In the United States class is often determined through income, however there is little consensus among the American populace as to what income makes someone "poor" and what makes someone "middle class" (Lucal, 1994; Stearns, 1979).

Other means have been suggested and employed for delineating classes. They include identification of the head of household's occupation (Chase & Pugh, 1971; Warner, Meeker & Eells, 1998), determination of the kind and amount of "power" an individual exercises in a political system (Martin, 1973), and even the character of a person's speech (Davis, 1985). Each of these classification means is valid insofar as they reflect situated practices — of individual production, of political participation, and of speaking, respectively.

In this dissertation we consider two practices for the delineation of "middle class": individual production and individual consumption. Particular emphasis is paid on middle class consumption of real property. We focus on the idea of "middle class" because the object of interest in this demand-side discussion of gentrification, the gentrifier, is "middle class" by definition.

In this discussion we will also draw some conclusions about "middle class" demeanor and values. Identifying these values is seen as important because they allow an understanding of the motivations and demands of "middle class" persons in general and gentrifiers in particular.

3.1 Middle class production. We begin with an examination of middle class production — and in the place and time from which contemporary notions of production evolved: eighteenth-century England. By the turn of that century "middling classes," the precursor to our contemporary term, was used with much regularity in conversation and literature. The expanding use of the term and the expanding ranks of persons in these classes were functions of the collapse of the feudal system, the ascendance of capitalism, a sharp rise in the number of city dwellers, and a rise in the number of persons working in what today we call the "basic," export-oriented sector.

The ranks of the "middling classes" swelled due to the sheer variety of highpaying work available. In London, men in the highest income brackets earning more than 200 pounds a year were nobles and/or tended to be employed in "high finance and largescale trade" occupations. Those in the "middling classes" earning between 66 and 128 pounds a year were the *petite bourgeoisie* of "moderately wealthy merchants and small employers working in their own shop" with two or three employees. They were "tradesmen and shopkeepers," "professional men and artists," "above a journeyman worker or a small-scale employer in one of the less-prestigious trades, such as a butcher" (Schwarz, 1979, p. 254). Late 17th and early 18th Century "country gentry," by contrast, generally realized income through management of the sale of land and meats, and through the collection of rents (Davies, 1971). In both rural and urban England, those in the "middle" economic strata — those above the workers but below the nobility earned their keep through the handling of papers, through the smoothing of transactions, or through managing those with the responsibility of harvesting and transforming the fruits of the earth. Those being managed — the lower classes —were charged with milking the live animal or carving up the dead one, moving the potatoes or the indigo or the tobacco off docked ships, smelting the iron to make the machines that drove the Industrial Revolution. What distinguished the production activities of the middling classes from the lower classes was that those in the former class worked in a wide strata of "respectable" occupations, those wherein one did not have to get one's hands dirty or sully one's person in any way.

The economic and class stratification that existed in eighteenth-century England could also be seen in its American colony. With its primarily agrarian economy, however, the situated practices there had fewer variations.

Historian Gordon Wood notes that late-eighteenth century America was characterized by the existence of two classes: the ruling elite and the "bulk of ordinary folk." The former class owned large plots of land more often than not tilled by slaves. The latter a class was comprised of tenant farmers or owners of smaller plots of land.

The rise of the "artisan" class of manufacturers, financiers, accountants, and traders in the first third of the eighteenth century created a new class of "middling men" that "acquir[ed] not only wealth but some genteel learning," "eager to be regarded as something other than members of the 'vulgar herd'" (2006, p. 28).

By the nineteenth century, America's growing economy allowed space for a small "middle class" of persons employed in those same occupations that helped comprise England's eighteenth-century "middling classes": shopkeepers, teachers, physicians, and similar non-manual, "white-collar" workers. With their economic gains America's middling men and women made various attempts to differentiate themselves from the equally swelling ranks of the "vulgar herd." Such attempts often took the form of legal fights to subdue lower-class barbarism for the purpose of making members of the lower classes more "civilized." This usage of the legal system at once distinguished the "middle sorts" from the riff-raff on the bottom rungs of the economic and social ladder, and recommended if not mandated that members of the latter group take up the "genteel" behaviors and demeanors associated with the former. In America, the late-nineteenth century campaign against the barbarism and hedonism associated with the lower classes could be seen in various initiatives, including in the rise of the temperance movement (Dannenbaum, 1981) and in the Progressive Movement's insistence on good governance through the immunization of public administration from class-, race-, and ethnicitydriven machine politics (Wilson, 1997). This rejection of "barbarism" and cronyism and the seeming necessity for "civility," "professionalism," "gentility," and "decency" during the late nineteenth century serves as, Burton Bledstein asserts, the foundation for a new American "middle class" conceptualization (1976).

3.2 Middle class consumption. Middle class preoccupation with reflecting civility and decency through one's work and in one's daily life was reinforced and promoted through consumption patterns. The notions that "one is what one consumes" and that "image is everything" may today be universal,⁹ but they are certainly not new. An 1891 article in *Ladies' Home Journal* conceded that not all people can eat dinner from gold or silver plates and in spectacular dining rooms, but one should at least make some effort to own polished glass and china, "snowy napery," and decent flatware (Moskowitz, 2004, p. 19). A famous 1910 newspaper and billboard advertisement for Quaker Oats shows a rendering of run-down inner-city housing and has as its caption, "The Homes that Never Serve Oatmeal." Later in the 20th Century, television programs like "Father Knows Best" and "Leave It To Beaver" promoted a clearer view of middle class life and aspirations: celebration of the nuclear family, devotion to children, patriarchy, honor, self-reliance. Journalism, advertising, and television shows reflected proper middle class consumption, and the goods consumed included a single-family home, a car, and wholesome, nutritious foods eaten off plates and never with one's hands (Kendall, 2005).

America's middle class members continue to consume products that reflect the long-standing middle class values of wholesomeness, decency, gentility, and tranquility. Such products associate their consumers with an air of refinement, and simultaneously disassociate them from the provinces of the "grubby masses." As members of these masses are able to afford these products in greater numbers, however, the character of middle class consumption must improve to maintain this differentiation (Kendall, 2005).

The consumption of these and other products indicates to the consumer and to observers one's subscription to a particular "standard of living." These consumption patterns are largely determined by income levels, but not entirely so. Some commentators assert that the character of contemporary consumption patterns says very little about the income level of the consumer. One such commentator is James Twitchell, who asserts that the concept of luxury and its associated goods, once the province of society's wealthiest, have today been "democratized." Depending upon the line of credit one has access to on credit cards, for example, almost anyone can purchase a luxury good

⁹ See Naomi Klein's 2002 book *No Logo* wherein she argues that such notions became *de rigueur* in the late-twentieth century with the rise of globalization.

(Twitchell, 2002). The democratization of luxury illustrates that, today, conspicuous consumption is done not so much to promote market capacity and earning power as to promote one's subscription to a particular "lifestyle." Consumption is no longer solely about the product itself; it is about the reputation the consumer wishes to project through purchase of the product (Klein, 2002). To put it another way, the various goods and services consumed are signals of class.

The democratization of luxury has the capacity of divorcing consumption patterns and notions of class, rendering the former useless in understanding the latter. If even public housing residents can afford to buy goods from Prada and Rolex, how can such goods be said to be the province of the upper class? Though Twitchell's argument may be overstated, it is clear that no matter how much luxury has been democratized a public housing tenant would find it difficult to own, say, a Mercedes-Benz. We can conclude from this that consumption of "big ticket" items like real property and durable goods largely indicates class. Seller investigation of a buyer's credit score is now the norm before such goods change hands, and this score indicates whether one has the requisite income to make the purchase. Such credit checks generally do not occur, however, with the purchase of high-end apparel or jewelry. If luxury is democratized, then that democratization only occurs with certain goods or, more specifically, certain brands (Tanneeru, 2006).

Brands like Starbucks, Coach, and Evian can be democratized and made available to the masses. Brands can also be tailored to members of certain classes, or sub-sets of classes. Middle class, health-conscious fast-food consumers, for example, prefer Subway to McDonald's. Upper-middle-class liberals tend to drive Volvos and Saabs. Upwardly-mobile twenty-somethings would never buy furniture at Wal-Mart but could live in an Ikea (Klein, 2002).¹⁰

The tailoring of consumption is no longer limited to brands, if it ever was. As consumption is a situated practice, what is consumed, how it is consumed, and where it is consumed changes according to class and sub-sets of class. Members of what urban planner Richard Florida calls "the creative class" — a "Generation-X" sub-set of "the

¹⁰ Living in an Ikea store is meant here to be figurative, but it can also be taken quite literally. The Swedish housewares chain now operates a hostel at one of its Oslo, Norway stores. Shoppers can use the hostel if, by closing time, they have not finished their shopping (Fouché, 2007).

middle class" whose members, among other things, value flexibility and leisure — often spend their discretionary income on health club memberships and sporting equipment. They are more likely to take "adventure vacations" where they can go mountain biking, skiing, or scuba diving; more apt to travel abroad; buy foreign cars; regularly attend plays and museums; and consume wine rather than beer.

Those middle class members possessing less market capacity however (here we'll call them "the working class") are more likely to be beer drinkers, seeing wine as something for the more pretentious. They tend to drive American cars, pick-up trucks, minivans and, if possible, sport utility vehicles. Much of their free time is spent watching television, playing video games, or seeing Hollywood blockbusters rather than "art house" films. When they go on vacation, it is to Las Vegas or Disney World. Honeymoons — often the most luxurious vacation working class members will take — are to Hawaii; if they do leave the country they most often take cruises to the Caribbean. Members of the working class often do their own automotive repairs. Like the butchers of industrializing England this "middle class" subset does not appear to mind getting its hands dirty (Florida, 2002).

In the final analysis, how are these two disparate consumption patterns indicative of "middle class values?" In the first place, their expenditures are viewed by most in our society as honorable and respectable. By opting for the minivan and the trip to Disney World, the working class member makes purchases that benefit his or her family rather than him or herself. The creative class member too portrays an air of respectability through his or her patronage of museums and other cultural institutions. Both the working class member's and the creative class member's consumption activities are not illicit, but positive and ordinary.

In the second place, such purchases appear to be aspirational. "Creative class" members strive for better, healthier, more attractive bodies through their gym memberships and fitness equipment. They want to travel to more distant, more exotic destinations. Members of the working class aspire to drive larger, faster, or more powerful vehicles and watch sports on flatter, sharper televisions. The various subsets of the "middle class" do not seek more and better goods and services so much as they seek "more and better." The product itself is largely incidental, serving more as a vehicle for

the true desire: "new and improved." Ownership of this commodity is essential, for it allows middle class members to further distance and distinguish themselves from those in the lower classes.

3.3 Middle class consumption of real property. An example of middle class desire for more and better can be seen in the consumption of real property. As previously mentioned, real property is a "big ticket" item that is highly indicative of class. It is a good most often used to sustain and promote "standard of living." In keeping with middle class values, ownership or rental of real property is honorable and respectable in the sense that it signifies a purchaser's desire for stability. Property ownership can also be aspirational in the sense that the purchaser may wish to start a family in the home. Ownership may also be aspirational from a purely financial standpoint, in that the purchaser often wishes to use the equity garnered from his or her eventual sale of the property to purchase other property that provides more and better hedonic traits.

Real property is different from other goods and services in that it is quite expensive; it is not unusual for consumers to spend half their annual incomes on real property-related expenses, including rents, mortgage loans, maintenance, furnishings, utilities, and property taxes. Real property also differs from other goods in that it is immobile and its value is largely determined by its location (Sirota, 2006).

The differing values due to location are a function of the amenities or infrastructure provided in each developed area.¹¹ Two types of infrastructure comprise developed areas: a *physical infrastructure* — itself comprised of residences; water, sewer, and power lines; greenery; and sidewalks and other transportation conduits — and a *socio-economic infrastructure* comprised of persons, communities, mores, economies, and gestalts.¹²

¹¹ By "developed area" it is meant an area that can support a collection of residential and commercial structures.

¹² Comprised of signs and symbolic entities, a gestalt is a semiological concept that reflects an "overall feeling." Many consider gestalts to be "structures" in and of themselves. A gestalt is also independent and is seen as "greater" than the sum of its parts. It too is a sign that persons look for in their consumption decisions. Signs in the gestalt help construct the "overall feeling," and this feeling is something that people seek out in geographic spaces. As such, a gestalt arises as an important component of an area's sociological (or, here, socio-economic) infrastructure.

A person consumes real property in developed areas based on his or her amenability to the various hedonic traits reflected by both kinds of infrastructure. Some consumers value newer neighborhoods and the latest housing structures over historic neighborhoods and structures. Relative distance of the home or neighborhood from public transportation is likewise valued differently by each individual: Some want to be located close to public transportation lines and facilities; others want to be located farther away. Some seek close-knit and dense communities while others want the exact opposite (O'Sullivan, 2002).

So which supply side traits do middle class members seek when they wish to consume real property? Recall that middle class situated practices endeavor towards refinement, civility, decency, and tranquility — subjective characteristics to be sure, but objective in the sense that the characteristics reflect what the "grubby masses" are not. Values of "the middle class" must be respectable and aspirational and — whether it be oatmeal, furniture, or real property — the good purchased must likewise be respectable and aspirational.

Therefore supply side traits meaningful to or valued by "middle class" members are those considered respectable enough to be incorporated into one's identity and promoted to others. They are assumable traits useful for the reinforcement and promotion of a middle class identity.

These supply side traits must be not only respectable, but aspirational. As such, they must have a high exchange value, a value often determined by price. For this to occur, the traits must be in relatively short supply.

It should be noted that a scarce trait may not necessarily be in high demand. Just because a trait is difficult to obtain does not mean that people will clamor for it or aspire to attain it. For this to occur, the supplier must stimulate the demand through marketing. What is key in increasing a trait's exchange value is to increase, to employ Marx's term, its *saleable value* (1920), and producers do this by considering the exchange values of all those things that are used to create the trait: "raw material, work-people's wages, &c, ..." (1920, p. 44). The exchange value of, say, an Ivy League education is heightened not only by the scarcity of its admissions slots, but by the caliber of its resident scholars, its

state-of-the-art laboratory instruments, and the strength of its alumni associations, each of which these institutions market in order to stimulate demand.

If we are to speak of a valorization system that drives "middle class" situated practices, this system would esteem hedonic traits, products, and all other signs encountered in the *oeuvre* of the city based on their respectability — their reflection of wholesomeness, civility, decency, and modesty — and their exchange value.¹³

Given this, it is little wonder that in the contemporary United States, suburban areas are seen by many as the repositories of the country's "middle class" (Duany, Plater-Zyberk, & Speck, 2000; Kunstler, 1993, 1996; Smith, 1996). Since the mid-1930s with passage of the New Deal-era National Housing Act, suburbia has been seen as the ideal geographic space for American families, a haven from overcrowded, polluted, crime-infested, and increasingly Black and poor inner cities. Suburbs provided other amenities, including larger lot sizes and better public schools with mostly White enrollees (Abrams, 1954; Stegman, 1972). For those who could afford it and who were allowed in,¹⁴ American suburbia reflected the uniformity (read, "decency" and "stability") and provided the safety (read, "civility") that adherents to middle class practices valued. It is an eminently respectable space in which, if one works hard enough, one may have the privilege of living. Suburbs¹⁵ continue to provide a space for those wishing to assume and promote an identity based on these values — an identity one generally calls "middle

¹³ Valorization systems may also be an important component in the delineation of classes. Many "lower class" members, for example, cannot afford cars and all of the other costs that accompany car ownership (e.g., insurance, gasoline, maintenance), and so the hedonic trait valorization system for members of the lower classes might be, in order, proximity to public transportation, distance from work, affordability, and number of bedrooms. A structure's historical or architectural significance would likely not be a component of the valorization system. Instead, notions of affordability (of rent and of utilities) and proximity (to public transit, to work, and to schools) would likely serve as foundations for hedonic trait valorization.

¹⁴ This notion of rights of entry is an important one. From the 1930s to the 1960s, the Federal Housing Administration (FHA) largely prevented racial and ethnic minorities (mostly African-Americans) from receiving mortgage loans in White suburban jurisdictions for fear that their presence would retard property values (Abrams, 1954; Schill & Wachter, 1995). Deed restrictions barring the sale of property to non-Whites also helped to exclude minorities from suburbia. When the U.S. Supreme Court ruled such covenants unenforceable in 1948, and when the Kennedy Administration ended FHA's discriminatory underwriting practices in 1962, other practices proved just as effective in keeping ethnic and racial minorities out, including deed restrictions giving neighboring owners "right of first refusal" of the property to be sold, or placement of the property in a private club and using a deed restriction to ensure that the property be sold only to another club member (Herson & Bolland, 1990).

¹⁵ Here we are speaking of the latest varieties of suburbs, for many of America's older suburbs are currently experiencing a state of decline. See Hudnut (2003), Lucy & Phillips (2000), and Rusk (1995) for more information on "first suburb" decline.

class." The contemporary inner-city, by contrast, is often seen as a place of instability, incivility, and chaos. It is the fitting province of the lower class.

3.4 Final thoughts on class delineation. "Middle class" situated practices are distinguished by their reflections of and preoccupations with civility, respectability, and upward mobility, but many people value and emulate such practices.¹⁶ As a result, the near universality of such intentions has the potential of rendering the term "middle class" useless. Still, those seizing or seeking the "middle class" have long found it useful, especially as a means of differentiating themselves from what they see as the complacency, powerlessness, and barbarity of those in lower classes.

Individuals identify these lower classes using a number of criteria, such as the aforementioned production and consumption patterns. They can and often do use other criteria such as race, ethnicity, geography, and religion. The criteria used are fundamentally subjective, yet with time they can rise to the level of "intersubjectivity," a state where individuals tacitly or explicitly agree on criteria for the differentiation of class. For example, many people agree that income is an important indicator of class. Fewer people agree on how much income qualifies one to be a member of "the middle class." Disagreements on this question are usually resolved through negotiation, and the criteria become intersubjective.

Criteria for the delineation of class using income may become so widespread that they take on the air of objectivity. The "poverty line" is a good example. Every year of Congress must agree upon placement of this line. Households with incomes on one side of the line qualify for special services such as Medicaid and Food Stamps, while households on the other side do not. In the minds of many Americans, this line provides a clear boundary between "middle class" and "lower class" members.

¹⁶ This may be important in understanding why so many people consider themselves "middle class." According to the National Opinion Research Center (NORC) at the University of Chicago, half of American families earning between \$20,000 and \$40,000 consider themselves middle class, as do 38 percent of families earning between \$40,000 and \$60,000, and nearly 17 percent of those earning over \$110,000. The Drum Major Institute for Public Policy (DMI) asserts that persons in "the middle class" earn between \$25,000 and \$100,000 a year; in 2005 this interval would have likely encompassed upwards of 80 percent of American households (NORC and DMI figures cited in public television program "Now," 2004; approximation determined using figures from Johnston, 2007 and from poverty rate figures from the U.S. Census Bureau's 2005 Current Population Survey).

Subjective and intersubjective criteria are used not only for class differentiation. They are also used to delineate class subsets. Even within the agreed-upon boundaries of "middle class" there is room for more discussion, agreement, and boundary drawing. These subsets may contain the "lower middle class," the "creative class," or the "missing class."¹⁷ While these subsets differ according to subjectively- or intersubjectivelyestablished criteria, they are fundamentally "middle class" in their shared veneration of decency, civility, self-reliance, and mobility, and their shared desire not to be seen as part of the "vulgar herd."

The next section of this chapter will be devoted to an examination of yet another subset of "middle class": the gentrifying class. As with "middle class," the situated practices of those in the gentrifying class are not monolithic. Using case studies however, we will identify a number of factors holding the gentrifying class together, making them distinct from other "middle class" practitioners. In addition, we will pinpoint those hedonic traits demanded by gentrifiers. Independent variables reflecting these traits will then be examined to test this research's primary null hypothesis: that gentrifiers are more likely to invest in relatively safe areas that supply a wealth of novel and assumable hedonic traits.

4. Demands of the Gentrifier

Gentrifiers have specific situated practices that help define the class they comprise, but, as with the over-arching concept of "middle class," the gentrifying class construct is not monolithic.

Gentrification scholar Dennis Gale articulated a useful typology of gentrifiers based on when members of the class move into the geographic space and become a part of the gentrification process. *Risk-oblivious* gentrifiers are those artistic individuals often single and childless — that first "discover" the marginal area. They act as primary investors initiating the redevelopment drive, often unconsciously. Generally, they are "oblivious" to the various risks (being a victim of property or violent crime, anemic increases in property values, and structural deterioration leading to high maintenance

¹⁷ On this latter class, see Katherine Newman and Victor Tan Chen's book, *The Missing Class: Portraits of the Near Poor in America* (2007).

costs for example) associated with living in an area that has seen little private or public investment.

With time, *risk-prone* gentrifiers — who are more likely than the "risk-oblivious" group to be married, more likely to have small children, and who tend to work in professional occupations — follow the risk-oblivious, accepting the risk of purchasing in the area. They may have a number of motives for moving to the inner-city, including an appreciation of older structures, the desire to expose themselves and their children to people of different backgrounds, and the hope of high financial returns.

As the area shows visible signs of improvement, a final *risk-averse* group of gentrifiers moves in to take advantage of both the increases in property values and, often, the cachet associated with living in a place both aged and "cool." Risk-averse gentrifiers tend to be older, more affluent, and are very likely to have children (1980). Unlike risk-prone gentrifiers, however, they are not more likely to be married and their children are less likely to live with them. Where necessary, this dissertation will use the "Gale typology" to distinguish among these groups of gentrifiers.

While differences may exist among these groups of gentrifiers, their respective valorization systems are seen here as being driven by three criteria: novelty, safety, and assumability. For gentrifiers, the traits a neighborhood must supply must be novel, that is unique in character, and assumable or able to be incorporated into one's identity and promoted to others. For risk-averse and some risk-prone gentrifiers, these traits must also be supplied in safe neighborhoods. More information on each of these valorization criteria is provided in the following subsections.

4.1 The importance of novelty. Traits that are novel are relatively plentiful in one neighborhood, but scarce or non-existent in others. If, for example, the median age of housing in a desired neighborhood is 60 years, but the median age of housing in the metropolitan area is 28 years, housing in the desired neighborhood is novel compared to housing in the rest of the metropolitan area. The novelty stems from the neighborhood's housing being older and, very likely, historically and architecturally significant.

Reflecting on the uniformity and conservativeness that was 1950s- and 60s-era suburbia, gentrifiers beginning in the 1970s turned to the chaotic, largely Black and Latino inner-city as the alternative for creating a space that reflected their values. The

inner-city provided hedonic traits that were novel for that particular era of urbanization: diversity of housing, diversity of opinions, diversity of races, the ability to avoid long commutes and not rely so heavily on the car for transportation.

An example of the importance of novelty to gentrification can be seen in the example of Tampa's South Hyde Park. Fifty-seven percent of the pioneering "risk-oblivious" group of gentrifiers indicated that the area's collection of historically- or architecturally-significant homes was either the primary or secondary reason for purchasing a home and moving to the neighborhood. As Tampa's metropolitan area expanded both in size and population, risk-prone and risk-averse gentrifiers became even more attracted to the unique housing that South Hyde Park provided. Seventy percent of risk-averse gentrifiers, who began investing in the neighborhood in the late-1970s, cited the area's architectural and historical significance as their first or second reason for choosing the neighborhood — the highest percentage of each of the three gentrifying groups (Kerstein, 1990).

Chicago's Wicker Park serves as another example of the importance of novelty to gentrifiers. In the early twentieth century Wicker Park was a bustling industrial area for light manufacturing and warehousing. Multi-family housing was built nearby to house workers. As the city deindustrialized, Wicker Park's industries shuttered. Whites left the city for the suburbs and were replaced largely by Latinos. By the 1980s, Wicker Park was an economically-depressed neighborhood with property values well below the metropolitan average, high rates of poverty, and high incidences of property and violent crime (Lloyd, 2002).

Wicker Park's economic decline led property owners to rent portions of their warehouses and factories to artists for use as studio space. These artists were attracted to the structures because of their high ceilings and large expanses of unwalled space. The neighborhood was also attractive because of its proximity to the Loop's art galleries and the city's theater district. An elevated train line also passes through the neighborhood, allowing artists quick access to the city's Art Institute and Columbia College, two of the city's most important fine arts education institutions (Lloyd, 2004).

The novelty of Wicker Park's physical infrastructure was not, however, the sole reason for its gentrification: The neighborhood's unique socio-economic infrastructure

was cultivated by its attraction of artists. Wicker Park was viewed as an exhibition space and willing canvas by local artists, but when the neighborhood received national attention in publications like *The New York Times*, *Rolling Stone*, and *Billboard Magazine* in the mid-1990s, artists from outside Chicago's metropolitan area flocked to the neighborhood to learn from other artists and in hopes of achieving a "big break." The cheap rents and desirable studio spaces attracted musicians, sculptors, and writers from around the Midwest, contributing to the creation of a new bohemia — a community of artists and cultural producers working together and in competition to break new artistic ground (Huebner, 1994; Lloyd, 2004).

4.2 The importance of safety. In general, gentrifiers wish to live in safe spaces. Members of the aforementioned artistic community expressed feeling "safer" among the Latinos of Wicker Park than among Blacks on Chicago's South Side — an area with similar yet less expensive loft space (Lloyd, 2004). Risk-oblivious gentrifiers in South Hyde Park were attracted not only to the area's unique housing stock, but also to its large population of older residents. According to the 1970 Census, 24 percent of the neighborhood's residents was elderly, a figure above the city's average. The neighborhood's percentage of 25 to 44 year-olds was below average, as well as the proportion of families with children under age 18 (Kerstein, 1990, p. 625).

The lack of children in the neighborhood is important for two reasons. First, the small number of children in the neighborhood signaled to risk-oblivious gentrifiers a high number of non-family households, or a space that was not completely devoted to the rearing of children. Second (and, it should be noted, not explicitly stated in the Kerstein article), the presence of older residents and dearth of younger people likely signaled to gentrifiers low incidences of property and violent crime. This may be because such acts are often committed by younger, rather than older people (Freeman, 1996).

A neighborhood's proportion of older residents was also a reason many lesbian women cited in their decision to move to and redevelop Baltimore's Lauraville neighborhood. The women did not see the elderly residents as threats, and they said that the older people did not see two women living together as anything out of the ordinary. As the elderly residents likewise did not see the influx of lesbians as anything

threatening, the lesbian women were left alone and allowed to become part of the community (Baxter, 2000).

Though Lauraville provides an example of homosexuals helping to redevelop a neighborhood with little or no contention with current residents, safety issues remain a particular concern to gay and lesbian gentrifiers. Though gay men and lesbians are largely "risk-oblivious" when it comes to investing capital in an economically declining area, they are particularly concerned about the risk of bodily harm and property damage that stems from the stigma attached to homosexuality in this country (see Rothenberg, 1995). Atlanta's Kirkwood neighborhood, for example, witnessed a large influx of gays and lesbians beginning in the early 1990s, displacing a large number of poor African-Americans. The influx was so large that its effects were seen as imperiling the ward seat of a Black councilwoman in 2000. To the minds of Black community leaders, the increase in White gay men and lesbians also imperiled Black political power in Kirkwood specifically and in Atlanta in general. Some members of Kirkwood's gay and lesbian community felt hostility from the Black community not only from the latter group's perceived loss of political clout, but from the group's conservative attitudes toward homosexuality. Viewed as important and effective leaders in the African-American community, Kirkwood's clergy have routinely criticized the neighborhood's gay residents not for their attempts at redevelopment, but for their using the neighborhood to proclaim and celebrate their sexual orientation. Public tensions surrounding Kirkwood's gentrification sent a signal not only to the area's gay and lesbian community, but to gentrifiers in other communities that the current backlash may take the form of crime, discrimination, or other retaliatory gestures against newcomers (Kennedy & Leonard, 2001, p. 22; O'Brien, 1998).

4.3 Balancing novelty and safety. In this dissertation it is held that gentrifiers, particularly risk-oblivious and risk-prone gentrifiers, are partially rather than overwhelmingly concerned with safety.¹⁸ They reason that living among persons of different backgrounds, points-of-view, social classes, and races entails some degree of

¹⁸ This is not necessarily true for gay and lesbian gentrifiers, as the previous Atlanta case reflects. In my interviews with gay women in Baltimore, I learned that there were other "lesbian neighborhoods" in the city in the late 1970s and throughout the 1980s, but that women largely abandoned those neighborhoods and settled in the city's Lauraville neighborhood due to increases in property and violent crime (Baxter, 2000).

discomfort — or at least more discomfort or unpredictability than the uniformity of suburbia provides. To them, unpredictability is seen as something that should be embraced rather than avoided. Risk-oblivious and risk-prone gentrifiers are often willing to sacrifice some degree of safety if the sacrifice affords them the freedom, community, and financial returns they would not otherwise have in suburbia (Anderson, 1985; Zukin, 1987).

Examples of this bargaining can be seen in Tampa and Chicago. Eighty-eight percent of risk-oblivious gentrifiers and 86 percent of risk-prone gentrifiers in Tampa's South Hyde Park thought that the neighborhood had a problem with burglaries, but that the problems were not so bad that they seriously contemplated moving (Kerstein, 1990). To the mind of one gentrifier in Chicago's Rogers Park neighborhood, the progress of gentrification would not be complete until

I [can] take my daughter [down one of the neighborhood's major thoroughfares] and not have to worry. I [can] park my car and leave my dog in it, just to make sure I don't get busted. ... I don't see people hanging out in front of storefronts. (Berrey, 2005, p. 154).

The social, racial, and economic diversity that Rogers Park supplied was highly valued by the gentrifier, but the neighborhood would not be ideal until the occurrence (storefront loitering; the car being burglarized) and the threat (walking down the street without worry) of crime was abated.

4.4 The importance of assumability. Incidentally, the Rogers Park gentrifier quoted above viewed progress as maintaining the neighborhood's diversity. He defines diversity as a state where "people can learn and do business and associate with one another" (Berrey, 2005, p. 154). To him, Rogers Park is novel because it is a community of like-minded persons capable of interacting freely and fearlessly. The occurrence and threat of crime jeopardize this diversity, and therefore jeopardize the social fabric of Rogers Park.

Apparently, the occurrence and threat of crime also jeopardizes the neighborhood's economic fabric. This is indicated by the gentrifier's desire to facilitate "do[ing] business" with others. This notion of "doing business" may have nothing to do with exchanging money. It may simply reflect a desire for better interpersonal relations. For him "doing business" may simply mean "dialogue."

It is difficult to ignore, however, that the gentrifier is an "influential" member of "Rogers Park Enterprise" — a trade association for realtors, developers, banks, investors, and neighborhood property owners. The association regularly spearheads events that attract media attention, thereby providing opportunities for the group to promote the neighborhood's diversity and attract more investors. "RP Enterprise" is, in essence, a pro-gentrification group that uses the neighborhood's diversity as a competitive advantage. "Diversity isn't only what we've come to love," an employee of Chicago's Chamber of Commerce said at a recent State of Rogers Park address. "We believe it's marketable and we'll trumpet it around town" (Berrey, 2005, p. 153).

The use of diversity as competitive advantage is not unique to Rogers Park's attempts at gentrification; it has been used to promote gentrification in neighborhoods across the country. Other phenomena have been used as well: In Wicker Park for example, *la vie bohème* is currently on sale. The local and national media exposure that neighborhood received attracted new throngs of young, White, educated artists. This influx contributed to Wicker Park being the next "it" place in the minds of speculators. Sales to speculators led to structural improvements and rent increases, making the renting of studio space more difficult to come by. By the mid-1990s, studios in the center of the neighborhood were being converted to retail establishments like trendy hair salons, vintage clothing stores, and futon outlets. The "panic" in Wicker Park, as a *Chicago Reader* article referred to it, was the effect of risk-averse yuppies moving in and replacing the neighborhood ethos of cultural production and artistic vitality with the uniformity that American capitalism ultimately creates, and doing it all by marketing Wicker Park's "coolness" (Huebner, 1994; Lloyd, 2004).

On the West Coast, the City of Vallejo, California is capitalizing on its openness and acceptance of gays and lesbians to attract gentrifiers. The city is using its high-speed ferry service to nearby San Francisco and its relatively inexpensive housing to lure gay and lesbian professionals to the city. The strategy appears to be working; during the 1990s new residents bought and rehabilitated much of the city's Victorian and Craftsman housing stock. Realtors began promoting Vallejo in the Bay Area's gay presses, and in

1998 the Vallejo Gay Network, a community organization, was established. Gays and lesbians eventually became a fixture in Vallejo and by 1999, the city elected an openly gay lawyer to its council (Kennedy & Leonard, 2001).¹⁹

Whether the competitive advantage used to spur or sustain gentrification is diversity, bohemia, or acceptance of other kinds of difference, the existence of a competitive advantage — any competitive advantage — affords gentrifiers the opportunity to consume something novel. If that novel trait is located in an area with low rates of property and violent crime, so much the better.

This consumption is not solely of the use of real property and safe space, but of the neighborhood's gestalt and the unique experiences from which that gestalt gives rise. The diversity and openness of places like Rogers Park, Wicker Park, and Vallejo — particularly in contrast to nearby areas — acts as a magnet to those wanting their identities, beliefs, and practices to be accepted or at least tolerated by their neighborhoods with cultures of diversity and openness provide increased opportunities for meeting others like minds, regularly interacting with them, learning from them and, in turn, further developing one's own identity or strengthening one's own practices. With time, the neighborhood's inhabitants promote this psychological development both consciously (as was the case with RP Enterprise's explicit marketing) and unconsciously (as was the case in Wicker Park in the early days of its gentrification).

Whether or not it is seen as a competitive advantage, a neighborhood's gestalt and the experiences that flow from it can be assumed by gentrifiers and used for the reinforcement and promotion of identity. Trait assumability is therefore important because it allows the gentrifier to experience regularly "diversity," "bohemian life," or the ability not to live under a cloud of suspicion. Assumability allows one to "buy in" to a gestalt or another of a neighborhood's socio-economic infrastructure components (Zukin, 1987).

4.5 Summary. Gentrifier demand for assumability, safety, and novelty in neighborhoods is reflected in their motives for settling in Rogers Park, South Hyde Park, the city of Vallejo, and other places. Rogers Park is novel in that, for residents and

¹⁹ In late 2007, the councilman, Gary Cloutier, narrowly lost the city's mayoral election (Bulwa, 2007).

newcomers alike, the neighborhood offers a level of social and racial diversity not typically seen in other Chicago neighborhoods. South Hyde Park is novel in that its housing stock is older and more architecturally distinct than homes elsewhere in Tampa. Vallejo is novel in that it is an historic community with inexpensive housing and a populace tolerant of or accepting of differences. Adding to the novelty is the city's direct ferry access to much larger (and famously tolerant) San Francisco.

That Vallejans are a more tolerant sort likely allayed the personal safety concerns of members of historically marginalized groups like lesbians and gays. In this sense, Vallejo was seen as a relatively safe space for people to be out. Safety was likely a concern of some Rogers Park residents; such concerns were voiced publicly by a gentrifier and member of the neighborhood's business community. Clearly such issues did not deter this and other gentrifiers from settling in the neighborhood but, as was mentioned earlier, an actual or perceived lack of safety may be a deterrent to risk-averse gentrifiers. If the South Hyde Park example provided by Kerstein (1990) is any guide, risk-oblivious and risk-prone gentrifiers place less emphasis on safety concerns if the infrastructure it provides is highly valued — for example, the neighborhood gestalt is seen as open and free, or the neighborhood's housing stock is of significant architectural distinction.

That neighborhoods like South Hyde Park and cities like Vallejo would cultivate these open, free, and accepting environments, or would work to preserve older architectural gems, adds cachet to the neighborhood (in the case of South Hyde Park), the city (in the case of Vallejo), and to the area's residents. Potential residents wish to, in Zukin's words, "cash in" on, or be associated with these attitudes (1987). They and current residents seek to portray themselves as being cool, progressive, or perhaps even wealthy enough to live such areas. This portrayal in turn alters one's self-identity, such that the resident assumes and explores the values the environment represents.

The desire to live in an environment where others tolerate or accept one's identity and beliefs is neither new nor shared solely by gentrifiers. Since cities have existed residents have chosen, have been coerced, or have been forced to live near others of like mind, of same ethnicity, of similar religious belief, or similar skin tone (Squires, 1994). Much of America's middle class has moved to suburban areas not solely due to its

appreciating home values, but due to its devotion to creating and maintaining infrastructure allowing for the development of what is believed to be strong families. Suburban areas provide public schools systems that, in general, far exceed the caliber of the typical inner-city public school. They provide safe streets, playgrounds, and neighborhoods for children and adults. For those wishing to build strong and successful nuclear families, suburban jurisdictions often provide both the physical and socioeconomic infrastructure necessary to fulfill those wishes.

Gentrifiers may also share these desires of building strong and successful nuclear families, but they largely do not subscribe to the strictures associated with suburban life. These strictures may be as innocuous as obligatory PTA Wednesdays or Saturday afternoon soccer, and they may be as unsettling as tacit understandings of home sales solely to White Christians.

Given their desire for openness and freedom, it is difficult to imagine any gentrifier being enticed by communal obligations. Given their celebration of diversity and difference, it is not difficult to imagine them being horrified by clear and sanctioned institutionalized discrimination. Neither is it difficult to imagine gentrifiers wanting any part of such an environment.

Whether it is because of suburban strictures or not, gentrifiers tolerate or embrace the generally accepted "unruliness" of the inner-city. They may even disagree with their middle class counterparts and find the city not at all to be a place of disorder. Regardless of their acceptance of the disorder meme, gentrifiers of South Hyde Park, Vallejo, Wicker Park, Kirkwood, Rogers Park, Lauraville, and inner-city neighborhoods across the country appear to be drawn to infrastructural components only the inner-city can provide: grand housing on the cheap, low commuting costs, diversity in almost every incarnation.

But is desire for these components or traits shared by all gentrifiers? Is the professed want for diversity, safety, and cheap rents unique only to the gays and lesbian gentrifiers of Vallejo and Lauraville, the new residents of South Hyde Park, or the Rogers Park businessman? Are these universal desires among gentrifiers? Further, if neighborhoods do provide these and other desired traits, will they be successful in attracting gentrifiers?

These questions cannot be answered definitively using the already-examined case studies; as previously mentioned, drawing inferences from case studies is problematic because of their limited scope.

The case studies are useful, however, in their highlighting of important traits. If variables are identified measuring the existence of these traits over time, and if additional examples of gentrification are identified, it would be possible to infer whether and to what extent a trait's existence had any bearing on gentrification.

The primary purpose of this dissertation is to test the null hypothesis that relatively safe neighborhoods supplying novel and assumable traits in some combination will most likely undergo the gentrification process. We assess the levels of novelty, assumability, and safety gentrifiers require later on in Chapter 3, but for now we turn to an examination of independent variables best reflecting these desired traits. These variables will be incorporated first into a univariate descriptive model. The model will be used primarily to highlight differences in hedonic trait evolution between gentrifying and non-gentrifying areas. The variables will then be incorporated into a predictive model to determine the degrees to which hedonic traits must exist in an area for gentrification to occur. Results of this latter, multivariate model will be used to predict the likelihood of gentrification's occurrence in various neighborhoods.

5. Identification of Independent Variables

Our examination of gentrification cases from Chicago, Vallejo, Tampa, Atlanta, and Baltimore have aided in the formulation of the primary null hypothesis that gentrification is more likely to occur in relatively safe neighborhoods that supply a wealth of novel and assumable hedonic traits. We test this hypothesis using a number of independent variables, each reflecting to varying degrees the novel, assumable, and safety-oriented characteristics gentrifiers value.

While all gentrifiers value novelty, assumability, and safety, it cannot be said that they value each of these traits equally. As suggested by both Gale (1980) and Kerstein (1990), risk-averse gentrifiers tend to put a priority on safety, often refusing to partake in the wealth of novel traits gentrifying areas provide until crime levels there are satisfactorily low. Risk-oblivious gentrifiers, by contrast, place comparatively low emphases on safety and do not allow their desires for novelty to be quashed by it.

Since, by definition, gentrification first requires the existence of an area that is poor and dominated by members of the lower classes,²⁰ it is likely (though not inevitable) that such areas will have relatively high crime rates. This is due to the high correlation between poverty and crime (Allen, 1996; Freeman, 1996). If risk-oblivious gentrifiers are the least of the three gentrifying groups to be put off by high crime levels, we would expect them to be the "pioneering" gentrifying group — the group more likely to be found in gentrification's earlier stages. As the risk-oblivious contribute to the area's middle class transformation, crime will likely subside and risk-prone gentrifiers will begin moving in.

The movement of different kinds of gentrifiers can, therefore, be used to track the gentrifying area's evolution. The converse is also true: The evolutionary path articulated by hedonic trait tracking (using, in the present case, independent variables) can be examined to identify those gentrifying groups that are on the ascendant.

In this study, hedonic trait changes are tracked over thirty years (1970 to 2000) using data from four different censuses (1970, 1980, 1990, and 2000). This tracking allows an understanding of when differing groups of gentrifiers began moving to the neighborhood. Conversely, it allows for a decade-by-decade articulation of a gentrifying neighborhood's evolution.

It is expected that the independent variables used to track the presence of hedonic traits will relate to gentrification in particular ways. The character of these relationships will largely depend on the neighborhood's evolutionary state. For instance, one would expect neighborhood rents to be relatively low in early stages of gentrification, owing to the high presence of lower class members there. In later gentrification stages, rents would likely increase due to increased demand. To cite another example, risk-oblivious gentrifiers are often attracted to areas with relatively high levels of racial diversity, and so measures of such diversity will likely be high in neighborhoods in the early stages of gentrification. As successive waves of gentrifiers move in however, levels of racial diversity will likely decrease due to displacement. The poorer residents (who more than

²⁰ Recall that gentrification is defined here as "the 'upgrading' of geographic space so that it reflects middle class values." For such 'upgrading' to occur, the space's previous residents had to have been members of the "lower classes."

likely are ethnic and racial minorities) will be unable to afford the increased living costs, causing diversity levels to decline.

If such expectations were plausible, one could deduce that — when comparing gentrifying neighborhoods to other inner-city neighborhoods — data from earlier censuses would show a negative relationship between gentrifying neighborhoods and rents. Earlier-stage gentrification will also likely be positively related to racial diversity levels. With gentrification's progression, data from later censuses would likely show a positive relationship with rents and a negative relationship with levels of racial diversity.

Table 1 identifies the expected relationships between neighborhood gentrification and diversity levels, average rents, and 22 other variables likely affected by gentrification. The variables will be used to test this study's primary null hypothesis. The expectations are, in a sense, hypotheses stemming from the primary null.

The meeting of these expectations often works to support the primary null hypothesis. If, for instance, it is shown that risk-oblivious gentrifiers are attracted to the novelties of racially- and ethnically-diverse neighborhoods, high concentrations of older housing stocks, and cheap property values and rents, we can conclude that there is support for the notion that gentrification is likely to occur in areas with a wealth of novel and assumable hedonic traits. If it is shown that with the influx of risk-prone gentrifiers neighborhood poverty levels decrease, we can conclude that there is support for the notion that gentrification of safe spaces.

While each of the variables reflects novelty, assumability, or safety, they are characterized somewhat differently in Table 1 to simplify the discussion that follows. Variables used primarily to describe a neighborhood's population are "Demographic Variables." Those used to grasp levels of property and violent crime are "Safety-related Proxies." Variables used to understand a neighborhood's housing stock and real estate market are "Housing-related Variables." As will be articulated later, individual variables within these three broad categories represent novel traits, safety traits, assumable traits, two, or all three traits simultaneously.

Table 1

Independent Variable	Earlier Censuses ('70 & '80)	Later Censuses ('90 &' 00)	Independent Variable	Earlier Censuses ('70 & '80)	Later Censuses ('90 &' 00)
Demographic Variables			Safety-related Proxies *		
Diversity	Positive	Negative	Gini	Unknown	Negative
Share White	Positive	Positive	Welfare	Unknown	Negative
Share Black	Unknown	Negative	Poverty	Unknown	Negative
Share Other	Unknown	Negative	Earnings	Unknown	Positive
Share Hispanic	Unknown	Negative	Jobless	Unknown	Negative
Non-family	Positive	Unknown	Single Mother	Unknown	Negative
Married & Child	Negative	Unknown			
Child	Negative	Unknown			
Pers/HH	Negative	Unknown	Housing-related Variables		
College Grad	Negative	Positive			
White Collar	Negative	Positive	Older Housing	Positive	Positive
Transit	Unknown	Positive	Avg. Value	Negative	Positive
Walk/Bike	Unknown	Positive	Avg. Rent	Negative	Positive
Turnover	Positive	Positive	Vacant	Positive	Negative
Senior	Unknown	Negative	Rented Housing	Positive	Negative

Expected Relationships between Independent Variable and Gentrification

* Note: Safety-related proxies also have the capacity to serve as demographic variables

In the following three subsections, we will explore how each independent variable reflects (or does not reflect) the novelty, assumability, or safety-related characteristics valued by gentrifiers. Justifications will also be provided for the expected relationships each variable will have with both early-stage (as reflected by data from the earlier censuses) and late-stage gentrification (based on later census data). We begin with an assessment of demographic variables.

5.1 Demographic variables. Fifteen independent variables are employed to describe neighborhood population. The variables provide a demographic profile across a number of dimensions, including racial/ethnic and social diversity; living arrangements of residents; and dominant commuting means. Each of the 15 variables will be examined in turn.

To begin, the independent variable "Diversity" is used to measure levels of both racial/ethnic and social diversity. The variable relays a neighborhood's Gibbs-Martin

diversity index score (Gibbs & Martin, 1962; Land, Deane, & Blau, 1991; Lieberson, 1969) which is computed using the following formula:

$$D = 1 - \sum_{i=1}^n p_i^2$$

where D is the diversity index score and p is the proportion of a tract's population in group *i*. Four groups are used to calculate D: non-Hispanic Whites, non-Hispanic Blacks, non-Hispanic persons from other race groups (e.g., Asians, Native Americans, Pacific Islanders), and Hispanics of any race group. The diversity index score ranges from zero to one. The higher the value of D, the more racially and ethnically diverse the neighborhood.

The variable clearly provides a measure of racial/ethnic diversity; however it also serves as a useful metric of social diversity. The metric's usefulness depends on the assumption that, in the United States at least, social circles or networks are formed primarily along racial and ethnic lines. Sociologists appear to accept this assumption as valid (Hero, 1998; Tyack, 2003).

Race and ethnicity are not the sole means by which social networks develop. Networks have been seen developing around such facets as political ideology (Squires, 1994), dialect (Milroy, 1987), religion (Putnam, 2000), and income levels (Lin, 1999). Around these and other facets, individuals have constructed social networks that transcend race and ethnicity. However, and particularly in the context of American metropolitan areas, facets like political ideology, religion, and income have sharp racial and ethnic components. Incomes of metropolitan Blacks, for example, are more likely to be less than those of Asians and Whites. Churchgoing Hispanics are more likely to seek religious guidance from a Catholic priest than a charismatic Christian pastor.

Political leanings, religious beliefs, and personal incomes are not the only things influenced by race and ethnicity. Marriage partners, confidantes, and even schoolmate friendships appear closely governed by them (McPherson, Smith-Lovin, & Cook, 2001). Given the roles race and ethnicity play in contemporary American social conventions, social diversity can largely be understood by examining levels of racial and ethnic diversity. In this sense, the variable "Diversity" measures neighborhood levels of both racial/ethnic and social diversity.

As metropolitan areas have historically been marked by racial, ethnic, and social segregation, what gentrifiers will value in their consumption decisions are areas reflecting integration. A novel space that a gentrifier can incorporate into his or her identity is one that is racially, ethnically, and socially diverse. This desire for the novelty of diversity suggests that gentrifiers will be attracted to neighborhoods with relatively high amounts of it — that is with relatively high diversity index scores. In early censuses, therefore, we expect a positive relationship to exist between gentrifying areas and racial, ethnic, and social diversity.

This positive relationship will likely turn into a negative one in later censuses. This is due to gentrification's association with the "whitening" of neighborhoods and the displacement of lower class persons.²¹ If this "whitening" hypothesis is correct and Whites comprise increasing proportions of gentrifying neighborhood populations, the population proportions of other racial and ethnic groups will decline. The result will be a decline in diversity, resegregation and, most likely, achievement of gentrification's primary goal of creating a space reflecting middle class values.

One problem with the diversity variable is that it gives no indication of which racial and ethnic groups reside in an area. To compensate for this deficiency, data from the four racial and ethnic variables that comprise "Diversity" are included in the analysis as separate independent variables. The variables "Share White" and "Share Black" indicate the percentage of a tract's population identifying as White/Caucasian and non-Hispanic or Black/African-American and non-Hispanic, respectively. "Share Other" indicates that portion of the population identifying as not Hispanic, not Black, and not White (e.g., Asian Non-Hispanic, Native American non-Hispanic). "Share Hispanic" indicates the percentage of residents of any race who are of Hispanic or Latino origin.

As gentrifiers value diverse inner-city neighborhoods, and as such neighborhoods have had high concentrations of ethnic and racial minorities since the 1970s, we expect gentrification to be positively related to "Share White" in early censuses. The expected positive relationship is due to gentrifying tracts (with their expected high rate of diversity) likely housing higher concentrations of Whites relative to other inner-city

²¹ According to the National Poverty Center at the University of Michigan, in 2004, 24.7 percent of Blacks and 21.9 percent of Hispanics in America lived below the poverty. For non-Hispanic Whites in that same year, the figure was 8.6 percent (2006).

tracts. As gentrification progresses and neighborhood "whitening" occurs, "Share White" is likely to remain positively related to gentrification in later censuses.

On the other hand, the nature of the relationship between the race/ethnicity minority variables and gentrification in early censuses is unclear. Given that scores on "Diversity" for early-stage gentrifying neighborhoods are expected to be high, it is reasonable to conclude that the neighborhoods will have high concentrations of racial and ethnic minorities. However such concentrations may be low relative to concentrations found in other inner-city neighborhoods. The relationships between the ethnic and racial minority variables and earlier-stage gentrification are therefore unknown because the ethnic and racial characters of other inner-city neighborhoods are largely unknown.

Over time, as gentrification contributes to neighborhood "whitening," the neighborhood will likely have lower concentrations of ethnic and racial minorities. The likely results are negative relationships between later-stage gentrification and the "Share Black," "Share Other," and "Share Hispanic" variables.

To summarize, it is expected that neighborhoods in earlier stages of gentrification will reflect the novel, assumable, and demanded traits of racial, ethnic, and social diversity. Relative to other inner-city tracts, these neighborhoods will likely have high concentrations of Whites, and will house ethnic and racial minorities to varying degrees. As gentrification progresses, however, concentrations of ethnic and racial minorities will likely decrease. The decrease will result in the creation of a space lacking in diversity due to its high concentration of Whites. At such a point, gentrification will have likely achieved its goal of transforming neighborhoods into spaces of and for the middle classes.

It is expected therefore that with regard to race, ethnicity, and social conventions, gentrifying neighborhoods will evolve from being more diverse places to being places with less diversity. The expectation is obviously ironic, for neighborhood diversity is likely a key reason for gentrifier movement to gentrifying tracts. However it is also unambiguous — provided of course that the "whitening" hypothesis is correct.

More ambiguous are the expectations surrounding the evolution of household types in gentrifying neighborhoods. Gentrifiers, as has been mentioned, occupy a variety of household types. The Gale typology indicates that risk-oblivious gentrifiers are the

least likely among the gentrifying groups to be married or have children. Risk-prone gentrifiers are more likely to be married and/or have children. Older, more established risk-averse gentrifiers are the most likely to have children, but are not necessarily the most likely to be married. In short, risk-oblivious and risk-averse gentrifiers in particular are more likely to live in "non-family" households — households with a single occupant, or with two or more occupants who are not related by blood, marriage, or adoption. By contrast risk-prone gentrifiers are more likely to live in family to live in family households.

Non-family households are often out of place in much of American suburbia, as that space is largely geared toward nuclear and extended families. Much of the innercity, with its high concentrations of single-family housing, is likewise marketed to family households.

As risk-oblivious and risk-averse gentrifiers seek out places that are not devoted toward families and children, they are likely to gravitate to areas with high concentrations of non-family households and low concentrations of families with children. Moreover as these gentrifiers are likely to live alone or with few others, the neighborhoods to which they will likely be drawn will have smaller household sizes. Such neighborhoods appear novel, for in the context of metropolitan areas filled with nuclear families living in single-family homes, places with high-quality, high-density residential developments and few children are rare. Too, such a neighborhood's novelty renders it quite assumable, for residing there both reinforces and promotes the values of independence (in the sense of *not* having dependents) or free expression (in the sense of not needing to self-censor due to the presence of children or conservative attitudes) the resident holds dear.

Since risk-oblivious and risk-averse gentrifiers are more likely to live in nonfamily households, they will be attracted to neighborhoods with relatively high concentrations of similar households. It follows that the variable measuring the proportion of households that are non-family ("Non-family") will likely share a positive relationship with gentrification. This positive relationship will exist in earlier censuses in particular, for risk-oblivious gentrifiers are the principal actors in early-stage gentrification.

It is unclear whether data from later censuses will show a positive relationship between gentrification and the concentration of non-family households. This is because,

contra risk-oblivious and risk-averse gentrifiers, risk-prone gentrifiers are more likely to live in family arrangements. Because an influx of risk-prone gentrifiers could decrease the concentration of non-family households, the relationship between the concentration of non-family households and later-stage gentrification is unknown.

With the expectation of relatively high concentrations of non-family households in earlier-stage gentrification comes two corresponding expectations. The first expectation is that earlier-stage gentrifying neighborhoods will have relatively low concentrations of children. The expectation arises from risk-oblivious gentrifiers wishing to locate away from spaces geared toward child-rearing. Since risk-oblivious gentrifiers do not wish to locate in areas with high concentrations of children, data from earlier censuses will likely reflect negative relationships between gentrification and the concentrations of both nuclear families with children ("Married & Child") and children in general ("Child").²²

Here again, while the relationship between gentrification and "Child" and "Married & Child" will likely be negative in earlier censuses, it is unclear whether this relationship will continue in later censuses. This is again due to risk-prone gentrifier propensity for family arrangements. Settlement of such risk-prone households in gentrifying tracts could change the nature of the relationships between the two independent variables and gentrification. Since the character of risk-prone gentrifying households is unknown, the nature of the relationships between later-stage gentrification and concentrations of either married couples with children or children in and of themselves are also unknown.

The expectations of earlier-stage gentrifying neighborhoods having high concentrations of non-family households and having low concentrations of children give rise to another expectation. Here, we expect earlier censuses to show gentrifying areas having average household sizes lower than their non-gentrifying counterparts. This expectation stems from risk-oblivious gentrifiers either living alone or with few others. The variable measuring average household size, labeled "Pers/HH" for "persons per household," will likely share a negative relationship with earlier-stage gentrification,

²² "Married & Child" is the proportion of households with state-recognized spouses living together with children related to a parent by adoption or by blood. "Child" is the proportion of a tract's population below 18 years of age.

given that risk-oblivious gentrifiers wish to locate away from families. Families tend to have higher numbers of persons in their households than non-families.

The negative relationship expected between average household size and gentrification in earlier censuses may not persist in later censuses. Again the reason stems from ambiguity regarding the character of risk-prone gentrifying households. With their higher propensity to be married and/or to have children, influxes of risk-prone gentrifiers could increase a tract's average household size. Because of this, the relationship between average household size and later-stage gentrification is unknown.

With regard to household type therefore, it is expected that in gentrification's early stages risk-oblivious gentrifiers will be attracted to areas with relatively high concentrations of non-family households, relatively low concentrations of children, and areas with low numbers of persons per household. In the context of metropolitan areas, neighborhoods with such traits are considered quite novel, for much of suburbia and the inner-city revolve around creating environments safe for children. Gentrifier attraction to areas with high concentrations of non-family households is also assumable in that they allow gentrifiers to internalize and promote feelings of independence. As gentrification progresses however, these novel and assumable traits may disappear, and risk-prone gentrifiers may opt to raise their children there. Such a move would decrease relative concentrations of non-family households, increase concentrations of children, and boost neighborhood household sizes.

In earlier stages of gentrification, we can conclude that what is "novel" in the inner-city is any place with high levels of racial, ethnic, and social diversity, relatively high proportions of non-Hispanic Whites and non-family households, and few children. It is expected that if such traits exist in an area, gentrifiers will move there and use them to construct and promote their own identities. The Rogers Park gentrifier, to use an example from Chicago, is attracted not only to the various forms of diversity found in the neighborhood, but also to its devotion to the independence of its residents, the community's devotion to development, and its embrace of change. The gentrifier's choice of Rogers Park or other gentrifying neighborhood implies a rejection of the values associated with suburbia and those parts of inner-city not gentrifying — the values of conventionality, homogeneity, and stasis.

The former values — of diversity and difference, of independence, of embrace of change — reflect the mixture of middle class values and ideologically "liberal" views that contributes to gentrifier distinction within the American middle class. Gentrifiers are college-educated, upwardly-mobile people working in white collar jobs who wish to possess the current means of production, yet they de-emphasize or in some cases reject the homogeneous environments and insular attitudes (be they self- or nuclear family-centered) that class ascent often engenders.

The gentrifier's discounting of homogeneity and insularity manifests itself across a host of dimensions, ranging from the deepest philosophical beliefs to the most superficial consumption preferences.

One particular way in which gentrifier rejection of homogeneity and insularity manifests itself is in commuting choice. As previously mentioned, gentrifiers are more likely than other middle class members to commute using alternative means.²³ They question the lack of diversity that appears in much of contemporary American life, and this questioning extends to the very practical level of commuting.

In many American suburbs, commuting is accomplished almost exclusively using one's own vehicle. Many suburban residents commute to another suburb for work, so walking or biking to work rarely emerges as a viable option. For many years suburbs planned for car-dependency and shrugged at the construction of bike lanes and sidewalks. While increasing numbers of suburbs are now realizing the benefits of bike lane and sidewalk construction, transportation infrastructure emphasis continues to be placed on the car.

In contrast to their suburban counterparts, gentrifiers often seek out commuting options beyond the car. In their search for something novel, gentrifiers look for neighborhoods serviced by public transportation like bus lines, ferries, and particularly light rail. They also look for neighborhoods near their workplaces that will allow them to bike or even walk to work.

As gentrifiers are college-educated persons who typically work in white collar professions and value diversity even at the practical level of commuting, one would expect that, in later censuses, the neighborhoods they inhabit will have relatively higher

²³ "Alternative means" exclude use of one's own car or use of a carpool.

concentrations of college graduates, white collar workers, and persons who commute using public transportation, walking, and biking. In early stages however, with their high proportion of lower class residents, gentrifying tracts will likely have relatively low proportions of college graduates and white collar workers. These poorer residents may also use alternative transportation means for commuting, but the extent to which they do so relative to other inner-city residents is unknown.

Accordingly, we expect data reflecting proportions of college graduates ("College Grad") and white collar workers ("White Collar") to share negative relationships with earlier-stage gentrification and positive relationships with later-stage gentrification. This is because earlier censuses are likely to indicate high concentrations of lower class members in gentrifying tracts, while later censuses will reflect the influx of college-educated, white collar gentrifiers. Expectations with regard to resident public transportation use ("Transit") and walking and biking ("Walk/Bike") are unknown for early stages of gentrification. However the increased concentration of gentrifiers will likely result in positive relationships between the two variables and later-stage gentrification.²⁴

To summarize, it is expected that the demographic profile of tracts in early stages of gentrification will be one of relatively high degrees of racial, ethnic, and social diversity. There is a particular expectation of high concentrations of Whites in earlierstage gentrifying tracts relative to others in the inner-city.

In addition to high diversity, tracts will likely have relatively high concentrations of non-families, low concentrations of children and married persons with children, and low numbers of persons per household. Data from earlier censuses will likely show that residents will largely not have graduated from college and not be employed as white collar workers.

As the gentrification process progresses, the neighborhood's demographic profile is expected to change in various ways. The neighborhood will likely become less

²⁴ "College Grad" measures the percentage of a tract's population that is 25 years of age or older and has earned at least a Bachelors degree. "White Collar" measures the percentage of a tract's workers employed in professional or technical occupations, or who are employed as executives, managers, or administrators. It excludes all farm-related work. "Transit" measures the proportion of workers aged 16 years and older primarily commuting by bus, train, subway, or some other public transportation means. "Walk/Bike" measures the proportion of work by walking or biking.

racially, ethnically, and socially diverse, with non-Hispanic Whites increasing their population shares and racial and ethnic minorities moving out. Depending on the household types of risk-prone gentrifiers, tracts could see increases in both the population shares of children and average household size. While it is not possible to speculate on predominate household types in later stages of gentrification, it is highly likely that large proportions of householders will possess a Bachelors degree and will be employed as white collar workers. Moreover, they will have a relatively higher propensity to commute to their jobs using alternative transportation methods.

It is hypothesized that gentrifiers will seek out neighborhoods with high concentrations of non-family households, college graduates and white collar workers, and will also look for diversity in all its forms — the presence of such facets being quite novel in the context of inner-cities. It is also hypothesized that a gentrifier's taking up residence in these novel areas will allow for the assumption and promotion of these identity facets. If these statements are accurate, then the true nature of the relationships between the independent variables and the gentrifying neighborhoods should match the aforementioned expectations.

In addition to the 13 demographic independent variables to be examined, two additional variables are included in the analysis. The variables are not indicative of the novelty and assumability bases upon which gentrifiers base their consumption decisions. However they are included to gain perspective on the nature of gentrifying tract demographic shifts, and to control for their respective presences in neighborhoods. It is anticipated that their inclusion will contribute to a fuller, more accurate understanding of gentrifying tract evolution.

The first of the two variables, "Turnover," measures the percentage of the population that moved to the neighborhood less than five years ago.²⁵ High rates of turnover are often indicative of in-movements and/or out-movements of an economically-mobile populace. They also indicate that the neighborhood is experiencing rapid changes to components of its socio-economic infrastructure, its physical infrastructure, or both.

²⁵ Persons less than five years of age were not included in the "Turnover" variable.

Compared to other tracts, turnover will likely be high in gentrifying areas due to the steady influx of gentrifiers and the resulting exodus of lower class residents.²⁶ Because of lower-class displacement, the relationship between this variable and gentrification (regardless of the stage it is in) is expected to be positive.

The second demographic variable to be included in the analysis, "Senior," measures the percentage of a tract's population aged 65 years or older. As with "Turnover," the variable was included to obtain a clearer picture on neighborhood gestalt changes.

Unlike "Turnover," however, gentrification literature provides few details on the relationship between gentrification and seniors. As previously mentioned, there was some belief among lesbian gentrifiers in Baltimore's Lauraville neighborhood and an implicit belief among gentrifiers in Tampa's South Hyde Park that the heavy presence of seniors signaled the existence of low crime. Aside from these examples, no empirical evidence was found demonstrating a significant link between a neighborhood's concentration of seniors and its crime rate.

While crime may affect seniors to extents not altogether different from those of the general populace, the state of the local economy affects seniors almost always to a disproportionate extent. With their low levels of fixed incomes, inner-city seniors are particularly vulnerable to price changes. As gentrification progresses, seniors will likely be unable to absorb the consequent increases in property values and rents. Because of this inability, the relationship between gentrification and a tract's concentration of seniors is expected to be negative in gentrification's later stages.

It is unclear the extent to which seniors will be represented in earlier gentrification stages. With their low fixed incomes, seniors may find earlier-stage gentrifying neighborhoods more affordable and so may choose to settle there. However, seniors have reasons beyond housing affordability for choosing their residences, including the desire to live near children and friends, the memories that their current residence provides, or a desire to bequeath their property to heirs. Given that seniors have competing desires associated with their consumption decisions, it is not possible to

²⁶ Gentrification has long been viewed unfavorably due to its supposed displacement effects. However a new body of empirical literature is questioning the connection between gentrification and displacement. See Freeman & Braconi (2004) and Vigdor (2002) for two examples.

conclude that earlier-stage gentrifying neighborhoods will be more or less likely to house seniors than other neighborhoods. Therefore the nature of the relationship between concentrations of seniors and earlier-stage gentrification is unknown.

Most of the 15 demographic variables included in this analysis have the capacity to reflect the novel and assumable traits that gentrifiers seek. Other variables provide important supplementary information about gentrifying neighborhoods' demographic profiles. In the next subsection however, we examine variables indicative not of the novelty and assumability criteria gentrifiers use for consumption decisions, but of the safety criterion. Safety levels appear to be an important neighborhood trait for risk-prone and risk-averse gentrifiers in particular. As the primary null hypothesis states, if safety levels in a neighborhood are high, and if high levels of novel and assumable traits are likewise found there, the area will likely gentrify.

We now identify those variables that are in some way indicative of crime and safety levels, and provide rationales for each variable's expected behavior vis-à-vis the gentrification process.

5.2 Safety-related proxies. Violent and property crime levels are of interest to gentrifiers (with the likely exception of risk-oblivious gentrifiers) because they respectively threaten one's person and one's investment. Generally as crime rates go up, property values go down. Such home value depreciation is for the upwardly-mobile gentrifier beyond toxic, and so they invest in neighborhoods where crime is relatively low and where it can be managed or eliminated with few resources.

A number of variables are indicative of crime levels. Clearly the most valid measures are counts of property and violent crime incidents. Unfortunately, such counts are unavailable at this analysis's observation unit (the census tract), and so proxy variables must be used instead. Choosing the appropriate proxy variables is not, however, a simple task. The academic literature on crime determinants is historic and vast, and social scientists continue to disagree about which determinants are most significant.

Researchers have long seen a correlation between levels of crime and poverty rates. Recent work indicates that high poverty rates are associated more with incidents of property crime (e.g., burglary, theft, arson) than violent crime (e.g., robbery, rape,
homicide; Allen, 1996; Freeman, 1996; Kelly, 2000). High property crime rates are also strongly related with low earnings (Fagan & Freeman, 1999; Gould, Weinberg, & Mustard, 2002), low employment rates (Raphael & Winter-Ebmer, 2001), and high rates of female-headed households (Glaeser & Sacerdote, 1999). Violent crime rates are also influenced by these variables, but appear to be more a function of income inequality and social capital collapse. Research shows that violent crime rates are positively related to income inequality and negatively related to social capital (Allen, 1996; Fajnzylber, Lederman, & Loayza, 2002; Kelly, 2000).

While levels of social capital would prove a very useful proxy for violent crime levels, the concept is notorious for its operationalization difficulty. It is therefore not included in the analysis. However the "Gini coefficient," a popular measure of income inequality, is included as the independent variable "Gini."

The coefficients in "Gini" are calculated using the methodology outlined by Abounoori and McCloughan (2003). Coefficients vary from zero to one, with income inequality increasing as the coefficient approaches one. As violent crime rates are seen as being positively related to income inequality, high Gini coefficients are assumed to be indicative of high violent crime levels.

The use of "Gini" is not without problems. One problem is weak content validity in that the coefficients are calculated using family income rather than the more encompassing measure of household income. This is a concern because, as highlighted in the previous subsection, gentrifiers are likely drawn to areas with more *non-family* than family households. If a tract houses few families, or if family incomes are significantly different than non-family incomes, the tract's Gini coefficient could be biased.

A more significant concern arising from the use of "Gini" is its weak construct validity. Specifically, the amount of service the variable offers as a stand-alone violent crime proxy is limited. While previous research (Fajnzylber et al., 2002; Kelly, 2000) has shown that areas with high income inequality tend to have high rates of violent crime, other research results show violent crime rates connected to a host of other factors. Economist Steven Levitt (2004) found that American inner-city declines in both violent and property crime rates were due to increased police presences, increased incarceration, the waning crack epidemic, and the availability of abortion on demand beginning in the

1970s. From this information it can be deduced that lack of adequate police presence, weak threats of state retribution, the volume of the illicit drug trade, and the ability to access local abortion services all arise as plausible factors in violent crime rates.

In an empirical study of 1990s-era Newark, New Jersey, public health researchers Paul Speer, D.M. Gorman, Erich Labouvie, and Mark Ontkush (1998) concluded that, both at the census tract and census block group levels, violent crime rates were positively related to jobless rates, the proportion of Black residents, the proportion of female-headed households, and the density of outlets selling alcohol. Violent crime was negatively related to median household income and the proportion of Hispanic or Latino residents. The results of both the Levitt and Speer et al. studies clearly show that income inequality exists alongside many other plausible determinants of violent crime.

To summarize, "Gini" does not emerge as an ideal proxy for violent crime levels due to its weak content and construct validity. To mitigate these validity concerns, five additional independent variables are included in the analysis: "Welfare," "Poverty," "Earnings," "Jobless," and "Single Mother." Respectively the variables relay the proportion of a tract's households receiving government transfer payments, the percentage of the population living below the poverty line, the average household earnings for the tract in Year 2007 dollars, the proportion of working-age civilians that are unemployed, and the percentage of families headed by a female and containing at least one child.²⁷

Inclusion of the five additional variables will mitigate the first concern arising from the use of "Gini" (i.e., weak content validity) as it affords different means of assessing income inequality. For example, inequality can be said to be high where household earnings, numbers of impoverished persons, and numbers of welfare-receiving households are all high in the same tract. Income inequality will be high, in other words, if average household earnings are positively related with either poverty or welfare rates. In such a case, richer persons live in proximity to very poor persons, making the distribution of wealth fairly unequal or at least polarized.

²⁷ Contrary to the latter variable's name, the female may not be the child's or the children's mother, but may instead be a grandmother, an aunt, or some other guardian related to the child by blood, marriage, or adoption.

Conversely, income inequality can be said to be low when household earnings are negatively related with poverty rates and percentages of welfare-receiving households. The existence of low earnings in a tract, for example, allow for the fair assumption of high concentrations of impoverished persons and welfare-receiving households. Income levels will clearly be low in this instance, but they will be fairly evenly distributed.

In contrast to the means by which additional variables mitigate the first concern arising from "Gini," the means by which they mitigate the second concern (i.e., weak construct validity) is obvious. The inclusion of more proxies allows violent crime to be assessed on more than one dimension. Further, the crime determinants literature suggests that the five additional proxies are good indicators not only of violent crime levels, but of property crime levels as well.

It should also be noted that while each variable identified in this subsection will primarily be used to understand levels of violent and property crime, the proxies fundamentally measure different characteristics of the population. As such, they can also be viewed as demographic variables and used to formulate a more encompassing picture of neighborhood gestalt. Consideration of a neighborhood's average household earnings, for example, clearly gives an indication of the earning power of residents. As it measures the distribution of income — a facet around which members of society regularly formulate social networks — "Gini" can supplement "Diversity" as an indicator of social diversity. While these and other variables will be assessed primarily with respect to their effects on crime, they will be called upon to articulate better the demographic conditions of inner-city neighborhoods — gentrifying neighborhoods in particular.

Finally, it is unclear how each of the safety-related proxies will relate to gentrification in early censuses. Neighborhoods in earlier gentrification stages may have had relatively high poverty rates, joblessness, and income inequality, for example. However, little evidence exists showing that such tracts were exceedingly worse off economically than others in the inner-city. Given the declining state of American innercities during the late 1960s and much of the 1970s, gentrifying neighborhoods could have taken the look of economic and social oases. Due to lack of evidence, expectations of safety-related proxy performance are therefore deemed unknown for earlier censuses. As gentrification progresses and the neighborhood becomes more economically prosperous, property and violent crime levels are likely to decrease and the six proxies measuring them will change accordingly. Average household earnings are likely to increase with gentrification, and so data on average household earnings from later censuses will likely reflect a positive relationship. Data reflecting proportions of households on welfare and percentages of impoverished persons are likely to share negative relationships with later-stage gentrifying neighborhoods as such persons and households will likely not be able to afford the increases in property values and rents that gentrification brings.

Gentrifiers are more likely to be employed, and so the unemployment variable "Jobless" will likewise be negatively related to later-stage gentrification. Single-mother households — which are more likely to receive welfare payments and whose householders likely live below the poverty line — are also expected to decline. Finally, with the likely exodus of poorer residents, the gentrifying neighborhood will likely be predominately or even uniformly middle class. Incomes will likely be higher, but they will also probably be fairly evenly distributed. As such, we expect Gini coefficients to be low and for them to share a negative relationship with later-stage gentrification.

In general, it is expected that gentrification will lower violent and property crime levels and signal to potential residents that the neighborhood is safe for investing. If these expectations are met, then one aspect of the primary null hypothesis (the aspect of gentrifiers desiring safe spaces) will have been shown to be true. If the neighborhood provides not only safety, but such novel and assumable amenities as demographic diversity, other highly-educated, white collar workers, and viable alternative transportation methods, so much the better.

Of course, the quantity and quality of the neighborhood's housing stock also figure prominently in gentrifier consumption decisions. It is to the examination of these characteristics that we now turn.

5.3 Housing-related variables. As the case studies suggest, gentrifiers appear drawn to the novelty of older, architecturally-distinct housing. Being middle class members or aspirants, gentrifiers also seek to own such properties and profit from their

appreciation. Both the ability to purchase and the likelihood of profit realization increase if the property is undervalued.

To test whether a neighborhood's housing stock is older, architecturallysignificant, and undervalued, five housing-related variables are included in the analysis. The first of these, "Older Housing," measures the proportion of a tract's housing stock (vacant or occupied) built before the year 1940. The variable not only indicates the relative age of housing but, as architectural significance is highly determined by structure age, it also serves as a proxy for architectural significance. Its function as a proxy is admittedly weak however in that structure age does not *completely* determine architectural significance.

As demonstrated in the South Hyde Park and Wicker Park cases, risk-oblivious and some risk-prone gentrifiers are often drawn to older structures and areas with high concentrations of them. Such traits are novel in the context of expanding metropolitan areas. Therefore it is expected that, in earlier censuses, concentrations of older housing will likely share a positive relationship with gentrification. As gentrification progresses, more gentrifiers will move in and likely preserve and rehabilitate other older housing structures. Because of this, the positive relationship will likely be sustained.

Two of the five housing-related variables are used to examine neighborhood real estate values. "Avg. Value" relays the average likely sale price of property in the neighborhood. "Avg. Rent" is the average amount of money renters pay in rent alone, otherwise known as "contract rent."

Negative relationships are expected for both variables in earlier censuses due to property undervaluation. However as gentrification progresses, property values and rents are likely to increase. These increases will likely change the negative relationships seen in earlier stages of gentrification to positive ones.

A third variable, "Vacant," also provides some indication on neighborhood property values. Measuring the proportion of housing stock that is unoccupied, the variable is likely to share a negative relationship with average property values. As property values decrease, for example, vacancy rates are likely to go up.

"Vacant" also provides insight on a neighborhood's gestalt. Areas with relatively high vacancy rates will likely be some of the inner-city's poorest, most dilapidated, and

most crime-ridden areas. Areas with the lowest vacancy rates will likely be, by contrast, quite prosperous and in high demand by consumers. "Vacant" therefore provides a window not only on a neighborhood's property value, but also on its quality of life.

Per the same reasons as average property value and average contract rent, we expect the neighborhood vacancy rate to share a positive relationship with earlier-stage gentrification and a negative relationship in later censuses. The continued influx of gentrifiers will likely transform the neighborhood from one of low property values and quality of life to one wherein property values and quality of life are improved and, perhaps, relatively high.

The final variable, "Rented Housing," is a tracking variable used to verify whether gentrifiers do indeed use real property to join the middle class. The variable identifies the proportion of a neighborhood's housing units occupied by renters.

Due to their housing high proportions of lower-class members, early census data will likely show gentrifying neighborhoods having high percentages of renters. As such we expect "Rented Housing" to share a positive relationship with early-stage gentrification. As more gentrifiers move into the neighborhood, however, housing will likely be converted from renter-occupancy to owner-occupancy. It is also likely that renters will be displaced. The likely increase in owner-occupied housing and displacement of renters will likely lead to the variable sharing a negative relationship with gentrification in its later stages.

6. Summary

This dissertation's primary purpose is to articulate a gentrification theory. It hypothesizes that gentrification will most likely occur in safe spaces with a preponderance of hedonic traits demanded by gentrifiers. What makes these traits hedonic is that they are, in the context of metropolitan areas, novel. The traits are also desired because of their assumability, serving as clear reflections of the gentrifier's identity. Examples of such traits include the existence of racial, ethnic, and social diversity; older, architecturally-significant, and relatively inexpensive housing; high concentrations of other persons who are college-educated, white collar workers, and persons in non-family households; and the ability to use regularly alternative transportation means for work commuting. Twenty-six variables have been identified,

each reflecting the existence and extent of these desired traits, or indicating whether the spaces in which they are found are relatively safe.

With identification of these variables, we may now examine the extent to which their referents must be present in neighborhoods for gentrification to occur. Determining this will allow for the articulation of a gentrification theory. We pursue both endeavors in the next chapter.

Chapter 3 Theory Articulation

It has been asserted that gentrifiers are much like other metropolitan consumers in that they settle in areas with an abundance of traits they find amenable. Scholars have not been able to agree, however, on exactly what these traits are. Gentrification has been associated with the preservation of old, historic buildings in one city and 1950s-era California bungalows in another. A light rail station appears to spur gentrification in one neighborhood, but not for the neighborhood with the station down the line. This contingent nature of gentrification research findings has worked to vacate a very useful term of almost all meaning. This loss sets the stage for the term's loading and, inevitably, its dismissal.

This dissertation hopes to rejuvenate the term by consolidating gentrification's contingencies into a workable theory. The present chapter outlines the methodology used to fulfill this primary purpose. It begins with an explanation of how gentrifying and non-gentrifying areas were selected for this study. From there, it provides information about the data sources used in the analysis, and describes the two models used to examine the data: one descriptive, the other predictive. Results of the descriptive model will inform the predictive one, and the latter will be relied upon to articulate a gentrification theory. Three different modalities will be used to test the theory's predictive power, and the chapter will conclude with a discussion of the predictive model's drawbacks.

1. Neighborhood Selection

To populate a sample of gentrifying tracts, Lexis/Nexis searches were conducted to find news articles describing neighborhoods that were in a state of gentrification during the 1990s. Neighborhoods were selected as part of this "treatment" group if the articles described them as: (1) transitioning from a working class, poor, run down, or crime-ridden area to one wherein wealthier individuals are choosing or have chosen to invest; (2) experiencing sharp, sudden increases in the ratio of owner-occupied to renteroccupied housing; (3) attracting newer, more upscale businesses; or (4) experiencing displacement of long-standing residents due to increases in rent and/or property value. Only one of the four conditions needed to be met for inclusion to the gentrifying sample.

Milwaukee's Brewers Hill neighborhood was included in the gentrification group due to the existence of news reports similar to the following excerpt:

> Nothing compares to the giddiness of a long-besieged neighborhood realizing its communal efforts have paid off except maybe its angst over the tax ramifications.

New property assessments brought joy, then dismay this month to businesses in the Historic King Drive Business Improvement District, as well as to Halyard Park and Brewers Hill homeowners. Together, they are slowly resurrecting the area north of downtown between Interstate 43 and the more upscale east side.

Their neighborhoods leaped in value from 1996 to this year, far outpacing the city's 7.5% residential and 10% commercial gains. (Derus, 1998).

Boston's South End neighborhood was also included in the treatment group. Reports about the neighborhood during the 1990s generally possessed the following tenor:

This townhouse is right on the brink of what promises to be the next up-and-coming neighborhood.

The South End, long known for its pockets of gentrification, has many areas undergoing renovation that could restore them to their former glory. One such place is the lot abutting 462 Shawmut Avenue.

Now empty, it will soon be transformed into single-family townhouses, and a health center, complete with underground parking. A pedestrian walkway will run behind the house, and a new street will be formed. (Jones, 1996).

In the first excerpt, Brewers Hill was "slowly resurrecting," transitioning from a "long-besieged" neighborhood to one with "leaping" property values higher than the city's average. Such language indicates that wealthier households are moving into the once run-down neighborhood. Brewers Hill was therefore added to the gentrification group because changes there were in accordance with the first criterion of inclusion. Likewise, South End was included in the gentrification group due to the neighborhood's prevalence of renovation projects: run down structures being bought and rehabilitated by, in all likelihood, wealthier entities. Using this method, 30 gentrifying neighborhoods were identified across 24 cities. A list of all neighborhoods included in the gentrification group, as well as citations of those articles used to justify their inclusion, is provided in Appendix B.

Criteria also existed for non-inclusion. Neighborhoods containing major public projects such as greenfield redevelopment initiatives with high governmental leveraging or HOPE VI developments were not included in the treatment group. Preference was given to those neighborhoods with news reports indicating significant private household investment rather than public investment. Private household investment was seen as indicative of a more "organic" type of gentrification: gentrifiers using their own resources to create a space that reflects various facets of their identity.

By contrast, governmental or publicly-financed gentrification does not reflect gentrifiers attempting to nurture and promote identity facets. Rather, they are attempts to reflect those hedonic traits believed to be demanded by gentrifiers or middle class persons generally. An example of this kind of gentrification can be seen in "The Banks," a riverfront redevelopment project approved by Cincinnati's City Council in November, 2007. Plans for the project reflect a variety of "New Urbanist" principles: The 18-acre site will contain apartment buildings, condominiums, office complexes, retail shops, and a park (Brown, 2007). Though it will possess many of the amenities that gentrifiers find attractive — including diversity of uses, ability to interact with different people, walkability, and proximity to downtown — it is unlikely that risk-oblivious and riskprone gentrifiers will be able to afford living there. Loft condominiums in Atlantic Station, a similar redevelopment project in Atlanta, range in price from \$340,000 to \$750,000 (Newberry, 2006). At the low end, such prices are 629 percent of the Atlanta Metropolitan Area's 2005 median household income, and 706 percent of Metropolitan Cincinnati's. The gestalts of neighborhoods like The Banks, Atlantic Station, or the similarly redeveloped downtown area of New Brunswick, New Jersey (see Hackworth, 2007) are not the result of years of evolution. Instead, public funds are invested to create a gestalt worthy of immediate consumption. The gentrification that occurs therefore is not organic but planned. Loretta Lees has referred to this form of redevelopment as "super-gentrification" — gentrification on a scale so grand it requires public-private partnerships to bring it to fruition (2003). Neighborhoods with media accounts describing this kind of redevelopment are not seen as meeting the spirit of gentrification described here, and are therefore not included in the treatment group.

Neighborhoods with news reports indicating residents' desire for or formulation of improvement plans were also not included in the treatment group. This criterion was used to exclude neighborhoods like Richmond in Portland, Oregon. A story in the March 8, 1993 edition of *The Oregonian* reported that neighborhood residents were formulating a plan to reduce crime, increase stability, and retain stocks of affordable housing (Cargill, 1993). That such an endeavor would be undertaken indicates that residents sought to move the neighborhood from a state of instability to stability and from one wherein incidences of crime were relatively high to one wherein crime was less prevalent. The report indicates that the Richmond neighborhood was not, as of 1993, in the midst of such a transition. It was apparent that residents hoped the plan would make that transition a reality. Because the desire for or formulation of neighborhood improvement plans is indicative of a lack of neighborhood transitioning (or, at best, the existence of slow transitioning), neighborhoods with such reports were not included in the treatment group.

Using street addresses, major intersections, and business names published in the news reports, neighborhood boundaries were identified. As neighborhood boundaries are fundamentally subjective, additional sources such as Google Maps, and the web pages of neighborhood improvement associations and municipal governments were consulted for corroboration. Once neighborhood boundaries were estimated, Year 2000 census tract boundary maps were consulted to find those tracts largely coinciding with neighborhood boundaries. Using this method, 106 gentrifying census tracts were identified.

To populate a "control" group of non-gentrifying tracts, 30 percent of the city's remaining tracts were chosen randomly.²⁸ Census tracts in suburban areas and those that were only partially within city limits were excluded from the sample frame. Using this method, 1,916 non-gentrifying census tracts were identified.

2. Data

Data are taken from the 1970, 1980, 1990, and 2000 decennial United States Censuses. Census data was extracted from the GeoLytics Corporation's *Neighborhood*

²⁸ This "30 percent rule" does not apply to New York City. Selecting 30 percent of that city's census tracts would have significantly increased the size of the database. Instead, selection was limited to the counties of New York and Kings (i.e., the "boroughs" of Manhattan and Brooklyn, respectively), for gentrifying tracts were likewise found in those two counties.

Change Database (1970-2000). This database was used because of its incorporation of tract boundary changes that may have occurred over the three decades. The data is "normalized" such that older tract boundaries conform to those of the Year 2000 census. This normalization allows for consistent tract comparisons from decade to decade (2003).

To normalize tract boundaries, the GeoLytics Corporation used a geographic information system to compare tract boundary changes between the 2000 Census and each of the earlier censuses. If Year 1990 tracts combined to form one tract in the Year 2000 census, the two 1990 tracts were combined to serve as the basis for comparison. If Year 1990 tracts split into one or more pieces in the Year 2000 census (as was more common), tract comparability was achieved by determining the proportion of the population living in the portions comprising the Year 2000 tract. To find this proportion, the GeoLytics Corporation used 1990 data for a smaller geography unit: the census block. The 1990 block data was used to determine the proportion of persons in the 1990 tract that helped comprise the 2000 tract. The calculated weights were then applied to 1970, 1980, and 1990 tract-level variables. Data used in this analysis, therefore, is weighted; one should not expect equal values between the data used here, and the data compiled by the Census Bureau in earlier censuses (Tatian, 2003).²⁹

The nominal values on each independent variable may differ significantly by city. New York City, perhaps this country's most racially- and ethnically-diverse city, will likely have higher diversity index scores than, say, St. Louis. The consistently higher diversity values for New York and other large cities will likely bias results on that variable. To increase the capacity of comparability across cities for this and other variables, each nominal value was expressed as a percentage of the city's median value.³⁰ The resultant number is hereafter referred to as the "percent-median score."

²⁹ Incidentally, the GeoLytics Corporation includes two variables in its database that identify the percentage of Year 2000 census blocks covered by years 1970 and 1980 census tracts. For every tract included in the present study, Year 2000 census blocks were completely within the 1970 and 1980 tracts. While the number of census blocks may have changed over time, it is highly unlikely that tract boundaries changed during the observation period.

³⁰ The city's median value on an independent variable is a *derived* rather than a census-reported value. The value is derived by finding the median in a population of census tract-level nominal values. The census tracts used must have been completely within city limits during the Year 2000, and therefore earlier, censuses.

The percent-median score is therefore the ratio of a tract's nominal value on an independent variable to the city's derived median value on that same variable. If the median value of the diversity index for the sample of St. Louis tracts is 0.20, and the diversity index value for Soulard, St. Louis's gentrifying tract, is 0.60, the tract's percent-median score is

$$\frac{TractValue}{CityMedianValue} = \frac{0.60}{0.20} = 3.00$$

This particular percent-median score indicates that Soulard has a diversity index score 300 percent of the City of St. Louis's median diversity index score. If Soulard's percentmedian score equaled 1, then the neighborhood would have levels of diversity equal to those of the city as a whole.

In general, percent-median scores below 1 indicate that a tract has relatively low nominal values on the variable and scores above 1 indicate that the tract has relatively high nominal values. As gentrification is associated with relatively high amounts of racial and ethnic diversity, it is expected that Soulard and other gentrifying tracts will consistently possess percent-median scores greater than 1.

Percent-median scores rise over time when tract nominal values increase faster than city medians, when city medians decrease faster than tract nominal values, or when nominal values increase and city medians remain stable or decrease. Percent-median scores fall over time when tract nominal values decrease faster than city medians, when city medians increase faster than tract nominal values, or when city medians increase and nominal values remain the same or decrease.

It should be noted that large amounts of Year 1970 nominal values are missing for five variables: "Share Other," "Welfare," "Jobless," "Avg. Value," and "Avg. Rent." This is due primarily to data suppression by the U.S. Census Bureau. Prior to 1990, the Bureau often suppressed data, particularly at the census tract level, to prevent persons from using the data to identify individuals. Though census tracts often contain thousands of individuals, there may be few residents who are members of a racial or ethnic minority group, receive welfare payments, or are unemployed. The Bureau opted to suppress information on these variables to protect these individuals (Tatian, 2003).

A secondary reason for missing data, particularly in the case of the "Avg. Value" and "Avg. Rent" variables, was the non-existence of either renter-occupied or owneroccupied housing in a tract. The former variable is calculated by dividing the number of detached, single-family homes located in a tract (known as "specified owner-occupied housing") by the aggregate value of housing in that tract. In cities like New York, Boston, and Philadelphia considerable amounts of housing do not meet this definition. Likewise the "Avg. Rent" variable is calculated by dividing renter-occupied housing by aggregate rent, but some census tracts contained few or no renter-occupied housing, resulting in missing values.

Due to their large numbers of missing values, these four variables are excluded wherever Year 1970 data is used. They are however included when other years are examined.

Descriptive statistics for each of this study's 26 independent variables are provided in Appendix A. We now turn to a discussion of the various models that will be used to evaluate the data.

3. Models

This research makes use of two different models: one descriptive, the other predictive in nature. Both models are used to explain the various differences existing between gentrifying and non-gentrifying tracts. However the second, predictive model identifies those variables that, controlling for others, are statistically significantly related to tract gentrification. These models will be used to formulate and test a theory of gentrification's occurrence.

In the descriptive model, a narrative of gentrifying tract trajectory is provided by examining the percent-median scores for each of this study's 26 independent variables. Gentrifying and non-gentrifying tract nominal values are also contrasted for a more thorough understanding of gentrifying neighborhoods and gentrifier preferences.

The predictive model will be used to pinpoint those variables significantly related to tract gentrification. It is composed of a series of four logit regression models — one using the independent variables from each decade. Where appropriate, the results of the descriptive model will be used to sharpen the analysis of the predictive model results.

In this study a census tract is considered either to be "gentrifying" or not. The probability that an individual tract will be gentrifying ($P_{gentrifying}$) or not $(1 - P_{gentrifying})$ is modeled using the cumulative logistic probability function. The model begins by assuming that gentrification is determined by an observable ("latent") variable Z that is a linear function of a set of observable variables X:

$$Z_i = \alpha + \beta X_i$$

where α and β are estimated parameters.

The probability that the tract will be gentrifying will equal 1 if the estimated value of Z is greater than zero using the cumulative logistic probability function

$$\frac{1}{1+e^{-Z_i}} = \frac{1}{1+e^{-(\alpha+\beta X_i)}} \,.$$

Rearranging terms in the above equation, it can be shown that

$$ln\left[\frac{P_i}{1-P_i}\right] = Z_i = \alpha + \beta X_i \,.$$

Parameter estimates for each independent variable X_i yield the natural logarithm of the odds ("logit") that a tract will be gentrifying (Johnson, Joslyn & Reynolds, 2001, pp. 412-418; Pampel, 2000; Pindyck & Rubinfeld, 1998, pp. 304-309).

Using many of the independent variables, logit models are specified for each decennial census year. This is done to identify those independent variables that were most important to a gentrifying tract's development over the 30-year period.

Each logit model is specified using backward selection stepwise regression to articulate the most parsimonious gentrification theory. Stepwise methods are often useful when (as in the present case) theories about the unit of analysis are inchoate or non-existent (Kachigan, 1991). The backward selection variety of stepwise regression entails beginning with a model with all 26 independent variables included and performing a series of hypothesis tests to eliminate those variables that, upon examining their partial correlation coefficients, are likely not to be related to the phenomenon. The hypothesis test conducted in this case is a likelihood-ratio F-test. If the test value for the variable is not significant at the $\alpha = 0.20$ level, the variable is excluded.

As stepwise models pre-select variables that explain a significant amount of variation in the dependent variable, hypothesis tests for levels of significance will likely be biased. This is because significance tests assume that the model is correctly specified, that is the model corresponds to or reflects a pre-existing theory. However, stepwise methods are used to articulate rather than test a theory, and variables emerging from the stepwise selection process are seen as best explaining the unit of analysis. As such variables are "the best," significance tests will almost always show that the included independent variables are significantly related to the dependent variable. Because of this, significance tests performed on variables in each resultant stepwise model are looked upon with skepticism.

Stepwise models also perform best when correlation coefficients between independent variables are not high, that is where multicollinearity is low. As shown below in Table 2, a number of 1990 Census variables share high correlation coefficients.³¹ For example the variable "Poverty" is, according to data from the 1990 Census, highly correlated with the variables "Single Mother," "Jobless," and "Welfare." To minimize multicollinearity, one of the variables sharing a highly correlated relationship with another in any of the four censuses was not included in the stepwise regression models. This stipulation prompted the exclusion of three variables: "White Collar," "Poverty," and "Welfare." The variable "Share White" was also excluded from the modeling process as it served as a reference group for the included "Share Black," "Share Other," and "Share Hispanic" variables.

As results of the predictive model will be interpreted in light of the descriptive model's findings, we turn our attention to the latter first. The descriptive model's results are provided in the next section.

³¹ "High correlation coefficients" are seen here as those with absolute values greater than or equal to 0.75. Correlation coefficients for independent variables from all censuses are provided in Appendix A.

Table 2

Correlation Coefficients for Census Year 1990 Variables

	Diversity	Share White	Share Black	Share Other	Share Hispanic	Child	Senior	Transit	Walk/Bike	Married & Child	Pers/HH	Turnover	College Grad	White Collar	Non-family	Single Mother	Jobless	Gini	Poverty	Welfare	Earnings	Vacant	Rented Housing	Older Housing	Avg. Value
Diversity	1.00																								
Share White	0.07	1.00																							
Share Black	-0.07	-0.33	1.00																						
Share Other	0.35	0.10	-0.14	1.00																					
Share Hispanic	0.43	-0.04	-0.11	0.07	1.00																				
Child	0.00	-0.35	0.30	-0.09	0.20	1.00																			
Senior	-0.16	0.16	-0.10	-0.06	-0.16	-0.37	1.00																		
Transit	-0.01	-0.21	0.18	-0.06	0.00	0.13	0.03	1.00																	
Walk/Bike	0.20	0.05	-0.02	0.17	0.09	-0.28	-0.04	0.19	1.00																
Married & Child	0.14	0.28	-0.35	0.17	0.16	0.21	-0.20	-0.26	-0.19	1.00															
Pers/HH	0.03	0.00	0.03	0.00	0.03	0.00	-0.08	0.01	0.16	0.03	1.00														
Turnover	0.39	0.11	-0.08	0.21	0.16	-0.17	-0.30	0.02	0.38	0.06	0.06	1.00													
College Grad	0.03	0.42	-0.25	0.12	-0.15	-0.52	0.16	-0.20	0.09	0.10	-0.07	0.25	1.00												
White Collar	0.00	0.43	-0.24	0.12	-0.20	-0.50	0.19	-0.27	0.06	0.15	-0.06	0.20	0.89	1.00											
Non-family	0.17	0.16	-0.06	0.07	-0.06	-0.60	0.27	0.11	0.37	-0.30	-0.06	0.46	0.41	0.37	1.00										
Single Mother	0.05	-0.38	0.60	-0.12	0.11	0.57	-0.24	0.36	0.05	-0.40	0.01	0.08	-0.41	-0.43	-0.05	1.00									
Jobless	-0.02	-0.36	0.54	-0.10	0.11	0.47	-0.13	0.38	0.13	-0.37	0.02	-0.01	-0.45	-0.47	-0.09	0.72	1.00								
Gini	0.01	0.19	-0.15	0.05	-0.06	-0.22	0.22	-0.09	-0.03	0.12	-0.10	0.08	0.42	0.45	0.25	-0.24	-0.27	1.00							
Poverty	0.07	-0.36	0.49	-0.05	0.21	0.44	-0.13	0.47	0.22	-0.38	0.01	0.09	-0.43	-0.48	0.05	0.77	0.77	-0.24	1.00						
Welfare	-0.02	-0.37	0.58	-0.10	0.13	0.50	-0.08	0.45	0.10	-0.38	0.02	-0.08	-0.45	-0.49	-0.09	0.78	0.78	-0.25	0.85	1.00					
Earnings	-0.15	0.39	-0.27	0.01	-0.17	-0.25	0.18	-0.30	-0.15	0.31	-0.02	-0.06	0.64	0.69	-0.01	-0.47	-0.47	0.41	-0.53	-0.46	1.00				
Vacant	0.10	-0.14	0.27	-0.01	0.08	0.03	-0.07	0.19	0.25	-0.31	-0.02	0.27	-0.06	-0.10	0.26	0.34	0.37	-0.06	0.41	0.33	-0.21	1.00			
Rented Housing	0.25	-0.17	0.14	0.09	0.17	0.00	-0.12	0.32	0.39	-0.25	0.05	0.52	-0.09	-0.14	0.53	0.45	0.34	0.01	0.50	0.35	-0.43	0.25	1.00		
Older Housing	0.02	-0.06	0.00	-0.03	0.05	-0.03	0.12	0.25	0.15	-0.06	0.07	-0.01	-0.05	-0.07	0.13	0.04	0.10	0.03	0.20	0.16	-0.08	0.08	0.14	1.00	
Avg. Value	-0.05	0.40	-0.26	0.08	-0.13	-0.33	0.16	-0.18	-0.03	0.20	-0.06	0.13	0.69	0.66	0.21	-0.36	-0.39	0.48	-0.38	-0.38	0.68	-0.14	-0.14	-0.01	1.00
Avg. Rent	-0.06	0.35	-0.23	0.04	-0.15	-0.23	0.07	-0.30	-0.14	0.31	-0.03	0.11	0.56	0.62	0.05	-0.43	-0.46	0.34	-0.51	-0.48	0.71	-0.19	-0.34	-0.12	0.52

** Coefficients reflect correlation of percent-median scores

4. Descriptive Model Results & Discussion

The descriptive model is a narrative emerging from examinations of gentrifying tract percent-median scores and median nominal values for both gentrifying and non-gentrifying tracts. The narrative is structured to track gentrifying and non-gentrifying tract evolutionary paths along demographic, safety, and housing-related dimensions. The variables comprising each dimension will be examined in turn, and plausible hypotheses will be offered for the character of each variable's trend. Where appropriate, the interdependence of two or more variables' trends will also be examined. We turn first to a discussion of demographic variables.

4.1 Demographic variables. Table 3 provides gentrifying tract percent median scores and median nominal values for 17 independent variables. Fifteen are the aforementioned demographic variables while two — "Gini" and "Single Mother" — are safety-related proxies that are essentially demographic in character.

Table 3

Demographic Variables: Median P-M Scores and Nominal Valu	es
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	١	Gentrifyi Median P-	ing Tract M Scores	*	Median Nominal Values										
.,					19	70	19	80	19	90	20	00			
Variable	1970	1980	1990	2000	Gntrf	Othrs	Gntrf	Othrs	Gntrf	Othrs	Gntrf	Othrs			
Diversity	2.134	1.693	1.363	1.110	0.338	0.137	0.435	0.214	0.449	0.298	0.444	0.381			
Gini	1.137	1.126	1.184	1.123	0.301	0.268	0.351	0.303	0.333	0.281	0.360	0.319			
Share White	0.902	1.029	1.238	1.839	0.784	0.877	0.709	0.724	0.704	0.569	0.698	0.420			
Share Black	1.945	1.062	0.742	0.546	0.022	0.014	0.061	0.057	0.068	0.091	0.068	0.121			
Share Other		1.730	1.361	1.292			0.023	0.013	0.029	0.020	0.043	0.033			
Share Hispanic	3.514	2.154	1.965	1.275	0.124	0.025	0.119	0.036	0.117	0.048	0.104	0.068			
Turnover	1.126	1.202	1.247	1.236	0.551	0.474	0.546	0.440	0.611	0.445	0.589	0.447			
Senior	1.126	1.050	0.881	0.754	0.120	0.102	0.118	0.112	0.101	0.114	0.079	0.104			
Child	0.896	0.837	0.672	0.525	0.275	0.316	0.200	0.257	0.152	0.241	0.130	0.251			
Married & Child	0.927	0.916	0.924	0.911	0.369	0.400	0.287	0.315	0.273	0.280	0.255	0.275			
Single Mother	1.522	1.160	0.943	0.748	0.094	0.060	0.133	0.098	0.104	0.112	0.100	0.128			
Non-family	1.734	1.698	1.669	1.724	0.376	0.215	0.531	0.300	0.568	0.326	0.638	0.354			
Pers/HH	0.870	0.803	0.843	0.775	2.642	3.052	2.178	2.707	2.208	2.650	2.068	2.632			
College Grad	0.772	1.680	1.924	2.625	0.033	0.035	0.121	0.067	0.214	0.094	0.356	0.115			
White Collar	0.837	1.183	1.322	1.702	0.159	0.175	0.248	0.210	0.360	0.260	0.509	0.297			
Transit	1.274	1.266	1.290	1.249	0.350	0.246	0.337	0.232	0.300	0.195	0.286	0.179			
Walk/ Bike	1.826	2.177	2.047	1.996	0.134	0.071	0.133	0.066	0.109	0.055	0.096	0.050			

*Note: Median non-gentrifying tract P-M scores approximate 1

Six of the 17 variables — "Diversity," "Gini," "Share White," "Share Black," "Share Other," and "Share Hispanic" — relay information on tract levels of racial, ethnic, and social diversity levels. Table 3 shows that gentrifying tracts were, in 1970, among the most ethnically-, racially-, and socially-diverse tracts of their cities. Percent-median scores on "Diversity" and "Gini" were above 1 in that year. Gentrifying tracts contained proportions of Whites slightly below city medians, but they also housed relatively high numbers of Blacks and even higher numbers of Hispanics.

After 1970, gentrifying tract levels of racial, ethnic, and social diversity began to change. These changes are better captured by "Diversity" than "Gini," whose percent-median scores hovered just above city medians, and whose nominal values in both gentrifying and nongentrifying tracts appeared to move in tandem.³²

By contrast, data on "Diversity" show gentrifying and non-gentrifying tracts evolving quite differently. Gentrifying tract percent-median scores were 213 percent of city medians in 1970. However by 2000 they had fallen to 111 percent. The drop indicates that over time gentrifying tracts became less racially, ethnically, and (likely) socially diverse relative to other inner-city tracts.

The percent-median score drop in "Diversity" was due to stagnation of gentrifying tract median nominal values beginning in the 1980s. Table 3 shows that median nominal values stayed near 0.44 from 1980 to 2000. Values for non-gentrifying tracts, however, steadily increased over the 30-year period, reaching 0.38 by 2000. The sharp rise in non-gentrifying tracts' diversity index scores and the stagnation of such scores in gentrifying tracts resulted in the P-M score declines.

The stagnation on "Diversity" seen in gentrifying tracts was the result of Whites not fleeing gentrifying tracts to the scale seen in non-gentrifying tracts. In non-gentrifying tracts, for example, concentrations of Whites plummeted from a median of 88 percent in 1970 to 42 percent by 2000. However since the 1980s Whites have consistently comprised upwards of 70 percent of gentrifying tract populations.

The sustained presence of Whites in gentrifying tracts was, in all likelihood, *not* due to resistance to "White flight." Results of a linear regression analysis on the variable "Turnover" (shown in Table 4) indicate that during the 1970s Whites did in fact leave gentrifying tracts, though not at a statistically significant rate. As the variable "College Grad" is also included in

 $^{^{32}}$ It is unclear why the median nominal values on "Gini" appear to move not only in similar directions but by similar magnitudes. One explanation for this phenomenon may be the interplay of changes in inner-city jobless rates and changes in the overall money supply. The 1970s era of rising unemployment and inflation that much of the country experienced may have contributed to incomes being much less equally distributed, resulting in across-the-board rises in Gini coefficients. Decreases in joblessness, coupled with deflationary pressures, may have worked to rein in the income disparities during the 80s. The economy of the 1990s — a period of economic expansion, inflationary pressures, and divergent earnings levels depending on one's occupation and work industry — likewise could have contributed to increased levels of inequality.

Table 4

	1	970-1980		1	980-1990		1990-2000				
Percent Change in:	Coef (Std Err)	t	Std Coef	Coef (Std Err)	t	Std Coef	Coef (Std Err)	t	Std Coef		
Share White	-0.182 (0.105)	-1.74	-0.592	0.149 (0.199)	0.75	0.307	-0.718 (0.201)	-3.57**	-2.048		
Share Black	0.013 (0.007)	1.82	0.517	0.020 (0.012)	1.62	0.543	0.038 (0.046)	0.83	0.295		
Share Hispanic	0.030 (0.047)	0.63	0.190	0.083 (0.039)	2.11*	0.706	0.016 (0.014)	1.19	0.432		
Gini	0.265 (0.168)	1.57	0.497	0.288 (0.143)	2.02*	0.692	0.194 (0.107)	1.81	0.744		
Senior	-0.118 (0.121)	-0.97	-0.349	-0.546 (0.121)	-4.52**	-1.527	-0.165 (0.088)	-1.88	-0.722		
College Grad	0.055 (0.016)	3.42**	1.017	0.080 (0.038)	2.12*	0.646	0.095 (0.035)	2.67**	1.034		
Non-Family	0.255 (0.198)	1.29	0.535	1.680 (0.288)	5.84**	2.486	0.611 (0.253)	2.42*	1.138		
Poverty	-0.060 (0.105)	-0.57	-0.206	0.019 (0.129)	0.15	0.065	-0.079 (0.115)	-0.69	-0.264		
Welfare	-0.022 (0.062)	-0.36	-0.159	0.115 (0.065)	1.78	0.596	0.047 (0.065)	0.72	0.275		
Single Mother	0.061 (0.037)	1.66	0.699	-0.036 (0.061)	-0.59	-0.225	0.005 (0.033)	0.16	0.057		
Married & Child	0.036 (0.158)	0.23	0.092	-0.320 (0.146)	-2.20*	-0.790	0.308 (0.087)	3.55**	1.569		
Tract Population	-0.733 (0.494)	-1.48	-1.460	1.815 (0.373)	4.87**	2.969	-0.748 (0.578)	-1.29	-1.026		
Tract Housing Units	0.805 (0.433)	1.86	1.507	-1.178 (0.470)	-2.51*	-1.376	0.850 (0.507)	1.68	1.059		
Vacant	-0.047 (0.049)	-0.97	-0.349	0.170 (0.071)	2.40*	0.861	-0.720 (0.112)	-6.43**	-2.662		
Rented Housing	-0.127 (0.275)	-0.46	-0.177	-0.922 (0.274)	-3.36**	-1.267	-2.158 (0.378)	-5.71**	-2.248		
Adj. R ² (N)		0.724 (63)			0.661 (88)			0.660 (86)			

Factors Influencing Gentrifying Tract Turnover Linear Regression Results using Nominal Values

* $p \le 0.05$; ** $p \le 0.01$

the linear regression model, and as there is a high correlation between the variables "Share White" and "College Grad,"³³ it is likely that the Whites moving out of gentrifying tracts had not graduated college and were members of the lower and working classes. Anecdotal evidence from St. Louis's Soulard neighborhood and from Pittsburgh's South Side Flats supports this

³³ The correlation coefficient matrix for 1980 shows that the variables "Share White" and "College Grad" share a positive, yet weak correlation of 0.39. Of the four race/ethnic variables, the correlation coefficient was highest on "Share White." "Share Hispanic" and "Share Black" were each negatively correlated with "College Grad." For the actual correlation coefficients, see Appendix A.

latter contention of a working-class White exodus from gentrifying tracts during the 1970s (Levins, 1998; O'Toole, 2006; Sharon, 1996).

Given gentrifying tract increases in the concentrations of college graduates (likely most of whom were White during the 1970s), and given drops in the concentrations of Whites *ceteris paribus*, gentrifying tracts' more successful retention of Whites as seen in median nominal values was likely a result of non-college-educated, working class Whites being replaced by college-educated, middle class Whites. Standardized coefficients reported in Table 4 indicate that this influx of wealthier Whites more strongly influenced turnover than the outflow of working-class Whites. If Hispanics and Blacks together had not also replaced these fleeing Whites in greater measure, the concentration of Whites in gentrifying tracts would have likely been higher than the 71 percent seen in 1980.

The sustained high concentration of Whites in gentrifying tracts beginning in the 1980s surprisingly occurred alongside a steady, relative decline in ethnic and racial minority concentrations. This occurrence is clearly visible in Table 3. An example can be seen with the variable "Share Hispanic," the percent-median scores of which declined over the study period. The declining scores were the result of steady share declines in gentrifying tracts but steady share increases in other parts of the inner-city.

Percent-median scores also declined on the variables "Share Black" and "Share Other" during the 1980s. These declines were different from the declines seen in "Share Hispanic" in that they were caused by population share increases that were much higher in non-gentrifying than gentrifying tracts.

With regard to minority populations, in essence, gentrification worked to shrink alreadyhigh shares of Hispanics, but also worked to curtail growth in the shares of non-White persons.

With these findings, one may conclude that there is some merit to the assertions of previous research that the process of gentrification results in a "whitening" of a neighborhood's population. However this whitening does not appear to entail wholesale influxes by Whites and consequent and equal exoduses of non-Whites. In gentrifying tracts, proportions of ethnic and racial minorities generally stayed the same over the 30-year period. Longstanding White residents did move out but, in contrast to other inner-city tracts, they had a strong probability of being replaced by other Whites.

In short the racial, ethnic, and social composition of gentrifying areas was, relatively, quite stable. Ironically, however, this stability led to gentrifying tracts experiencing a relative decline in diversity levels — declines due to rising minority populations in other parts of the inner-city.

While gentrifying tracts may have witnessed little in the way of racial and ethnic change, they experienced much in the way of generational and household character changes. Five variables were used to track these changes. "Senior" and "Child" accounted for a tract's top and bottom age cohorts, while "Married & Child," "Single Mother," and "Non-family" accounted for persons in cohorts representing ages 18 to 45. Persons of such ages, moreover, are likely to be living in one of these three household arrangements.

Percent-median scores for each of these variables either consistently declined or consistently increased over the three decades. As a result, explanations for each variable will center on the overall 30-year trend and not on decade-by-decade changes.

We begin with the downward trends seen on "Senior." Table 3 shows that gentrifying tracts entered the 1970s with relatively high concentrations of seniors, but by the end of the 1990s had concentrations that were comparatively quite low. The percent-median score drop was caused by share stability in non-gentrifying tracts, but consistent share declines in gentrifying ones.

The reason for the share declines is unclear, but they are likely explained by seniors' general inability to absorb the increased living costs often brought on by gentrification. The declines could also be the result of seniors simply aging in place and living the remainder of their lives in their homes.

The declines seen in the shares of seniors occurred alongside rises in the shares of younger, childless adults. These rises can be seen by examining nominal value trends on "Child," "Married & Child," "Single Mother," and "Non-family."

With regard to the first variable, shares of children were by 1970 already low in gentrifying tracts. The proportion of gentrifying tract populations that were children were in 1970 about 90 percent of city medians, and they typically comprised a little more than a quarter of the population. By 2000, both their population shares and percent-median scores would shrink to 13 percent and 0.53 respectively (Table 3).

Declines on "Child" were largely due to twin drops in the shares of both traditional and single-mother family households. The reasons for each household's share decline differ however, and these differences can be gleaned with closer examination of their nominal values.

In the case of traditional families, share declines occurred not just in gentrifying tracts but across the city. This is readily apparent in Table 3. The declines imply that traditional families were largely drawn to the safer, conservative, more family-friendly environs of suburban jurisdictions.³⁴

By contrast, single-mother families likely fled gentrifying tracts for other inner-city tracts rather than suburbia. With a high correlation existing between the prevalence of single-mother families and the percentage of persons living in poverty (Table 2), it is likely that such families largely could not afford to relocate to suburbia. It is also likely that those single-mother families living in market-rate housing could not afford the increased living costs typically associated with gentrification.

As a result of the cost increases, shares of single-mother families gradually declined in gentrifying tracts. If the findings of Lance Freeman's (2006) study of New York City's Harlem and Clinton Hill neighborhoods are any indication, these families likely relocated to tracts adjacent to those experiencing gentrification in efforts to keep their children in neighborhood schools and/or to retain as much as possible the local social networks they had developed during their housing tenure.

While shares of children (and the traditional and single-mother families of which they were a part) declined in gentrifying tracts, shares of non-family households increased. These households generally did not contain children, but young and middle-aged adults. By 1970 non-family households were already heavily concentrated in gentrifying tracts; persons in such household arrangements typically comprised nearly 38 percent of gentrifying tract populations.

Over time, non-family households continued to be drawn to gentrifying tracts, and by 2000 persons living in them comprised upwards of three-fifths of the population. As non-family householders typically lived alone or with another person unrelated by blood, marriage, or adoption, household sizes were relatively small. While average household sizes fell nationwide

³⁴ An exception can be seen in the 1990s, wherein traditional family households were significantly and positively related to gentrifying tract turnover (Table 4). Some traditional families were likely drawn to the tracts due to what they believed to be the improved gestalts found there. This appeared to be the case in Tampa's South Hyde Park neighborhood examined both in an article by Robert Kerstein (1990) and in the present study. Declines may also be a reflection of general declines in the numbers of traditional family households seen nationwide during this period.

during the 30-year period, households in gentrifying tracts were consistently smaller. The low percent-median scores on "Pers/HH" for gentrifying tracts confirm this.

From the foregoing assessment we can conclude that between 1970 and 2000 gentrifying tracts morphed from being places with a mixture of persons of different generations and households of different types to neighborhoods comprised largely of young and middle-aged adults living in non-family households. Examining the change in gentrifying tract percent-median scores on "College Grad" and "White Collar," we can also conclude that these adults were highly educated and generally worked in well-paying, professional occupations.

That gentrifying tracts would over time attract increasing shares of college graduates and white collar workers was largely expected. Gentrifying tracts had relatively low concentrations of such persons in 1970, but their shares increased dramatically in the eponymous decade. College graduates increased their population shares nearly 300 percent between 1970 and 1980 — three times the increase seen in non-gentrifying tracts that same period. Gentrifying tract increases in shares of white collar workers was, at 56 percent, not as high as the increases seen among college graduates. However the jump in white collar workers was likewise nearly three times the size of that seen in non-gentrifying tracts.

In the 80s and 90s, gentrifying tracts continued to increase their shares of both college graduates and white collar workers. Though the increases were not as high as those seen in the 1970s, they were consistently higher than the increases non-gentrifying tracts experienced.

It is likely that college graduates and white collar workers were drawn to the diversity and high concentrations of non-family households found in gentrifying tracts. They also appeared to be drawn to the proximity to public transportation services and/or to their respective workplaces. Percent-median scores on the two transportation-related variables, "Transit" and "Walk/Bike," were consistently above 1. Some scores on "Walk/Bike" even exceeded 2.

The scores indicate that residents of gentrifying tracts were much more likely to commute using public transportation, walking, or biking than residents of non-gentrifying tracts. However a closer look at the nominal values reveals that gentrifiers steadily abandoned these methods at about the same rate as other inner-city residents.

Consider nominal value changes on the independent variable "Walk/Bike." Given the high percent-median scores on this variable, it is apparent that many gentrifiers lived within walking or biking distance of their workplaces. Over the years however, proportions of residents

using this commuting method fell faster in gentrifying than non-gentrifying tracts. Gentrifiers who abandoned walking or biking to work apparently did not turn to transit: Proportions of transit users in gentrifying tracts steadily declined rather than increased over the 30-year period. It could be the case that walkers and bikers may have abandoned commuting altogether and simply worked from home. However in all likelihood they simply used their cars for commuting. This turn to the car may have been due to firms increasingly abandoning the inner-city for the suburbs — areas often beyond the reach of public transit and almost certainly not within walking distance of gentrifying inner-city neighborhoods.

It was expected that gentrifiers would use alternative commuting methods to an extent greater than other inner-city residents. With "Transit" and "Walk/Bike" having percent-median scores consistently greater than 1, this expectation was met. What was not expected however was the finding that gentrifying tract residents would abandon these methods at about the same rate as others. This suggests that gentrifiers perhaps did not move to gentrifying tracts to be closer to work or to use public transportation, and that gentrifiers possessed attitudes about commuting that were not fundamentally different from those of other inner-city residents.

Though gentrifiers were similar to other inner-city residents with regard to commuting preferences, in other ways they were demographically distinct. With their movements to gentrifying tracts they created an environment with a demographic profile unlike anything existing in the inner-city: a socially-diverse place of upwardly-mobile young and middle-aged adults. What's more, they created this space in an area of the city that was in many ways marginal, yet contained a number of what they considered real assets: racial, ethnic, and social diversity, relatively large numbers of non-families, relatively few children. Gentrifiers were drawn to these and other novel assets, consumed them through their residential choices, made them part of their identities, and promoted them to like-minded consumers.

Of course, novel and assumable demographic traits are two of three criteria gentrifiers and potential gentrifiers use for neighborhood selection. Neighborhood safety is also hypothesized as important. In the next subsection, we test that particular portion of the hypothesis by examining the trends of several variables closely related to levels of property and violent crime.

4.2 Safety-related proxies. Unlike desires for novelty and assumability, the desire for safety is not expressed consistently across the gentrifier groups. Earlier, in the examination of gentrification case studies, it was suggested that some risk-prone gentrifiers and likely all risk-averse gentrifiers would forfeit consumption of the novel and assumable if such consumption had to occur in areas deemed unsafe. To put it simply, these gentrifiers did not wish to move to crime-ridden neighborhoods.

The risk-oblivious were, by contrast, oblivious. They appeared willing to tolerate some level of crime if it afforded them the opportunity to consume the novel and assume the neighborhood's attributes. How much crime they were willing to tolerate was unknown however; and so it was not possible to articulate expectations about earlier-stage gentrifying tract safety levels. It was expected though that whatever crime levels did exist, they would decrease due to the improved economic outlook often brought on by gentrification.

Upon examining the percent-median scores and nominal values of six safety-related proxies one sees that this latter expectation was partially met. Below in Table 5 one sees downward trends in four proxies for property crime rates: "Single Mother," "Jobless," "Poverty," and "Welfare." Decreased concentrations of single mother households, unemployed persons, impoverished persons, and welfare-receiving households are harbingers of decreased crime levels. Increases seen in a fifth property crime proxy, "Earnings," supplement this finding. In general, as gentrification decreased the concentration and poverty and increased concentrations of highly-educated, middle class people, proxies for property crime rates steadily declined.

Table 5

	I	Gentrifyi Median P-	ng Tract M Scores	*	Median Nominal Values										
Verieble	1070	1000	1000	2000	19	70	1980		1990		2000				
Vallable 1970	1970	1980	1990		Gntrf	Othrs	Gntrf	Othrs	Gntrf	Othrs	Gntrf	Othrs			
Single Mother	1.522	1.160	0.943	0.748	0.094	0.060	0.133	0.098	0.104	0.112	0.100	0.128			
Jobless		0.988	0.862	0.725			0.074	0.066	0.066	0.075	0.052	0.073			
Poverty	1.731	1.393	1.097	0.842	0.173	0.108	0.191	0.131	0.165	0.155	0.153	0.162			
Welfare		1.109	0.948	0.583			0.104	0.080	0.087	0.083	0.062	0.097			
Earnings**	0.808	0.906	0.992	1.184	39.4	48.2	44.8	50.4	52.3	53.3	66.9	56.1			
Gini	1.137	1.126	1.184	1.123	0.301	0.268	0.351	0.303	0.333	0.281	0.360	0.319			

Safety-related Proxies: Median P-M Scores and Nominal Values

* Median non-gentrifying tract P-M scores approximate 1 **Nominal values in thousands of 2007 dollars

While the property crime proxies moved in expected directions, the violent crime proxy did not. Table 5 shows that gentrifying tracts consistently had higher-than-city-median Gini coefficients and that, save the 1980s, income inequality levels were generally stable.

While the consistently higher rate of inequality might indicate a higher rate of violent crime, it is difficult to believe that such a state would exist in a neighborhood wherein all property crime proxies moved in the opposite direction. The variable's countervailing movement may be due to its aforementioned content and construct validity problems. These problems (and their ramifications for the safety-related portion of the theory) will be explored in greater detail in the predictive model discussion that will occur in the next subsection. In the meantime, however, it is assumed that validity problems associated with "Gini" compromise its ability to indicate violent crime levels.

Using the remaining proxy variables instead, we conclude that gentrification is associated with increased property and personal safety levels. As indicated in Table 1 in the previous chapter, these shifts were generally expected with gentrification's progression.

4.3 Housing-related variables. The descriptive model has shown thus far that gentrification is associated with relatively high, though decreasing levels of racial, ethnic, and social diversity; decreasing levels of generational diversity; increased concentrations of non-

family households; increased economic prosperity; and consequent decreases in proxies for crime. This subsection will allow us some understanding of gentrifying tracts' real estate character through examination of the age of its housing stock, its dominant tenure (i.e., renter-occupied, owner-occupied, or vacant), and its value. Table 6 provides the percent-median scores and nominal values of the five housing-related variables to be examined.

Table 6

	I	Gentrifyi Median P-	ng Tract M Scores	*	Median Nominal Values										
Variable	1970	1980	1990	2000	1970		1980		1990		2000				
		1000			Gntrf	Othrs	Gntrf	Othrs	Gntrf	Othrs	Gntrf	Othrs			
Older Housing	1.310	1.420	1.666	1.518	0.831	0.584	0.677	0.446	0.657	0.362	0.525	0.324			
Vacant	2.036	1.714	1.409	1.074	0.084	0.041	0.092	0.058	0.097	0.075	0.061	0.057			
Rented Housing	1.489	1.221	1.202	1.199	0.706	0.446	0.678	0.505	0.626	0.490	0.609	0.488			
Avg. Rent**		0.933	0.959	1.154			0.657	0.682	0.767	0.757	0.898	0.756			
Avg. Value**		0.978	1.278	1.728			133.0	119.5	219.2	121.8	297.7	148.7			

Housing-related Variables: Median P-M Scores and Nominal Values

* Median non-gentrifying tract P-M scores approximate 1 **Nominal values in thousands of 2007 dollars

Examining percent-median score trends over the 30-year period, one sees that most variable expectations were met. Gentrification was positively associated with neighborhood concentrations of older housing, and by 2000 property values and rents were greater than city medians. Gentrifying tract proportions of vacant housing and rentals remained above 1 by 2000, which was unexpected, but percent-median scores on the variable did decline over the period. The downward trends indicate that increased gentrification was working to push vacancy and rental rates below city medians.

While percent-median score trends indicate that each variable largely performed according to expectation, trends of the variables' nominal values provide a different view of housing market evolution. For example, the nominal values show that concentrations of older housing declined across the city. Gentrifying tracts, surprisingly, did not buck this trend; between 1970 and 2000 the proportion of older housing in gentrifying tracts fell 37 percent. To

understand the likely nature of these declines, it will be necessary to examine the nominal values of this and other housing-related variables decade-by-decade.

The decade that ushered in the risk-oblivious gentrifier — the 1970s — witnessed a steep drop in older housing stock. Houses built before 1940 comprised 83 percent of the housing units in 1970, but by 1980 they comprised 68 percent. To put it differently, 18.5 percent of the pre-1940 housing stock in gentrifying tracts was either condemned or demolished outright — the only two means by which housing unit declines can occur. Given risk-oblivious gentrifiers' high demand for housing during this period, the sharp decline in older housing units was surprising.

With the high demand one would expect property owners to rehabilitate rather than demolish their properties. However property owners are more likely to rehabilitate and preserve properties if: (1) they reside there, and (2) there is an expectation that their work will improve the property's value. Judging from the nominal value trends on "Rented Housing" and "Vacant" — the two variables most indicative of owner-occupancy rates and property value expectations — preservation during the 1970s was an unlikely occurrence.

Regarding the first variable, the 1970s influx of risk-oblivious gentrifiers may have helped increase homeownership rates, but if they did their contribution was marginal at best. Nominal values on "Rented Housing" decreased by about four percent between 1970 and 1980. This decrease may have been due to an upswing in owner-occupied housing, but an increase in vacancies could easily account for it.

Gentrifying tracts actually did see a nine percent increase in vacancies during the 1970s, and compared to others, gentrifying tract vacancy rates were consistently quite high. Since low property values are often commensurate with vacancy rates, the already-high share of vacancies seen in gentrifying tracts likely would have dampened any preservation prospects. With such a high proportion of neighborhood housing units vacant, property owners probably reasoned that rehabilitation would not ensure a future pay off. As a result, the older structures continued to deteriorate and depreciate, and eventually many of them were either condemned or demolished.

In the 1980s, demolitions and condemnations fell substantially. That decade saw proportions of older housing decline only three percent. This slowdown existed alongside a 19 percent share decline for older housing in non-gentrifying tracts.

This discrepancy between gentrifying and non-gentrifying tract share declines is likely the result of successful preservation efforts occurring in gentrifying tracts during the 80s. In contrast to their behavior during the 1970s, the nominal value changes in "Vacant" and "Rented Housing" suggested a greater likelihood of older home preservation. Vacancies in gentrifying tracts remained relatively high, but they increased only by about six percent during the decade. By contrast, the vacancy rate increase in non-gentrifying tracts was five times as high, moving from 5.8 to 7.5 percent. Compared to other inner-city tracts, increases in vacant housing were for gentrifying tracts becoming much less of a problem.

While vacancies in gentrifying tracts were (comparatively) leveling off in the 1980s, proportions of renter-occupied housing fell at an accelerated rate. Nominal values on "Rented Housing" dropped about eight percent over the decade, 2.5 times faster than the decline seen in other tracts. The drop, coupled with the marginal vacancy rate increase, suggests that gentrifying tracts were becoming populated with owner-occupiers. These gentrifiers, likely risk-prone, witnessed the demographic changes in the neighborhood and the relatively low living costs, and decided to invest in and preserve the older housing stock.

The investment appeared to pay off by the 1990s. While proportions of rented housing remained high, property values and rents steadily increased and vacancy rates fell to a level on par with city medians.

It was expected that the heightened consumer demand would increase preservation efforts during the 90s, for it was anticipated that additional waves of gentrifiers would be attracted to and want to live in older structures. Judging by the sharp decline in nominal values on "Older Housing" however, this was not the case. Gentrifying tract older housing stocks fell 20 percent in the 90s, nearly twice the decline seen in non-gentrifying tracts. Clearly later-stage gentrification did not lead to more preservation; it instead led to owners tearing down older housing units and replacing them with new structures.³⁵

The 1990s-era increase in demolitions was very likely due to investor desire to capitalize on the neighborhood's increasing property values resulting from 1980s-era preservation. Anecdotal evidence from gentrifying neighborhoods like Seattle's Lower Queen Anne (Higgins, 1997), Chicago's Wicker Park (Huebner, 1994), and Boston's South End (Kornblut, 1998) suggests that investors in the 90s removed older, functionally-obsolete, and/or condemned structures and often replaced them with new mutli-family units such as apartments,

³⁵ Given the existence of high consumer demand in much of the 1990s, older housing attrition was more likely the result of demolition than condemnation. Condemnation would render a property owner unable to partake in the neighborhood's escalating property values.

condominiums, and townhomes. If the slight 1990s decline in "Rented Housing" is any indication, most of these new units were for rent rather than for sale. Nevertheless the new units — often cheek-by-jowl with older, more distinguished buildings in the appreciating, up-and-coming neighborhood — were highly attractive to the growing numbers of younger, upwardly-mobile consumers who were by then flocking to the area. It is likely that such a redevelopment scenario was replayed in the country's other gentrifying neighborhoods.

In general, the desire on the part of some gentrifiers for historic preservation eventually gave way to the desire by other gentrifiers to capitalize on the neighborhood's appreciating values. This capitalization was maximized by converting older properties to what was then deemed their "highest and best use." And as the neighborhood was becoming increasingly attractive to young and middle-aged adults, this highest and best use was usually attached or detached residences for sale, but mostly for rent.

Overall, the housing-related variables show that gentrifying tracts entered the 1970s with relatively high rates of older and renter-occupied housing. Vacancy rates in these tracts were also quite high, suggesting that property values there were low.

Risk-oblivious gentrifiers were attracted to the older, inexpensive housing during the 1970s, but they did not appear to buy and occupy housing to a substantial degree. As a result, preservation efforts were few and large portions of the tract's older housing stock were either condemned or destroyed.

As gentrification progressed, more housing units became owner-occupied and preservation efforts stepped up. The 1980s saw a sharp drop in the demolition and condemnation rates, and vacancies began to level off, signaling improving property values.

In the 1990s vacancy rates fell and property values and rents went up. For many the gentrifying tract became a safe investment, and to maximize returns on their investments, property owners resumed demolitions and began converting properties to their highest and best uses. Often these uses were multi-family residences, available for rent, and located in close proximity to refurbished older structures that, during the 1980s, helped resuscitate neighborhood property values.

4.4 Summary. Combining the demographic, safety-related, and housing-related analyses into a coherent narrative, we see that gentrifying tracts experienced comparatively few changes in racial, ethnic, and social diversity. The stable diversity levels were primarily due to the

replacement of non-college-educated, working class Whites with college-educated, middle class Whites; slight but persistent drops in the numbers of Hispanics; and marginal increases among Blacks and persons of other races.

Gentrifying tracts also experienced relative declines in generational diversity and a gradual shift in class dominance. Increased gentrifier demand helped increase the cost of housing in gentrifying tracts, likely causing share declines among populations that often find them difficult to absorb — namely seniors and single-mother families. Traditional families with children likewise experienced share declines, though their declines were primarily borne of a desire to move to the family-friendly environs of suburbia rather than an inability to absorb rising costs. The share declines of seniors and children (due to declines of the single-mother and traditional family households in which the majority of them lived) worked to decrease generational diversity, making gentrifying tracts largely the province of young and middle-aged adults who likely lived alone or with someone unrelated to them.

These young and middle-aged adults were college-educated, white collar gentrifiers. Their investments in gentrifying tracts increased property values and rents, driving out those in the lower and working classes. The exodus of lower class members and the increased concentration of gentrifiers who are, by definition, members of the middle classes, aided in a wholesale shift from gentrifying tracts being the provinces of the lower classes to their being provinces of the middle classes.

The increase in the concentration of middle class persons coupled with tracts becoming the province of young and middle-aged adults resulted in shifts in various property crime proxies. These shifts suggest that levels of both property and violent decreased in gentrifying tracts during the study period. The drops in crime undoubtedly helped increase consumer demand, thereby increasing property values and rents further.

As expected, the steady influx of gentrifiers helped create a novel space within the innercity, one that was safe, diverse, economically prosperous, and in high demand.

From this narrative we can draw several conclusions about gentrifying tract evolution. First, gentrifying tracts maintained more stable levels of racial, ethnic, and social diversity than non-gentrifying tracts during the 30-year period. This stability stemmed from gentrifying tracts maintaining relatively high levels of Whites as Whites living in other inner-city tracts largely moved to suburban areas.

Second, gentrifying tracts evolved from housing disproportionate shares of older and poorer residents in older, functionally-obsolete buildings to housing disproportionate shares of highly-educated, professional, younger, upwardly-mobile residents in a highly-appreciating mix of newer buildings and rehabilitated structures. Much or all of the space in these new and rehabilitated buildings was, unexpectedly, often for rent rather than for sale.

Third, gentrifying tracts' increasing economic prosperity likely increased safety levels.

Finally, shares of traditional and single-mother families declined in gentrifying tracts due to, in all likelihood, a desire for family-friendly space in the case of the former, and the inability to absorb rising prices in the case of the latter. Declines of both kinds of families and their replacement with persons in non-family households likely contributed to decreased levels of generational diversity.

Overall the data show that gentrification has brought a series of transformations: changing pockets of the inner-city from blighted, poorer areas inhabited by seniors, single parents, and the working class; to prosperous, energetic areas populated by younger, relatively well-off, childless professionals — all the while maintaining the levels of racial and ethnic diversity so attractive to members of the gentrifying classes. The prosperity brought by gentrification helped decrease levels of property and violent crime, and helped create the kind of space long desired by various members of the gentrifying class: a safe, racially-, ethnically-, and socially-diverse space inhabited by middle class, upwardly-mobile, single, and childless adults.

Along dimensions of social diversity, household type, housing age, and turnover rates, the descriptive model shows that gentrifying tracts clearly differ from others in the inner-city. Whether these and other variables in and of themselves play a significant role in the gentrification process is, however, unknown. Such information cannot be garnered solely from the descriptive model's results. Pinpointing those significant factors that distinguish gentrifying from non-gentrifying tracts — and, by extension, pinpointing those factors that can be used to *predict* gentrification's occurrence — requires specification of a second, more rigorous, predictive model. This predictive model will be specified in the following section using a series of logit regression models. It is anticipated that, from this model's results, a generalizable and testable gentrification theory can be constructed.

5. Predictive Model Results & Discussion

The descriptive model shows that, over the course of 30 years, gentrifying tracts largely remained racially, ethnically, and socially diverse — relative that is to other inner-city tracts. Over the same time period, gentrifying tracts morphed from being areas of class and generational diversity to being areas of class and generational homogeneity. They retained their racial and ethnic balances but, as expected, became provinces of young and middle-aged middle class adults.

The character of this transformation was quite different from that of other inner-city tracts. Gentrifying tracts witnessed rises in college-educated residents, white-collar workers, and non-family households. Taken as a whole, the inner-city generally did not witness these changes.

While the evolutionary paths of gentrifying and non-gentrifying tracts differed in terms of their prevalence of non-family households, their concentrations of older housing, and their levels of racial diversity, it is unclear whether these and other variables are important in distinguishing gentrifying from non-gentrifying tracts. To address this issue, a series of logit models was specified using backward stepwise methods, eliminating those independent variables with low degrees of partial correlation with gentrification, this study's dependent variable.

Results of these logit models are provided in Table 7 and are arranged by census year. Together they comprise a predictive model of gentrification.

Table 7

Predictive Model Complete Results Logits and Standard Errors (Y = Gentrification)

		Lo (Std.	git Err)	Logit (Std. Err)							
Variable	1970	1980	1990	2000	Variable	1970	1980	1990	2000		
Diversity	0.279* (0.112)	0.336* (0.142)	0.535** (0.172)	0.808** (0.188)	Walk/Bike	-0.143 (0.110)	-0.119 (0.071)	-0.132 (0.073)	-0.093 (0.056)		
Share Black	-0.108* (0.055)	-0.079* (0.038)	-0.230** (0.089)	-0.324* (0.134)	Turnover	-1.259** (0.355)	-0.663* (0.333)	-0.728 (0.459)	-0.614 (0.624)		
Share Other		-0.067 (0.077)	-0.189* (0.096)	-0.354** (0.091)	Gini		1.916** (0.354)	0.614* (0.310)			
Share Hispanic	0.082 (0.045)	0.053* (0.024)	0.039 (0.027)		Earnings		-2.507** (0.764)		0.422 (0.333)		
Non-family	0.857** (0.230)	1.348** (0.268)	0.862** (0.337)	0.923 (0.485)	Jobless			0.389** (0.148)			
Married & Child		0.786 (0.516)			Older Housing		0.036 (0.020)				
Child		1.225 (0.695)	-0.752 (0.544)	-0.889 (0.552)	Avg. Value			0.362 (0.203)	0.251** (0.082)		
Senior	-0.535** (0.200)	-0.753** (0.216)	-1.326** (0.377)	-1.348** (0.315)	Avg. Rent		-0.641 (0.410)	-1.145* (0.577)	-1.065* (0.417)		
Pers/HH	-3.031** (0.497)	-4.012** (0.999)	-2.329** (0.872)	-1.557** (0.535)	Vacant	0.184 (0.140)					
College Grad	-0.350** (0.081)	0.225 (0.183)			Rented Housing	0.475** (0.176)	-1.216* (0.528)				
Transit		0.158** (0.058)	0.276 (0.163)	0.274 (0.173)							

* $p(Z) \le 0.05$; ** $p(Z) \le 0.01$

As specification was accomplished using stepwise methods, we can assume that each of the above variables is strongly related to gentrification even if they technically did not achieve statistical significance.³⁶ "Walk/Bike," for example was consistently³⁷ highly correlated with gentrification though it never achieved statistical significance. Most of the variables were strongly related with gentrification at certain stages of its evolution; for instance "Avg. Value" arose as an important factor only in gentrification's later stages. That the variable was not highly

³⁶ As previously mentioned, hypothesis tests on stepwise regression procedures must be looked upon with skepticism for such tests assume a model's correct specification (Pindyck & Rubinfeld, 1998, p. 101). ³⁷ That is, present for all four censuses.
correlated with gentrification in earlier stages suggests that relatively high average property values only began to exert an independent influence in later years.³⁸

While many of the variables were in accordance with the expectations summarized in Table 1, most were not. In this subsection, we will evaluate each variable's conformance to expectations and examine their behaviors to craft a plausible explanation of the gentrification process. We begin the discussion with a decade-by-decade examination of each demographic variable.

5.1 Demographic variables. The discussion of demographic variables begins with an examination of the variable "Diversity." It was expected that the variable's relationship with gentrification would evolve from a positive to a negative one, owning to gentrification's association with neighborhood "whitening." The consistently-positive relationship between gentrification and diversity is at odds with the consistently negative relationship between gentrification and concentrations of non-Whites. Logits on "Share Black" and "Share Other" are negative even in gentrification's earlier stages, where expectations between the variables were unknown, but where the descriptive model hinted at the existence of positive relationships.

By contrast, the predictive model indicates that, other things equal, a large non-White population becomes an ever larger impediment to gentrification. While non-White populations in a tract decrease gentrification's likelihood at all points in its evolution, the presence of Hispanics increases the likelihood of gentrification. This is particularly true in early stages and, when compared to the early-stage logits of "Share Black," lends credence to the idea that risk-oblivious and risk-prone gentrifiers see neighborhoods housing high concentrations of Hispanics as "safer" or more amenable than those housing high concentrations of Blacks (Lloyd, 2004). While gentrification is more likely to initiate in tracts with high concentrations of Hispanics, these concentrations work to imperil gentrification's progression if they remain high. As with shares of non-Whites, shares of Hispanics have an increasingly negative effect on gentrification's likelihood.

For gentrification to be associated with both increased diversity levels and decreased minority presence seems paradoxical; however this paradox can be resolved by accounting for the existence of racial and ethnic segregation in cities.

³⁸ As data from 1970 was not included on "Share Other," "Jobless," "Avg. Value," and "Avg. Rent," it is possible that any one of these variables may in reality share strong correlations with, or even be statistically significantly related to, earlier-stage gentrification.

If racial and/or ethnic segregation existed in a tract, then it would theoretically increase that tract's percent-median score on one race/ethnicity variable and decrease its percent-median score on "Diversity." For example, if 97 percent of a tract's residents were African-American and non-Hispanic, its percent-median score on "Share Black" will likely be quite high. Its percent-median score on "Diversity" however will be quite low, for the tract is far from being racially or ethnically diverse.

Though not reflected in any of the present study's data, it is generally accepted that central cities in particular and metropolitan areas in general have become more racially- and ethnically-segregated since World War II. Segregation increased during the 1950s, and became more extensive with "White flight" to suburbia. This movement resulted in the inner-city as a whole becoming the domain of racial and ethnic minorities in general and African-Americans in particular (Squires, 1994).

The phenomenon of "White flight" was, in essence, a key culprit in the low diversity index scores seen in the inner-city as a whole. The low diversity index scores found citywide helped make tracts with minority populations topping 15 or 20 percent (for example) the most highly diverse in their respective cities. With increased segregation in cities and further diversity score deflation, the minority population share in the "diverse" tract could theoretically fall even further and the tract would retain its high percent-median score on "Diversity."

This was the likely scenario for gentrifying tracts during the 30-year period: small shares of racial and ethnic minorities residing in gentrifying tracts that were themselves located in highly segregated cities. Gentrifying tracts with racial and ethnic minority population shares totaling, say, 12 percent, would likely be the most diverse in a city where Whites lived on one side of town and Blacks on the other. The unfortunate and continued existence of such segregated environments in American inner-cities does much to explain the paradoxical situation of gentrifying tracts having increased levels of diversity and decreased shares of minorities.

To summarize, the predictive model indicates that gentrifying tracts share a consistently positive relationship with diversity. Paradoxically, this relationship exists in the face of increasingly negative relationships among the race and ethnicity variables. This paradox can be resolved by accounting for racial and ethnic segregation in cities. High levels of segregation in non-gentrifying tracts likely increased diversity measures in gentrifying tracts, contributing to the positive relationships from year to year.

Gentrifying tracts were a draw not only to those who desired a more racially-, ethnically-, and socially-diverse space. They were also a draw to those living in non-family households. As shown in Table 7, gentrification was most likely to occur in tracts with high concentrations of non-families. The consistently positive logits on the variable indicate that, as expected, gentrification at both stages is associated with unmarried, childless persons. Earlier, we expressed uncertainty regarding the relationship between "Non-family" and late-stage gentrification. It was said that since risk-prone gentrifiers were the most likely of the three gentrifying groups to live in traditional nuclear family households, their influxes could shift the relationship from a positive one to a negative one. With the consistently positive logits seen on the variable this concern was clearly unwarranted. While the influx of risk-prone gentrifiers did not result in a sign change on "Non-family," it may have contributed to two variables — "Married & Child" and "Child" — showing positive relationships with gentrification in 1980.

Gentrifying tracts could have been a draw for risk-prone and even risk-oblivious gentrifiers with children during the 1970s. If true, the finding would be surprising not only due to its absence in the case studies and other gentrification literature, but also because it would suggest gentrifying tracts bucking the 1970s trend of nuclear families fleeing to the suburbs. The presence of the two variables could also be explained by traditional families and children in the 1970s fleeing non-gentrifying tracts faster than gentrifying tracts. The speed of the exodus could have temporarily left gentrifying tracts with higher concentrations of these populations, thereby resulting in the positive relationships.

Whatever the cause for the variables' appearances, they were indeed temporary. After the 1970s, the two variables performed quite differently. By 1990, traditional families appeared no more or less likely to live in gentrifying tracts, and gentrifying tracts appeared less likely to house children than their non-gentrifying counterparts. Both variables' relationships with laterstage gentrification are owed to the high concentrations of non-family households consistently found in gentrifying tracts and the related movement of traditional family households out of the cities and into the suburbs.

In short, the 30-year period saw gentrification strongly and positively associated with concentrations of non-family households. Save an anomaly in 1980, there appeared to be no discernible relationship between gentrification and the concentration of traditional families in census tracts. Concentrations of children did affect gentrification's likelihood however,

particularly in late stages. The predictive model found that ever-increasing concentrations of children in a tract resulted in ever-decreasing likelihoods of gentrification.

Also exerting a strong negative influence on gentrification's likelihood was a tract's concentrations of seniors. In 1970, concentrations of seniors appeared a strong impediment to gentrification. This was true even though the descriptive model showed that gentrifying tracts housed shares of seniors well above metropolitan medians. The discrepancy between the two models in this regard is likely due to the predictive model holding other variables in the analysis constant, and its capturing the "pure effect" of senior populations on gentrification. Over time, the pure effect of seniors on gentrification's likelihood became increasingly negative. By 2000, even a small concentration of seniors could be seen imperiling gentrification's likelihood.

That concentrations of seniors would share a negative relationship with gentrification, particularly in its late stages, was expected. As expressed earlier, seniors are often unable to absorb rent and property value increases associated with gentrification.

Another threat to gentrification was relatively high household sizes logits showed that the variable a decreasingly negative effective on gentrification's likelihood. A turnaround could be seen in the 1980s, and this was likely due to the post-1970s decline in birth rates and rises in the number of single-parent households (Fields & Casper, 2000). These two national trends helped decrease household sizes, particularly in the inner-city. Household sizes fell faster in non-gentrifying tracts, minimizing value differences on the variable, thereby increasing its associated logits.

Another nationwide, post-1970s trend likely affecting the logits of the predictive model was the rise in the number of persons graduating from college. From 1970 to 2000, the percentage of Americans aged 25 years and older holding a baccalaureate rose from 10.7 percent to 24.4 percent (GeoLytics Inc., 2003). This growth in the number of Americans graduating from college may explain why the expectation of a positive relationship between "College Grad" and later-stage gentrification went unmet — the predictive model showing that college graduates were no more or less likely to reside in gentrifying tracts than non-gentrifying tracts. The lack of significant correlation between "College Grad" and later-stage gentrification may be due to these national increases and resultant share rises of college graduates in non-gentrifying tracts.

While the model shows no significant correlation between later-stage gentrification and "College Grad," correlation does exist when data from earlier censuses are analyzed. It was

expected that the variable would share a negative relationship with earlier-stage gentrification, for such tracts were in gentrification's early stages expected to be dominated by less-educated, lower class members.

This expectation was only partially met. Data from the 1970 census showed a negative relationship between "College Grad" and gentrification; however the relationship shifted to a positive one in only ten years time. The shift was due to a substantial increase in the shares of college educated persons living in gentrifying tracts during the 1970s. As mentioned previously in discussion of the descriptive model, college graduates moved from comprising about 3.3 percent of gentrifying tracts' populations in 1970 to 12 percent in 1980 — a near 300 percent increase. Shares of college graduates also increased in non-gentrifying tracts, but at 91 percent they were not nearly as high. The sharper increase in college graduate shares found in gentrifying tracts turned the negative relationship between the variable and early-stage gentrification into a positive one.

The surge in college graduates moving to gentrifying tracts in the 1970s likely contributed to rising shares of white collar workers (Table 3), and these workers likely commuted to offices located either downtown or in other major employment centers in the city (e.g., universities and hospitals). The positive relationship between early-stage gentrification and transit use seen in Table 7 supports this contention, for commuters generally have not used (Anjomani, 1983) and do not use (Dubin, 1991) transit to commute to suburban jurisdictions. The predictive model shows that residents of gentrifying neighborhoods were more likely to use transit, and it is highly likely that this mode was used for commuting within the limits of the inner-city.

While, as expected, transit availability emerged as an important trait for gentrifiers, the ability to walk or bike to work did not. The expectation that commuting via walking or biking would share a positive relationship with later-stage gentrification went unmet. "Walk/Bike" was not only negatively related to gentrification, but consistently so. One can deduce from this finding that for much of the latter half of the 20th Century, the gentrifying tract did not serve as much of an employment center. If it did, it was not a work destination for tract residents. When residents commuted to work they likely ventured outside their neighborhoods, and this venturing was apparently accomplished using transit or one's own vehicle, rather than by walking or biking.

Finally, the predictive model showed that residential turnover was, unexpectedly, negatively related to gentrification. The higher the degree of turnover in the population, the less likely gentrification was to occur.

This finding is surprising for two reasons. First, it contradicts the results of the descriptive model, which shows gentrifying tract turnover rates consistently above one. However the discrepancy can be attributed to high turnover truly being an impediment to gentrification when all other variables are held constant. The finding of a negative relationship between gentrification and turnover is also surprising because it seems counterintuitive. After all, how could such tracts become "provinces of the middle class" without influxes of new residents?

The negative logits on "Turnover" could be the result of non-gentrifying tracts being more affected by "White flight" and other post-War movements to suburbia than gentrifying tracts in terms of raw population. Non-gentrifying tracts, with their higher proportions of traditional nuclear families and children, had more persons leaving their inner-city single-family homes for homes in the suburbs. They were likely replaced with families of comparable size. Gentrifying tracts, by contrast, were dominated by smaller-sized non-family households. If residents of gentrifying tracts decided to move away, they too were likely replaced with households of comparable size.

Since households were likely replaced with households of comparable size in both cases, the amount of population turnover in non-gentrifying tracts would have likely been higher. This is because turnover measures the number of *persons* who moved into a structure five or fewer years ago, not the number of households. As family households are generally composed of more people than non-family households, and as family households tended to settle in non-gentrifying tracts, non-gentrifying tracts would likely have seen higher rates of turnover and, conversely, turnover would share a negative relationship with gentrifying tracts.

Such an explanation is admittedly speculative and more research is needed to understand gentrifying and non-gentrifying tract differences in population turnover. While the predictive model indicates that gentrifying tracts do not have the level of turnover seen in other parts of the inner-city, it also suggests that they experienced a substantial transformation within a 30-year period.

To summarize performances of the demographic variables in the predictive model, gentrification was most likely to be initiated in tracts with high levels of racial, ethnic, and social diversity, and tracts with high concentrations of Hispanics. However, its progression was decreasingly likely as concentrations of non-White persons increased. This paradox of gentrification's occurrence being most likely in areas of high diversity but low concentrations of non-Whites is resolved by accounting for segregation. Racial and ethnic segregation results in gentrifying tracts appearing more diverse relative to other inner-city tracts, even if the tract's proportion of non-Whites is quite low. Results of the descriptive model indicate that gentrifying tracts did indeed fit this profile of high diversity levels and low concentrations of non-Whites.

As expected, early stage gentrification shared a positive relationship with the concentration of non-family households. This positive relationship continued to gentrification's later stages.

Also as expected, a negative relationship was seen between shares of seniors and late stage gentrification. While the relationship between seniors and early stage gentrification was unknown, the predictive model indicated that it was negative — and strongly so. The strong negative relationship in early gentrification may have been due to risk-oblivious and risk-prone gentrifiers bypassing the conservative attitudes often associated with older residents and the neighborhoods they inhabit.

The predictive model indicated that gentrification was less likely to initiate in areas with high household sizes. Over time however this became less an impediment to gentrification.

The gentrifying tract of 1970 was less likely than other tracts to have high concentrations of college graduates. By 1980 however they became more likely. At the beginning of the 1990s gentrifying tracts were no more or less likely to house increased or decreased concentrations of college graduates. This was probably due to post-70s rises in the number of people graduating from college.

As expected, residents of gentrifying tracts appeared more likely to use transit for commuting. Unexpected however were the negative associations seen between gentrification and persons who commuted via walking and biking. The latter results were not only unexpected, but also surprising given that they contradicted the descriptive model's results. That "Walk/Bike" was, *ceteris paribus*, negatively related to gentrification is likely an indication that

gentrifying tracts are not employment centers and that even if they were they were not the work locations of tract residents.

Finally, turnover was consistently negatively related to gentrification. The negative relationship was surprising given the population shifts commonly associated with gentrification, but could be explained by larger numbers of persons in non-gentrifying tracts fleeing the city during the era of White flight. Holding other variables constant, the relatively low turnover seen in gentrifying tracts could have resulted in the negative relationship.

Although the relationship between turnover and gentrification was negative *ceteris paribus*, there is no doubting that gentrifying tracts experienced a transformation from lowerclass to middle-class space over the 30-year period. One would expect that such a transformation would affect levels of crime and safety, specifically that safety proxies would move in a direction indicating the existence of less crime. We see whether these expectations were met in the next subsection.

5.2 Safety-related proxies. Logits for the sample of safety-related proxies are reported in Table 8. Three safety-related proxies were seen as being significantly related to gentrification: "Gini," "Earnings," and "Jobless." Of the three that were not excluded from the stepwise regression process, only one, "Earnings," performed as expected.

Table 8

Jobless

(Y = Gentrification)Logit (Std. Err) Variable 1970 1980 1990 2000 1.916** 0.614* Gini (0.354) (0.310)-2.507** 0.422 Earnings (0.764)(0.333)0.389**

(0.148)

Predictive Model Results — Safety-related Proxies Logits and Standard Errors (Y = Gentrification)

* $p(Z) \le 0.05$; ** $p(Z) \le 0.01$

The first of the three variables, "Gini," was positively related to later-stage gentrification. This result was unexpected, as it was assumed that middle class members with comparable incomes would eventually dominate the tract, decreasing income inequality and increasing levels of personal safety.

Non-fulfillment of the expected correlation may be the effect of measuring limitations associated with "Gini." As previously mentioned, "Gini" relies on family incomes to compute coefficients. Also mentioned was that traditional families tend to have higher incomes while single-mother households have a high probability of being impoverished. Of family households, these two subtypes tended to be the country's most numerous prior to 2000. If the income divergence that typically exists between these two family types also exists in gentrifying tracts, the result may be high estimates of income inequality.

To test whether this income divergence existed in gentrifying tracts, a linear regression model was specified wherein three household types — traditional families, single-mother families, and non-families — were regressed on "Earnings," a variable strongly related to income. Results are shown in Table 9. They indicate that at three of the four census points, average household earnings in gentrifying tracts shared positive relationships with traditional family households and negative relationships with single-mother households. At the fourth census point, 1980, the coefficients were of the same sign, but differed in magnitude. The coefficient on "Single Mother" in particular was near zero, indicating that increases in shares of that household type had very little positive influence on earnings.

Table 9

Variable	1970		1980		1990		2000	
	Coef (Std. Err)	t	Coef (Std. Err)	t	Coef (Std. Err)	t	Coef (Std. Err)	t
Married & Child	0.671 (0.045)	14.90**	0.500 (0.048)	10.34**	0.403 (0.079)	5.11**	0.548 (0.108)	5.07**
Single Mother	-0.037 (0.021)	-1.74	0.003 (0.023)	0.13	-0.078 (0.032)	-2.39*	-0.155 (0.063)	-2.47*
Non-family	0.139 (0.015)	9.22**	0.257 (0.024)	10.72**	0.493 (0.044)	11.17**	0.569 (0.057)	9.92**
R ² (N)	0.9 (98	43 3)	0.93 (98	38 3)	0.90 (98)3 3)	0.88 (98)	6

Effect of Household Type on Earnings in Gentrifying Tracts Linear Regression Results^{\dagger}

[†] Note: Percent-median scores used for calculation

* $p(t) \le 0.05$; ** $p(t) \le 0.01$

From these findings we can conclude that if the incomes of these family households were major contributors to the calculation of "Gini" (and median nominal values reported in Table 3 suggest that they were), they are likely responsible for the variable's high scores and for the unexpected positive result. The divergent incomes among gentrifying tract family households resulted in high inequality and, likely, inaccurate estimates of Gini coefficients. Therefore the logits on "Gini" are unexpected, but also largely suspect.

Since "Gini" appears to be an unreliable proxy for levels of personal safety, we use the two other variables to assess gentrifying tract overall safety levels. "Earnings" performed as expected; the model shows that the variable was positively related to later-stage gentrification, though not to a statistically significant degree.

The notion that late-stage gentrification is associated with high earnings and likely increases in safety is complicated by the behavior of the remaining safety-related proxy, "Jobless." The predictive model indicates that by end of the 80s, a strong positive relationship existed between gentrification and rates of joblessness.

It is unclear why, *ceteris paribus*, "Jobless" was seen as both highly and positively correlated with gentrification in 1990. Given that a large proportion of gentrifying tract residents were white collar professionals, and given that the 1980s saw substantial declines in the number of secondary sector jobs and even more substantial increases in service sector employment (Squires, 1994), the notion of higher joblessness in gentrifying tracts seems counterintuitive.

Whatever the reason for this unexpected finding, the appearance of "Jobless" as a significant correlate to gentrification does not appear to contradict *economy*-related (as opposed to the *safety*-related) findings emerging from analysis of "Earnings." Such a scenario is likely to occur in a period with high unemployment and high levels of wage inequality, and during the 1980s — particularly the late 1980s — the United States experienced both. Unemployment rates in the latter half of the 1980s averaged around 6.2 percent, with rates in the inner-cities and the country's manufacturing belt being consistently higher (U.S. Department of Labor, 2008). Wage inequality was also high during this time, due largely to shifts to a service-sector, information-based economy wherein persons with highly technical skills earned significantly higher wages (Card & DiNardo, 2002; DiNardo, Fortin, & Lemieux, 1996; Johnson, 1997).

During this period, gentrifying tracts likely experienced these wage inequities alongside their non-gentrifying and even suburban counterparts. These inequities may have been more

pronounced in gentrifying tracts due to their relatively high levels of social diversity, and the differing occupations in which residents worked. As indicated by Table 3, a little more than a third of the typical gentrifying tract's 1990 population worked in white collar occupations. Given gentrifying tracts' sustained high levels of poverty during this time, there were likely sizable numbers of residents who, if they found work, tended to work in low-end service or secondary sector jobs. Such residents generally possessed low levels of market capacity (to re-use Giddens' term) and had a higher likelihood of being unemployed during the 1980s.

This economic story largely told by the behavior of "Earnings" is not necessarily contradicted by the unexpected finding on "Jobless" in 1990. The variable's *safety-related* story, however, does appear to be contradicted. In the discussion that follows we explore this seeming contradiction and attempt to make the story more coherent. Again, we devote our attention to likely variable behavior during the 1980s.

We have established that earnings in gentrifying tracts were likely increasing during the 1980s. Percent-median scores and nominal values reported in Table 5 lend support to this contention. The earnings increases suggest gentrifying tracts increasing in safety, but increases in unemployment contradict these findings,

To identify safety levels' true direction in gentrifying tracts during this period, it is necessary to determine which factor — earnings or unemployment — has the greater impact on crime. If "Earnings" is stronger, crime could be said to have likely decreased (and safety levels increased) in gentrifying tracts. If "Jobless" is stronger, then the opposite is likely true.³⁹

Unfortunately, the determination cannot be made using data from the current study. While earnings and unemployment data are available, crime statistics are not.

Likewise, it is difficult to make a determination using previous research. Social scientific literature on crime determinants provides conflicting evidence on the matter, and these conflicts often arise within the studies themselves. In the aforementioned Newark crime study conducted in the early- to mid-1990s, Speer et al. (1998) found that a tract's average household income has a greater influence on violent crime rates than the proportion of tract residents that are employed. When the smaller observation unit of block groups is considered, however, rates of employment explain more of the variance in violent crime rates than average household income.

³⁹ The qualifier "likely" is used because without a magnitude measure (e.g., a standardized regression coefficient) it is not possible to conclude definitively whether earnings or joblessness has the greater impact on crime and safety levels.

Using data from 1990, Krivo and Peterson (2004) likewise found that acts of violent crime among Cleveland, Ohio's older adult population (aged 25 years and up) were attributable more to joblessness than their employment in low wage jobs. Incidentally, employment in low wage jobs was not even significantly related to violent crime rates. Contradictory evidence was also found in this study however: Acts of violent crime among young adults (aged 20 to 24 years) were attributed more to employment in low wage jobs than joblessness.

Gould et al. (2002) found that among those most likely to commit crime (i.e., lesseducated men), changes in wages explained more than 50 percent of the changes in American county and metropolitan area crime rates (both property and violent) from 1979 to 1997. They also found that decreases in the jobless rate had a stronger influence on crime than wage changes, but only after 1993, when a long-range trend on unemployment was identified. The lack of a jobless trend prior to that year resulted in the finding that long-term crime rates were unaffected by joblessness from 1979 to 1993.

In short, the social scientific literature provides dubious help in determining whether crime rates are influenced more by joblessness or earnings. Of the three studies cited here, the Speer et al. study is most on point. Like the present study it accounts for employment and compensation (though incomes rather than wages are examined) at the census tract level. Though Newark has suffered the effects of deindustrialization and suburbanization more acutely than other American cities in the post-War era, the reasons a portion of its population resorts to violent crime likely mirror those of populations in other cities. Using this rationale we assert that, just as with Newark's census tracts, violent (and very likely property) crime levels in the present study's census tracts will be influenced more by earnings than joblessness.

With changes in earnings seen as exhibiting a stronger influence on crime levels than changes in unemployment rates, we conclude that crime levels in gentrifying tracts likely decreased during the 1980s — despite rises in joblessness. The safety-related story told by "Earnings" therefore achieves coherence: Crime levels were relatively higher in gentrifying tracts during the 1970s and part of 80s, but they generally fell afterward.

Thus far, the predictive model has shown that gentrifiers are attracted to the novel and assumable traits of racial, ethnic, and social diversity, high concentrations of non-families, and high concentrations of young and middle-aged adults. Moreover, risk-oblivious and some risk-

prone gentrifiers appear willing to compromise to some degree their desire for safety in order to partake in these novel and assumable traits.

We have yet to gauge the novelty and assumability (and, thereby, the amenability) of the housing stock in gentrifying tracts. The descriptive model results suggested that gentrifiers were amenable to some facets of the housing stock in one gentrification stage, yet were not amenable to them in the other. In the next subsection however, we examine what the predictive model has to say about housing amenability and the general state of the gentrifying tract housing market.

5.3 Housing-related variables. Logits for the sample of housing-related variables are reported in Table 10. All five housing-related variables were highly correlated with some stage of gentrification, but none of them performed entirely as expected. A case in point was "Older Housing," which was positively related to gentrification only in its early stages.

Table 10

Predictive Model Results — Housing-related Variables Logits and Standard Errors (Y = Gentrification)

	Logit (Std. Err)				
Variable	1970	1980	1990	2000	
Older Housing		0.036 (0.020)			
Vacant	0.184 (0.140)				
Rented Housing	0.475** (0.176)	-1.216* (0.528)			
Avg. Rent		-0.641 (0.410)	-1.145* (0.577)	-1.065* (0.417)	
Avg. Value			0.362 (0.203)	0.251** (0.082)	

* $p(Z) \le 0.05;$ ** $p(Z) \le 0.01$

As mentioned earlier in examination of the descriptive model discussion, the positive relationship seen between proportions of older housing and early-stage gentrification is likely the result of increased demolitions or condemnations of older housing in non-gentrifying tracts. For obvious reasons, the positive logit cannot be the result of additional older housing units being built in gentrifying tracts during the 1970s. Neither should it be assumed that gentrifying tracts'

higher proportions of older housing were due to increased new construction in non-gentrifying tracts; most new home construction after World War II was in suburban areas rather than the inner-city (Jackson, 1987; Kunstler, 1993). The occurrence of a highly correlative, positive relationship between "Older Housing" and gentrification is due to lower demolition and condemnation rates in gentrifying tracts, that is greater preservation.

The higher preservation rates seen in gentrifying tracts during the 1970s suggest that riskoblivious gentrifiers were indeed attracted to gentrifying tracts' high concentrations of older homes. However what may have appeared even more attractive were the property's low values. At the start of the decade these and other homes in the tract had a higher likelihood of being unoccupied and undervalued — as the positive logit on "Vacant" implies.⁴⁰ From the predictive model, one can deduce that during the 1970s, risk-oblivious and risk-prone gentrifiers were attracted to gentrifying tracts' low values, moved to the older properties and began preserving the housing stock.

The predictive model also indicates that, during the 70s, gentrification was associated with increased owner-occupancy. The 1980 logit on "Rented Housing" is strongly and negatively correlated with gentrification, marking an abrupt ten-year shift in the relationship between the two variables. In 1970, gentrification was associated with increased rather than decreased rates of renter occupancy. That early-stage gentrification would be associated with increased renter occupancy was expected. However much like with the variable "College Grad" the sign change over only a ten-year period was not expected. It was most likely the result of a combination of increases in renter occupancy in non-gentrifying tracts and decreases in gentrifying ones (Table 6).

Surprisingly, the positive association between gentrification and owner occupancy was not met with positive relationships between gentrification and rents. This is surprising because, *ceteris paribus*, owner occupancy decreases the supply of rentals, thereby increasing their costs. However average rents in gentrifying tracts were not just negatively related to gentrification, but consistently so. Higher rents decreased the likelihood of gentrification's occurrence over the 30year period.

⁴⁰ A more definitive conclusion about gentrifying tract home values in 1970 could be reached by examining "Avg. Value" and "Avg. Rent," however data on these two variables are unavailable for 1970.

This incongruity can be explained with appeal to a distinction between market-rate rentals and subsidized rentals. Relatively low rents and relatively high rates of homeownership can coexist in a tract where a large portion of the rental units are subsidized or otherwise rent-controlled. This is because high proportions of subsidized units work to depress a tract's average household rent. If a tract's proportion of subsidized units remained high, the depressed average household rent would persist despite rent escalations that were due to rising home values, increased owner occupancy rates, or shrinkages in the supply of market-rate rentals.

With gentrifying tracts having high poverty rates and housing high proportions of welfare-receiving households even into the 1990s (see Table 5), and with such households being most likely to reside in subsidized housing (Freeman, 2006) the probability of gentrifying tracts containing substantial numbers of subsidized units is high. Their existence, in turn, likely kept gentrifying tract rents low and, consequently, kept percent-median scores on the variable "Avg. Rent" relatively low.

As the 70s ended and the 1980s began, the logit for "Avg. Rent" continued to fall. By the end of that decade the relationship between rents and gentrification was, unexpectedly, more strongly negative. By the end of the 1990s the logit weakened slightly yet remained strongly negative, indicating that even at later stages gentrification and high rents did not go hand in hand.

The negative relationship is all the more surprising when one examines the 1990 and 2000 "Avg. Value" logits. The logits are weakly, but positively related to later-stage gentrification. Given gentrifying tracts' sustained levels of poverty-stricken and welfare-receiving households even into the 1990s, it is again likely that the continued occurrence of high property values and low rents is due to gentrifying tracts having large shares of subsidized rentals.

Despite these large shares, housing values continued to share a positive relationship with gentrification throughout the 1990s. Vacancy and rental rates had by that time become to approximate those of non-gentrifying tracts — likely due to non-gentrifying tract increases on both these variables.

Proportions of older housing in gentrifying tracts were likewise on par with those of nongentrifying tracts. This particular finding was unexpected, for it was assumed that gentrifiers would continue their preservation efforts. Instead, increased gentrification appeared to bring increased demolition and new construction. This was particularly true in the 1990s, a period

when older housing stocks in gentrifying tracts dropped twice as fast as those in non-gentrifying tracts (Table 6). The movement away from preservation was likely due to the relatively high property values engendered by later-stage gentrification, and investor desire to maximize profits by converting properties to their highest and best use. The gentrifying tract continued to have high proportions of older housing during the 90s, but by 2000 that housing likely existed in proximity to newer structures more amenable to the risk-prone and especially risk-averse gentrifiers seeking to move to the neighborhood.

5.4 Summary. The predictive model's results generally coincide with those of the descriptive model, but differ in a few of respects. Among the demographic variables, the descriptive model showed that gentrifying tracts had high levels of diversity. Logits on the predictive model likewise show a positive relationship between gentrification at both stages and increased diversity levels. However the predictive model also suggests that increased gentrification is negatively related to shares of non-Whites. In fact over time, even small concentrations of non-White persons highly imperil the likelihood of gentrification. The predictive model does show a positive relationship between gentrification and concentrations of Hispanics, however the downward trend of the logits on the variable indicates that their concentrations have a decreasing effect on gentrification's likelihood.

Another point of divergence between the descriptive and the predictive models was the concentration of seniors. The descriptive model showed that in earlier census years gentrifying tracts contained above-median proportions of seniors. However the predictive model showed a negative relationship between concentrations of seniors and early-stage gentrification. It was speculated that this negative relationship was the result of risk-oblivious and risk-prone gentrifiers not wanting to live in areas with high levels of conservative attitudes. Areas with large concentrations of seniors typically reflect such attitudes.

The two models also diverged on two other demographic variables: "Walk/Bike" and "Turnover." On the former variable, the predictive model showed consistently negative relationships. The relationships indicated, all things equal, decreased gentrification likelihoods associated with high concentrations of walking or biking commuters. The predictive model also showed consistently negative relationships on the latter variable, again indicating that, all things equal, gentrification was associated with low turnover rates. Given the class transformations associated with gentrification, the consistently negative relationship between the two variables is

surely counterintuitive, but explainable with examination of the pure effect of turnover, that is factoring out turnover's association with other variables in the predictive model.

With regard to housing-related variables, the two models diverged on the two rental variables. On "Rented Housing," the descriptive model indicated that early stage gentrification was associated with high levels of renter occupancy. The predictive model agreed in part, but showed that by 1980 gentrification was negatively related to renter occupancy. The sign change on the variable's logits between 1970 and 1980 was likely due to a surge of new residents wishing to profit from the undervalued and older housing found in gentrifying tracts.

With regard to the second rental variable, "Avg. Rent," the descriptive model indicated that gentrifying tract rents rose above metropolitan medians by 2000. However the variable's Year 2000 logit in the predictive model was strongly negative, indicating that late-stage gentrification was associated with low rents. This counterintuitive relationship is likely the result of gentrifying tracts containing high concentrations of subsidized rentals. The existence of such rentals decreases the amount paid in contract rent and depresses mean and median figures on the variable across the tract.

Despite these discrepancies, the findings do not contradict each other in any major respects. More importantly, the findings are of accord with basic understandings of gentrification. We can clearly see in one model and can deduce from the other upgrading that results in reflection of middle class values and tastes. The predictive model in particular provides new insights into how and through which dimensions gentrifying tracts differ from others in the inner-city. With these new insights, we can devise a theory of gentrification that can be applied to cases in other American cities. We use this chapter's next section to articulate just such a theory.

6. Toward a Theory of Gentrification

From a bird's eye view, gentrifying tracts differed from other inner-city tracts in that they were more racially and ethnically diverse, containing high concentrations of Hispanic persons but low concentrations of non-Whites. They housed few seniors and as gentrification progressed housed even fewer of them. Gentrification decreased the concentrations both of children and the households in which they lived. However it increased the already-high concentrations of non-family households and kept average household sizes relatively low.

With their low earnings levels and fewer years of education, the populace of the earlystage gentrifying tract was less economically-mobile than others. Residents often rented housing at low rates, and the values of the properties in which they lived were likewise quite low. Riskoblivious gentrifiers were attracting to these low property values, among other things. They purchased the properties, converted some of the units to owner-occupancy and, as has been demonstrated, sparked a movement that increased property values, improved quality of life, and transformed the neighborhood's demographic profile.

From the foregoing discussions on the results of the predictive model, it is possible to draw five conclusions about the gentrification process. It can be said that gentrification is more likely to occur in tracts having: (1) levels of racial and ethnic diversity above city medians; (2) concentrations of non-White persons below city medians; (3) concentrations of seniors below city medians; (4) concentrations of non-family households above city medians; and (5) property values and rents below city medians.

Tracts with increasing numbers of these characteristics are likely to attract attention and investment from risk-oblivious gentrifiers. If undesired traits do not increase significantly, and monies are available for housing rehabilitation, risk-prone gentrifiers will invest and property values will increase.

The gentrification process proceeds thusly: risk-prone gentrifiers will follow the lead of their risk-oblivious counterparts. They convert a portion of housing units from renter-occupancy to owner-occupancy, increasing property values in the process. Risk-averse gentrifiers soon enter the market to capitalize on appreciating property values. Their investments further increase tenure conversion and appreciation rates. The decline in the supply of market-rate rentals, coupled with the increased demand for them, increases rents. The increased rents work to displace those residents of market-rate housing who cannot absorb the increased costs, such as seniors, single mother families, and persons living near or below the poverty line. This continued investment, appreciation, and displacement cycle continues until a period of stability begins — as the neighborhood life cycle theory anticipates.

This theory differs from current academic ideas about gentrification in three respects. First, upon considering this study's findings, it is difficult to accept that gentrifiers (even riskoblivious ones) are attracted to racial and ethnic diversity in the pure sense of all racial and ethnic groups being represented equally. According to the predictive model, risk-oblivious

gentrifiers were most likely to be attracted to areas with relatively few non-Whites — Blacks in particular — but with higher concentrations of Hispanics and non-Hispanic Whites. This finding may largely be explained by the aftermath of rioting among Blacks in the late 1960s, and the common fear that violence in the areas wherein they were concentrated could re-ignite at any time. Still, areas undergoing the gentrification process garnered fewer and fewer Black persons during the 1970s and 1980s — a surprising finding considering that Black populations rose sharply in other parts of the inner-city. It is not difficult to conclude from this that in many gentrifying neighborhoods there was some systemic effort to depress the number of Black in-migrants. This may have been done consciously through overt racial discrimination, or unconsciously through decreases in the supply of low-cost or subsidized housing.

Secondly, this theory of gentrification differs from current academic narratives in that there is little evidence suggesting that gentrifiers worked to preserve older housing stocks. Predictive model results suggest that risk-oblivious and some risk-prone gentrifiers worked to preserve older housing in the 1970s. However such efforts appeared to fall away in the 1980s and especially the 1990s, where older housing stocks in gentrifying tracts dropped twice as fast as those in non-gentrifying tracts. As previously mentioned, the 1990s drop in preservation efforts was likely the result of property owners desiring to bring properties up to their highest and best use.

Finally, the data show a mixed relationship between gentrifiers and their use of alternative commuting methods. Gentrifiers are more likely to use public transportation than residents of non-gentrifying tracts, but they are less likely to walk or bike to work. Moreover, continued influxes of gentrifiers did not translate into proportionate increases in transit ridership. Indeed, nominal values for "Transit" steadily decreased over the 30 year period in gentrifying and non-gentrifying tracts alike. Both groups of tracts saw their biggest declines in alternative transportation usage during the 1980s — the aftermath of a period of worldwide oil shocks. Gentrifiers may express wishes of being free from automobiles, but they rely on them to about the same extent as residents of non-gentrifying tracts.

Results of this study find that gentrifying activity was not significantly related to racial and ethnic diversity in a pure sense, the concentration of historically- or architecturallysignificant housing, or the prevalence of use of alternative commuting methods. It does find that relatively low property values, relatively few seniors and non-Whites, and relatively high

numbers of non-family households are key in determining where gentrification is likely to occur and how it is to be sustained.

With the articulation of a gentrification theory we now turn to testing. Predictive power will be assessed using samples of gentrifying and non-gentrifying tracts from 30 additional "outof-sample" cities. Testing procedures are outlined, and results are discussed, in the next section. *7. Model Tests*

The present section attempts to gauge the external validity of the gentrification theory. This is done by applying the model results to a group of 594 out-of-sample census tracts and assessing their performance in predicting gentrification in *a priori* gentrifying tracts.

Using the same methods articulated for the first, in-sample group of tracts, 73 of the outof-sample tracts were deemed "gentrifying" *a priori*. These out-of-sample tracts differed from those in-sample, however, in that the former were identified using news reports published between the years 1999 and 2007. The remaining 521 tracts deemed "non-gentrifying" were chosen randomly. A list of all neighborhoods included in the gentrification group, as well as citations of those articles used to justify their inclusion, is provided in Appendix B.

To apply each logit model's results to the percent-median scores of out-of-sample tracts, each logit was converted to a probability. This probability is simply the P_{iy} in

$$logit_{iy} = ln \left[\frac{P_{iy}}{1 - P_{iy}} \right].$$

Like the logit itself, this probability reports the change in the likelihood of tract gentrification given a one-unit increase in the independent variable.

These probabilities were then used to estimate a "predicted probability" of gentrification, or $PP_{gentrification}$. This step was undertaken to understand how each independent variable, *ceteris paribus*, influenced gentrification's likelihood. Predicted probabilities were derived using the linear regression equation

$$\left[PP_{gentrification}\right]_y = \gamma_{iy} X_{iy} + \epsilon_y$$

where γ is a row vector of *i* predicted probability values for year *y*. Results of the linear regressions are shown below in Table 11.

Table 11

Predicted Probabilities by Variable and Census Year

Variable	Year					
	1970	1980	1990	2000		
Diversity	-0.005	0.010	0.016	0.011		
Share Black	0.000	-0.001	-0.003	-0.003		
Share Other		-0.002	-0.003	-0.003		
Share Hispanic	0.015	0.004	0.003			
Child		-0.006	-0.030	-0.010		
Senior	0.005	-0.033	-0.044	-0.043		
Married & Child		0.028				
Non-family	0.042	0.084	0.076	0.092		
Transit		0.005	0.015	0.013		
Walk/Bike	-0.003	-0.005	-0.006	-0.004		
Pers/HH	-0.003	0.000	0.001	0.000		
Turnover	-0.032	-0.020	-0.017	-0.024		
College Grad	-0.006	0.012				
Jobless			0.009			
Gini		0.070	0.025			
Earnings		-0.078		0.008		
Vacant	0.008					
Rented Housing	0.011	-0.045				
Older Housing		0.003				
Avg. Value			0.023	0.022		
Avg. Rent		-0.002	-0.033	-0.022		

Each row vector for year y was multiplied by an $i \times n$ matrix⁴¹ of out-of-sample observations *from the following census year*. To put it differently, predicted probabilities derived using in-sample, Year 1970 data were applied to Year 1980 out-of-sample values. The logic behind this procedure stems from an assumption that out-of-sample tracts began gentrifying in 1980 rather than 1970. Risk-prone gentrifiers in out-of-sample cities were seen as entering the market in 1990 rather than 1980, and so on. Therefore the predicted probabilities of those variables significantly related to gentrification in the 1970 logit model were applied to Year 1980 out-of-sample observations. Likewise, results from the 1980 model were applied to Year 1990 observations, and the 1990 model results were applied to out-of-sample observations taken in

⁴¹ where *i* is the number of independent variables in the logit model and *n* is 594 - the number of out-of-sample census tracts

Year 2000. The Year 2000 logit model was not used. The entire procedure results in three row vectors — one for each census year — their elements being tract predicted probabilities.⁴²

It is assumed that the 1970, 1980, and 1990 logit models serve as good predictors of tractlevel gentrification if two conditions are met: (1) each model consistently predicts that out-ofsample, *a priori* gentrifying tracts have predicted probabilities greater than or equal to 0.50, and (2) each model consistently predicts that out-of-sample, non-gentrifying tracts have predicted probabilities less than 0.50. A successful prediction occurs when the predicted probability of a gentrifying tract meets or exceeds the 0.50 threshold or when the predicted probability of a nongentrifying tract does not meet the threshold. An unsuccessful prediction results when the predicted probability of a gentrifying tract does not meet the threshold, or when the predicted probability of a non-gentrifying tract meets or exceeds it.

Upon examining predicted probability summary statistics, it was possible to eliminate two row vectors from further consideration. As shown below in Table 12, the maximum predicted probabilities for the 1980 and 2000 data were below the 0.50 threshold. As such, the 1970 and 1990 logit models were seen as having poor predictive power.

Table 12

Summary Statistics for Predicted Probabilities Out-of-Sample Data

Census Year	Ν	Mean	Std. Dev.	Min	Max
1980	594	0.045	0.042	-0.038	0.220
1990	594	0.049	0.091	-0.254	1.164
2000	594	0.052	0.064	-0.251	0.367

The maximum predicted probability from the 1990 data was 1.164, however as shown below in Table 13, only three census tracts deemed gentrifying *a priori* were above 0.50.⁴³ Predicted probabilities for 70 gentrifying tracts were less than 0.50. In addition, one of the non-gentrifying tracts had a predicted probability greater than or equal to 0.50, likewise constituting failure.

⁴² It must be noted that it is possible for a predicted probability to be less than zero or greater than one. Such occurrences are the result of some tracts having high percent-median scores on strongly positive variables (e.g., "Non-family") or strongly negative variables (e.g., "Senior")

⁴³ The three tracts with predicted probabilities greater than 0.50 were all in Phoenix, Arizona. It is unclear why this is the case.

Table 13

Predicted Probabilities Success/Failure Frequency Table 1990 Logit Model

Tract Type	Success	Failure
Gentrifying	3	70
Non-Gentrifying	520	1

As few gentrifying tracts crossed the 0.50 threshold, two additional model tests were conducted to determine whether out-of-sample gentrifying tracts had relatively higher predicted probability values than their non-gentrifying counterparts. The first test involved specifying three separate logit models with city-based fixed effects. The gentrification variable was regressed on the 1980, 1990, and 2000 out-of-sample predicted probabilities. If, as expected, gentrifying tracts had higher predicted probabilities than their non-gentrifying counterparts, the independent variable would share a significant, positive relationship with the dependent variable. Each model was specified with robust standard errors. Results are shown below in Table 14.

Table 14

Results of Fixed-Effects Logit Models Out-of-Sample Predicted Probabilities

Predicted Probabilities	Logit (Std Err)	Z
1980 Model	23.387 (5.077)	4.61**
1990 Model	17.491 (3.121)	5.61**
2000 Model	18.502 (2.931)	6.31**
** p≤0.01		

In each of the models, predicted probabilities for gentrifying tracts were significantly higher than those for non-gentrifying tracts. In essence, out-of-sample gentrifying tracts are strongly associated with high predicted probabilities, even when accounting for city-based fixed effects.

The second model test involved the use of percentiles. Predicted probabilities for gentrifying tracts were expected to be ranked in percentiles higher than non-gentrifying tracts. For each set of predicted probabilities, the 90th percentile was calculated. A t-test was also

performed to determine whether the means of the samples of gentrifying and non-gentrifying tracts were equal.

Table 15 shows the number of tracts with predicted probabilities at or above the 90th percentile. Under the column "Success Rate," the table also indicates the percentage of tracts of that same class with predicted probabilities above the threshold. Results show that gentrifying tracts were significantly more likely to meet the 90th percentile threshold than non-gentrifying tracts.

Table 15

Summary Statistics and t-test Results Gentrifying and Non-gentrifying tracts with Predicted Probabilities at or above 90th Percentile

Predicted Probabilities		Ν	Success Rate (Percent)	Mean (Std Dev)	t	
1980 Logit Model	Gentrifying	11	15.07	0.074 (0.044)	6 522**	
	Non-Gentrifying	49	9.40	0.041 (0.040)	-0.552	
1990 Logit Model	Gentrifying	19	26.03	0.122 (0.186)	7 600**	
	Non-Gentrifying	41	7.87	0.038 (0.062)	-7.099	
2000 Logit Model	Gentrifying	16	21.92	0.106 (0.057)	8 200**	
	Non-Gentrifying	44	8.45	0.044 (0.061)	-0.209	

H_a: Difference in Means $\neq 0$; d.f. = 592; ** p < 0.01

Results of the t-test showed that the mean predicted probabilities of gentrifying and nongentrifying tracts were not equal. Moreover, gentrifying tracts tended to have higher predicted probabilities.

Results from the two preceding tests conclude that while the logit models cannot precisely predict gentrification's occurrence, they can be used to determine where gentrification is more likely to occur.

8. Model Drawbacks

This chapter concludes with identification of some of the predictive model's drawbacks and suggestions for how they may be improved. Several factors were seen as contributing to each constituent logit model's poor performance. These factors are methodological and ontological in character. One methodological concern is the problem of omitted variables. A number of other factors related to gentrification exist, but these factors were not or could not be operationalized. Some of these factors, such as crime incidence, have already been mentioned. Other factors known to contribute to gentrification but were excluded from the analysis include distance from employment centers like downtowns, medical centers, or colleges and universities; distance from desired amenities like parks and light rail stations; an area's location in a federally- or state-recognized historical district; and the proportion of a tract's population that identifies as gay or lesbian. Proxy variables were employed in attempts to incorporate these phenomena, but they were admittedly pale substitutes.

A second methodological concern was the use of census tracts as the observation unit. Census tracts are small geographic units, but gentrifying activities seldom occur in all parts of the tract at the same time. Often, only a portion of the census tract experiences gentrifying activity; that activity spreads to other portions of the tract over time.

A related methodological concern is the lack of correspondence between neighborhood boundaries and tract boundaries. It is not unusual for two neighborhoods to be located within the same census tract, or for a neighborhood to span two, three, or in the case of Los Angeles even ten different census tracts.

Moreover, neighborhood boundaries are fundamentally subjective. As mentioned in Section 1 of this chapter, a variety of sources were used to ultimately delineate neighborhood boundaries. This minimized the subjective character of neighborhood boundaries, but it by no means rendered them objective. The subjective nature of neighborhood delineation, and the lack of correspondence between neighborhood boundaries and tract boundaries, allowed for the inclusion of data that sometimes strikingly defied expectations. Its inclusion almost certainly biased results, particularly those of the 1970 and 1980 logit models.

A fifth methodological concern was the use of the local media to identify gentrifying neighborhoods. Local reportage strives for objectivity, however with regard to gentrification in particular and community development in general, some media reports have been shown to be important conduits for boosterism by elected officials, local businesses, neighborhood groups, and realtors (Wilson & Mueller, 2004). What "makes news" is not always the result of casual interest by journalists, but is sometimes the result of promotion efforts by parties invested in the publication of such reports. Without having experienced the neighborhood first-hand, and

relying completely on news reports, it is not entirely possible to understand the character of the gentrification process in neighborhoods. Though unlikely, it is quite possible that gentrification had not occurred in a selected tract at all.⁴⁴

A final methodological concern was the character disparities of the cities included in the analysis. Including gentrifying tracts from cities as diverse as New York, Cincinnati, and Denver suggests equivalence in the character of gentrification in these cities that may not exist. In addition, many tracts in large metropolitan areas like New York, Chicago, or Boston have access to good public transportation modes, or house very diverse populations. Gentrifying tracts in these cities may therefore not be distinguished on those or other variables. In cities like Cincinnati and San Antonio, where one often relies on one's own car for transportation and where (outside gentrifying tracts) racial and ethnic groups are often segregated, percent-median scores on these variables for gentrifying tracts may be quite high. Such occurrences likely biased research results.

In addition to these methodological concerns, a number of ontological concerns arose from this analysis. On the surface, these ontological concerns are related to the methodological, omitted variable problem, however they go somewhat deeper than variable omission. These are concerns arising from how gentrification as a concept has been approached in this study and what, given this approach, has likely been excluded from view. As will be shown, what was excluded from view may have made the models more robust and may thereby have enhanced their predictive powers.

As articulated in Chapter 1, this research's ontological stance with regard to gentrification was that within the confines of social, economic, and political structures, agents used various resources to maximize their own utility. The ontological concerns stem from two of these structures being only partially considered in this analysis.

The structure examined most thoroughly in this analysis was social structure. Analysis of residents' racial, ethnic, family, and education backgrounds allowed for an understanding of each tract's (and in turn each city's) social structure. It was possible to determine from each model

⁴⁴ It is also possible that gentrification backers may wish to suppress news of gentrification's occurrence to prevent speculation or to preserve the area's gestalt. The lack of news coverage about gentrification in Baltimore's Lauraville neighborhood may have been the result of suppression. Many of the neighborhood's residents were middle-class gay women who wanted to keep the neighborhood's progress "secret." Their concerns were largely related to safety. I learned about the neighborhood and its high concentration of gay and straight women not through news reports but through word-of-mouth.

whether tracts in a gentrification stage were more racially and ethnically diverse, housed large numbers of traditional, nuclear families, and had a more educated populace than other inner-city tracts. Examining the interaction of these variables allowed for an understanding of how the social structures in gentrifying tracts differed from those of non-gentrifying tracts.

To an extent, the models also allowed for an understanding of each tract's economic structure. While one cannot glean information about tract and city economic bases or the health of these bases from the models, they can be used to garner a general picture of each tract's relative economic strength.

Still, information about the strength of city or metropolitan area economic bases would likely have contributed much to this research. While not formally explored, there appears to be a positive correlation between the number of gentrifying tracts identified in a city, and the size and strength of that city's or metropolitan area's economy. For example, the city with the largest and strongest economy, New York, had so many neighborhoods undergoing gentrification during the 1990s it was impossible to include them all without significantly biasing the sample. On the other hand, it was impossible to find a gentrifying neighborhood in Detroit, a city and metropolitan region in severe economic decline.

Macroeconomic conditions likely have bearing not only on the number of gentrifying areas found in cities, but also on the kinds of gentrifiers gentrifying them and the speed of the activity. Cities with strong economies often have large amounts of money available for borrowing. They also contain large numbers of persons with resources to retire such loans. This large pool of wealthy individuals seeks investment opportunities and, if a neighborhood is seen as having potential, they may invest in it quite heavily. The heavy investment may result in property values skyrocketing rather than gradually increasing, which in turn may prompt abrupt shifts in neighborhood-level social, economic, and political structures. By contrast cities with smaller economic bases have shallower pools of both money and wealthy investors. There, the occurrence of any gentrifying activity is likely to be more gradual, and property values are less likely to skyrocket.

Clearly, the constituent models did not account for the conditions of and changes in a metropolitan area's macro-economy. While some economic information was available at the census tract level, the models did not consider the wider economic structure within which they

were located. Non-consideration of the macroeconomic structure made it difficult to discern and control for the character of the gentrifying activity occurring in the tract.

Coupled with this drawback was the lack of consideration given to political structure. To a very minor extent, one of the study's variables, "Older Housing," had the ability to capture gentrifying activity arising from developments in the political sphere. This was due to the federal government providing a tax incentive for the rehabilitation of structures built before 1936 (National Park Service, 2008). Many states provide similar rehabilitation incentives.⁴⁵

However, state and local governments provide redevelopment and rehabilitation incentives that have little or nothing to do with historic preservation. Such incentives may also work to encourage gentrification. For example, many local governments have instituted taxincrement financing programs. These programs involve the financing of infrastructure redevelopment using monies reaped from bond sales. The bonds are eventually retired using (it is hoped) increased property tax revenues associated with the redevelopment. This form of public investment may work to "prime the pump" of redevelopment and attract increasing numbers of gentrifiers.⁴⁶

The usage of tax-increment financing and older-property rehabilitation incentives are just two examples of various ways in which political structures may affect gentrifying activity. With the exception of the "Older Housing" variable, the predictive model hardly considered the effects of federal, state, and local laws and politics on gentrification.

Examination of the effects of policies and politics on gentrification continues to be an important area of research,⁴⁷ however such questions will not be examined here. Instead, what follows is an evaluation of urban policies that have been enacted to encourage gentrification. These policies are examined in light of the proposed theory.

⁴⁵ An owner whose Ohio property is either on the National Register or has been designated as a historic landmark by a certified local government is eligible for an Ohio corporate franchise or income tax credit equal to 25 percent of rehabilitation costs (Ohio Department of Development, 2006).

⁴⁶ More information on tax-increment financing and its association with gentrification will be provided in the next chapter. ⁴⁷ For examples, see Hackworth (2007) and Lees, Slater, & Wyly (2008).

Chapter 4 Evaluating Gentrification Policies

Governments have relied on two methods in their efforts to populate economicallydepressed areas with middle class persons. The first method involves easing current resident access to the means of production. Here, this method is referred to as "class migration" (or what Giddens may call "class mobility"). The mechanisms employed to encourage it include the provision of subsidized low-interest loans to aid home purchases, the institution of grant and loan programs affording low-income residents business start-up capital, and inducing corporate entities to expand the local job pool and boost wages.

The second method governments use is the provision of traits amenable to middle class members. This method is referred to as "physical migration," for it is believed that trait provision in the depressed area will entice gentrifiers to relocate there. A common mechanism used to attract gentrifiers is the provision of tax abatements for home renovation, but others include increased government investment in neighborhood schools, promotion of the area's diverse population, or the financing of "super-gentrification" projects.

Policies encouraging what this research refers to as gentrification are generally of the physical migration variety, and it is these policies that this chapter will evaluate. It is hypothesized that a positive relationship exists between the efficacy of gentrification policies and the extent to which aspects of the gentrification theory are incorporated into these policies.

In the previous chapter it was concluded that gentrification was more likely to occur in areas with: (1) levels of racial and ethnic diversity above city medians; (2) concentrations of non-White persons below city medians; (3) concentrations of seniors below city medians; (4) concentrations of non-family households above city medians; and (5) property values and rents below city medians. Moreover, gentrification was likely to continue if desired traits (i.e., ethnic and racial diversity, high numbers of non-family households) increased and undesired traits (i.e., high numbers of seniors and non-Whites) decreased. From this conclusion, one can hypothesize that policies encouraging gentrification through physical migration will be more effective when they are implemented in areas having these general characteristics.

Two concerns arise from this hypothesis. The first concern is that such a hypothesis appears to condone policies discriminating on the bases of age, race, and family structure. Such discrimination is in no way advocated or condoned here. This research does not call for the steering of redevelopment away from areas with high proportions of seniors, families, and non-Whites. It does, however, wish to prove that policies encouraging redevelopment through gentrification are generally most effective in areas where proportions of these populations are relatively low.

A second concern arising from this hypothesis stems from the very notion of "gentrification policy." Frankly, urban policies that explicitly call for gentrification are, in the United States at least, largely non-existent. The reason for this, as Lance Freeman and others have argued, is the negative connotations associated with the process. To many gentrification is seen as a form of class and racial discrimination, with governments tolerating or, worse, endorsing the displacement of poorer, most often Black residents who may have lived in the area for years or even decades. For a local elected official to be found explicitly endorsing such a process is generally seen as anathema. As such, a policy advocating "gentrification" is almost never endorsed, even in the rare instance of its promotion. More often, elected and appointed officials mask their desire for gentrification through euphemism, and so policies encouraging gentrification are presented as "redevelopment initiatives" or "revitalization efforts" (Freeman, 2006; Palen & London, 1984; Smith & Williams, 1986).

As there appear to be no explicit examples of "gentrification policy," we turn instead to an examination of those policies that call for neighborhood revitalization or redevelopment.⁴⁸ Policies to be examined are of the "physical migration" variety rather than those promoting "class migration."

In this chapter, it will be argued that policies advocating redevelopment through trait provision are more likely to cause redevelopment when they are implemented in areas reflecting the five requisites outlined in the gentrification theory. This hypothesis will be validated through abductive reasoning — demonstrating that the gentrification theory is a good explanation for evidence provided in secondary research.

Such validation first requires knowledge of the redevelopment policy and an assessment of its effectiveness, followed by an understanding of the environmental determinants of its effectiveness, and finally an evaluation of the determinants' accordance with each of the theory's requisites. In essence, for each of the policies outlined in this chapter four questions will be

⁴⁸ The term "redevelopment" will primarily be used in this chapter, but where "revitalization" is present it can be assumed to be synonymous with "redevelopment."

answered: "What is the redevelopment policy? "Is it effective in promoting redevelopment?" "What in the neighborhood contributes to the policy's effective implementation?" And finally, "To what extent do these neighborhood characteristics agree with the characteristics outlined in the gentrification theory?"

To put it differently, policies deemed effective by secondary research — and that are effective due to their implementation in areas outlined in the gentrification theory — bolster the theory's validity. If, for example, secondary research shows that a redevelopment policy is more effective in areas with few children, then a case can be made that the evidence strengthens the gentrification theory's validity via its fourth requisite: that redevelopment is more likely to occur in areas with above-city-median proportions of non-family households.

Undertaking this exercise not only provides proof of the theory's validity, but also fulfills this dissertation's secondary purpose. In Chapter 1, it was stated that the purpose of this work was not only to formulate a gentrification theory, but also to assess the efficacy of local progentrification policies in light of the theory. The technique of abductive validation used in this chapter first requires an assessment of a policy's effectiveness and, it is hoped, concludes that that policy's effectiveness hinges on coincidence with the gentrification theory. The product of this exercise, therefore, fulfills this dissertation's secondary purpose of assessing policy effectiveness in light of the gentrification theory.

Before proceeding, special attention must be paid to the idea of using abductive reasoning to evaluate truth claims.⁴⁹ Given the preceding discussion, one may be forgiven for thinking that abductive reasoning is as definitive and as sound as, say, deductive reasoning, which evaluates cases from generally-accepted rules. As will be demonstrated shortly, such thinking is incorrect.

As stated previously, abductive reasoning involves the crafting of an explanation for a set of observed facts or evidence. Generally the explanation involves no prior testing (though in the present case it clearly does). Instead, *the claim is surmised to be true*. The abductive claim is essentially a "provisional truth," an explanation (be it a "theory," a hypothesis, or a definition) that exists with the proviso that new and similar observations may require the claim's reassessment.

Because truth claims in abductive argumentation are based more on hunches than on tests, the arguments of which they are a part are generally seen as weak (Peirce, 1957, p. 130).

⁴⁹ The gentrification theory is posited here as such a claim.

The weakness stems from the lack of a definition or a time-tested rule against which definitiveness is often gauged. Indeed, through abduction the rule is in the process of being sought. Evidence serves as landmarks or guideposts in the search.

While it is not possible to assert abductively-derived claims as definitive, such claims can be esteemed as likely and useful explanations. These explanations can be validated, and abduction can in turn be employed as a validation tool. For example if a claim is surmised that "A and B always occur together," and we observe in various times and settings that A and B are always together, the observations at the very least lend credence to the claim. The claim's validity is bolstered with each new concordant observation.

We employ this exact validation technique in this chapter. Through examination of successful redevelopment policies, we evaluate whether the success coincided with the dictates of the gentrification theory. It will not be possible with this exercise to conclude that the redevelopment policy was successful *because of* its accordance with the gentrification theory. However what this exercise will demonstrate is that the gentrification theory provides a good and valid explanation for the observed facts.

Initiating the validation exercise requires knowledge of various redevelopment policies and assessments of their effectiveness. These redevelopment policies can be grouped into two broad categories: *infrastructure investment* programs and the provision of *fiscal incentives*.

Examples of each type of policy will be evaluated in this chapter. Much of the discussion in the infrastructure investment category will be devoted to local government use of tax increment financing, while the fiscal incentives discussion will focus on tax credits granted for historic preservation. We begin the discussion with a look at infrastructure investment tactics. *1. Infrastructure Investment Programs*

Cities attempt to spur gentrification by investing in new or existing facets of both socioeconomic and physical infrastructure. Often, the purpose of infrastructure investment is: (1) to provide more and/or better quality traits demanded by middle class members, (2) to decrease or eliminate traits undesirable to middle class members, or (3) to do both.

Cities have recently relied on two major funding sources to make these investments: federal assistance programs and tax increment financing. Each of these funding sources will be examined in turn. *1.1 Federal assistance programs.* Cities receive funds from various federal programs to fund infrastructure development projects. Examples include the Community Development Block Grant Program (CDBG), the HOME Investment Partnership Program, the Homeownership Zone Program (HOZ), and HOPE VI. Administered by the United States Department of Housing and Urban Development, these programs provide grants and/or loans to local, county, and state governments. Funds are provided so that these organizations can implement their respective redevelopment plans.

Each of these programs possesses various criteria that the grantee or borrower must meet to receive funds. They likewise contain a number of spending stipulations. For example, CDBG funds can only be used in census tracts wherein at least half the households earn low to moderate incomes.⁵⁰ HOZ funds were targeted to "blighted" neighborhoods near employment centers in several American cities during the late 1990s. Grantees and borrowers agreed to use the funds to revitalize areas using the principles of "New Urbanism."⁵¹ Moreover, no less than 51 percent of homebuyers in the neighborhood could be moderate- or low-income persons. As these programs largely seek (or, in the case of HOZ, sought) to ease lower- and working-class member access to the means of production — that is, as these programs seek redevelopment through class migration — they are beyond the scope of this chapter and will therefore not be evaluated here.⁵²

1.2 Tax increment financing and its effectiveness. To provide traits amenable to members of the middle class, many local governments are turning to tax increment financing (TIF). TIF funds come not from the federal government or from a tax levied on all city residents, but from a local community development corporation's (or CDC's) sale of municipal bonds. Money raised in the bond sale is used to implement redevelopment plans for the census tracts, neighborhoods, or other geographic units comprising a government-recognized "TIF district."

CDC board members and the city's leadership anticipate that plan implementation will revitalize the neighborhood, thereby prompting increases in property values, incomes, and/or commercial sales within the district. The increased economic activity results in increased

⁵⁰ "Moderate-income persons" are defined as those in households earning between 50 and 80 percent of their metropolitan area's median household income figure. "Low-income persons" are those in households earning less than 50 percent.

⁵¹ As mentioned in Chapter 2, these principles include the existence of a diversity of household incomes, a diversity of land uses, and pedestrian-friendliness.

⁵² For more information on the effectiveness of these programs, see Bleakly, Holin, Fitzpatrick, and Hodes (1983); Brazley & Gilderbloom (2007); and Galster, Tatian, & Accordino (2006).

property, income, sales, and/or use tax revenues. One or more of these augmented revenue streams are used to retire the bonds (Bright, 2000; Johnson & Man, 2001).

Traditionally, TIF districts have been implemented to meet costs associated with building new or rehabilitating existing physical infrastructure. "Brownfield" investors — commercial and industrial investors who redevelop obsolete business sites — are often the main beneficiaries of these infrastructure improvements (Freeman, 2006; Zachman & Steinwell, 2001). Aside from demolition projects or the construction of affordable housing, there appear to be few examples of TIF schemes with housing rehabilitation as a primary objective. Where housing values are a concern, TIF initiatives often focus on the rehabilitation of public, physical infrastructure like streets, sidewalks, parks, and school buildings rather than the housing units themselves. It is believed that such improvements will make the area more attractive to gentrifiers (Donaghy, Elson, & Knapp, 1999; Smith, 2006).

This lack of attention to housing unit rehabilitation is not altogether surprising — particularly in the context of property tax states. The increased property tax assessments that come from TIF-associated redevelopment often result in higher residential turnover as property owners find it more difficult to pay property tax bills. In essence, the establishment of a TIF district with a primary purpose of housing unit rehabilitation would inevitably lead to high levels of homeowner exodus and tax base instability. Cities and CDCs understand this, and as a result usually implement TIF in conjunction with commercial and industrial uses that generally have lower degrees of turnover (Carroll & Sachse, 2005).

Despite TIF almost always being associated with the redevelopment of obsolete commercial and industrial property, the practice has been shown to affect residential property values. Research suggests that the effects have largely been positive. Public administration researchers Deborah Carroll and Robert Eger found that, between 1993 and 2000, aggregate property values increased at a significantly higher rate in Milwaukee aldermanic wards containing TIF districts. Controlling for the presence (though not the valuation) of nonresidential property, brownfields, homeless shelters, and other variables, the research team estimated that for each one million dollar increase in TIF district property values, property values in the aldermanic ward increased \$3.59 million on average (2006).

In a study of TIF districts in nearby Chicago, real estate analyst Brent Smith found a significant and positive relationship between the change in sale price of multi-family housing

units and their locations in TIF districts. Significance was found after controlling for housing age, size, frame style, and other hedonic traits related to housing price. Multi-family properties inside Chicago TIF districts appreciated, on average, 52.47 percent between 1992 and 2003. Similar properties located outside the city's TIF districts appreciated at a slower 48.70 percent over the same period (2006).

Researchers Rachel Weber, Saurav Bhatta, and David Merriman found that, between 1993 and 1999, appreciation rates of single-family homes in Chicago *decreased* with increased proximity to industrial-oriented TIF districts, but *increased* with increased proximity to mixed-use TIF districts. The team controlled for vectors of housing structural characteristics and neighborhood characteristics. One can conclude from their results that housing units inside industrial TIF districts had lower appreciation rates than units outside such districts. It can also be concluded that housing units inside mixed-use districts had higher appreciation rates than units outside such districts (2007).

1.3 Environmental determinants and their conformity to the gentrification theory. It is clear from the foregoing discussion that TIF schemes are largely effective in spurring redevelopment through improvement of residential property values. It is likely that the appreciating values attract gentrifiers and other redevelopers. If redevelopment and implementation of TIF are coincident, an opportunity arises to determine whether successful implementations of TIF are connected to the dictates of the gentrification theory. To validate the theory using the success of TIF, it is necessary to address what about TIF districts, if anything, contribute to the program's effective implementation.

Unfortunately, few studies exist outlining the environmental determinants of TIF success with regard to residential appreciation. Studies that do exist focus heavily on the city of Chicago. One such study conducted by researcher Diane Gibson concluded that Chicago census tracts that would contain TIF districts by the 1990s were, in the 1980s, more likely to have been "severely disadvantaged" economically. The tracts were more likely to contain only renter-occupied housing, have highly varying property values (very high valued properties in proximity to very low valued properties), and have per capita income levels significantly below those of the city.

Of particular interest is Gibson's finding on median home values. Tracts that would contain TIFs in the 1990s had, in the 1980s, median home values significantly below that of the

city's (\$80,366 versus \$94,661; Gibson, 2003, p. 320). While the study itself provides no indication of whether the TIF tracts augmented property values, it does provide definitive proof that Chicago census tracts that would contain TIF districts met the fifth requisite of the gentrification theory — that tracts with property values and rents below city medians are more likely to be ripe for gentrification.⁵³ That such districts would have below-median property values is of little surprise however. In Illinois and in most localities with TIF programs, districts can only be drawn in "blighted areas." Such areas tend to have relatively low property values. That TIF districts would conform to the gentrification theory's fifth requisite is therefore understandable and expected.

Unexpected was the designation of inner-city TIF areas in areas heavily populated by Whites. This was surprising because inner-city blighted areas are typically associated with heavy concentrations of non-Whites and Hispanics. However in a 2006 essay economist Paul Byrne found a significant, positive relationship between rates of property appreciation (both residential and non-residential) in Chicago TIF districts and the share of district's population that was White. This relationship indicates a partial fulfillment of the gentrification theory's second requisite — that areas ripe for gentrification are more likely to have below-city median proportions of non-Whites. The basis for this claim stems from five contentions: (1) that Illinois state law allows for the institution of TIF districts only in "blight" areas, (2) that there is moderately high, positive correlation between poverty and proportions of non-Whites in Chicago, (3) that there is moderately high, negative correlation between poverty and proportions of Whites in the city, (4) that high levels of racial segregation exist there, and (5) that the proportion of Whites in a Chicago tract is positively related to that tract's diversity score, while the proportion of non-Whites is negatively related to the diversity score.

The first contention is confirmed by language in Section 65, Part 5, Article 11, Division 74.2 of the Illinois Municipal Code. The code provides a thorough definition of "blight area" which will not be reproduced here, but can be summarized as an area within a municipality with buildings that, because of their age, state of deterioration, or vacancy are "detrimental to … public safety, health, morals or welfare." Parts of municipalities with high amounts of vacant land also qualify as "blight areas" if obsolete platting, deteriorating structures on adjacent land,

⁵³ Note that the existence of such proof does not indicate that Chicago's TIF tracts *actually experienced* periods of gentrification.
or tax delinquencies impair the land's development (Illinois General Assembly, 2006). It is assumed that in major cities (particularly in Chicago) these areas are largely populated by the poorest of the city's residents.

To evaluate the second contention — that among Chicago census tracts there is a moderately high, positive correlation between poverty rates and proportions of non-Whites — primary rather than secondary research was conducted. The analysis employed Chicago-specific data taken from the Neighborhood Change Database; recall that data from this database was used to specify the descriptive and predictive models.

After specifying a series of correlation and regression coefficients, it was concluded that the second contention could only be partly supported. Correlation coefficients on nominal data showed that, in 1990, the variable "Share Black" explained 64 percent of the variance in "Poverty." Moreover, the relationship between the two variables was positive. Correlation analysis on Year 2000 nominal values yielded an only slightly weaker, yet still positive association, with a coefficient of 0.62. By contrast, the correlation coefficients between "Poverty" and "Share Other" were negative, but weak: –0.16 in 1990 and –0.19 in 2000.

The linear regression results were similar. It was found that for every one unit increase in "Share Black," the variable "Poverty" increased 0.30 units in 1990. In 2000, the linear regression coefficient decreased slightly to 0.23. When "Share Black" was replaced with "Share Other," the regression coefficients were –0.43 and –0.34 in 1990 and 2000 respectively. The results showed that as concentrations of Black populations increased, instances of poverty increased. However as concentrations of other non-White populations increased, instances of poverty decreased. With knowledge of these correlation and regression coefficients, we conclude that in Chicago there is a strong positive association between poverty and being African-American, but a weak negative association between poverty and being a member of another racial minority.

In contrast to the second contention, the third contention — that among Chicago census tracts there exists a moderately high, negative correlation between poverty rates and proportions of Whites — is fully supported by correlation and linear regression coefficients. The correlation

between "Share White" and "Poverty" in Chicago census tracts was -0.74 in 1990 and -0.70 in 2000. Linear regression coefficients were -0.37 and -0.31 for 1990 and 2000 respectively.⁵⁴

There is again only partial support for the fourth contention that Chicago is a highly segregated city. Chicago sees high levels of segregation between Blacks and Whites, but not between Whites and persons of other races. The 1990 and 2000 correlation coefficients between "Share Black" and "Share White" were -0.82 and -0.77 respectively. The coefficients between "Share Other" and "Share White" were 0.12, and 0.20.

Regression coefficients indicated that as the proportion of Whites increased in Chicago tracts, the proportion of Blacks fell; the proportion of persons from other races increased however. For every unit change in "Share Black," "Share White" decreased 0.76 units in 1990 and 0.67 units in 2000. When "Share Black" was replaced with "Share Other," the regression coefficients became positive: 0.64 and 0.82 for 1990 and 2000, respectively. From these correlation and regression coefficients, we conclude that Chicago sees high levels of segregation between Blacks and Whites, but not between Whites and persons of other races.

The fifth contention — that diversity index scores are positively related to "Share White" and negatively related to concentrations of non-White persons — is again only partially supported by the evidence. In 1990, the correlation coefficient between "Share White" and "Diversity" was 0.10 and in 2000 it was 0.25. The associations were weak, but the relationships were positive. Relationships were also positive between "Share Other" and "Diversity," but the associations were stronger: 0.37 and 0.40 in 1990 and 2000, respectively. Between the variables "Share Black" and "Diversity," the associations were even stronger, but negative: The 1990 coefficient was –0.41 and in 2000 it was –0.52. In essence, the higher the concentration of African-Americans in a tract, the less the likelihood of racial and ethnic diversity.

From these five facts one can draw a plausible conclusion that successful TIF districts in Chicago housed relatively low proportions of African-Americans during the 1990s. The conclusion is drawn thusly: TIF districts can only be created in blighted, economically-depressed areas and these areas very likely contain large numbers of persons living below the poverty line. In Chicago such persons are more likely to be Black, so one can infer that, generally, Chicago TIF districts were likely to house high proportions of African-Americans. Moreover, the city

⁵⁴ Constants were included in all linear regression equations. In addition and for both census years, the independent variables "Share White" and "Share Black" were significantly related to "Poverty" at the $\alpha = 0.01$. "Share Other" was not significantly related to "Poverty" in either census year.

was highly segregated during the 1990s, but in the face of this segregation Blacks were more likely than Whites to live in racially homogenous, segregated tracts.

If, as Byrne's research shows, there is a positive relationship between Chicago TIF district success and the proportion of Whites found in the district, *and if* Blacks and Whites in Chicago tend to live in separate tracts, but Whites are more likely to live in diverse tracts than Blacks, *and if* Blacks in Chicago tend to be more highly segregated than Whites, one can conclude that successful Chicago TIF districts probably house few African-Americans. Such districts undoubtedly contain Blacks, but they also likely house significant numbers of Whites and persons of other races and ethnicities. As Blacks are less likely to live in such diverse areas, it is not unreasonable to conclude that the proportion of the Black population in such tracts will likely be relatively low.

While it is not possible to conclude definitively from this assessment that part of the gentrification theory's second requisite has been fulfilled, anecdotal evidence shows that the likelihood of partial fulfillment is high.

Evidence from Byrne also suggests that successful TIF districts fulfilled the first requisite of the gentrification theory — that tracts ripe for gentrification would have higher-than-city median levels of diversity. Information from the foregoing discussion on the proportion of Blacks in TIF districts can be used to support the claim of high diversity levels. Given that there is a high level of segregation between Blacks and Whites in Chicago, given that Chicago's poor are more likely to be Black than non-Black, and given that TIF districts are mainly located in poor areas and that TIFs become more successful as numbers of White residents increase, it is highly likely that successful TIF tracts have a mixture of Blacks and Whites and, at the very least, a higher diversity index score than many of the racially and ethnically homogenous tracts found in the city.

Secondary empirical research could not be located indicating the effect of senior citizens and non-family households on the success of TIF districts. However, successful TIF districts fully reflected two of the gentrification theory's requisites and part of another requisite. One can conclude that employing TIF to a neighborhood ripe for gentrification — as articulated by the gentrification theory — will increase the likelihood of the program's success.

It should be noted that while evidence exists showing TIF effectiveness in areas of accord with the gentrification theory, it is not possible to determine whether gentrification has occurred or is occurring there. It has been shown that, in Chicago at least, successful TIF districts experience conditions where gentrifying activity can flourish, but it has not been shown that that activity is actually occurring. As such it is not possible, from the foregoing discussion, to determine whether gentrification plays a key role in TIF success. Addressing that particular issue — that is articulating a causal link between gentrification and TIF success — requires further empirical research.

Infrastructure investment is one set of mechanisms local governments employ to attract middle class members. We now turn to an analysis of another set of mechanisms — fiscal incentives.

2. Fiscal Incentives

The second means by which governments encourage middle class in-migration is the implementation of fiscal incentives. These incentives often take the form of *tax abatements* and *tax credits*. A tax abatement is a temporary suspension of tax payments while a tax credit is recognition of partial payment on taxes due.

Taxing authorities use these fiscal incentives to stimulate preferred investment behaviors among the populace. The federal government, for example, provides income tax credits to persons owning fuel-efficient cars, while many state governments use property tax abatements as means of attracting industrial plants. In the case of gentrification, governments often provide income tax credits and property tax abatements to those purchasing and/or rehabilitating housing in economically-depressed areas.

In this section of the chapter, we evaluate both forms of fiscal incentive. We begin with an evaluation of abatement programs.

2.1 Residential property tax abatements. Many state and local governments provide full or partial abatement of property taxes to encourage capital investment by private entities. Corporations are the heaviest users of abatement programs; these entities often leverage the scale of their capital investment and the promise of new commercial or industrial jobs in the jurisdiction to receive the abatements.

State and local jurisdictions also provide abatements for the rehabilitation of residential property, but to a much lesser extent. Where they do exist, the abatement is usually on the augmented property assessment often flowing from the renovation. This is the case with the City

of Cincinnati, which provides a ten-year exemption from property tax increases associated with rehab (Homeownership Center of Greater Cincinnati, 2006).

While state and local governments expect that abatement provisions will spur significant redevelopment, studies indicate that these expectations are unwarranted. In a survey of seven North American cities, urban planner David Varady found that abatement programs were of little help in averting neighborhood decline. He also found a fair amount of abuse, wherein the program was being used so that the city's wealthiest individuals could gain tax breaks (1994).⁵⁵ Iowa State economists David Swenson and Liesl Eathington found that housing tax abatements (for both housing starts and renovations) made no difference in housing growth or value appreciation in 19 Iowa cities (1998). Economists Christopher Bollinger and Keith Ihlanfeldt came to similar conclusions in their study of abatements for housing starts in Atlanta (2003).

As tax abatement programs are seen as largely ineffective in promoting redevelopment, they will not be considered here. We turn instead to an examination of tax credits — particularly historic preservation tax credits — which have been shown to impact redevelopment.

2.2 Historic preservation tax credits and their effectiveness. Sometimes explicitly but often implicitly, tax credits have been used by all branches of government to encourage gentrifying behavior. Perhaps the most enduring of these tax credits are the ones administered through the Federal Historic Preservation Tax Incentives program. The program provides an income tax credit equaling 20 percent of the rehabilitation cost of income-generating properties that are on the National Register of Historic Places, or that are within a nationally-recognized historic district. Some sub-national governments offer additional, more lucrative incentives. The State of Virginia, for example, provides a 25 percent income tax credit that can be applied to not only income-generating properties, but also to owner-occupied housing (Virginia Department of Historic Resources, 2008).

There has been much qualitative research on the relationship between historic preservation and gentrification, and its results consistently show that historic designation is an important precursor to gentrification. In her book *The Living City*, Roberta Gratz provides a detailed summary of how historic preservation efforts in Savannah's Victorian District contributed to gentrification and displacement (1994). Researchers David and Barbara Listokin

⁵⁵ Varady found that program abuse was significant in New York City. Abuses were also found in the Cincinnati program (Korte, 2004).

and Michael Lahr found that residential property owner use of the federal credit has significantly contributed to local economic development in many major American cities (1998). Commenting on the Listokin et al. piece, Neil Smith asserted that while the intricacies of the relationship between preservation and gentrification had not been comprehensively studied, "the general catalytic effect of [the two phenomena] is undeniable" (1998, p. 481). The anecdotal evidence of a relationship between historic preservation and gentrification has been so overwhelming that, as Listokin et al. write, "preservationists have done yeoman's work in trying to reduce displacement pressures" arising from the gentrification externality (1998, p. 465).

Quantitative research largely indicates that — be they local, state, or federal in origin — historical designations result in significant property appreciation. In a study of Chicago home sales during the 1990s, policy analyst Douglas Noonan found that properties within nationally-recognized historically-significant neighborhoods — or individual properties receiving either the state or the federal designation — sold at a higher price than other properties. Moreover, the designations had spillover effects, positively affecting the prices of nearby properties and/or neighborhoods (2007). Economist N. Edward Coulson and policy analyst Michael Lahr likewise found a significant, positive relationship between the Memphis (Tennessee) Landmarks Commission's designation of neighborhoods as historical and sale prices of properties within those neighborhoods (2005). Using data from Abilene, Texas, Coulson and geographer Robin Leichenko reached similar conclusions (2001). The property appreciations that come with historical designation work to pique the interests of the risk-oblivious and risk-prone gentrifying classes, often resulting in more widespread redevelopment (Kerstein, 1990; Smith, 1998).

While there is empirical evidence linking the act of designation to value appreciation (and, according to anecdotal evidence, consequent gentrification), few empirical studies were found linking usage of *tax credit programs* to appreciation. There is however some anecdotal evidence citing tax credit usage as a key revitalization tool for depressed areas (Listokin et al., 1998; Swaim, 2003).

While not every owner of a historically-designated property will be granted the preservation tax credit, the likelihood of receiving it is obviously higher for properties and neighborhoods that have received the designation. As such, identifying those environmental determinants associated with designation will indicate where the preservation tax credits will most likely be applied.

2.3 Environmental determinants and their conformity to the gentrification theory. Unfortunately, there has been little research on environmental determinants associated with historical designation and, by extension, the propensity of historic preservation tax credit usage. The only useful study found was one conducted by Coulson and Leichenko in Fort Worth, Texas (2004). In the study, the team found a significant, positive relationship between the number of state- and/or nationally-recognized historic homes in that area's census tracts, and tract vacancy rates in 1990.

As residents of these tracts have a greater likelihood of using the federal tax credit,⁵⁶ and as high vacancy rates are generally an indication of low property values, the Fort Worth study provides some evidence that tax credit usage increases in those areas with low property values. The negative (though not significant) relationship seen between historic property designation and a tract's median income figure lends support to this claim. With this information, one can conclude that preservation tax credit usage — and the gentrification that usually results from such redevelopment — is likely to occur in areas with low property values and rents.

While it is possible to conclude the existence of a negative relationship between tax credit usage and property values, it is not possible to conclude that tax credit usage would more effectively spur development in poorer areas as the fifth requisite of the gentrification theory suggests. The inability to draw this conclusion is due to two reasons.

The first reason is the lack of evidence that these tracts have median housing and rent values below the city's median values. The tracts did have above-average vacancy rates and below-average median incomes (Coulson & Leichenko, 2004, p. 1593) — both strong indicators of the existence of below-average property values. However, the measures do not provide definitive proof of below-*median* housing values.

The second reason is the fact that — contrary to other findings on the subject — Coulson and Leichenko found *no significant relationship* between historic designation and tract redevelopment via demographic change in the city. This was a surprising finding even to the researchers — who did find a significant relationship between designation and appreciation in Abilene (2001).

⁵⁶ Neither the State of Texas nor the City of Fort Worth administers a corresponding tax credit program. State and local historical commissions do provide detailed information to property owners on how to receive the federal tax credit (Historic Fort Worth Preservation Resource Center, 2007; Texas Historical Commission, 2008).

The discrepancy may be explained by the larger supply of housing found in Fort Worth. The supply keeps property values of newer housing low and makes newer homes more attractive than older ones. With its smaller housing market and more stable population, Abilene residents may be more interested in preserving that city's historic architecture than Fort Worth residents.

There is, however, a more plausible explanation for the discrepancy. Unlike Fort Worth, Abilene provides a property tax cut to owners of properties in its historic overlay district. The city also provides a one-time tax credit of up to 50 percent of rehabilitation costs greater than \$750 (Preservation Texas, 2007). The existence of tax credits has, in essence, made redevelopment a reality in Abilene, while their absence has hindered redevelopment in Fort Worth.

Based on Abilene's experience, it is reasonable to assume that if Fort Worth employed tax credits it would likely see the redevelopment it heretofore has not seen. It is also reasonable to assume that such redevelopment would likely be witnessed in areas with high numbers of historic designations. These areas, as gleaned from Coulson and Leichenko's research, are more likely to have relatively low property values.

Given these assumptions, it is possible to conclude (albeit mildly, given the levels of assumption) that historic preservation tax credit programs are implemented more effectively in areas with low property values. This conclusion serves as evidence bolstering the gentrification theory's validity through the fifth requisite

Evidence provided in the Fort Worth study also validates the gentrification theory through the first requisite and (to an extent) the second. Regarding the second requisite, Coulson and Leichenko found a negative relationship between numbers of designated properties in Fort Worth tracts and tract numbers of African-Americans. The finding indicates that areas that would use tax credits will tend to have relatively low numbers of African-Americans.

Regarding the first requisite, the researchers found a positive relationship between numbers of designated properties and the change from 1990 to 2000 in the tract's Simpson index — a measure of racial and ethnic diversity similar to the Gibbs-Martin index used in the present study. It can be assumed that high credit usage will likely be found in areas with relatively diverse populations. Both findings cannot be seen as definitive however due to the variables' demonstrating these relationships at standard levels of significance (p. 1597).

To summarize, empirical evidence shows that historic property designation contributes to property value appreciation, and this appreciation often leads to gentrification. Properties and neighborhoods receiving the designation are more likely to use the historic preservation tax credit, and anecdotal evidence likewise suggests that usage of the credit contributes to value appreciation.

Coulson and Leichenko's findings in Fort Worth indicate that the more designated properties a census tract contains, the higher its vacancy rate and the lower its median income. Considering the two independent variables together, it is reasonable to assume that the tracts also had low property values. Moreover, given that Fort Worth tracts with high numbers of designated properties had above-city-average vacancy rates and below-city-average median incomes, it is highly likely that such tracts had, at least, below-city-average property values. Whether these tracts had below-city-*median* property values remains an open question, but it is seen here as highly likely. As such, tracts with high numbers of designations are seen as ripe for gentrification in that they conform to the gentrification theory's fifth requisite.

Fort Worth tracts with high numbers of designations also had relatively low numbers of African-Americans, but relatively high levels of racial and ethnic diversity. This evidence strengthens the validity of the gentrification theory through the entirety of the first and part of the second requisites. Based on observations in Fort Worth, preservation tax credit usage in other urban tracts is likely to be negatively related to concentrations of African-Americans, and positively related to levels of racial and ethnic diversity.

3. Additional Policy Considerations

The results of secondary research on physical migratory redevelopment policies bolster the gentrification theory's validity. TIF districts and historic preservation tax credits are effective in stimulating redevelopment when they are implemented in places meeting some of the theory's requisites.

While this abductive validation exercise does result in the theory's strengthening, its results can neither be seen as a definitive account, nor can they be used to indicate gentrification's past, present, or future occurrence. To address either of these issues, more empirical research is necessary.

Still, the theory's validation through abductive reasoning allows one to conclude (mildly at least) that state and local governments wishing to encourage redevelopment through physical

migration should act in accordance with the gentrification theory. To maximize both effectiveness and efficiency, governments should implement policies in those areas meeting the gentrification theory's requisites.

As previously mentioned, a serious concern with implementing policy in a manner commensurate with the gentrification theory is the opportunity for discrimination based on race, age, or family status. It is hoped that public entities do not discriminate against or in favor of individuals based on these or other characteristics. It would be unconscionable for a government to deny institution of a TIF district because a majority of the population in the prospective district is Black, for example.

If governments wish to implement programs that encourage physical migration in a fair, non-discriminatory manner, additional actions may be necessary. These actions include: (1) consideration of the target area's racial and ethnic composition only insofar as it affects diversity; (2) policy promotion in a wide range of local media outlets, including those catering to ethnic and racial minorities and seniors; (3) continuing the practice of non-discrimination in program administration, specifically forbidding the rejection of a tax credit application due to the applicant's race, age, or family status; and (4) implementing physical migration policies alongside class migration or class mobility policies.

Governments may wish to promote physical migration using other tax incentive or infrastructure investment programs. For example, state and local governments may consider granting tax credits to encourage behavior beyond historic preservation. Credits may be given to those purchasing and/or renovating housing that is located near a park-and-ride or a proposed light rail line. Such a program would encourage renovation, redevelopment, and public transportation usage.

Governments also have the option of altering existing programs. The City of Minneapolis, for example, has continued its downtown-area TIF district even though its bonds have been retired. The excess funds are distributed to the city's community development agency, and the agency distributes the funds to neighborhood councils for fulfillment of their action plans. Poorer neighborhoods receive most of the funds, and the typical projects funded include the creation of affordable housing and the promotion of economic development. More affluent neighborhoods often devote funds to the redevelopment of parks, schools, and libraries (Bright, 2000; Fagotto & Fung, 2006).

Whatever redevelopment policies state and local governments adopt, it is likely that their effectiveness will in some part depend on the degree to which the venue conforms to the gentrification theory. To ensure effective and efficient redevelopment policy implementation, the findings of the theory should be considered, and the policy should be implemented in a fair and equitable manner.

Chapter 5 Conclusion

The explanation presented here as a theory for gentrification's causes is, abductively, a valid one. However as abductive reasoning is a particularly weak means of inference, the means by which the theory is validated must also be considered weak. To strengthen its validity, the theory must be subjected to additional testing using not only abduction, but also inductive and ultimately deductive means of inference.

The theory possesses not only weak validity, but also weak predictive power. Test results discussed in Chapter 3 showed that areas conforming to the theory's five requisites were more likely to experience gentrification. However the test results also showed that some non-gentrifying tracts conformed to these requisites, indicating that application of the theory would result in the identification of a number of "false positives." The theory's predictive power is therefore considered weak because of its inability to identify gentrifying tracts precisely.

While the theory is clearly wanting in both predictive power and validity, it is valuable in that it provides an explanation for gentrification's causes derived not from case studies or qualitative methods, but from quantitative, longitudinal, and statistical analyses. Its breadth and statistical rigor allows it the potential to serve as a true theory, capable of explaining gentrification's occurrence not only in the United States, but also in developed and developing countries worldwide.

The theory is also valuable in its potential to quiet the protracted debate between gentrification's "demand side" and "supply side" scholars. It does this by finding merit in the explanations of both sides, and posits explanations of gentrification's causes not as "either-or," but "both-and." Model results indicated that at different points in a tract's evolution "supply side" factors were significantly related to gentrification, while at other times "demand side" factors were key. Often the two factors simultaneously impacted tract evolution. Results show and the theory indicates that it is both "demand side" and "supply side" factors which cause and influence gentrification, and advocating one set of factors over another is at the very least myopic. The gentrification theory posed here calls for a more expansive view, for survey of the entire is necessary to find the way forward.

It is hoped that researchers use this work to plot the way forward by testing the theory's external validity and strengthening or falsifying its key tenets. It is hoped that future

gentrification research examines the phenomenon with a more objective eye and using more objective means.

This is not to say that researchers should cease debating gentrification's moral questions. Such debate is necessary for the crafting of fair and equitable policies. Therefore it should not end. In this study and others, gentrification has been shown to increase living standards and quality of life. It "increases the number of residents who can pay taxes, purchase local goods and services, and support the city in state and federal political processes" (Byrne, cited in Lees et al., 2008, p. 196) — by no means a bad thing. However gentrification also possesses an uncanny ability to destroy "the elaborate and complex community fabric … crucial for low-income, immigrant, and minority communities" (Betancur, 2002, p. 807). It is also a strangely ironic force, resulting in the provision of traits that in many ways make it indistinguishable from the suburban jurisdictions risk-oblivious gentrifiers shunned.

The moral debate that must continue should not continue for the sake of debate. Instead, it should continue for the discovery of common ground. There, it would be possible to reap some or all of gentrification's positives while mitigating or eliminating its negatives. This "palatable" gentrification would combine economic prosperity and the creation of fora for new ideas with the perpetuation of low-income, immigrant, and minority community social fabrics. To conclude this dissertation, we speculate how this "palatable" gentrification might appear, what this new common ground might look like. We provide suggestions for how a new gentrification might be achieved, and why achieving it is necessary not for gentrification scholarship, but for residents of urban and rural areas alike.

1. Toward a New Gentrification

A good start in achieving a new, more palatable version of gentrification would be to ease capital access to lower- and working-class members. This method has a number of precedents, the earliest being the establishment of the Federal Housing Administration in 1934. The most recent initiative in easing capital access came with passage of the Federal Housing Enterprises Financial Safety and Soundness Act (FHEFSSA) in 1992. Among other things, the law mandated that the Department of Housing and Urban Development establish targets for government-sponsored enterprises (GSEs) Fannie Mae and Freddie Mac to purchase the loans of low- and moderate-income borrowers. It was believed that the establishment of such targets

would increase the supply of affordable housing and increase numbers of lower class members gaining entrée to the middle class via homeownership.

By most accounts the initiative was successful. In 2006 HUD reported that Fannie Mae and Freddie Mac exceeded their affordable housing goal targets, extending larger amounts of financing for home purchases in underserved areas than expected ("Affordable housing," 2006). Researchers Brent Ambrose and Thomas Thibodeau found that FHEFSSA helped increase the supply of mortgage credit to low- and moderate-income borrowers (2004).

As is evident now, however, Fannie Mae and Freddie Mac's expansions into affordable housing helped feed a real estate bubble currently in a state of collapse. The collapse is due in no small part to an inability on the part of poorer borrowers to absorb resets on the "subprime," "Alt-A," and other adjustable-rate instruments used to acquire mortgage loan funds.

Inability to absorb increased payments is currently leading to large numbers of home foreclosures. As Fannie Mae and Freddie Mac securitized its portfolio of subprime loans and sold the securities in worldwide markets, the foreclosures have resulted in the GSEs losing large sums of money. According to the New York Times, Fannie Mae lost \$2.3 billion in the second quarter of 2008, three times analyst projections. Freddie Mac lost a smaller, but still significant amount of money in the second quarter of 2008: \$821 million (Duhigg, 2008).

Unable to absorb the losses and unable to raise more capital in private markets, both Fannie Mae and Freddie Mac were taken over by the federal government on September 8, 2008. Plans for the entities are still being formulated, but it is highly likely that the government agency will significantly reduce the number of loans purchased from low- and moderate-income borrowers in efforts to further shield itself from foreclosure risk. At base, the effects of the burst real estate bubble will tighten lending practices, and make the dream of homeownership even more difficult for low- and moderate-income households.

The rash of foreclosures and the resulting housing market collapse do not in and of themselves indicate that extending homeownership to lower and working class members is a bad idea. Homeownership has been shown to positively influence the mental health and cognition of children for example (Boyle, 2002). Moreover, children in low-income households whose parents owned housing saw greater mental health and cognition benefits than those in higher-income households (Harkness & Newman, 2003). Researchers also found that children whose

parents own homes are more likely to go on to own homes themselves (Boehm & Schlottmann, 1999).

While the extension of homeownership to low- and moderate-income households helps ensure that their children will become middle class members, the mechanisms used to make these extensions have in today's market been generally ineffective. The ineffectiveness largely stems from lower-income households only being able to afford loans for older housing in innercity neighborhoods. Such housing often has high maintenance costs and low appreciation rates. Further, householders often fall prey to predatory lenders who push them into loans that eventually adjust to unaffordable heights (Fessenden, 2007). The combination of high maintenance costs, low equity, and high payments contributes to foreclosures and low-income households having the highest rates of return to the rental market (Shlay, 2006).

Means do exist of making the homeownership option more effective, however they often require considerable public investment. Sociologist Anne Shlay argues that low- and moderateincome households can reap stronger benefits from homeownership if governments and community groups invest in other kinds of socio-economic and physical infrastructure, such as improving neighborhood schools and streetscapes. Neighborhood-scale infrastructure investment works to increase demand for nearby housing and to boost home equity. A second option would be to make it easier for low- and moderate-income borrowers to purchase homes in places where high-quality infrastructure already exists, such as suburbia.

A third option for easing capital flows to low- and moderate-income borrowers is to expand the use of innovative land title arrangements beyond the customary fee simple absolute title. While this title provides the greatest bundle of rights to the property owner, it is often the most expensive title to maintain, and hence the one most cost-prohibitive to poorer borrowers. Other types of titles do exist, however; and two that show great promise in capital extension are cooperatives and housing and land trusts (Shlay, 2006).

In most cooperative arrangements, residents collectively own the property on which they live. Each resident is a shareholder in a corporation that holds title to the property, and their monthly payments go toward mortgage and property tax payments, staff salaries, and maintenance of building façades and indoor common areas. If a resident wishes to sell his or her stake, he or she would have access to part of the equity the corporation accrued, and the seller would be able to dedicate that capital to other ventures (Gray, Marcus, & Carey, 2005).

Expansion of mixed-income cooperatives like the Warren Street Cooperative in Brooklyn, New York (Gray et al., 2005), or the merging of inclusionary zoning and cooperative housing ordinances in gentrifying tracts could work to mitigate the loss of diversity gentrification often brings.

Housing and land trusts also have the capacity of mitigating some of gentrification's ill effects. All trusts involve a trustor's granting of an asset to a trustee, and the trustee's managing the asset for a beneficiary. Often, the trustee is a non-profit corporation.

With land trusts, the trustee provides a long-term (often 99-year) lease to a low- or moderate-income household who serves as the beneficiary. The lease covers the housing unit and, usually, various other property improvements. It does not, however, cover the land; the trustee retains title to it. The beneficiary is free to improve the housing unit and transfer the lease in a kind of "sale" to another household. Occasionally the trustee transfers land rights to the beneficiary, and the beneficiary can in turn sell both. In either case, profits resulting from a sale are transferred to the beneficiary (Baker, 1992).

In a housing trust arrangement, dedicated or surplus housing units owned by a trustor are transferred to a trustee. As with the land trust arrangement, this trustee is often a non-profit corporation. The trustee screens and prepares low- and moderate-income beneficiaries for leasing and eventual purchase of the housing unit from the trustor.

In both trust arrangements, the beneficiary does not enter the confusing and, for some, overwhelming arena of real estate transactions alone, but with the support of a third party that has little or no financial interest in the transaction (Aardema & Knoy, 2004). For lower- and working-class members wishing to own a home but who are unfamiliar with the intricacies of the marketplace, purchase through a trust may be a good option.

The use of cooperatives and trusts has the potential of extending capital ownership to lower class members in the short run, preserving the diversity that risk-oblivious and risk-prone gentrifiers desire and preventing the upper-class revanchism that critics see as gentrification's essence.

In the long run, perhaps the only means of making capital more available to members of the lower classes (while, of course, retaining the capitalist system) is by maximizing the opportunity of each person to develop his or her market capacity. As levels of market capacity

depend upon the character of societal infrastructure, opportunity maximization requires systemic, but not necessarily radical, change.

Changes that would significantly impact capital extension in the long run include increasing post-secondary educational opportunities for persons in low- and moderate-income households, and easing the ability of workers to bargain collectively. In both cases, an individual's market capacity would be enhanced by skill augmentation in the case of the former, and by sheer numbers in the case of the latter. However it is achieved, individual enhancement of market capacity will work to boost class mobility, allowing lower- and working-class members a better chance at acquiring capital and joining the ranks of the middle class.

Governments have an interest in ensuring class mobility, for individual movements from poverty to capital ownership, and societal movements from economic inequality to fairer distributions work to assure citizens that they have greater control over their lives, work to prevent civil unrest, and help generate more resources that society can use to further infrastructural development (Habermas, 1989; Skocpol, 2000). While poverty can never be eradicated, its alienating and disheartening effects can be lessened in the long run by greater class mobility, and in the short run by the exposure to and the reconciliation with differences be they racial, ethnic, generational, or class-based — that conventional gentrification has the capacity to provide and that a new gentrification will strive to achieve.

2. The Necessity of Gentrification

This new gentrification should be encouraged not only because of its power to create diverse and open spaces, but also because of its ability to enhance public coffers, even in the short run. Research conducted in the early 1980s found that gentrification helped increase property and sales tax revenues. It was also found that those revenues were not erased due to gentrifier demands for infrastructure development (Lang, 1986). Occasionally, the increased revenues are dedicated to programs that help lower-class households across the city, not just in gentrifying areas. Cities like Boston and San Jose have used enhanced tax revenues from gentrification to establish housing trusts in gentrifying and well-off neighborhoods (Kennedy & Leonard, 2001).

It is also necessary to move toward a new gentrification because of its potential for curbing urban sprawl. Sprawl has allowed millions of Americans to fulfill the American dream of homeownership, but it has also unleashed a parade of horrors: racial, ethnic, and economic

segregation; time-chewing commutes; fossil fuel dependency; diminished air quality; habitat loss. Considering that with increased suburbanization comes increased commuting, and considering that transportation-related activities contributed to 31 percent of America's carbon dioxide emissions in 2006 and 26 percent of all greenhouse gas emissions in that same year, a curbing of urban sprawl would improve not only the economic and social milieux of cities, but would also help improve the planet's climatological outlook (U.S. Environmental Protection Agency, 2008).

It is possible for a new gentrification to realize these achievements, but they will not be possible with conventional gentrification. Unfettered, conventional gentrification results in the loss of various forms of diversity. Local governments should work to nurture the gentrification process in places ripe for it, but they should also implement additional policies to mitigate curb its excesses, and protect as much as possible to the area's community fabric.

If local governments and local leaders approached gentrification in this new way, it could alter the term from being something associated with racism, mistrust, re-segregation, and displacement. It could instead hold the promise of creating dynamic, inclusive, and prosperous communities.

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Appendix A Sample Statistics and Correlation Matrices

Summary Statistics for Nominal Values In-Sample Tracts Only

	10	70	٨	<i>Nedians</i>	10	~~		~~
	19.	70	19	80	19	90	20	00
	Gentrifying	Others	Gentrifying	Others	Gentrifying	Others	Gentrifying	Others
Share White	0.7839	0.8768	0.7085	0.7235	0.7042	0.5685	0.6977	0.4196
Share Black	0.0225	0.0137	0.0613	0.0566	0.0678	0.0914	0.0677	0.1211
Share Other			0.0230	0.0131	0.0293	0.0196	0.0433	0.0327
Share Hispanic	0.1238	0.0248	0.1191	0.0360	0.1166	0.0476	0.1040	0.0684
Diversity	0.3383	0.1369	0.4346	0.2137	0.4490	0.2975	0.4444	0.3811
Child	0.2754	0.3161	0.1999	0.2570	0.1522	0.2410	0.1300	0.2510
Senior	0.1198	0.1016	0.1184	0.1123	0.1013	0.1144	0.0790	0.1035
Married & Child	0.3693	0.4000	0.2873	0.3151	0.2727	0.2804	0.2554	0.2749
Single Mother	0.0943	0.0601	0.1325	0.0977	0.1040	0.1115	0.0999	0.1283
Non-family	0.3761	0.2151	0.5310	0.3004	0.5684	0.3259	0.6380	0.3535
Transit	0.3500	0.2462	0.3370	0.2319	0.2999	0.1947	0.2856	0.1791
Walk/Bike	0.1343	0.0714	0.1331	0.0660	0.1085	0.0550	0.0959	0.0500
Pers/HH	2.6425	3.0600	2.1780	2.7117	2.2079	2.6595	2.0680	2.6362
Turnover	0.5510	0.4738	0.5464	0.4403	0.6112	0.4445	0.5885	0.4472
College Grad	0.0332	0.0351	0.1210	0.0668	0.2137	0.0935	0.3561	0.1147
White Collar	0.1590	0.1754	0.2480	0.2099	0.3602	0.2596	0.5093	0.2966
Jobless			0.0739	0.0657	0.0662	0.0754	0.0519	0.0733
Poverty	0.1727	0.1079	0.1914	0.1309	0.1648	0.1553	0.1531	0.1620
Welfare			0.1043	0.0804	0.0867	0.0831	0.0616	0.0971
Gini	0.3011	0.2675	0.3507	0.3028	0.3328	0.2812	0.3601	0.3188
Earnings	39422.34	48181.75	44817.71	50388.89	52274.67	53344.65	66884.65	56142.72
Vacant	0.0842	0.0415	0.0921	0.0583	0.0972	0.0748	0.0614	0.0572
Rented Housing	0.7056	0.4459	0.6784	0.5049	0.6261	0.4902	0.6085	0.4883
Older Housing	0.8309	0.5841	0.6769	0.4457	0.6565	0.3618	0.5249	0.3242
Avg. Value			132967.18	119528.36	219152.12	121836.37	297702.11	148731.41
Avg. Rent			657.49	682.18	767.33	756.74	898.11	755.74

	19	70	ہ 19	<i>lverages</i> 80	19	90	20	00
	Gentrifying	Others	Gentrifying	Others	Gentrifying	Others	Gentrifying	Others
Share White	0.7229	0.6822	0.6575	0.5752	0.6293	0.5033	0.6333	0.4309
Share Black	0.0997	0.2143	0.1310	0.2782	0.1345	0.3072	0.1286	0.3271
Share Other			0.0409	0.0316	0.0517	0.0478	0.0603	0.0670
Share Hispanic	0.1567	0.0798	0.1705	0.1064	0.1845	0.1336	0.1778	0.1696
Diversity	0.3261	0.2116	0.3962	0.2641	0.4175	0.3081	0.4181	0.3593
Child	0.2687	0.3077	0.2043	0.2514	0.1795	0.2367	0.1584	0.2394
Senior	0.1294	0.1082	0.1251	0.1212	0.1083	0.1256	0.0894	0.1148
Married & Child	0.3526	0.4079	0.2874	0.3193	0.2605	0.2774	0.2604	0.2712
Single Mother	0.1061	0.0924	0.1540	0.1465	0.1504	0.1595	0.1330	0.1699
Non-family	0.4092	0.2539	0.5299	0.3430	0.5634	0.3661	0.6046	0.3927
Transit	0.3544	0.2862	0.3410	0.2701	0.3201	0.2507	0.3144	0.2389
Walk/Bike	0.1536	0.1068	0.1607	0.1085	0.1400	0.0972	0.1277	0.0912
Pers/HH	2.6024	3.1298	2.2386	3.9908	2.2295	3.0000	2.1479	5.8658
Turnover	0.5397	0.4912	0.5518	0.4603	0.5793	0.4611	0.5809	0.4668
College Grad	0.0655	0.0658	0.1707	0.1124	0.2620	0.1516	0.3574	0.1854
White Collar	0.1914	0.2177	0.2976	0.2539	0.3854	0.2987	0.4829	0.3383
Jobless			0.0801	0.0816	0.0943	0.1016	0.0686	0.1011
Poverty	0.1956	0.1466	0.2137	0.1780	0.2148	0.2022	0.1804	0.1945
Welfare			0.1279	0.1300	0.1262	0.1343	0.1097	0.1343
Gini	0.3065	0.2740	0.3516	0.3071	0.3443	0.2932	0.3618	0.3267
Earnings	40623.62	49784.60	47380.41	53253.70	63524.81	58167.13	80636.15	64036.36
Vacant	0.0943	0.0554	0.1154	0.0790	0.1153	0.0946	0.0769	0.0806
Rented Housing	0.6653	0.4490	0.6557	0.4928	0.6269	0.4810	0.6137	0.4830
Older Housing	0.7603	0.5051	0.6301	0.4148	0.6138	0.3648	0.5187	0.3238
Avg. Value			176786.89	146347.41	308388.80	188280.30	414445.99	219674.07
Avg. Rent			676.10	719.43	829.57	796.44	944.09	815.03

Summary Statistics for Nominal Values In-Sample Tracts Only

			N	ledians				
	197	'0	198	80	199	0	200	0
	Gentrifying	Others	Gentrifying	Others	Gentrifying	Others	Gentrifying	Others
Share White	0.9015	0.9966	1.0293	0.9918	1.2379	0.9788	1.8387	0.9829
Share Black	1.9452	1.0347	1.0623	1.0370	0.7421	1.0409	0.5459	0.9846
Share Other			1.7300	1.0097	1.3609	0.9685	1.2918	1.0100
Share Hispanic	3.5144	0.9969	2.1544	1.0000	1.9652	1.0096	1.2747	0.9920
Diversity	2.1338	1.0000	1.6928	1.0086	1.3631	0.9999	1.1105	1.0025
Child	0.8958	0.9953	0.8369	0.9964	0.6720	1.0000	0.5251	0.9995
Senior	1.1257	1.0040	1.0497	0.9999	0.8807	0.9893	0.7539	0.9816
Married & Child	0.9268	0.9937	0.9158	0.9806	0.9244	0.9841	0.9111	0.9883
Single Mother	1.5224	1.0093	1.1598	1.0109	0.9433	1.0000	0.7482	1.0019
Non-family	1.7340	1.0079	1.6984	0.9969	1.6689	0.9948	1.7236	1.0017
Transit	1.2742	1.0051	1.2661	1.0026	1.2899	1.0098	1.2487	1.0086
Walk/Bike	1.8261	1.0033	2.1770	1.0282	2.0472	1.0153	1.9959	1.0186
Pers/HH	0.8698	0.9986	0.8033	1.0023	0.8428	1.0000	0.7746	0.9987
Turnover	1.1256	1.0019	1.2022	1.0105	1.2470	0.9980	1.2359	1.0000
College Grad	0.7718	0.9995	1.6797	1.0000	1.9243	0.9857	2.6246	0.9959
White Collar	0.8365	0.9990	1.1832	1.0069	1.3225	0.9895	1.7021	1.0083
Jobless			0.9882	1.0000	0.8623	0.9969	0.7252	1.0257
Poverty	1.7311	1.0127	1.3925	1.0122	1.0972	1.0033	0.8418	0.9986
Welfare			1.1087	0.9909	0.9484	0.9724	0.5831	1.0070
Gini	1.137	1.001	1.1263	1.0039	1.1839	0.9965	1.1234	1.0000
Earnings	0.8075	0.9975	0.9058	0.9998	0.9918	0.9964	1.1835	0.9983
Vacant	2.0361	1.0272	1.7141	1.0079	1.4090	1.0133	1.0735	0.9931
Rented Housing	1.4886	1.0003	1.2214	1.0035	1.2021	0.9943	1.1994	1.0041
Older Housing	1.3102	0.9932	1.4203	0.9911	1.6658	0.9950	1.5177	0.9990
Avg. Value			0.9784	0.9996	1.2782	0.9999	1.7276	0.9945
Avg. Rent			0.9329	1.0002	0.9595	1.0011	1.1541	1.0000

Summary Statistics for Percent-Median Score Data In-Sample Tracts Only

Summary Statistics for Percent-Median Score Data In-Sample Tracts Only

			A	verages				-
	197	/0	198	0	199	90	200	00
	Gentrifying	Others	Gentrifying	Others	Gentrifying	Others	Gentrifying	Others
Share White	0.9406	0.8698	1.3191	0.9321	1.7570	1.0499	2.2933	1.2482
Share Black	12.5375	32.4062	3.0024	6.4618	1.4857	3.6207	0.9224	2.7311
Share Other			2.2857	1.8736	1.7682	1.9284	1.4787	1.8820
Share Hispanic	6.4706	2.0109	5.0312	2.2673	4.2631	2.2600	2.6283	1.9502
Diversity	3.1660	1.6579	2.0937	1.3003	1.6747	1.1600	1.2100	1.0170
Child	0.8613	0.9699	0.8057	0.9825	0.7549	0.9896	0.6440	0.9676
Senior	1.3690	1.0966	1.1437	1.1085	0.9165	1.0834	0.8447	1.0963
Married & Child	0.8768	0.9785	0.9042	0.9612	0.9453	0.9598	0.9518	0.9753
Single Mother	1.6956	1.5006	1.4420	1.3960	1.2548	1.3614	0.9419	1.2514
Non-family	2.0001	1.2015	1.7719	1.1374	1.7267	1.1114	1.7502	1.1188
Transit	1.9617	1.3331	1.8224	1.2544	1.7753	1.2229	1.7156	1.2394
Walk/Bike	1.9986	1.4490	2.2396	1.5933	2.2326	1.6397	2.2610	1.7004
Pers/HH	0.8577	1.0033	0.8373	1.4616	0.8470	1.1173	0.8203	2.2435
Turnover	1.1246	1.0441	1.2339	1.0389	1.2795	1.0334	1.2846	1.0414
College Grad	1.7802	1.8120	2.6416	1.6632	2.7308	1.5071	2.9380	1.5153
White Collar	1.0954	1.2381	1.4100	1.1770	1.4581	1.1064	1.6415	1.1362
Jobless			1.1353	1.2078	1.1897	1.3130	0.9406	1.3461
Poverty	1.9454	1.4198	1.6737	1.4065	1.4678	1.3850	1.1731	1.2348
Welfare			1.5102	1.6222	1.3836	1.5911	1.0653	1.3768
Gini	1.1487	1.0211	1.1546	1.0141	1.2158	1.0361	1.1373	1.0265
Earnings	0.8256	1.0088	0.9297	1.0361	1.1495	1.0753	1.3814	1.1256
Vacant	2.4780	1.3778	2.0422	1.3414	1.5914	1.2547	1.2732	1.2835
Rented Housing	1.4979	1.0106	1.3063	1.0175	1.2497	0.9932	1.2323	1.0081
Older Housing	2.0773	1.0885	4.1665	1.7847	5.2911	2.1586	3.8715	1.6656
Avg. Value			1.3642	1.1733	1.9189	1.2266	2.2556	1.2803
Avg. Rent			0.9847	1.0482	1.0518	1.0274	1.2055	1.0583

			N	ledians		_		
	197	0	198	0	199	0	200	0
	Gentrifying	Others	Gentrifying	Others	Gentrifying	Others	Gentrifying	Others
Share White	0.8718	1.0096	0.8047	1.0095	0.8172	1.0193	0.9213	1.0498
Share Black	1.3210	0.7796	1.4518	0.9822	1.2541	0.9996	1.0733	0.9695
Share Other			1.6620	0.9754	1.5521	0.9810	1.2889	1.0000
Share Hispanic	1.8234	1.0030	2.0532	1.0162	1.7862	0.9994	1.3922	0.9839
Diversity	1.7699	0.9586	1.4848	0.9893	1.3499	0.9790	1.2422	0.9967
Child	0.8040	0.9986	0.9033	0.9989	0.8873	0.9795	0.7691	0.9724
Senior	1.4589	1.0104	1.2850	1.0001	1.0773	1.0000	0.9512	1.0179
Married & Child	0.8185	1.0085	0.8566	1.0106	0.8296	1.0008	0.8119	0.9970
Single Mother	1.5286	1.0000	1.4307	0.9939	1.4190	1.0262	1.1334	1.0044
Non-family	1.7042	1.0000	1.4095	1.0014	1.3670	1.0139	1.4791	1.0498
Transit	2.5717	0.9783	2.1146	1.0000	2.2372	0.9841	1.9115	1.0034
Walk/Bike	1.8242	1.0061	2.1176	1.0021	2.2442	0.9734	2.4127	0.9839
Pers/HH	0.8818	0.9961	0.9406	0.9902	0.9173	0.9989	0.8910	0.9978
Turnover	1.1109	1.0080	1.0946	1.0038	1.0996	1.0000	1.1067	1.0073
College Grad	0.9552	1.0698	0.8808	1.1156	0.9532	1.0703	1.1238	1.0542
White Collar	0.7931	1.0476	0.9199	1.0772	0.9713	1.0364	1.0136	1.0297
Jobless			1.3901	1.0001	1.3490	0.9861	1.2372	0.9545
Poverty	1.8112	0.9848	1.9266	0.9629	1.6977	0.9401	1.4503	0.9116
Welfare			1.5690	0.9959	1.4296	1.0000	1.3054	0.9481
Gini	1.1370	0.9931	1.0903	0.9992	1.0703	1.0000	1.0830	0.9926
Earnings	0.7486	1.0023	0.7906	1.0173	0.8043	1.0232	0.8922	1.0000
Vacant	1.3991	1.002	1.4402	1.0093	1.5691	0.9902	1.5468	0.9461
Rented Housing	1.5417	0.9989	1.3473	0.9943	1.2311	1.0150	1.2445	0.9958
Older Housing	2.1231	0.9889	2.2238	1.0000	2.2627	1.0000	2.4208	0.9955
Avg. Value			0.8300	1.0486	1.0331	1.0348	1.1037	1.0220
Avg. Rent			0.8576	1.0178	0.8655	1.0112	0.9033	1.0123

Summary Statistics for Percent-Median Score Data Out-of-Sample Tracts Only

Summary Statistics for Percent-Median Score Data Out-of-Sample Tracts Only

Averages

	197	70	198	0	199	0	200	00
	Gentrifying	Others	Gentrifying	Others	Gentrifying	Others	Gentrifying	Others
Share White	0.8754	0.8901	1.1113	0.9279	1.5519	1.0607	1.9754	1.1978
Share Black	6.3374	12.5544	3.2180	3.8935	2.0939	2.4999	1.4979	1.7710
Share Other	3.4707	2.2504	2.4924	1.4247	2.2696	1.3892	1.8659	1.3290
Share Hispanic	2.4698	1.7038	2.5009	1.5363	2.0899	1.3310	1.7733	1.2466
Diversity	2.4344	1.3790	1.7502	1.1412	1.4634	1.0115	1.3756	0.9768
Child	0.7969	0.9488	0.8562	0.9654	0.8878	0.9763	0.8010	0.9608
Senior	1.6122	1.2177	1.5029	1.1755	1.2054	1.1560	1.0456	1.1600
Married & Child	0.7991	0.9921	0.8864	0.9916	0.9089	0.9926	0.8531	0.9933
Single Mother	1.5602	1.2364	1.4863	1.2129	1.5908	1.2104	1.2960	1.1330
Non-family	1.9573	1.2138	1.5667	1.1366	1.4065	1.1019	1.4446	1.1064
Transit	5.0486	2.0209	3.0611	1.5289	3.3857	1.7831	3.0316	1.6361
Walk/Bike	2.2221	1.4465	2.6208	1.5023	2.6666	1.5050	2.8899	1.5296
Pers/HH	0.8671	1.0231	0.9372	1.0224	0.9723	1.0603	0.9639	1.0653
Turnover	1.0968	1.0157	1.1435	1.0314	1.1252	1.0158	1.1421	1.0214
College Grad	1.6441	1.4840	1.3843	1.3671	1.3198	1.3677	1.4795	1.3986
White Collar	1.0163	1.1438	1.0801	1.1100	1.0344	1.1063	1.0878	1.1131
Jobless			1.5046	1.1752	1.4582	1.1678	1.5403	1.2259
Poverty	1.9767	1.2486	2.1611	1.3001	1.9479	1.2141	1.5686	1.1242
Welfare			2.2361	1.3722	2.1179	1.4228	1.6864	1.2338
Gini	1.1647	1.0261	1.1555	1.0323	1.1034	1.0634	1.1039	1.0202
Earnings	0.7957	1.0451	0.8314	1.0686	0.8629	1.1055	0.9207	1.1425
Vacant	1.6794	1.1784	1.6528	1.1650	1.6495	1.1556	1.6519	1.1625
Rented Housing	1.7204	1.0958	1.5119	1.0614	1.3163	1.0021	1.3221	0.9933
Older Housing	3.8741	1.5909	7.3174	2.2176	17.4985	3.3203	8.9730	2.5246
Avg. Value			0.9691	1.1299	1.1419	1.2125	1.2958	1.2739
Avg. Rent			0.8654	1.0346	0.8962	1.0323	0.9325	1.0612

Correlation Matrices In- and Out-of-Sample Tracts

								1	970 (Cens	us										
	Diversity	Share White	Share Black	Share Other	Share Hispanic	Child	Senior	Transit	Walk/Bike	Married & Child	Pers/HH	Turnover	College Grad	White Collar	Non-family	Single Mother	Gini	Poverty	Earnings	Vacant	Rented Housing
Diversity	1.00																				
Share White	-0.18	1.00																			
Share Black	0.13	-0.31	1.00																		
Share Other	0.17	0.01	-0.02	1.00																	
Share Hispanic	0.49	-0.07	-0.07	0.04	1.00																
Child	0.08	-0.28	0.18	-0.07	0.13	1.00															
Senior	0.03	0.16	-0.06	0.03	-0.04	-0.55	1.00														
Transit	0.14	-0.20	0.15	0.01	0.07	-0.05	0.27	1.00													
Walk/Bike	0.17	0.10	-0.04	0.14	0.09	-0.36	0.25	0.13	1.00												
Married & Child	-0.07	0.08	-0.11	-0.03	0.07	0.66	-0.56	-0.25	-0.30	1.00											
Pers/HH	0.03	0.05	0.02	0.01	0.01	0.08	-0.07	-0.02	0.07	0.12	1.00										
Turnover	0.26	0.06	0.01	0.12	0.13	-0.01	-0.08	-0.05	0.29	0.07	0.07	1.00									
College Grad	-0.10	0.30	-0.14	0.03	-0.12	-0.36	0.16	-0.13	0.07	-0.08	-0.06	0.24	1.00								
White Collar	-0.17	0.41	-0.21	0.02	-0.16	-0.31	0.10	-0.22	0.01	0.07	0.01	0.25	0.90	1.00							
Non-family	0.21	0.01	0.05	0.12	0.08	-0.56	0.60	0.37	0.48	-0.62	-0.10	0.26	0.21	0.07	1.00						
Single Mother	0.26	-0.42	0.50	-0.01	0.13	0.44	-0.11	0.27	0.03	-0.19	0.03	0.11	-0.30	-0.39	0.13	1.00					
Gini	0.17	0.00	0.11	0.03	0.10	-0.08	0.34	0.18	0.15	-0.24	-0.05	0.13	0.21	0.13	0.40	0.20	1.00				
Poverty	0.36	-0.40	0.49	0.06	0.21	0.23	0.12	0.45	0.24	-0.31	-0.01	0.10	-0.33	-0.46	0.35	0.76	0.26	1.00			
Earnings	-0.29	0.36	-0.21	-0.07	-0.16	0.14	-0.11	-0.30	-0.33	0.48	0.02	-0.05	0.48	0.62	-0.38	-0.43	-0.01	-0.59	1.00		
Vacant	0.25	-0.14	0.16	0.05	0.18	0.01	0.06	0.07	0.24	-0.18	0.07	0.30	-0.03	-0.10	0.36	0.30	0.17	0.39	-0.25	1.00	
Rented Housing	0.22	-0.14	0.13	0.05	0.16	-0.14	0.32	0.45	0.14	-0.37	-0.09	0.20	-0.07	-0.18	0.55	0.32	0.39	0.43	-0.39	0.20	1.00
Older Housing	0.14	-0.08	0.05	0.03	0.10	-0.17	0.50	0.62	0.22	-0.29	-0.01	-0.06	-0.13	-0.21	0.48	0.10	0.25	0.33	-0.29	0.10	0.45

	versity	Share Mhite	Share Black	Share Other	Share spanic	Child	enior	ransit	alk/Bike	nried & Child	ers/HH	Irnover	ollege Grad	Mhite Collar	n-family	Single Nother	obless	Gini	overty	felfare	arnings	'acant	tented ousing	Older ousing	g. Value
	D	0, 2	•, –	•, -	Ξ		σ,	F	Μ ²	Ш Ш	4	ц	0		No	0,2	7		4	S	ш	>	<u>н</u> т	Ξ	Avi
Diversity	1.00																								
Share White	-0.01	1.00																							
Share Black	-0.01	-0.34	1.00																						
Share Other	0.31	0.07	-0.09	1.00																					
Share Hispanic	0.46	-0.09	-0.07	0.06	1.00																				
Child	0.05	-0.36	0.28	-0.10	0.20	1.00																			
Senior	-0.06	0.15	-0.08	-0.01	-0.08	-0.46	1.00																		
Transit	0.05	-0.24	0.18	-0.03	0.05	0.05	0.23	1.00																	
Walk/Bike	0.22	0.09	-0.05	0.21	0.09	-0.32	0.13	0.16	1.00																
Married & Child	0.06	0.17	-0.20	0.07	0.12	0.43	-0.39	-0.26	-0.22	1.00															
Pers/HH	0.03	0.02	0.00	0.02	0.00	-0.03	0.00	0.01	0.07	-0.05	1.00														
Turnover	0.34	0.15	-0.12	0.23	0.14	-0.13	-0.17	-0.07	0.31	0.09	0.03	1.00													
College Grad	0.01	0.39	-0.19	0.16	-0.14	-0.47	0.15	-0.17	0.11	-0.03	-0.02	0.28	1.00												
White Collar	-0.03	0.42	-0.21	0.13	-0.20	-0.45	0.13	-0.24	80.0	0.03	0.02	0.28	0.90	1.00											
Non-family	0.20	0.09	-0.01	0.13	0.01	-0.59	0.44	0.24	0.41	-0.48	-0.05	0.37	0.34	0.27	1.00										
Single Mother	0.14	-0.43	0.60	-0.09	0.15	0.54	-0.18	0.34	0.02	-0.29	-0.02	0.00	-0.36	-0.39	0.02	1.00									
Jobless	0.11	-0.38	0.50	-0.08	0.18	0.41	-0.05	0.39	0.11	-0.21	-0.02	-0.06	-0.43	-0.47	0.04	0.67	1.00								
Gini	0.04	0.04	0.02	0.00	-0.01	-0.07	0.25	0.09	0.03	-0.06	-0.09	0.11	0.23	0.24	0.30	0.04	0.03	1.00							
Poverty	0.19	-0.40	0.51	-0.02	0.26	0.34	0.05	0.54	0.21	-0.32	-0.02	-0.01	-0.37	-0.45	0.20	0.76	0.74	0.05	1.00						
Welfare	0.09	-0.41	0.62	-0.09	0.18	0.44	0.02	0.49	80.0	-0.27	-0.02	-0.14	-0.41	-0.48	0.01	0.79	0.74	0.04	0.86	1.00					
Earnings	-0.22	0.39	-0.25	-0.03	-0.19	-0.08	-0.01	-0.35	-0.22	0.39	-0.06	-0.02	0.54	0.62	-0.21	-0.45	-0.46	0.19	-0.57	-0.48	1.00				
Vacant	0.19	-0.15	0.13	0.03	0.20	0.06	-0.09	80.0	0.19	-0.19	-0.02	0.26	-0.08	-0.11	0.25	0.29	0.28	0.03	0.32	0.25	-0.23	1.00			
Rented Housing	0.27	-0.16	0.15	0.11	0.17	-0.13	0.19	0.41	0.41	-0.36	-0.04	0.34	-0.04	-0.11	0.66	0.41	0.36	0.23	0.53	0.37	-0.47	0.18	1.00		
Older Housing	0.08	-0.08	0.02	-0.03	0.09	-0.08	0.33	0.42	0.18	-0.14	-0.01	-0.08	-0.09	-0.13	0.26	0.07	0.18	0.10	0.32	0.25	-0.17	0.02	0.33	1.00	
Avg. Value	-0.02	0.03	-0.02	0.00	-0.01	-0.01	-0.01	-0.02	-0.01	0.02	0.00	0.01	0.04	0.04	0.00	-0.03	-0.03	0.01	-0.03	-0.03	0.04	-0.02	-0.01	-0.01	1.00
Avg. Rent	-0.02	0.04	-0.02	0.00	-0.02	-0.01	-0.02	-0.04	-0.02	0.05	-0.01	0.01	0.05	0.07	-0.02	-0.04	-0.05	0.01	-0.06	-0.05	0.09	-0.02	-0.04	-0.03	0.01

1980 Census

	iversity	Share White	Share Black	Share Other	Share ispanic	Child	Senior	Fransit	alk/Bike	arried & Child	ers/HH	Irnover	college Grad	White Collar	n-family	Single Mother	obless	Gini	overty	Velfare	arnings	/acant	lented ousing	Older ousing	g. Value
	ā		••	•	Ξ		•,	-	Ň	Ĕ	4	Ĩ	0		No		7		–	5	ŭ	-	<u>н</u> т	T	Avi
Diversity	1.00																								
Share White	0.07	1.00																							
Share Black	-0.07	-0.33	1.00																						
Share Other	0.35	0.10	-0.14	1.00																					
Share Hispanic	0.43	-0.04	-0.11	0.07	1.00																				
Child	0.00	-0.35	0.30	-0.09	0.20	1.00																			
Senior	-0.16	0.16	-0.10	-0.06	-0.16	-0.37	1.00																		
Transit	-0.01	-0.21	0.18	-0.06	0.00	0.13	0.03	1.00																	
Walk/Bike	0.20	0.05	-0.02	0.17	0.09	-0.28	-0.04	0.19	1.00																
Married & Child	0.14	0.28	-0.35	0.17	0.16	0.21	-0.20	-0.26	-0.19	1.00															
Pers/HH	0.03	0.00	0.03	0.00	0.03	0.00	-0.08	0.01	0.16	0.03	1.00														
Turnover	0.39	0.11	-0.08	0.21	0.16	-0.17	-0.30	0.02	0.38	0.06	0.06	1.00													
College Grad	0.03	0.42	-0.25	0.12	-0.15	-0.52	0.16	-0.20	0.09	0.10	-0.07	0.25	1.00												
White Collar	0.00	0.43	-0.24	0.12	-0.20	-0.50	0.19	-0.27	0.06	0.15	-0.06	0.20	0.89	1.00											
Non-family	0.17	0.16	-0.06	0.07	-0.06	-0.60	0.27	0.11	0.37	-0.30	-0.06	0.46	0.41	0.37	1.00										
Single Mother	0.05	-0.38	0.60	-0.12	0.11	0.57	-0.24	0.36	0.05	-0.40	0.01	80.0	-0.41	-0.43	-0.05	1.00									
Jobless	-0.02	-0.36	0.54	-0.10	0.11	0.47	-0.13	0.38	0.13	-0.37	0.02	-0.01	-0.45	-0.47	-0.09	0.72	1.00								
Gini	0.01	0.19	-0.15	0.05	-0.06	-0.22	0.22	-0.09	-0.03	0.12	-0.10	80.0	0.42	0.45	0.25	-0.24	-0.27	1.00							
Poverty	0.07	-0.36	0.49	-0.05	0.21	0.44	-0.13	0.47	0.22	-0.38	0.01	0.09	-0.43	-0.48	0.05	0.77	0.77	-0.24	1.00						
Welfare	-0.02	-0.37	0.58	-0.10	0.13	0.50	-0.08	0.45	0.10	-0.38	0.02	-0.08	-0.45	-0.49	-0.09	0.78	0.78	-0.25	0.85	1.00					
Earnings	-0.15	0.39	-0.27	0.01	-0.17	-0.25	0.18	-0.30	-0.15	0.31	-0.02	-0.06	0.64	0.69	-0.01	-0.47	-0.47	0.41	-0.53	-0.46	1.00				
Vacant	0.10	-0.14	0.27	-0.01	0.08	0.03	-0.07	0.19	0.25	-0.31	-0.02	0.27	-0.06	-0.10	0.26	0.34	0.37	-0.06	0.41	0.33	-0.21	1.00			
Rented Housing	0.25	-0.17	0.14	0.09	0.17	0.00	-0.12	0.32	0.39	-0.25	0.05	0.52	-0.09	-0.14	0.53	0.45	0.34	0.01	0.50	0.35	-0.43	0.25	1.00		
Older Housing	0.02	-0.06	0.00	-0.03	0.05	-0.03	0.12	0.25	0.15	-0.06	0.07	-0.01	-0.05	-0.07	0.13	0.04	0.10	0.03	0.20	0.16	-0.08	0.08	0.14	1.00	
Avg. Value	-0.05	0.40	-0.26	0.08	-0.13	-0.33	0.16	-0.18	-0.03	0.20	-0.06	0.13	0.69	0.66	0.21	-0.36	-0.39	0.48	-0.38	-0.38	0.68	-0.14	-0.14	-0.01	1.00
Avg. Rent	-0.06	0.35	-0.23	0.04	-0.15	-0.23	0.07	-0.30	-0.14	0.31	-0.03	0.11	0.56	0.62	0.05	-0.43	-0.46	0.34	-0.51	-0.48	0.71	-0.19	-0.34	-0.12	0.52

1990 Census

	iversity	Share White	Share Black	Share Other	Share ispanic	Child	Senior	ransit	alk/Bike	arried & Child	ers/HH	Irnover	ollege Grad	White Collar	n-family	Single Aother	obless	Gini	overty	Velfare	arnings	/acant	tented ousing	Older ousing	g. Value
	Ö	•, -	•, -	•, -	Ξ		0,	F	Ŵ	Ň	4	Ē	0		No	. <u>2</u>	-		٩.	5	ш	~	Ξ	Ξ	Avi
Diversity	1.00																								
Share White	0.18	1.00																							
Share Black	-0.15	-0.34	1.00																						
Share Other	0.39	0.15	-0.18	1.00																					
Share Hispanic	0.38	-0.09	-0.14	0.03	1.00																				
Child	-0.10	-0.39	0.30	-0.18	0.18	1.00																			
Senior	-0.18	0.15	-0.07	-0.01	-0.21	-0.28	1.00																		
Transit	-0.07	-0.25	0.16	-0.09	0.01	0.14	-0.07	1.00																	
Walk/Bike	0.15	0.02	-0.05	0.19	0.06	-0.30	-0.13	0.18	1.00																
Married & Child	0.22	0.32	-0.37	0.15	0.21	0.17	-0.14	-0.27	-0.13	1.00															
Pers/HH	0.02	-0.01	0.00	0.00	0.01	-0.04	-0.03	-0.01	0.08	-0.01	1.00														
Turnover	0.36	0.13	-0.11	0.22	0.12	-0.31	-0.29	0.08	0.40	-0.01	0.03	1.00													
College Grad	0.05	0.52	-0.28	0.19	-0.20	-0.57	0.20	-0.24	0.04	0.13	-0.02	0.26	1.00												
White Collar	0.05	0.50	-0.25	0.17	-0.26	-0.53	0.19	-0.29	0.05	0.15	0.01	0.23	0.90	1.00											
Non-family	0.18	0.22	-0.09	0.12	-0.10	-0.66	0.15	0.10	0.31	-0.28	-0.02	0.52	0.48	0.44	1.00										
Single Mother	-0.07	-0.41	0.61	-0.19	0.06	0.54	-0.25	0.36	0.01	-0.41	-0.02	0.03	-0.45	-0.44	-0.11	1.00									
Jobless	-0.07	-0.32	0.43	-0.11	0.08	0.28	-0.16	0.37	0.26	-0.34	-0.01	0.06	-0.42	-0.41	-0.08	0.53	1.00								
Gini	0.06	0.09	-0.09	0.05	-0.02	-0.13	0.12	-0.05	-0.02	0.09	-0.05	0.06	0.25	0.25	0.18	-0.15	-0.19	1.00							
Poverty	-0.05	-0.39	0.45	-0.09	0.18	0.42	-0.21	0.49	0.21	-0.35	-0.02	0.09	-0.48	-0.52	-0.03	0.69	0.66	-0.15	1.00						
Welfare	-0.12	-0.39	0.52	-0.13	0.10	0.46	-0.08	0.41	0.07	-0.35	-0.01	-0.10	-0.49	-0.51	-0.16	0.65	0.59	-0.15	0.76	1.00					
Earnings	-0.09	0.43	-0.26	0.05	-0.18	-0.26	0.21	-0.29	-0.10	0.29	0.01	-0.02	0.68	0.70	0.09	-0.45	-0.39	0.24	-0.52	-0.44	1.00				
Vacant	-0.09	-0.18	0.30	-0.09	0.03	0.07	-0.08	0.21	0.20	-0.29	-0.02	0.15	-0.14	-0.15	0.14	0.34	0.31	-0.04	0.42	0.35	-0.14	1.00			
Rented Housing	0.20	-0.17	0.11	0.10	0.16	-0.06	-0.24	0.38	0.38	-0.24	0.05	0.56	-0.11	-0.16	0.47	0.39	0.30	0.01	0.51	0.33	-0.41	0.19	1.00		
Older Housing	-0.04	-0.05	-0.02	-0.07	0.02	-0.06	0.02	0.28	0.14	-0.06	0.00	0.00	-0.02	-0.04	0.17	0.01	0.10	0.03	0.18	0.11	-0.03	0.11	0.16	1.00	
Avg. Value	-0.03	0.41	-0.23	0.10	-0.14	-0.32	0.15	-0.18	0.02	0.18	-0.02	0.14	0.68	0.65	0.26	-0.33	-0.30	0.27	-0.34	-0.35	0.68	-0.10	-0.12	0.03	1.00
Avg. Rent	0.02	0.41	-0.25	0.11	-0.16	-0.31	0.12	-0.30	-0.07	0.25	-0.03	0.15	0.64	0.66	0.19	-0.43	-0.40	0.20	-0.50	-0.47	0.68	-0.15	-0.28	-0.11	0.49

2000 Census

Appendix B Gentrifying Neighborhoods, Tracts, and Sources

In-Sample Tracts

City	Neighborhood	Tract	Source
Atlanta	Inman Park	13121003000	Cauley, 1996; Turner, 1998
Atlanta	Little Five Points	13089020400 13121001600	Hulbert, 1992; Loupe, 1993; Turner, 1998
Baltimore	Hampden	24510130600 24510130804	Janofsky, 1998; 1999; Rauschart, 1999; Steinberg, 2001
Boston	South End	25025070500 25025070600 25025070700	Jones, 1996; Kornblut, 1998; MacQuarrie, 1996; Reidy, 1992
Chicago	Lincoln Park	17031241200 17031241300 17031241400 17031241500	Benderoff, 1997; DeBat, 1994; Podmolik, 1998; Rodriguez, 1998
Chicago	Wicker Park	17031070100 17031070200 17031070300 17031070400 17031070500 17031070600 17031070700 17031070900 17031071000 17031071200 17031071200 17031071400 17031071500 17031071600 17031071600 17031071800 17031071900 17031072000	Benderoff, 1998; DeRogatis, 1994; Huebner, 1994; Mendieta, 1999; Rodriguez, 1998
Cincinnati	Northside	39061007400 39061007500	de Witt, 1994; Wilson, 1999
Cleveland	Ohio City	39035103600 39035103700 39035103900 39035104100	Kisner, 1994; O'Malley, 1999; Sweeney, 1999

Cleveland	Tremont	39035104300 39035104500 39035104701	Kisner, 1993; Lubinger, 1994; "Tremont's traffic…", 1999; Yee, 1998
Denver	Baker	8031002801 8031002802 8031002803	Booth, 1994, 1999; Ditmer, 1997
Houston	Montrose	48201410400 48201410500 48201410700 48201410800	de Witt, 1994; Kern, 1999; Mason, 1994; Roth, 1993; Wallstin, 1996
Kansas City, MO	West Side	29095002900 29095003000	Davis, 1997; Stearns, 1999
Milwaukee	Brewers Hill	55079010500 55079010600 55079011400	Daykin, 1999; Derus, 1998; Gould, 1996; McQueen, 1996; Williams, 1995; 1996
Minneapolis	Lyndale	27053008200 27053109300	Brandt, 1997; Inskip, 1997; Karlson, 1998
New Orleans	Faubourg Marigny	22071001800 22071002600	Clanton, 2002; Eggler, 2003; Ettinger, 1999; Hahn, 1999; "Turning neighborhoods…", 1996; Warner, 1996
New York	Chelsea	36061008100 36061008300 36061008700 36061008900 36061009100 36061009300 36061009500 36061009700	Malbin, 1995; Pristin, 1995; Reyes, 1995; Steinhauer, 1995
New York	Greenpoint	36047051700 36047055700 36047055900 36047056700 36047056900	Cohen, 1996; Richardson, 1995; Sengupta, 1996
New York	Williamsburg	36047051900 36047055300 36047055500	Cohen, 1996; Liff, 1999; Ravo, 1995; Roe, 1999; Sengupta, 1996; Walker, 1997
Philadelphia	Northern Liberties	42101013000	Avery, 1997; Heavens, 1994, 1998
Pittsburgh	South Side Flats	42003170200	Belsie, 1992; Lowry, 1997; Seate, 1995; Sharon, 1996

Portland, OR	Sunnyside	41051001301 41051001302 41051001400	Behrs, 1996; Kenning, 1998; Learn, 2003
Providence	West Broadway	44007001300	Castellucci, 1995; Davis, 1997
San Antonio	King William	48029150200	Holmesly, 1997; Yerkes, 1997
San Diego	City Heights	6073002202 6073002302 6073002402 6073002707	Young, 1994
San Diego	Golden Hill	6073004501 6073004502 6073004600	D'Elgin, 1993; Seff, 1995; 1998;
San Francisco	South of Market	6075017601 6075017800	Dietz, 1995; McIntyre, 1987; Johnson, 1998; Levy, 1994; 1998(a); 1998(b); Weisberg, 1994
Seattle	Lower Queen Anne	53033007100	Higgins, 1997; McDermott, 1998; Moriwaki, 1997
St. Louis	Soulard	29510123400	Levins, 1998; "Phoenix rising", 1999; Wood, 1993
Tampa	Hyde Park	12057006100	Rosen, 1993; Stanley, 1994
Washington	Capitol Hill	11001008100 11001008200 11001008301 11001008302	Allen, 1994; Boo, 1994; Smith, 1994

Out-of-Sample Tracts

City	Neighborhood	Tract	Source
Austin	East Austin	48453001401	Kelso, 2005; Schwartz, 2005
Austin	South Congress	48453001305	Kelso, 2004; Toohey, 2005
Baton Rouge	South Baton Rouge	22033002400 22033002500	Keller, 2005; Nunnally, 2003; Pinkins, 2006
Birmingham	Crestwood	1073002305 1073002306	Guffey, 2004; Kemp, 2004

Boise	North End	16001000600	Hem, 2006; Lafferty, 2000
Bridgeport	Black Rock	9001070200	Rendon,2004; Winters, 2004
Buffalo	Elmwood Village	36029006701 36029006702	Moldenhauer, 2006; Pearce, 2004
Charleston, SC	Elliottborough	45019001000	Hardin, 2001a; 2001b; "Taking back", 2003
Charlotte	NoDa	37119001400	Kelly, 2006; Ngongang, 2006
Charlotte	Wesley Heights	37119004100	Ngongang, 2006; Smith, 2007
Charlotte	Wilmore	37119003600	Ngongang, 2006
Chattanooga	North Shore	47065000600	Davis, 2006; Glendenning, 2000
Columbia, SC	Congaree Vista	45079001400	Day, 2001; ETV Forum, 2007
Dallas	Old East Dallas	48113001302 48113001502	Dreher, 2007; Schutze, 2007
Greensboro	College Hill	37081010702	"In College Hill", 1999
Jacksonville	Springfield	12031001200	Kormanik, 2006; Trinidad, 2006; Weathersbee, 2005; 2006
Jersey City	Hamilton Park	34017002300 34017002400 34017002500	Fessenden & Holl, 2006; Miller, 2003; 2006; Weinstein, 1999
Lexington, KY	Constitution	21067000100	Davis, 2008; Ku & Fortune, 2007
Little Rock	East End	5119000200	Crouch, 2002; Munck, 2004

Los Angeles	Silver Lake	6037187200 6037187300 6037195400 6037195500 6037195600 6037195710 6037195720 6037195801 6037195802 6037195900	Guzik, 2004; Los Angeles Almanac, 2008; Nelson, 2006; Ohland, 2004; Pelisek, 2003
Louisville	Old Louisville	21111005000 21111005100 21111005200 21111005300 21111006600	Fernandez, 2004; Pearce, 2004;
Nashville	East Nashville	47037011700 47037011900 47037012000 47037012100	Creamer, 2003; Patterson, 2007
Newark, NJ	Ironbound	34013007600 34013007700 34013007800 34013007900	Bruegmann, 2001; Century, 2000; Kladko, 2002; Mansnerus, 2005; Sypeck, 2000
Newark, NJ	North Ward	34013009200 34013009300 34013009400 34013009500	Chambers & Mays, 2003; Kukla, 2001
Norfolk	Ocean View	51710000300 51710006501	Eaton, 2008; Minium, 2003; 2006
Norfolk	Ghent	51710002700 51710002900	Bordsen, 2005
Phoenix	Roosevelt District	4013113000 4013113100 4013113201	Pearce, 2006
Portland, ME	Arts District	23005000300	Blom, 2000
Raleigh	East Raleigh	37183050600 37183050700	Ross, 2005
Raleigh	Glenwood	37183050300	Stradling, 2001

Richmond, VA	Shockoe Bottom	51760020500	Pearce, 2006; Proctor, 2006; Rayner, 2004
Richmond, VA	Oregon Hill	51760041200	Holmberg, 2005
Sacramento	Oak Park	6067001800 6067002700	LePage, 2002; Levy, Comey, & Padilla, 2006; Vellinga, 2002
Spokane	Brown's Addition	53063003600	Rogers, 2007; Staley, 1999
Syracuse	Hawley-Green	36067001600 36067002400	Clark, 2004; Ryan, 2006
Tacoma	Hilltop	53053061300 53053061400	Hopkins, 1999; Merryman, 2007; "Developers noticing", 2006
Tulsa	Brady Heights	40143000900	Oswalt, 2000